

**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

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Case No. 14-1297-EL-SSO

**SUPPLEMENTAL TESTIMONY OF JOSEPH P. KALT, PH.D.
ON BEHALF OF THE PJM POWER PROVIDERS GROUP
AND THE ELECTRIC POWER SUPPLY ASSOCIATION**

May 11, 2015

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I. INTRODUCTION

Q1. PLEASE STATE YOUR NAME, TITLE, AND BUSINESS ADDRESS.

A1. My name is Joseph P. Kalt. I am the Ford Foundation Professor (Emeritus) of International Political Economy at the John F. Kennedy School of Government, Harvard University. The Kennedy School of Government is Harvard's graduate school for public policy and public administration. I also work as a senior economist with Compass Lexecon. Compass Lexecon is an economics consulting firm with offices in various cities throughout North America, South America, and Europe. My business address is 4280 N. Campbell Avenue #200, Tucson, Arizona 85718.

Q2. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS PROCEEDING?

A2. Yes. On December 22, 2014, I submitted Direct Testimony on behalf of the PJM Power Providers Group ("P3 Group") and the Electric Power Supply Association ("EPSA").¹

Q3. WHAT WAS THE PURPOSE OF YOUR PREVIOUS TESTIMONY IN THIS MATTER?

A3. I was asked by the P3 Group and EPSA to provide an economic analysis of the Electric Security Plan ("ESP") filed by FirstEnergy Corp.'s ("FirstEnergy") three Ohio monopoly transmission and distribution utilities: Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company (the "Companies"). As detailed in my previous testimony, the Companies have proposed to implement an ESP which would entail a long-term Power Purchase Agreement ("PPA") whereby they would

¹ Direct Testimony of Joseph P. Kalt, Ph.D. on behalf of the PJM Power Providers Group and the Electric Power Supply Association, December 22, 2014, errata filed January 30, 2015, hereinafter Kalt Direct Testimony.

1 purchase generating unit-contingent power for 15 years from their Federal Energy
2 Regulatory Commission (“FERC”) regulated affiliate company, FirstEnergy Solutions
3 Corporation (“FES”).

4 The proposed PPA specifies that the Companies would purchase all power
5 products from FES’ Davis-Besse (nuclear-fueled) and Sammis (coal-fueled) generating
6 units (together, the “Plants”), and from its 4.85% entitlement in Ohio Valley Electric
7 Corporation (“OVEC”).² In turn, the Companies would resell the acquired power
8 products into the FERC-regulated PJM wholesale power markets. The PPA payment to
9 FES is specified as a fixed return of and on capital (which includes the cost of existing
10 debt and equity). Hence, the PPA guarantees FES a recovery of the subject Plants’ costs
11 plus a return on investment. Any losses that the Companies might experience in these
12 transactions would be covered by a non-bypassable charge – a so-called Retail Rate
13 Stability Rider (“Rider RRS”) – paid by the Companies’ captive local ratepayers.
14 Meanwhile, any gain that might be realized would be flowed through to those same
15 ratepayers by the Rider RRS.

16 **Q4. ON WHAT BASIS DO THE COMPANIES’ ASSERT THAT THEIR**
17 **PROPOSED ESP IS NEEDED?**

18 **A4.** Although FES has invested heavily in the Plants in recent years, the Companies now
19 assert that the Plants may be retired unless they are provided with the guaranteed cost
20 recovery, along with a return on investment, that captive ratepayers would provide under

² As I explained in my direct testimony, the OVEC corresponds to a small amount of generation capacity, and the Companies’ have not provided analyses demonstrating risk of premature retirement absent the proposed ESP.

1 the proposed ESP.³ At the same time, however, the Companies have projected that if
 2 only captive ratepayers would take on the risk of full cost recovery for the Plants through
 3 the ESP, the proposed ESP would yield a significantly positive net present value to
 4 ratepayers.⁴

5 In my prior testimony, I described how this proposal involves an economic *non*
 6 *sequitur*: On the one hand, the Companies argue that the Plants are uneconomic if
 7 operated by FES without the proposed PPA. But if revenues from the PJM wholesale
 8 markets going forward would not be sufficient to cover the going-forward costs of an
 9 efficient owner operating in the PJM marketplace without the proposed PPA, they would
 10 not do so for ratepayers either. On the other hand, if (as the Companies claim) the Plants
 11 can in fact yield ratepayers a positive net present value of \$770 million when ratepayers
 12 bear the full cost – i.e., including all costs of operation *plus* the embedded costs of past,
 13 sunk investments *plus* the as-yet not sunk, avoidable costs of going-forward investments
 14 purportedly needed to keep the Plants running and environmentally compliant *plus* a
 15 return covering the cost of all invested capital – then the Plants would also produce a
 16 positive payoff for an efficient, non-subsidized owner and would therefore not rationally
 17 be retired.⁵

18 In other words, if the wholesale market prices the Plants can realize are sufficient
 19 to cover all of the foregoing costs and still yield a positive net present value, an

³ Second Supplemental Testimony of Eileen M. Mikkelsen on behalf of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company, Case No. 14-1297-EL-SSO, May 4, 2015, hereinafter “Mikkelsen Second Supplemental Testimony”, at 3.

⁴ Direct Testimony of Jay A. Ruberto on behalf of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company, Case No. 14-1297-EL-SSO, August 4, 2014 (errata filed November 14, 2014), hereinafter “Ruberto Direct Testimony,” at Attachment JAR-1 Revised.

⁵ Kalt Direct Testimony at 5, Direct Testimony of Steven E. Strah (at 16:12-13, errata filed November 14, 2014) and Ruberto Direct Testimony at 6:5-6, errata filed November 14, 2014, and Attachment JAR-1 Revised.

efficiently-run FES would not retire the Plants and the proposed PPA is not needed to keep the Plants running. In fact, as I show below, the Companies' own data and analyses indicate that, absent the PPA, the Plants would generate a net present value to FES owners of more than \$550 million after covering *all* costs required to operate and keep the Plants running. Retiring the Plants under such conditions would be grossly irrational. Giving away \$550 million or more in profit through the ESP would be both fiduciarily imprudent and economically irrational.⁶

Q5. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL TESTIMONY?

A5. On March 23, 2015, the Public Utilities Commission of Ohio ("PUCO" or "Commission") issued an Order in this proceeding which provides an opportunity for parties to this proceeding to evaluate the Companies' ESP proposal against various factors that the Commission identified in its recent AEP Ohio Order.⁷ In particular, in this recent Order regarding a power purchase agreement proposed by AEP, the Commission set forth a list of factors that it will consider in deciding whether to approve any request for cost recovery by a power supplier.⁸ On May 4, 2015 the Companies filed supplemental testimony in this proceeding to address the March 23 Order. I have been asked by the P3 Group and EPSA to review the Companies' supplemental testimony and evaluate to what

⁶ Kalt Direct Testimony at 51.

⁷ 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, March 23, 2015 ("March 23 Order").

⁸ On February 25, 2015, the Commission modified and approved an ESP for Ohio Power Company d/b/a AEP Ohio (AEP Ohio), *In re Ohio Power Co.*, Case No. 13-2385-EL-SSO, et al., Opinion and Order (February 25, 2015).

1 extent, if any, the Companies' ESP proposal meets the economic criteria set forth by the
 2 Commission in the AEP Ohio case.⁹

3 **Q6. WHAT ARE THE ECONOMIC CRITERIA THAT YOU EVALUATE IN**
 4 **YOUR SUPPLEMENTAL TESTIMONY?**

5 **A6.** In this supplemental testimony, I focus on those factors identified by the Commission that
 6 are most relevant to evaluating the economic implications of the Companies' ESP
 7 proposal. These are: (1) the financial needs of the subject generating Plants; (2) the
 8 Plants' contribution to diversity in PJM's power supply resources; and (3) the impact that
 9 a closure of the Plants would have on electric prices and the resulting effect on economic
 10 development within the state.¹⁰

11 **Q7. PLEASE SUMMARIZE YOUR CONCLUSIONS**

12 **A7.** The economics of the Companies' ESP proposal do not meet the criteria for approval of
 13 cost recovery as these criteria are set out in the AEP Ohio Order. Specifically:

- 14 • The Companies have not provided evidence that the financial condition of the
 15 Plants portends their closing but for the proposed PPA and Rider RRS. In fact,
 16 the Companies' own data and analyses demonstrate that the Plants are efficient
 17 and competitive in the wholesale power markets. At the very least, their proposal
 18 continues to be plagued by the noted *non sequitur* of asserting that the Plants are

⁹ In addition to the materials noted in my previous testimony, I have reviewed the Supplemental Testimonies of Dr. Lawrence Makovich, Sarah Murley, Donald Moul, Raymond L. Evans and Rodney L. Phillips, and the Second Supplemental Testimony of Eileen M. Mikkelsen. Each of these is on behalf of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company, Case No. 14-1297-EL-SSO, May 4, 2015. I refer to these testimonies as the "Makovich Supplemental Testimony," "Murley Supplemental Testimony," "Moul Supplemental Testimony," "Evans Supplemental Testimony," "Phillips Supplemental Testimony," Mikkelsen Supplemental Testimony," and "Mikkelsen Second Supplemental Testimony," respectively.

¹⁰ March 23 Order at 2.

1 economically viable to operate if captive ratepayers act as *de facto* owners for 15
2 years, but somehow uneconomic to operate if FES continues to bear the risks of
3 ownership.

- 4 • The Companies' ESP proposal places the Companies' ratepayers in the position
5 of paying to avoid the supposed loss of PJM system-wide diversity in existing
6 generation plant resources that would result if Plants were shut down. However,
7 apart from repeated assertions that the Sammis and Davis-Besse plants contribute
8 to PJM's resource diversity, no material analysis has actually been provided to
9 demonstrate that the Plants' contributions to system diversity have sufficient
10 value to retail ratepayers to warrant having those ratepayers bailing FES out if the
11 Plants (contrary to the evidence) were to be at risk of being retired but for
12 adoption of the proposed ESP.
- 13 • Finally, even assuming that the Plants will somehow generate revenues in PJM's
14 wholesale power markets which exceed costs (in net present value) if the risk of
15 cost recovery over the next 15 years is shifted to captive ratepayers via the ESP,
16 but cannot do so if effectively owned and operated by FES, the Companies have
17 not provided economically coherent and reliable evidence that plant closure will
18 have any adverse impact on electric prices and economic development in Ohio.

**II. THE COMPANIES' OWN ANALYSES CONTRADICT THE
THREAT OF IMMINENT RETIREMENT OF THE SUBJECT
PLANTS**

Q8. WHY DO THE COMPANIES CLAIM THAT THE PLANTS MAY RETIRE?

A8. The Companies suggest that, going forward, energy and capacity revenues achievable in the PJM wholesale markets will not be sufficient to support the continued operation of and needed investments in the Plants unless captive ratepayers effectively provide guaranteed recovery for the next 15 years of the sum of all capital costs (both going-forward and already sunk) *plus* non-capital costs *plus* a rate of return on past and future capital sufficient to cover FES' weighted average cost of capital.¹¹ However, as I described in my previous testimony, the claims the Companies make to support their request to have the past and future costs of and return on the Plants investments underwritten by captive ratepayers are fundamentally flawed.

**Q9. IN WHAT WAYS ARE THE COMPANIES' CLAIMS TO THE EFFECT THAT
THE ESP THEY PROPOSE IS REQUIRED TO PREVENT RETIREMENT OF
THE SUBJECT PLANTS FUNDAMENTALLY FLAWED?**

A9. The Companies claim that the ESP is needed to "prevent the Plants from retiring before it is economic to do so."¹² The basis for this assertion – without any quantitative demonstration – is the claim that the Plants are "financially challenged"¹³ because PJM's "market-based cash flows for energy and capacity are *chronically* and artificially too low

¹¹ Direct testimony of Donald Moul on behalf of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company, Case No. 14-1297-EL-SSO, August 4, 2014, hereinafter "Moul Direct Testimony," at 2-3; Direct Testimony of Jason Lisowski, on behalf of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company, Case No. 14-1297-EL-SSO, August 4, 2014, hereinafter "Lisowski Direct Testimony", at JJL-1 and JJL-2.

¹² Makovich Supplemental Testimony at 4.

¹³ Makovich Supplemental Testimony at 12.

1 to cover”¹⁴ the costs of investments that are needed to “keep the Plants running.”¹⁵ At the
 2 same time, however, the Companies assert that the proposed PPA and Rider RRS
 3 promise benefits to ratepayers of approximately \$770 million in net present value
 4 (“NPV”).¹⁶

5 The problem in the Companies’ argument is that the very calculations the
 6 Companies employ to support the purported \$770 million benefit for ratepayers, wittingly
 7 or unwittingly, demonstrate that the market-based cash flows for energy and capacity that
 8 the Companies’ project *in the absence of the ESP* are at least \$550 million greater in net
 9 present value than the sum of the costs of (1) operating the Plants *plus* (2) the investments
 10 the Companies project are needed to “keep the Plants running” *plus* (3) the embedded
 11 costs of investments that FES’ owners committed to in the past *plus* (4) FES’ weighted
 12 average cost of capital associated with past and going-forward investments.¹⁷ And this
 13 conclusion holds after accounting for the risks of the converse outcome. By the
 14 Companies’ own calculations, the Plants are in no danger of retiring.¹⁸

¹⁴ Makovich Supplemental Testimony at 6, emphasis in the original.

¹⁵ Moul Supplemental Testimony at 4.

¹⁶ Direct Testimony of Jay A. Ruberto on behalf of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company, Case No. 14-1297-EL-SSO, August 4, 2014 at Attachment JAR-1 Revised.

¹⁷ In so doing, the Companies’ calculations render Dr. Makovich’s discussions of what he terms “flaws” and “missing money” in the PJM markets irrelevant. See Makovich Supplemental Testimony at, esp., 6-15.

¹⁸ The Companies now assert that closure of the Plants would necessitate, and burden ratepayers with, hundreds of millions of dollars of expenditures on transmission system changes and upgrades. See Phillips Supplemental Testimony, Mikkelsen Supplemental Testimony, and Mikkelsen Second Supplemental Testimony. As the predicate for these claims is unsupported and contradicted by the Companies’ own evidence demonstrating the irrationality of closing the Plants, I have not found it necessary to separately analyze the Companies’ claims re: transmission costs that purportedly would be created by closure of the Plants.

1 **Q10. PLEASE EXPLAIN HOW THE COMPANIES' OWN CALCULATIONS**
 2 **DEMONSTRATE THAT THE PROPOSED ESP IS NOT NEEDED TO KEEP**
 3 **THE SUBJECT PLANTS RUNNING?**

4 **A10.** The purported net present value to ratepayers of \$770 million is calculated and reported
 5 by the Companies' witness Jay A. Ruberto from a standard form discounted cash flow
 6 ("DCF") analysis. This analysis employs: (1) projected revenues from sales of energy
 7 and capacity in PJM's wholesale electricity markets, (2) projected fully embedded costs
 8 of the Plants *and* their continued operation, and (3) a discount rate.¹⁹ Examination of Mr.
 9 Ruberto's DCF analysis reveals that the capital and operating and maintenance
 10 expenditures and the PJM price-dependent revenue projections which he employs are not
 11 different from those applicable to FES' continued operation of the Plants in the absence
 12 of the ESP. These cost and revenue schedules are provided to Mr. Ruberto by the
 13 Companies witness Mr. Jason Lisowski.²⁰ Mr. Lisowski's schedules of FES' costs
 14 account for all of the costs of operating the Plants, including the costs of investments that
 15 must be made to "keep the Plants running."²¹ Thus, for example, the Companies' witness
 16 Dr. Makovich avers that, going forward, the Plants must make investments for what he
 17 calls "environmental impact management" occasioned by federal environmental
 18 regulation. Yet, the Companies' witness Raymond L. Evans acknowledges that: "Any

¹⁹ Ruberto Direct Testimony at Attachment JAR-1 Revised.

²⁰ Lisowski Direct Testimony at JIL-1 and JIL-2.

²¹ Moul Supplemental Testimony at 4. If Mr. Lisowski has not included all of the costs of investments putatively needed to keep the Plants running (albeit, these are generally unspecified as to particulars by the Companies' witnesses), then Mr. Ruberto's calculation of purported net benefits to ratepayers, which rely on Mr. Lisowski's schedules of costs, are flawed, unreliable, and leave the claim of net benefit to consumers unsupported by evidence.

costs that the Plants may incur to comply with these regulations are included in the Companies' cost forecast provided by Company witness Lisowski."²²

Meanwhile, Mr. Ruberto's discount rate is provided to him by the Companies' witness Steven E. Staub.²³ In Mr. Staub's framework, the discount rate applicable for Mr. Ruberto's calculation of the net present value of the ESP to consumers is less than would be applicable to FES in the absence of the ESP because: (1) the PPA freezes the return on equity (i.e., cost of equity capital) built into payments by ratepayers under the ESP, and (2) the guarantees provided by ratepayers via the PPA permit investment to be made at a higher debt/equity ratio than would be the case absent the PPA (and debt is less expensive than equity).²⁴ However, if we employ the cost of equity²⁵ and the debt/equity ratio²⁶ that Mr. Staub indicates would be applicable to FES as a merchant seller of generation absent the PPA, the net present DCF value of the Plants to FES *in the absence of the proposed PPA* is at least \$550 million.²⁷ In fact, this understates the value to FES of continuing to operate and invest in the Plants to keep them running in the absence of the proposed PPA. The calculation includes recovery of not only going-forward investments needed to keep the Plants running, but also the recovery of all as-yet unrecovered past and sunk investment (plus a return on such investment) as these are calculated by Mr. Lisowski. If the Plants would produce at least \$550 million of net

²² Evans Supplemental Testimony at 3.

²³ Direct Testimony of Steven E. Staub on behalf of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company, Case No. 14-1297-EL-SSO, August 4, 2014, hereinafter "Staub Direct Testimony".

²⁴ Staub Direct Testimony at 3-10 and 10-11.

²⁵ Staub Direct Testimony at 7.

²⁶ Staub Direct Testimony at 10.

²⁷ Attempts to reproduce Mr. Ruberto's calculations and methodology, albeit without the benefit of his electronic workpapers, produces a going-forward value of the Plants to FES absent adoption of the proposed ESP of approximately \$570 million.

1 present value to ratepayers under the proposed ESP, they would produce more than that
2 amount as the payoff to keeping the Plants running going-forward. Thus, by the
3 Companies' own data and analyses, the Plants are in no credible danger of being retired
4 by FES.

5 In this regard, it is relevant that independent parties that have examined the
6 economics of the Davis-Besse and Sammis facilities have similarly concluded that the
7 Plants are wholly economically viable. In particular, the Companies' witness Mr. Evans,
8 notes that: [REDACTED]

9 [REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]

28 Evans Supplemental Testimony at 11.

29 Evans Supplemental Testimony at 11.

30 Evans Supplemental Testimony at 15.

1 **Q11. IS THERE AN EXPLANATION FOR THE COMPANIES' ASSERTIONS TO**
2 **THE EFFECT THAT THE PROPOSED PPA AND RIDER RRS ARE NEEDED**
3 **TO KEEP THE PLANTS OPERATING?**

4 **A11.** While premature retirement of the Plants would be economically and commercially
5 illogical and imprudent in light of the foregoing, one possible explanation for the
6 Companies' claims to the effect that the Plants are in imminent danger of premature
7 retirement unless captive ratepayers are required to cover the Plants past and future costs
8 and to pay their investors' debts plus a return of and on capital, is that the Plants are
9 heavily in debt. [REDACTED]

10 [REDACTED] In the proposed transaction, these major investments in the
11 Sammis and Davis-Besse plants are included as seller's already sunk invested capital.
12 Because the proposed PPA would guarantee a return on capital, it would allow FES to
13 recover the cost of these investments with little or no risk to itself. Economically, the
14 transaction shifts the costs (including debt) and the risks of ownership of the Plants onto
15 the Companies' local captive ratepayers.

16 As evidence of the value of this to the Companies, they have found it rational to
17 give up revenue and secure support for their proposal by targeting selected politically
18 powerful or favorable parties (such as certain consumers and labor organizations) with
19 various forms of insulation from the risks that, for example, individually non-influential
20 homeowners would bear in guaranteeing FES recovery of its cost plus a return on the
21 Plants.³² Such support is not evidence of benefit to the general public of Ohio; it is

³¹ See response to P3-EPSC Set 1-INT-47 and Lisowski Direct Testimony at Attachments JJL-1 and JJL-2.

³² See, for example, "FirstEnergy's latest strategy for a bailout is still a bad idea," *Crain's Cleveland Business*, Andrew Thomas, January 23, 2015.

1 evidence of the private economic value to FES of having the general ratepayers of Ohio
2 cover the costs of the subject Plants.

3 **Q12. THE COMPANIES' WITNESS DONALD MOUL SEEMS TO OPINE THAT**
4 **"ADDITIONAL COSTS, ABOVE AND BEYOND AVOIDABLE COSTS, [MUST]**
5 **BE TAKEN INTO CONSIDERATION WHEN CONSIDERING THE FINANCIAL**
6 **VIABILITY OF THE PLANTS."**³³ **IS HE CORRECT?**

7 **A12.** No. Mr. Moul's discussion of avoidable costs and plant retirement is confused. He
8 asserts that: "Avoidable costs, simply put, are costs that would not be incurred should the
9 generation unit be shut down or mothballed. But the owners of the Plants must also make
10 capital investments that keep the Plants running in order to ensure reliable operation of
11 the Plants and return value to shareholders."³⁴ But capital investments that must be made
12 to keep the Plants running are costs that (in his words) "would not be incurred should the
13 generation unit be shut down or mothballed." That is, they are costs that would be
14 avoided if the Plants were retired; they are part of avoidable going-forward costs of
15 continuing to operate the Plants.

16 As noted, these costs are fully accounted for in Mr. Lisowski's analyses of the
17 Plants going-forward costs and revenues, which are analyses of costs and revenues
18 associated with having the Plants in condition to run, compliant with applicable
19 environmental and reliability requirements. As we have seen, these analyses indicate no
20 credible danger that the Plants would be rationally and prudently retired by an efficient
21 owner.

³³ Moul Supplemental Testimony at 4.

³⁴ Moul Supplemental Testimony at 4.

1 Q13. IN HIS SUPPLEMENTAL TESTIMONY, HOWEVER, MR. MOUL ARGUES
2 THAT [REDACTED]
3 [REDACTED] DOES THAT
4 SUGGEST THAT THE PLANTS ARE IN DANGER OF PREMATURE
5 RETIREMENT?

6 [REDACTED] No. [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]

19 In fact, it is a straightforward, basic principle of business economics that a plant
20 (or any type of production facility) is economically viable if going-forward revenues

³⁵ Moul Supplemental Testimony at Figures 1-4 and associated discussion.

³⁶ See Kalt Direct Testimony at Attachment JPK-7 and related discussion above.

1 exceed total avoidable going-forward costs.³⁷ Unavoidable costs associated with past
 2 decisions – i.e., costs, such as debts owed, that will have to be paid by a facility’s owners
 3 regardless of whether the facility in question is operating – rationally play no role in
 4 revenue-cost comparisons for purposes of a facility retirement decision. Instead, if total
 5 going-forward revenues are projected to exceed total avoidable going-forward costs, the
 6 resulting cash flow from staying in operation at least provides some funds out of which to
 7 pay unavoidable costs of decisions that have already been “sunk”. And some funds are
 8 better than no funds when unavoidable costs from past decisions remain to be paid.

9 Of course, it may be the case that there are years when a facility’s financial
 10 performance is poor, such as during the recent recession or when it undergoes an
 11 extended outage in order to carry out major equipment upgrades. In the case at hand,
 12 however, the evidence indicates that [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 Notwithstanding the economics of rational retirement decisions and with no
 17 quantification of any effect, Mr. Moul argues that poor financial performance [REDACTED]

³⁷ See, for example, Colander, D., *Microeconomics*, 4th Ed., 2001, McGraw-Hill, pp. 250-251. The Companies’ witness Dr. Makovich makes a basic economic error (as well as violates the principles of market efficiency in energy supply) when he asserts that: “Without a surplus of generating capacity, it is economic to retire a power plant when the cost of continued operation exceeds the cost of closing the plant and replacing it with the lowest cost source of equivalent power supply.” Makovich Supplemental Testimony at 4. This is the description, at best, of a firm with monopolistic market power. Competitive firms bring all supplies to market that have going-forward revenues which are sufficient to cover going-forward avoidable costs. If two plants can both cover their going-forward avoidable costs, both are economic to operate, neither would be closed by a rational firm in a competitive market. The public’s interest in an efficient marketplace that brings forth all supplies with costs which are no greater than benefits (as demonstrated by the prices consumers are willing to pay) is thereby served.

³⁸ Kalt Direct Testimony at Attachment JPK-6.

³⁹ Kalt Direct Testimony at Attachment JPK-7.

1 [REDACTED]
2 [REDACTED] can hinder a company's ability to borrow.⁴⁰

3 The suggestion is that FES might not be able to borrow, or borrow enough, to fund going-
4 forward investments needed to "keep the Plants running." The fact that the Companies'
5 own data and analyses show going-forward economics in the event the ESP proposal is
6 rejected by the Commission that yield a surplus of at least \$550 million *after* covering all
7 operating costs, making all necessary going-forward investments putatively needed to
8 keep the Plants running, and servicing any debt and equity returns required by investors
9 as a result of past, sunk investments mean that the evidence in this proceeding renders Mr.
10 Moul's suggestion empty.

11 Be that as it may, I have previously discussed the implications of investors having
12 made decisions to invest which turn out after the fact to generate fewer revenues than
13 hoped for, leaving investors and/or their creditors having to take a loss.⁴¹ While such
14 investors and creditors might well seek to be bailed out, especially if able to shift the
15 costs of unwanted past mistakes onto captive customers, conditions of after-the-fact loss
16 do not imply that it would be rational to close the facilities at issue. Again, if a plant's
17 going-forward revenues can cover its not-sunk, avoidable going-forward costs, it can be
18 rational for current owners and creditors to write down the value of sunk assets and to
19 continue to invest in and operate the plant in question. In fact, exactly such write downs

⁴⁰ Moul Supplemental Testimony at 4.

⁴¹ Kalt Direct Testimony at 44-45.

1 occur in the power sector, as in the recent instance of, for example, Duke Energy writing
 2 down asset values in relation to its power purchase agreement with OVEC.⁴²

3 **III. ELECTRIC SYSTEM RESOURCE DIVERSITY**

4 **Q14. HAVE THE COMPANIES FILED SUPPLEMENTAL TESTIMONY THAT** 5 **DISCUSSES PJM'S RESOURCE DIVERSITY?**

6 **A14.** Yes. Company witness Dr. Makovich argues that consumers in PJM are fortunate to
 7 have an existing mixture of different power plant technologies that allows them to enjoy
 8 lower total power cost and price volatility than would result if we had a generation
 9 resource mixture in which *all* existing coal and nuclear fuel plants were replaced with
 10 natural gas-fueled generation plants. This, of course, is a red herring: The issue of
 11 relevance is not the closing of all existing coal and nuclear fuel plants in PJM. Instead,
 12 assuming that the Sammis and Davis-Besse facilities would be closed but for the
 13 adoption of the proposed ESP (contrary to the evidence actually contained in the
 14 Companies' data and analyses – see above), the issue is the impact of the premature
 15 retirement of the Sammis and Davis-Besse facilities, specifically, on PJM's resource
 16 diversity, price levels, and price volatility.

17 While numerous assertions and innuendos are made by the Companies to the
 18 effect that premature closure of the Sammis and Davis-Besse plants would have a
 19 materially adverse effect on PJM's resource diversity and wholesale prices, no witness
 20 for the Companies has provided direct analysis of the matter. Indeed, Mr. Lisowski's

⁴² In 2014, Duke Energy Ohio recorded a \$94 million impairment related to OVEC. See FERC FINANCIAL REPORT FERC FORM No. 1: Annual Report of Major Electric Utilities, Licensees and Others and Supplemental Form 3-Q: Quarterly Financial Report, at 123.28, 4/17/2015.

1 analyses and Mr. Ruberto's analyses countenance no difference in the level or volatility
2 of prices whether or not the ESP is adopted. (And, as we have seen, at the prices that the
3 Companies' witnesses project given whatever flaws or "missing money" may exist in the
4 PJM markets, the net present value to FES of keeping the Plants running in the absence
5 of the proposed ESP is more than \$550 million.) Nor has any witness for the Companies
6 provided any demonstration that, were an adverse effect on PJM's prices and price
7 volatility to be imminent (again, ignoring the lack of credible basis for claiming the ESP
8 is needed to keep the Plants from closing), the captive ratepayers of the three Companies
9 would value avoiding the effect sufficiently to make it in their interest to assume the costs
10 and risks of guaranteeing FES full recovery of and on past and future capital investments
11 over the next 15 years.

12 **Q15. AGAIN, ASSUMING (FOR THE SAKE OF ARGUMENT AND CONTRARY TO**
13 **THE DATA PROVIDED BY THE COMPANIES) THAT THE PLANTS WOULD**
14 **BE CLOSED, HAS DR. MAKOVICH ANALYZED THE IMPACT OF**
15 **PREMATURE RETIREMENT, SPECIFICALLY, OF THE SAMMIS AND**
16 **DAVIS-BESSE PLANTS ON RESOURCE DIVERSITY?**

17 **A15.** No, he has not. Instead, Dr. Makovich attaches a report to his testimony which provides
18 an examination of the value of generation resource diversity based on an analysis carried-
19 out for the entire U.S.⁴³ In this report, Dr. Makovich assumes an alternative generation
20 resource mixture in which *all* nuclear and coal-fired resources in the U.S. are shut down
21 and replaced by, predominantly, natural gas-fired generation resources. He then
22 estimates the difference in operational costs over a prior three-year period (2010-2012)

⁴³ Makovich Supplemental Testimony, Attachment LM-2.

1 between the two resource mixtures and concludes the existing resource mixture has lower
 2 operational costs. This conclusion is hardly surprising: The nation's actual resource
 3 mixture is, at least in part, a response to economic and regulatory forces of competition
 4 that push toward cost-minimization. But Dr. Makovich's study tells us nothing of
 5 material interest regarding the Sammis and Davis-Besse facilities.

6 As I explained in my direct testimony, and as Dr. Makovich notes in the report he
 7 references,⁴⁴ electric system generation resource mixture evolves slowly over a broad
 8 region that does not abide by the borders of a single state.⁴⁵ This is clearly the case in
 9 PJM. The PJM system spans multiple states and multiple resource types. Any benefits in
 10 terms of price levels and dampened price volatility associated with this diversity arise
 11 from PJM's very large portfolio of facilities.⁴⁶ Even if we assume for the sake of
 12 argument that the Sammis and Davis-Besse plants must be bailed out by the proposed
 13 ESP to prevent their premature closure, numerous other generation plants located
 14 throughout PJM are available to supplant the power previously available from these
 15 Plants.⁴⁷ As I showed in my previous testimony, even if (contrary to the Companies'
 16 own analysis) the evidence did indicate a plausible prospect that the Plants would close
 17 but for captive ratepayers of the three Companies being required to guarantee the Plants'
 18 cost recovery through the proposed PPA, closure of the subject Plants would not

⁴⁴ Makovich Supplemental Testimony, Attachment LM-2 at 23, "it takes a number of years of homogenous supply additions to move the overall supply mix a small proportion."

⁴⁵ Kalt Direct Testimony at 36-38.

⁴⁶ I note, of course, that the PJM system is subject from time to time to transmission constraints which result in spatial differentiation of power prices. However, practically speaking almost all generation capacity within the PJM system can be used to meet load throughout the PJM system as generation must be "deliverable" throughout PJM to receive a capacity payment.

⁴⁷ See Kalt Direct Testimony, Attachment JPK-1, Revised.

1 materially affect resource diversity across the PJM markets that determine wholesale
2 prices and their movements.⁴⁸

3 Although neither Dr. Makovich nor any other of the Companies' witnesses has
4 provided assessment beyond mere assertion of the actual impact of the putative closing of
5 the Sammis and Davis-Besse plants on resource diversity in PJM, Dr. Makovich does
6 implicitly recognize that the benefits of resource diversity arise from, and are shared
7 across, the PJM system. In his view, however, the problem is that "system benefits [] are
8 not explicitly compensated for in the [PJM] marketplace."⁴⁹ In Dr. Makovich's
9 framework, he would have the captive ratepayers of three FES-affiliated Companies in
10 parts of Ohio bear the cost of providing purported resource diversity benefits to all
11 consumers in the eleven states where PJM operates by having the Companies' ratepayers
12 make up for what he sees as inadequately low prices in PJM.

13 **Q16. WHY DOES DR. MAKOVICH ASSERT THAT PJM'S WHOLESALE MARKET**
14 **PRICES ARE TOO LOW?**

15 **A16.** In order to support his claim that prices in PJM are "*chronically* and artificially too
16 low",⁵⁰ Dr. Makovich carries out a very simplified analysis which compares a snapshot
17 estimate of the cost of adding new baseload gas-fired combined-cycle capacity in PJM to
18 an estimate of revenues that the unit would receive from PJM's wholesale markets. He
19 concludes that the PJM markets are not producing sufficient revenue to support new
20 baseload resource entry. He characterizes this as a so-called "missing money" problem,

⁴⁸ Kalt Direct Testimony at 36-38.

⁴⁹ Makovich Supplemental Testimony at 11. See also at 3: "The probability exists that these base load plants will retire prematurely because the value of fuel diversity is not being properly compensated by power market cash flows."

⁵⁰ Makovich Supplemental Testimony at 6, emphasis in the original.

1 meaning that the wholesale market cannot produce sufficient revenue to bring forth new
2 entry. Dr. Makovich conducts no analysis demonstrating that prices in PJM are
3 “*chronically* and artificially too low” to support incremental investments needed to keep
4 Sammis, Davis-Besse or any other already existing facilities running. As we have seen,
5 the Companies’ own data and analysis contradict such a conclusion for the Sammis and
6 Davis-Besse plants.

7 According to Dr. Makovich: “The cost recovery shortfall for a new base load
8 power plant in PJM is more than ten percent of the annual levelized cost of new entry
9 (“CONE”).”⁵¹ From this, we might conclude that new entry has been precluded from
10 PJM. It has not. The “missing money” issue that Dr. Makovich identifies has been well
11 known to PJM, and PJM has worked diligently to resolve the missing money problem
12 over the past decade. Most notably, approximately 10 years ago, PJM implemented a
13 newly designed market for electric generation capacity (referred to as the reliability
14 pricing model, or “RPM”). Under PJM’s RPM, an annual capacity auction is carried out
15 each year (referred to as the base residual auction, or “BRA”), with generation capacity
16 being committed in the auction for delivery three years in the future.⁵² The result, as I
17 explain in more detail below, has been that PJM’s RPM is bringing forth considerable
18 new investment in baseload generation resources. Moreover, in response to the unusually
19 cold “Polar Vortex” in early 2014, PJM has proposed various enhancements to the

⁵¹ Makovich Supplemental Testimony at 11.

⁵² This three-year lag provides time for generation resources to manage the construction process and be brought on line.

1 capacity product it procures in the auction to ensure that generation resources will be
 2 sufficiently compensated to operate throughout the year.⁵³

3 The simple analysis behind Dr. Makovich's claim that PJM prices have left a
 4 revenue shortfall for new entry ignores the fact that PJM's capacity resource supply has
 5 often considerably exceeded demand during the last decade.⁵⁴ This occurred for several
 6 reasons: (1) there were a number of new plants built following industry restructuring; (2)
 7 when new capacity market designs were implemented, they allowed participation of
 8 demand response capacity resources which increased capacity supply substantially; and,
 9 (3) the Great Recession resulted in reduced power demand, which also contributed to
 10 excess capacity supply. Dr. Makovich completely ignores these widely reported power
 11 market fundamentals in his analysis.⁵⁵

12 **Q17. ARE PJM'S MARKETS NOW BRINGING FORTH NEW GENERATION**
 13 **RESOURCES?**

14 **A17.** Yes. In recent years, PJM's capacity market auctions have been attracting substantial
 15 amounts of new generation resources as more planned plant retirements take place and
 16 market conditions are becoming more favorable (reflecting economic recovery and the
 17 development of new natural gas supplies in the PJM region). Attachment JPK-S1 shows
 18 that PJM's most recent three auctions have attracted considerable new entry. Indeed, the
 19 past three capacity auctions (BRAs) have collectively cleared over 17,000 MW of new

⁵³ PJM's proposal is referred to as the capacity performance product and it has been under review at the FERC for several months with a decision on its implementation expected this summer.

⁵⁴ See, for example, 2017/2018 RPM Base Residual Auction Results, at Table 1, where the reported PJM system reserve margin for the past decade has always considerably exceeded the PJM requirement of ~15.7%, available at: <http://www.pjm.com/markets-and-operations/rpm.aspx>.

⁵⁵ See, generally, postings associated with PJM's RPM capacity auctions available at: <http://www.pjm.com/markets-and-operations/rpm.aspx>.

1 generation capacity, including at least 15,000 MW of new-build generation. Moreover,
2 Attachment JPK-S1 also shows that much of the new capacity (more than 12,000 MW)
3 that cleared in the capacity auctions is already under construction. PJM's wholesale
4 market is clearly attracting new baseload generation supply, signaling that expected
5 revenues are sufficient to support entry.

6 **IV. IMPACTS ON ELECTRIC PRICES AND PRICE VOLATILITY**

7 **Q18. RECOGNIZING, AS YOU SAY, THAT THE COMPANIES' OWN EVIDENCE**
8 **INDICATES THAT IT IS NOT CREDIBLE THAT THE SUBJECT PLANTS**
9 **WOULD BE CLOSED ABSENT THE APPROVAL OF THE PROPOSED ESP,**
10 **CAN YOU NEVERTHELESS ASSESS THE ECONOMIC IMPLICATIONS IN**
11 **THIS CASE OF THE COMMISSION'S CONCERN IN ITS AEP OHIO ORDER**
12 **ABOUT THE IMPACT OF PLANT CLOSURES ON ELECTRICITY PRICES?**

13 **A18.** Yes. I interpret the Commission's AEP Ohio Order as indicating that, when considering
14 proposals for PPAs and associated riders which would put ratepayers in the position of
15 guaranteeing a generation company recovery of its full costs plus a return, it will take into
16 account that the closure of a generating plant might have an adverse impact on consumer
17 retail electricity prices. In fact, in the case at hand, according to the Companies' witness
18 Steven E. Strah, "Rider RRS, as proposed, will provide a mitigation mechanism for price
19 increases and volatility that retail consumers are expected to experience over the next
20 fifteen years."⁵⁶

⁵⁶ See Strah Direct Testimony at 4.

1 **Q19. DO THE COMPANIES AND/OR FES PROVIDE ANY RELIABLE BASIS FOR**
 2 **THE CLAIM THAT RIDER RRS WOULD MITIGATE EITHER PRICE**
 3 **INCREASES OR VOLATILITY?**

4 **A19.** No, they do not. The only analysis the Companies provide of the level of future
 5 wholesale electricity prices (in the analyses of Mr. Ruberto and Mr. Lisowski) indicates
 6 wholesale prices will be sufficiently high on a net present value basis to cover the full
 7 costs of the Plants *whether or not the Companies captive Ohio ratepayers backstop cost*
 8 *recovery via the proposed PPA*. As I have reiterated above, this means that there is no
 9 credible threat that the Plants will be closed absent the proposed ESP; hence, there is no
 10 credible threat that the ESP is needed to hold down electricity prices. This is hardly
 11 surprising, as indicated by the Companies' witness Mr. Evans (see above), the PJM
 12 markets clear not on the basis of the costs of the Sammis and/or Davis-Besse plants, but
 13 on the basis of higher cost, marginal units in the system.

14 The Companies also provide no analyses of the impact of their proposal on *retail*
 15 rate volatility. Instead, the only analysis they provide is of wholesale price variability.⁵⁷
 16 Moreover, the lack of any basis for credibly asserting a threat of Plant closure means that
 17 the claim that the proposed PPA is needed to provide generation resource "diversity" so
 18 as to dampen wholesale price volatility is baseless.⁵⁸ Be that as it may, the suggestion
 19 that the PPA and associated Rider RRS will at least dampen retail price volatility that
 20 would otherwise be experienced by the Companies' ratepayers is similarly unsupported
 21 by reliable evidence.

⁵⁷ See Direct Testimony of Judah Rose on behalf of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company, Case No. 14-1297-EL-SSO, August 4, 2014, at 21.

⁵⁸ See Moul Direct Testimony at 9.

1 **Q20. ALTHOUGH (AS YOU NOTE) IT IS CONTRARY TO THE EVIDENCE**
2 **PROVIDED BY THE COMPANIES, PLEASE ASSUME FOR THE SAKE OF**
3 **DISCUSSION THAT THE SUBJECT PLANTS WOULD CLOSE ABSENT THE**
4 **PROPOSED ESP AND THAT THE PROPOSED ESP IS ADOPTED. IS THERE**
5 **RELIABLE ECONOMIC EVIDENCE IN THIS PROCEEDING THAT RETAIL**
6 **PRICE VOLATILITY WOULD BE REDUCED?**

7 **A20.** No. As I explained in my Direct Testimony, the Companies simply assert in their
8 testimony that volatility in short-term wholesale power markets results in volatility in
9 longer-term retail power markets;⁵⁹ and that the Rider RRS would result in meaningful
10 *retail* price smoothing by crediting back to ratepayers over-recovery of the Plants' costs
11 following periods of sufficiently high wholesale prices, while adding "true-ups" to
12 ratepayers' bills to account for any under-recovery of the Plants' costs following periods
13 of sufficiently low wholesale prices.⁶⁰ In other words, the Companies assert that selling
14 power from the Sammis and Davis-Besse generation plants in the wholesale power
15 markets, and then netting out of these sales' revenues the costs of operating the Plants,
16 will result in consumer bill adjustments that will benefit ratepayers by "smoothing" out
17 retail prices. Neither the logic of the Companies' proposal nor the facts support this
18 contention.⁶¹

⁵⁹ Kalt Direct Testimony at 39-40.

⁶⁰ See Strah Direct Testimony at 10.

⁶¹ It is important to note here that I am discussing price movements upward and downward, not absolute price levels which can trend upward or downward over time as power producer input prices, such as fuel, vary.

1 **Q21. PLEASE EXPLAIN.**

2 **A21.** First, under the (albeit, self-contradicted) claim that the Plants would close but for the
 3 proposed ESP, such “but-for” closure would mean that future wholesale prices would not
 4 be sufficiently high to cover even the Plants’ avoidable going-forward costs. This means
 5 that the Rider RRS bill adjustments that would be needed to keep the Plants from retiring
 6 would then necessarily be upward adjustments on net. This, in turn, would raise the
 7 overall costs of electricity incurred by ratepayers. Accordingly, even if these adjustments
 8 had the effect of reducing volatility, they would come at a cost to ratepayers. Surely, the
 9 value to ratepayers of purported reduced price volatility is not infinite, and the
 10 Companies have provided no evidence that the cost consumers would bear upon having
 11 to guarantee FES recovery of the Plants’ total costs plus a return to investors is worth the
 12 claimed but unquantified benefit to purported retail rate smoothing.

13 Second, it is quite pertinent in this regard that Ohio electricity consumers have
 14 ready access to Competitive Retail Electricity Service (“CRES”) providers who make it
 15 their business to attract customers with price and service packages that customers want.
 16 There is no basis for believing that consumer demand for rate stability is being
 17 underserved by the marketplace. In fact, CRES providers make elimination of retail rate
 18 volatility a central selling point, with explicit marketing and prominently telling
 19 consumers, for example, that they can “Lock-in a Low Fixed Rate” for electricity,⁶² and
 20 rate plans that provide “Price Stability!”⁶³ with up to 36 months fixed rates.

⁶² North American Power at http://napower.com/digital?gclid=Cj0KEQjwyIyqBRD4janGs5e67IsBEiQAoF8DGnBKihounbCx1Av1oZiNy1t030y5Ra_g7aVauUR5AwUaAnXa8P8HAQ, accessed May 1, 2015.

⁶³ North American Power at <http://napower.com/digital/rates-and-plans/select-plan?eprovider=53&gprovider=48&customerType=0>, accessed May 1, 2015.

The Commission, in fact, publishes and publicizes its “Apples to Apples: Electricity” charts for consumers, enabling them to do side-by-side comparisons of the service and rate offerings of Ohio’s many CRES providers. These charts show numerous offerings of fixed price electricity out for as much as 36 months. As shown in Attachment JPK-S2, the “Apples to Apples” charts show that consumers selecting relatively longer fixed price service (e.g., 36 months versus, say, 12 months) in the regions served by the Companies are generally offered price *discounts*.⁶⁴ That is, competitive market forces reward consumers for committing to long-term purchases under fixed prices. The Companies’ proposal here turns these economics on their head, proposing that consumers be required to pay a non-bypassable *premium* for purported retail price stability (in the form of Rider RRS adjustments that are, on net, upward if the Companies self-contradictory claims to the effect the Plants are in imminent danger of closing are accepted).

Q22. ARE CONSUMERS WHO DO NOT USE CRES PROVIDERS ALREADY BEING INSULATED FROM VOLATILITY IN WHOLESALE ELECTRIC PRICES?

A22. Yes. Attachments JPK-S3a through JPK-S3c compare retail residential Standard Service Offer (SSO) electricity rates to daily average wholesale prices in the PJM daily energy market over 2005-2015 in the major Ohio cities served by FES. As the figures make clear, the volatility of daily wholesale power prices is not transmitted through to SSO retail rates. Even notable events such as the spike in wholesale rates during the so-called

⁶⁴ Public Utility Commission of Ohio, *Energy Choice Ohio*, at <http://www.energychoice.ohio.gov/ApplesToApplesComparision.aspx?Category=Electric&TerritoryId=6&RateCode=1>, accessed May 1, 2015. Although there could be market conditions where steep increases in power input commodity prices may be expected, lessening or eliminating the ability of a retailer to offer more attractive longer-term prices, the retail price data typically show lower prices for longer-term fixed-price commitments.

1 “Polar Vortex” of January 2014 do not show up as spikes in retail rates. Overall, in fact,
2 SSO retail rates in the indicated cities have not been positively correlated with daily
3 wholesale rates. The Companies’ proposal in this case is promising the ratepayers of
4 Ohio something they already have and don’t need to bailout FES’ investors in order to
5 get highly smoothed retail electricity prices.

6 In fact, the proposal could well result in greater retail rate volatility. The Rider
7 RRS “true-ups” in retail ratepayers’ bills could well prove to be countercyclical to the
8 movements in wholesale prices. This is because the Rider RRS bill adjustments will
9 occur with some lag. Thus, if a period of quite high wholesale prices occurs and
10 generates revenues in that period in excess of the Plants’ calculated costs for the period,
11 the subsequent Rider RRS “true-up” would be expected to take the form of a bill
12 reduction. The lag in making bill adjustments under the Rider RRS and the random walk
13 characteristics of electricity prices mean, however, that this bill reduction would be
14 expected to be more likely to be applied in post-spike periods in which wholesale prices
15 have receded from their spike and are already relatively low. In other words, low
16 wholesale prices and the Rider RRS adjustment would tend, if anything, to reinforce each
17 other, with the Rider RRS adjustments pushing rates down at the same time wholesale
18 prices are soft.

19 Similarly, periods of relatively soft wholesale prices would tend to generate
20 under-recovery of the Plants’ calculated costs, leaving consumers having to bear upward
21 Rider RRS adjustments in their bills in periods when unusually low wholesale prices
22 have passed and wholesale markets have firmed. The result is Rider RSS upward
23 adjustments being borne by consumers right when wholesale prices are rising. If we

1 accept the Companies' claims that wholesale price volatility is transmitted to retail rates
2 (albeit, see discussion above), the Companies' proposal thus portends exacerbation of
3 retail price volatility.

4 **V. THE REGIONAL ECONOMIC IMPACTS OF THE DAVIS-BESSE**
5 **AND SAMMIS GENERATING FACILITIES**

6 **Q23. THE COMPANIES HAVE SUBMITTED TESTIMONY BY THEIR EXPERT, MS.**
7 **SARAH MURLEY, IN WHICH SHE PURPORTS TO ASSESS THE ECONOMIC**
8 **DEVELOPMENT BENEFITS TO AREAS NEAR THE SAMMIS AND DAVIS-**
9 **BESSE POWER GENERATION STATIONS.⁶⁵ WHAT DO YOU UNDERSTAND**
10 **MS. MURLEY'S ANALYSIS TO BE?**

11 **A23.** Ms. Murley's testimony analyzes the purported regional economic and revenue impacts
12 of the Sammis and Davis-Besse power generation stations. The analysis consists of a
13 limited scope economic impact assessment which employs the IMPLAN model to
14 estimate the direct, indirect, and induced economic effects of continued operation of the
15 Sammis and Davis-Besse generation facilities in Jefferson (and 6 nearby counties) and
16 Ottawa counties Ohio, respectively, as well as the state of Ohio. The testimony is offered
17 to demonstrate that the closing of the Plants would have substantial and adverse effects
18 on the Ohio economy.

⁶⁵ See Murley Supplemental Testimony.

1 **Q24. DOES MS. MURLEY’S ANALYSIS DEMONSTRATE ADVERSE IMPACT ON**
 2 **THE ECONOMY OF THE STATE OF OHIO IF THE COMMISSION REJECTS**
 3 **THE COMPANIES’ PROPOSAL TO HAVE CAPTIVE RATEPAYERS PROVIDE**
 4 **A *DE FACTO* GUARANTEE THAT FES’ INVESTORS WILL RECOVER THE**
 5 **COSTS, PLUS A RETURN, OF THE SUBJECT PLANTS?**

6 **A24.** No. First, the analysis implicitly is a comparison between the effects of continued
 7 operation of the Plants versus their closing. As I have discussed in my prior testimony
 8 and above, however, no reliable evidence has been provided that would indicate that the
 9 Plants will be unable to cover their avoidable going-forward costs and, hence, be at
 10 material risk of closing. The predicate underlying Ms. Murley’s analysis is unsupported.

11 Second, even if we ignore the foregoing, Ms. Murley’s analysis is markedly
 12 unreliable as an analysis of the net impact to Ohio’s economy from closing the Plants.
 13 Among other flaws, it assumes that *all* economic output, employment, and tax collections
 14 associated with continued operations of the facilities is lost to the state of Ohio and
 15 replaced by electricity imported from other states if the facilities close. In so doing, the
 16 analysis ignores the economic development benefits associated with replacement
 17 generation (planned or already under construction) which would come from within the
 18 state. In fact, loss of production from the Sammis plant would result in an increase in
 19 production at other existing Ohio plants and soon to be on-line new, high-efficiency
 20 power generation facilities.⁶⁶

⁶⁶ See Kalt Direct Testimony at Attachment JPK-2.

Q25. DOES MS. MURLEY’S ANALYSIS OF DAVIS-BESSE OVERSTATE ECONOMIC IMPACT, TOO?

A25. Yes. Again, in the case of the Davis-Besse facility, Ms. Murley does not include offsets from increased in-state generation that would reduce claimed lost economic output. In addition, Ms. Murley’s analysis fails to account for any of the environmental benefits that would be expected to be realized upon plant closure (in the form, e.g., of reduced CO2 emissions, pollution of ground water, and disposal of fly ash and radiological waste). Moreover, in the case of both Sammis and Davis-Besse, Ms. Murley’s analysis completely ignores the substantial spending that erstwhile plant closure would require for decommissioning, deconstruction, and decontamination of the two Plants. Particularly in the case of a nuclear facility like Davis-Besse, plant closure and decommissioning would inject substantial spending into the local economy. This spending would be required to perform necessary permitting, engineering, deconstruction, waste containment, and disposal activities. Currently, the Nuclear Regulatory Commission estimates the costs to decommission, deconstruct, and decontaminate a single reactor (as at Davis-Besse) to be on the order of \$300 to \$400 million.⁶⁷ Within the IMPLAN model employed by Ms. Murley, such spending accrues as economic benefits to the affected region. Indeed, plant decommissioning, deconstruction, and decontamination would be expected to cause significant increases in output and employment in key industries, such as professional, engineering and environmental services, and the construction trades and transportation. Ms. Murley’s analysis has ignored these effects.

⁶⁷ See e.g. <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/decommissioning.html>, accessed on May 8, 2015.

Q26. DOES MS. MURLEY'S ANALYSIS ACCOUNT FOR COSTS THAT WOULD BE AVOIDED IF THE PLANTS WERE CLOSED?

A26. No. Ms. Murley fails to account for costs avoided assuming that the Plants would close by emphasizing economic output as a primary indicator of economic impacts. As a measure of impact, economic output represents gross, not net, effects. For example, the cost of purchased coal at Sammis is included by Ms. Murley as economic output of the electricity industry in the region of Ohio she studies. The coal at issue, however, is sourced from a variety of mines outside of Ohio.⁶⁸ The loss of coal sales would impact the coal producing region outside of the state, but not the coal consuming region to any significant degree. Thus, economic output overstates the presumed economic impact of plant closure.⁶⁹ Ms. Murley's reliance on economic output measures of impact yields misleading results.

Q27. DOES THIS COMPLETE YOUR SUPPLEMENTAL TESTIMONY?

A27. Yes, it does.

⁶⁸ Based on EIA Form 923 data approximately 80% of the coal consumed at the Sammis facility over the past five years has been obtained outside of Ohio.

⁶⁹ Gross regional product, roughly equivalent to gross domestic product measured at the national level, is a better indicator of economic impacts. See, for example, Weisbrod, G., & Weisbrod, B. (1997). *Measuring economic impacts of projects and programs*. Economic Development Research Group.

CERTIFICATE OF SERVICE

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