

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Electric Distribution Rates.)))	Case No. 17-0032-EL-AIR
In the Matter of the application of Duke Energy Ohio, Inc., for Tariff Approval.))	Case No. 17-0033-EL-ATA
In the Matter of the Application of Duke Energy Ohio, Inc. for Approval to Change Accounting Methods.))	Case No. 17-0034-EL-AAM
In the Matter of the Application of Duke Energy Ohio, Inc. for Approval to Modify Rider PSR.)))	Case No. 17-0872-EL-RDR
In the Matter of the Application of Duke Energy Ohio, Inc. for Approval to Amend Rider PSR.)))	Case No. 17-0873-EL-ATA
In the Matter of the Application of Duke Energy Ohio, Inc. for Approval to Change Accounting Methods.)))	Case No. 17-0874-EL-AAM
In the Matter of the 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. 17-1263-EL-SSO
In the Matter of the Application of Duke Energy Ohio, Inc. for Authority to Amend Its Certified Supplier Tariff, P.U.C.O. No. 20.))))	Case No. 17-1264-EL-ATA
In the Matter of the Application of Duke Energy Ohio, Inc. for Authority to Defer Vegetation Management Costs.)))	Case No. 17-1265-EL-AAM

In the Matter of the Application of Duke)
Energy Ohio, Inc. to Establish Minimum)
Reliability Performance Standards) Case No. 16-1602-EL-ESS
Pursuant to Chapter 4901:1-10, Ohio)
Administrative Code.)

**INITIAL POST-HEARING BRIEF
BY
THE OFFICE OF THE OHIO CONSUMERS' COUNSEL**

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In a radical reversal of Ohio’s progress toward electric markets, Duke Energy Ohio (“Duke”) offers up a settlement that could add on the order of \$100 million (or much more) to over 700,000 Ohioans’ electric bills to subsidize aging deregulated power plants. And Duke looks to charge customers for a “smart grid” system that does not work, that it plans to scrap, *and* charge customers for new meters that are *supposed* to work. What is more, Duke looks to spend all of this customer money on its electric grid even though it has failed in one of its primary obligations – supplying reliable service. The settlement is a bad deal for Ohioans and should not be approved by the Public Utilities Commission of Ohio (“PUCO”).

EXECUTIVE SUMMARY

The Settlement in this case fails the PUCO’s three-prong test for settlements. It is not the product of serious bargaining. Rather than benefit customers and the public interest, it seriously harms them. And it violates important regulatory principles and practices.

The violations of the three-prong test abound. Most notably, the Settlement harms customers in four primary ways:

Duke proposes customer-funded subsidies for OVEC power plants. The

Settlement allows Duke to charge customers millions of dollars to subsidize its uneconomic, 60-year-old power plants, one of which isn't even in Ohio. Every witness in the case that testified on this issue agreed that the proposed Ohio Valley Electric Corporation ("OVEC") rider will be a charge to customers every single year under the six year Electric Security Plan ("ESP"). Yet amazingly, Duke still claims that this benefits customers. It does not. It provides free money to Duke, paid by customers, to subsidize Duke's poor business decisions made in the unregulated generation market to the tune of nearly \$100 million dollars. This is unlawful and does not benefit customers or the public interest.

Duke proposes charging customers twice for smart grid investments. Duke's

current residential smart grid system is a failure. It provides virtually none of the benefits that Duke promised. And Duke knew, even as it was installing the system, that it could not provide many of those benefits. The Settlement allows Duke to remove the entire residential smart grid system (which cost over \$400 million to install, and installation was completed in late 2015), install a new system for hundreds of millions of dollars more, charge customers all the costs for the new system, and continue charging customers for the old system that Duke will scrap. It is the epitome of actions by a utility that are imprudent and neither just nor reasonable. It will cost consumers on the order of \$500 million.

Duke refuses to pass all federal tax cut benefits back to consumers. The

Federal Tax Cuts and Jobs Act of 2017 substantially reduced the amount of federal income taxes that Duke will pay. The law requires Duke to reduce its base rates to

account for the reduction in federal income tax rates. The Settlement ignores the law by allowing Duke to continue charging customers the old 35% rate, even as Duke now pays the lower 21% rate. This does not benefit customers or the public interest and is unlawful. Instead, it will cost consumers over \$20 million dollars.

Duke proposes significantly increased spending on its distribution system, but less reliable service will be allowed. In Duke's last electric security plan case, the PUCO authorized it to start charging customers under a distribution capital investment rider that was intended to improve reliability for Duke's customers. Almost immediately upon Duke's spending hundreds of millions of dollars on distribution investments, its reliability metrics began a steady decline to the point that Duke missed at least one of its metrics in each of 2016 and 2017. The Settlement, however, gives Duke a pass on its past failures, substantially increases the amount that Duke can charge customers under the distribution capital investment rider, and sets a Customer Average Interruption Duration Index ("CAIDI") reliability standard that allows service to customers to get worse, not better. Customers deserve reliable service. The law in fact requires it. Instead, customers will be required to keep paying hundreds of millions of dollars to Duke under Rider DCI in exchange for longer outages. This does not benefit customers or the public interest.

For these and other reasons, the Settlement does not come close to passing the PUCO's three-prong test for settlements. Any number of choice words could be used to describe the Settlement, but sometimes a simple word will do: bad. The Settlement is bad for customers and it is bad for Ohio. The PUCO should reject it.

I. INTRODUCTION

Under a Joint Stipulation and Recommendation (“Settlement”) reached on April 13, 2018, Duke asks for authority to charge Ohioans to subsidize aging coal-fired power plants that date back to the Eisenhower administration – one of which is not even in Ohio. Unlike in other cases where the PUCO approved similar charges, there is no dispute that the so-called Power Stabilization Rider (“Rider PSR”) will be a charge on consumers during each year of this six-year plan. There is *no* evidence before the PUCO that Rider PSR will result in a credit to consumers. Further, unlike other cases where the PUCO approved similar charges, there is *no* evidence that Duke needs Rider PSR to support its credit rating, which is strong. Put simply, there is not even a scintilla of evidence that Rider PSR will ever benefit consumers, or that Duke needs Rider PSR for any defensible reason.

And to speak of substantial customer charges without any defensible justification, Duke spent hundreds of millions of dollars on its first smart grid system. The system did not deliver as promised. So Duke is going to scrap those “smart” meters – literally, scrap them – but still make customers pay for them. But it gets even worse for consumers. Duke is also going to charge customers for *new* smart meters that are *supposed* to work.

Unfortunately for consumers, the hit they will take is not only financial. One of a utility’s most important obligations is to provide reliable service. Duke failed to meet the reliability standards it agreed to for the past two years. But the Settlement now before the PUCO excuses Duke’s failure to meet the agreed-upon standards. Not only is that bad policy, in and of itself, it sets a dangerous precedent.

The PUCO should reject the Settlement.

II. STANDARD OF REVIEW

The Ohio Supreme Court held in *Duff v. Public Utilities Commission*¹ that a stipulation is merely a recommendation that is not legally binding upon the PUCO. The PUCO “may take the stipulation into consideration, but must determine what is just and reasonable from the evidence presented at the hearing.”²

The Court in *Consumers’ Counsel v. Public Utilities Commission*³ considered whether a just and reasonable result was achieved with reference to criteria adopted by the PUCO in evaluating settlements:

1. Is the settlement a product of serious bargaining among capable, knowledgeable parties?
2. Does the settlement package violate any important regulatory principle or practice?
3. Does the settlement, as a package, benefit ratepayers and the public interest?

In evaluating settlements in ESP cases, the PUCO should recognize the parties’ asymmetrical bargaining positions, where the utility possesses superior bargaining power.

As Commissioner Roberto noted in FirstEnergy’s initial ESP case filed in 2008:

When parties are capable, knowledgeable and stand equal before the Commission, a stipulation is a valuable indicator of the parties’ general satisfaction that the jointly recommended result will meet private or collective needs. It is not a substitute, however, for the Commission’s judgment as to the public interest. The Commission is obligated to exercise independent judgment based on the statutes that it has been entrusted to implement, the record before it, and its specialized expertise and discretion.

In the case of an ESP, the balance of power created by an electric distribution utility’s authority to withdraw a Commission-modified

¹ *Duff v. Pub. Util. Comm.*, 56 Ohio St.2d 367 (1978); *see also* Ohio Adm. Code 4901-1-30(E).

² *See id.*

³ *Consumers’ Counsel v. Pub. Util. Comm.*, 64 Ohio St.3d 123, 126 (1992).

and approved plan creates a dynamic that is impossible to ignore. I have no reservation that the parties are indeed capable and knowledgeable but, because of the utility's ability to withdraw, the remaining parties certainly do not possess equal bargaining power in an ESP action before the Commission. The Commission must consider whether an agreed-upon stipulation arising under an ESP represents what the parties truly view to be in their best interest – or simply the best that they can hope to achieve when one party has the singular authority to reject not only any and all modifications proffered by the other parties but the Commission's independent judgment as to what is just and reasonable. In light of the Commission's fundamental lack of authority in the context of an ESP application to serve as the binding arbiter of what is reasonable, a party's willingness to agree with an electric distribution utility application cannot be afforded the same weight due as when an agreement arises within the context of other regulatory frameworks. As such, the Commission must review carefully all terms and conditions of this stipulation.⁴

Commissioners Centolella and Lemmie expressed similar concerns.⁵ As reflected in Commissioner Roberto's opinion, the bargaining position of an electric distribution utility relative to other parties in an ESP proceeding is strengthened by its ability to reject the results from a fully litigated ESP proceeding. And the utility's advantage is further increased by its ability to offer inducements, including inducements funded by other people's money, to gain signatures. These utility advantages should prompt a wary eye by regulators considering the terms of a settlement that the utility "negotiated."

The ultimate question to be answered is whether, in light of the record, Duke's proposals are reasonable, comply with Ohio law, and are in the public interest. As OCC shows below, Duke does not meet this standard.

⁴ *In re FirstEnergy's 2008 ESP Case*, Case No. 08-935-EL-SSO, Second Opinion and Order, Opinion of Commissioner Cheryl L. Roberto Concurring in Part and Dissenting in Part (Mar. 25, 2009) at 1-2 (citations omitted).

⁵ *See id.*, Opinion of Commissioners Paul A. Centolella and Valerie A. Lemmie, Concurring (Mar. 25, 2009) at 2 (the ability of an electric distribution utility to withdraw (and its prior withdrawal)" need to be taken into account when considering the weight to be given to this stipulation" and "The Commission must evaluate whether the stipulation represents a balanced and appropriate resolution of issues.").

In addition, the PUCO must ensure that the Settlement meets the provisions of the Ohio Revised Code governing ESPs. The standard of review for ESP cases is found in R.C. 4928.143(C)(1), which states in pertinent part:

[T]he commission by order shall 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. Additionally, if the commission so approves an application that contains a surcharge under division (B)(2)(b) or (c) of this section, the commission shall ensure that the benefits derived for any purpose for which the surcharge is established are reserved and made available to those that bear the surcharge. Otherwise, the commission by order shall disapprove the application.

Further, R.C. 4905.22 requires that every public utility furnish necessary and adequate service and facilities, and that all charges for any service must be just and reasonable. Of course, Duke, as the applicant, bears the burden of proof.⁶

III. BACKGROUND

A. The Ohio General Assembly chose competition to protect consumers.

In Senate Bill 3 (“S.B. 3”), the Ohio General Assembly adopted a comprehensive statutory plan to facilitate and encourage competition in the retail electric market to

⁶ See, e.g., R.C. 4928.143(C)(1); *In the Matter of the Application of The Ohio Bell Telephone Company for Authority to Amend Certain of its Intrastate Tariffs to Increase and Adjust its Rates and Charges and to Change its Regulations*, 1985 Ohio PUC Lexis 7, 91 (PUCO Case No. 84-1435-TP-AIR); *In the Matter of the Application of the Ottoville Mutual Telephone Company for Authority to Increase its Rates and Charges and to Revise its Tariffs on an Emergency and Temporary Basis Pursuant to Section 4909.16 Revised Code*, 1973 Ohio PUC Lexis 3, 4 (PUCO Case No. 73-356-Y) (“the applicant must shoulder the burden of proof in every application proceeding before the Commission”).

protect consumers from increasing electric rates.⁷ The General Assembly also recognized that things could change as competition matured.

As competition evolved, the Ohio Supreme Court noted that things were not proceeding as expected.⁸ The PUCO and utilities responded with rate plans not expressly contemplated by statute.⁹ Having to review such plans, the Court acknowledged the primary role the Ohio General Assembly had to play (and intended to play) in connection with S.B. 3, and asserted that additional legislative action might be required.¹⁰

The General Assembly responded with Senate Bill 221 (“S.B. 221”). Broadly speaking, it required electric distribution utilities to provide consumers with a standard service offer (“SSO”).¹¹ The Ohio General Assembly adhered to its belief in competition with S.B. 221 and provided that electric distribution utilities had to fulfill this requirement with a market rate offer (“MRO”)¹² unless they could show that an ESP¹³ is more favorable in the aggregate than an MRO.¹⁴

⁷ See *AK Steel Corp. v. PUCO*, 95 Ohio St.3d 81, 81 (2002); *OCC v. PUCO*, 114 Ohio St.3d 340, 340 (2007).

⁸ See *OCC v. PUCO*, 114 Ohio St.3d 340, 343 (2007).

⁹ See *In re Columbus S. Power Co.*, 128 Ohio St.3d 512, 513 (2011).

¹⁰ See *id.* (citations omitted).

¹¹ See *id.*; see also R.C. secs. 4928.141-4928.144.

¹² See R.C. 4928.142. An “MRO” sets “rates using a competitive-bidding process to harness market forces.” See *In re Columbus S. Power Co.*, 128 Ohio St.3d at 514.

¹³ See R.C. 4928.143.

¹⁴ See R.C. 4928.143(C)(1).

B. The PUCO denied Duke’s initial request for Rider PSR because it was uncertain if Rider PSR would provide consumer benefits commensurate with potential costs.

Duke first sought authority for Rider PSR in its immediately-preceding ESP case.¹⁵ Rider PSR was based on Duke’s OVEC contractual entitlement from the Kyger Creek and Clifty Creek generating stations.¹⁶ As proposed, Duke’s OVEC contractual entitlement, including energy, capacity, and ancillary services, would be sold into the PJM Interconnection, LLC (“PJM”) markets. And after deducting all associated costs from the revenues, the proceeds from the OVEC contractual entitlement, whether a credit or a debit, would accrue to Ohio consumers.¹⁷

Duke asserted that Rider PSR rates would rise and fall in a manner that is counter-cyclical to market prices, thereby creating a hedging effect for consumers.¹⁸ Duke did not initially provide a projected rate impact of Rider PSR, doing so only in response to discovery.¹⁹ Duke asserted that the cumulative net cost to customers of its OVEC entitlement that would be charged to consumers was \$22 million over the ESP period and that it would reach \$29 million by the end of 2018.²⁰

Although the PUCO found that Rider PSR would, “in theory,” have the effect of stabilizing prices, it rejected the PPA Rider as proposed.²¹ The PUCO explained that

¹⁵ See *In the Matter of the 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.

¹⁶ See *id.* at April 2, 2015 Opinion and Order at 15-16.

¹⁷ See *id.*

¹⁸ See *id.* at 16.

¹⁹ See *id.* at 26.

²⁰ See *id.*

²¹ See *id.* at 44.

“there is no question that the rider would impact customers’ rates through the imposition of a new charge on their bills.”²² What the PUCO found unclear was “how much the proposed PSR proposal would cost customers and whether customers would even benefit from the financial hedge.”²³ It emphasized that “[i]n light of the uncertainty and speculation inherent in the process of projecting the net impact of the proposed PSR, the Commission is unable to reasonably determine the rate impact of the rider.”²⁴ At the same time, the PUCO agreed with various intervenors that the evidence of record demonstrated that the Rider PSR may result in a net cost to customers – with little offsetting benefit from its intended purpose as a hedge against market volatility.²⁵

Ultimately, the PUCO determined that because there was “considerable uncertainty with respect to pending PJM market reform proposals, environmental regulations, and federal litigation, as Duke acknowledges, and, in light of this uncertainty, [it did] not believe that it is [was] appropriate to adopt the proposed PSR at [that] time.”²⁶ It was “not persuaded, based on the evidence of record in the[] proceedings, that Duke’s PSR proposal would provide customers with sufficient benefit from the rider’s financial hedging mechanism or any other benefit that is commensurate with the rider’s potential cost.”²⁷ Nonetheless, the PUCO authorized a placeholder rider, at an initial rate of zero, and required Duke to show in a “future filing” justification for

²² *See id.* at 45.

²³ *See id.*

²⁴ *See id.* at 46.

²⁵ *See id.*

²⁶ *See id.*

²⁷ *See id.*

cost recovery.²⁸ Among the showings that the PUCO required Duke to make, “at a minimum,” were:

- Financial need of the generating plant;
- Necessity of the generating facility, in light of future reliability concerns, including supply diversity;
- Description of how the generating plant is compliant with all pertinent environmental regulations and its plan for compliance with pending environmental regulations; and
- The impact that a closure of the generating plant would have on electric prices and the resulting effect on economic development within the state.²⁹

The PUCO emphasized that it would balance, but not be bound by, the foregoing factors.³⁰

The PUCO also directed Duke to provide in the future filing:

- Provision for rigorous PUCO oversight of the rider, including a proposed process for a periodic substantive review and audit;
- A commitment to full information sharing with the PUCO and its Staff;
- An alternative plan to allocate the rider’s financial risk between it and its ratepayers; and
- A severability provision that recognizes that all other provisions of its ESP will continue, in the event that the PPA rider is invalidated, in whole or in part at any point, by a court of competent jurisdiction.³¹

²⁸ *See id.* at 47.

²⁹ *See id.*

³⁰ *See id.*

³¹ *See id.*

IV. RECOMMENDATIONS

A. The core responsibility of FERC, not the PUCO, is to protect consumers by overseeing the nation’s wholesale electric markets; the PUCO is without jurisdiction under federal law to approve Rider PSR.

1. It is necessary and appropriate for the PUCO to decide if it has jurisdiction in the first instance.

The PUCO is an administrative agency with the power to evaluate its own jurisdiction over an issue.³² It has recognized that before addressing the merits of a case, it must first determine the extent of its jurisdiction, if any.³³ It has also recognized that it will not address the merits of a case, even after hearing, where further review of jurisdictional issues leads to a finding of no jurisdiction.³⁴ As the Ohio Supreme Court has explained, it is “necessary and appropriate” for the PUCO to consider germane law to decide its own jurisdiction in the first instance.³⁵ Upon such consideration here, the PUCO can come to but one conclusion: It lacks jurisdiction.

2. FERC has exclusive jurisdiction over wholesale energy transactions as a matter of federal law.

The PUCO’s jurisdiction over Duke’s proposed Rider PSR is field preempted under the Federal Power Act (“FPA”).³⁶ The FPA vests FERC with exclusive

³² See, e.g., *In the Matter of the Complaint of Mentor Trailer Park, Inc.*, 1985 Ohio PUC Lexis 574, 14 (PUCO Case No. 84-757-WW-CSS).

³³ See, e.g., *In the Matter of the Commission Investigation into the Operations and Service of Lake Erie Utilities Company*, 1988 Ohio PUC Lexis 958, 4 (PUCO Case No. 86-1561-WS-COI).

³⁴ See, e.g., *In the Matter of the Complaint of Chatham v. Lakeside Utilities Corp.*, 1984 Ohio PUC Lexis 458, 17-18 (PUCO Case No. 83-413-WS-CSS).

³⁵ See *In re Complaint of Residents of Struthers*, 45 Ohio St.3d 227, 231 (1989). Stated differently in an analogous context, when trial courts’ subject matter jurisdiction is challenged by way of a motion under Ohio Civil Rule 12(B)(1), appellate courts have explained that “the trial court *must decide* whether the plaintiff has alleged any cause of action which the court has the authority to decide.” *Westside Cellular v. Northern Ohio Cellular Tel. Co.*, 100 Ohio App.3d 768, 770 (Cuyahoga 1995) (italics added).

³⁶ 16 U.S.C. 824d (2006).

jurisdiction over the “transmission of electric energy in interstate commerce” and the “sale of electric energy at wholesale in interstate commerce.”³⁷ Under the FPA, a wholesale sale is simply a sale for resale.³⁸ Rather than directly setting rates, FERC has chosen to achieve its regulatory aims by “protecting the integrity of interstate markets.”³⁹ To do so, FERC has authorized the creation of regional transmission organizations to oversee certain multistate markets – including PJM.⁴⁰ PJM operates energy and capacity markets.⁴¹ Both markets “are designed to efficiently allocate supply and demand, a function which has the collateral benefit of incenting the construction of new power plants when necessary” via price signals.⁴² They represent “a comprehensive program of regulation that is quite sensitive to external tampering.”⁴³

a. Field preemption under the Federal Power Act.

Field preemption occurs when “Congress has legislated comprehensively to occupy an entire field of regulation, leaving no room for the States to supplement federal law.”⁴⁴ Actual conflict between a state enactment and federal law is not necessary to a finding of field preemption – “it is the mere fact of intrusion that offends the Supremacy

³⁷ 16 U.S.C. 824(b)(1); *Nantahala Power & Light Co. v. Thornburg*, 476 U.S. 953, 966 (1986); *see also PPL EnergyPlus, LLC v. Solomon*, 766 F.3d 241, 251 (3d Cir. 2014) (“the wholesale price for capacity . . . is squarely, and indeed exclusively, within FERC’s jurisdiction.”) (citation omitted).

³⁸ 16 U.S.C. 824(d).

³⁹ *PPL EnergyPlus, LLC v. Nazarian*, 753 F.3d 467, 472 (4th Cir. 2014); *see also Solomon*, 766 F.3d at 248 (“FERC favors using market mechanisms to produce competitive rates for interstate sales and transmissions of energy.”).

⁴⁰ *Nazarian*, 753 F.3d at 472.

⁴¹ *Id.*

⁴² *Id.*

⁴³ *Id.*

⁴⁴ *Id.* at 474.

Clause.”⁴⁵ “A wealth of case law confirms FERC’s exclusive power to regulate wholesale sales of energy in interstate commerce”⁴⁶ The FPA “leaves no room either for direct state regulation of the prices of interstate wholesales of [energy], or for state regulations which would indirectly achieve the same result.”⁴⁷ States cannot “rely on mere formal distinction in ‘an attempt’ to evade preemption and ‘regulate matters within FERC’s exclusive jurisdiction.’”⁴⁸

Accordingly, a state program under which a participant in the PJM markets receives a fixed sum for every unit of capacity and energy that it clears, *even if the state program does not fix the rate paid by PJM to the market participant*, is preempted.⁴⁹ So a state program under which a PJM market participant receives the rate paid by PJM to the market participant plus an additional amount.⁵⁰ “The fact that [a state program] does not formally upset the terms of a federal transaction is no defense, because the functional results are precisely the same.”⁵¹ Nor is a state program saved where it incorporates, rather than repudiates, PJM clearing prices.⁵²

⁴⁵ *Id.*

⁴⁶ *Id.* at 475 (citations omitted).

⁴⁷ *Id.* (citation omitted).

⁴⁸ *Id.* at 476.

⁴⁹ *See id.* at 476-77.

⁵⁰ *See Solomon*, 766 F.3d at 252.

⁵¹ *Nazarain*, 753 F.3d at 477. Importantly, whether a state program functionally sets the price received by the PJM market participant for energy and capacity at a just and reasonable rate is immaterial to the preemption analysis. *Solomon*, 766 F.3d at 253.

⁵² *Solomon*, 766 F.3d at 254.

3. The United States Supreme Court held that a state program disregarding the wholesale electric rate in favor of a state guaranteed rate is preempted.

In *Hughes v. Talen Energy Marketing LLC*,⁵³ the United States Supreme Court affirmed decisions finding that a state commission's order guaranteeing a "cost-based" wholesale price is preempted by the FPA. In *Talen*, the Maryland Public Service Commission ("Maryland Commission") had required the incumbent distribution utilities to enter into 20-year contracts with a generation company proposing to construct a new plant in the state.⁵⁴ The contract guaranteed that the generator would receive the contract price for capacity and not the wholesale price.⁵⁵ It provided that if the wholesale price "[fell] below the price guaranteed in the contract," the utilities would pay the generator the difference and then "pass the costs of these required payments along to Maryland consumers in the form of higher retail prices."⁵⁶ And it provided that if the wholesale capacity price "exceed[ed] the price guaranteed in the contract," the generator would pay the utilities the difference and the utilities would "then pass the savings along to consumers in the form of lower retail prices."⁵⁷

The U.S. Supreme Court found that the contract "guarantees [the generator] a rate distinct from the clearing price [in the PJM capacity auction] for its interstate sales of capacity to PJM" and thus concluded that the Maryland Commission had "set[] an interstate wholesale rate."⁵⁸ Because the Maryland Commission had set the wholesale

⁵³ 136 S.Ct. 1288 (2016).

⁵⁴ *Id.* at 1294-95.

⁵⁵ *Id.* at 1295.

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Id.* at 1297.

rate, the U.S. Supreme Court affirmed lower court decisions finding that the Maryland Commission's order was preempted by the FPA. "States interfere with FERC's authority by disregarding interstate wholesale rates FERC has deemed just and unreasonable, even when States exercise their traditional authority over retail rates or, as here, in-state generation."⁵⁹

4. The PUCO's jurisdiction is field preempted because, under Rider PSR, the PJM market participant (Duke) would receive a fixed sum for energy and capacity sold on the PJM markets instead of the FERC approved wholesale rate.

Under Duke's proposal, the sale from Duke into the PJM markets is a wholesale transaction.⁶⁰ That transaction would be revenue neutral to Duke.⁶¹ This results from how Rider PSR will function. When the revenues accruing to Duke from the sale of OVEC entitlements into the PJM markets exceed all costs associated with the entitlements, Duke will credit customers the difference through Rider PSR.⁶² When the revenues accruing to Duke resulting from the sale of OVEC entitlements into the PJM markets are less than all costs associated with the entitlements, Duke will charge customers the difference through Rider PSR.⁶³

Accordingly, the revenues received by Duke from the sale of the capacity, energy, and ancillary services associated with the OVEC entitlements combined with the net Rider PSR credit or charge will always equal Duke's expenses associated with the OVEC

⁵⁹ *Id.* at 1299.

⁶⁰ *See* Hearing Transcript at Vol. V, p. 1023:14-1024:16.

⁶¹ *See* Hearing Transcript Vol. III, p. 532:4-9, 21-25.

⁶² *See* Hearing Transcript Vol. V, p. 1023:10-1024:16.

⁶³ *See Id.*

entitlements.⁶⁴ In short, Duke's proposal in the Settlement would fix the amount received by the PJM market participant – Duke – for the indisputably wholesale transaction – sale of energy, capacity, and ancillary services on the PJM markets – at the contract price for the OVEC entitlement.

5. Recent actions by FERC could increase Rider PSR's costs for consumers.

On June 29, 2018, FERC moved to protect its wholesale markets and customers from making unwarranted payments to subsidized capacity resources in PJM's 13-state service area.⁶⁵ FERC is requiring states that approve power plant subsidies to assign specific customers to receive the output from the subsidized generation and to pay for the subsidized generation. PJM's competitive market is protected, because these power plants will not participate in PJM's capacity market for generation. This is known as the Fixed Resource Requirement (FRR) option. Under FERC's ruling, there is a second option for addressing subsidized generation. That option includes setting a projected cost-based clearing price floor to which subsidized power plants would be subject. If the market price for the generation capacity does not reach that projected cost level, the subsidized plants will not clear in the market. This second option for subsidized generation is known as the Expanded Minimum Offer Pricing Floor Rule or the Expanded MOPR.

Though still uncertain, the end result is that FERC's actions have the potential to increase the charges that consumers will pay under Rider PSR.

⁶⁴ See Hearing Transcript Vol. V, p. 1023:10-1024:16; *id.* at Vol. III, p. 532:4-9, 21-25.

⁶⁵ FERC Docket Nos. EL16-49, ER18-1314-000, ER18-1314-001, and ER18-178 (Consolidated), June 29, 2018, 163 FERC ¶61,236.

B. The settlement was not the product of serious bargaining of knowledgeable parties representing diverse interests, and therefore violates the settlement test.

1. Support for the Settlement is narrow and limited.

As OCC Witness Kahal explained, support for the Settlement is narrow and limited.⁶⁶ Additionally, support for the Settlement lacks a diversity of interests.⁶⁷ While PUCO Staff and five intervening parties support the Settlement, numerous other parties either do not support it or signed only as not opposing.⁶⁸ OCC Witness Kahal recommends that the PUCO should take note of the active opposition of the OCC, the party charged with representing the interests of Duke’s residential customers who are the vast majority of the retail customers and a very large portion of total electric sales.⁶⁹ Among the signatory parties, there are special, narrow provisions that address their specific interests.⁷⁰ This includes some funding of low-income programs, a cooperative agreement pertaining to issues with the City of Cincinnati, and a working group arrangement with the hospital association group.⁷¹ These provisions hardly support the broader or “core” (and more controversial) provisions of the Settlement such as the base rate case outcome, Rider PSR (the OVEC subsidy), the smart grid issues, and the extension of Rider DCI.⁷² This is especially unsettling for residential customers. As

⁶⁶ See Direct Testimony of Matthew I. Kahal (OCC Ex. 20) filed June 25, 2018 at 20:4-5.

⁶⁷ 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*, Case No. 10-388-EL-SSO, Opinion and Order (August 25, 2010) (The PUCO considers the “diversity of interests” as part of the first part of the stipulation assessment).

⁶⁸ See Kahal Testimony at 20:5-7.

⁶⁹ See *id.* at 20:9-12.

⁷⁰ See *id.* at 20:12-14.

⁷¹ See *id.* at 20:14-16.

⁷² See *id.* at 20:16-18.

pointed out by OCC Witness Williams, Duke's residential customers are today receiving unsafe and unreliable service but will bear the burden of paying a significant portion of the charges associated with the Settlement.⁷³

None of the signatory parties (other than PUCO Staff) have filed testimony supporting the Settlement. This makes it difficult to determine whether their support is based on anything more than the narrow provisions that were added to address their specific and special interests as mentioned above.⁷⁴ And in footnote 13 on page 18 of the Settlement, it specifically states that the three non-opposing parties do not support Rider PSR.⁷⁵ This only serves to confirm OCC Witness Kahal's recommendation that if the PUCO is inclined to approve the Settlement, it should condition such approval on the elimination of Rider PSR.⁷⁶

2. There was not serious bargaining among knowledgeable parties because parties were misinformed and unaware of the issues they were resolving.

The Settlement seeks to resolve reliability service issues that parties did not fully appreciate. And OCC was excluded from the bargaining process, as OCC Witness Williams explained. OCC Witness Williams points out that other than PUCO Staff and Duke, no signatory or non-opposing party to the Settlement participated in the consolidated reliability case (Case No. 16-1602-EL-ESS).⁷⁷ Even more concerning is the fact that Duke predetermined that OCC would not be a participant in the settlement

⁷³ See Direct Testimony of James D. Williams (OCC Ex. 8) filed June 25, 2018 at 10:10-12.

⁷⁴ See Kahal Testimony at 20:23-21:1.

⁷⁵ See *id.* at 21:2-4.

⁷⁶ See *id.* at 21:4-6.

⁷⁷ See Williams Testimony at 10:16-18.

negotiations here regarding a crucial component of the Settlement, reliability.⁷⁸ But the injustice does not stop there. By excluding OCC from the settlement negotiations, it calls into question the ability of signatory and non-opposing parties to fully appreciate the failure of Duke to provide safe and reliable service.

Duke's own actions confirm that parties were not knowledgeable about the issues they now seek to resolve. In Duke's annual reliability report⁷⁹ for 2017, Duke alleges that it had no reliability standard for 2016.⁸⁰ In a communication with PUCO Staff, Duke states, "As Duke Energy Ohio's application to establish compliance standards is still pending, there remains an unresolved question to what standards pertain."⁸¹ This is misleading for two reasons. First, if true then there would be a clear violation of Ohio law.⁸² Second, Duke's statement ignores the finding of the attorney examiner in the consolidated Case No. 16-1602-EL-ESS proceeding. By Entry, the attorney examiner made abundantly clear that the 2016 reliability standards would remain in effect until such time as the PUCO orders otherwise.⁸³ Duke seems to at one point to admit it had standards (and missed them), and only later claims that there are not standards because the application is pending.⁸⁴

⁷⁸ See *id.* at 11:3-7; Attachment JDW-2.

⁷⁹ See R.C. 4928.11(A); Ohio Adm. Code 4901:1-10-1(C) (Utilities are required to file by March 31 of each year an annual reliability performance report that provides the reliability performance for the previous year).

⁸⁰ See Williams Testimony attachment JDW-3 at page 2; Case No. 18-0994-EL-ESS, Annual Report (March 29, 2018) at page 2.

⁸¹ See Williams Testimony at attachment JDW-5, p. 2.

⁸² See R.C. 4928.11(A); Ohio Adm. Code 4901:1-10-10.

⁸³ See Case No. 16-1602-EL-ESS, Entry (September 18, 2017).

⁸⁴ See Williams Testimony attachment JDW-7; attachment JDW-9.

The Settlement seeks to reward Duke for its poor performance under governing reliability standards. There is no doubt from the saturated record that Duke missed its CAIDI standard in 2016 and 2017 and its SAIFI standard in 2017.⁸⁵ Failing to meet the CAIDI standard two years in a row is a violation of PUCO rules.⁸⁶ As a violation, Duke could (and should) be subject to shareholder-funded forfeitures.⁸⁷ But as explained by OCC Witness Williams, it appears that during settlement negotiations Duke asserted that there were no reliability standards in place.⁸⁸ Thus, the record is unclear that parties to the negotiations were knowledgeable and appreciated that customers were not receiving reliable electric services.

Additionally, excluding OCC from the settlement negotiations and allowing Duke to evade governing reliability standards through a settlement will set bad precedent. Reliability standards are important and they should be met, and the Revised Code requires utilities to provide reliable service.⁸⁹ A utility that fails to meet them, such as Duke, should not be let off the hook. Otherwise, reliability will suffer and utilities will have much less incentive to provide reliable service.

For the reasons stated above, the Settlement fails to meet the first prong of the PUCO's standard for reviewing settlements. In order to protect consumers, the Settlement should be rejected.

⁸⁵ See, e.g., *id.* at 12:5-7.

⁸⁶ See Ohio Adm. Code 4901:1-10-10(E).

⁸⁷ See R.C. 4905.54.

⁸⁸ See Williams Testimony at 11:10-17:7.

⁸⁹ See R.C. 4905.22.

C. The Settlement, as a package, does not benefit customers or the public interest.

1. Duke’s proposed tariffs do not include refund language to ensure customers get their money back for charges later found to be imprudent, unreasonable, or unlawful.

The proposed tariffs in the Settlement lack consistency or protection for customers because they do not include refund language to ensure that customers get their money back for charges later found to be imprudent, unreasonable, or unlawful. Recently, the Supreme Court of Ohio issued a decision in an appeal of FirstEnergy’s Alternative Energy Rider case.⁹⁰ That case involved a rider that was updated quarterly and approved automatically unless the PUCO acted otherwise within 30 days.⁹¹ The rider was subject to true-up based on an annual prudency audit. After one such audit, the PUCO ordered FirstEnergy to return more than \$43 million in imprudently incurred charges to customers.⁹²

On FirstEnergy's appeal, the Court determined that the automatic approval of FirstEnergy’s quarterly filings constituted PUCO approval of new rates.⁹³ The Court also emphasized that the Alternative Energy Rider tariff did not state that the rates were subject to refund.⁹⁴ Thus, even though the order approving FirstEnergy’s Alternative Energy Rider stated that it could only collect prudently incurred costs, the Court held that the PUCO’s order that FirstEnergy refund the overcharges to customers involved

⁹⁰ *In re Rev. of Alternative Energy Rider Contained in the Tariffs of Ohio Edison Co.*, Slip Op. 2018-Ohio-229 (“*FirstEnergy*”).

⁹¹ *See id.* at ¶ 18.

⁹² *See id.* at ¶ 10.

⁹³ *See id.* at ¶ 10.

⁹⁴ *See id.* at ¶ 18.

unlawful retroactive ratemaking.⁹⁵ FirstEnergy was allowed to keep more than \$43 million in imprudently incurred costs it had collected from customers.

The Court's decision has far-reaching and harmful ramifications for customers who pay utility charges through riders. Unless the PUCO takes action to conform the tariff language for these riders to the Court's decision, any subsequently-conducted review of riders could be rendered meaningless. Customers could be overcharged without any way to be reimbursed. This circumstance can result in an unfair windfall for Duke.⁹⁶

The proposed Settlement contains a number of riders that do not contain language stating that the charges are subject to refund.⁹⁷ Thus, if the PUCO were to audit any of these riders and determine that costs were imprudently incurred, customers might have no remedy because *FirstEnergy* could prohibit any refund. The same goes for any future Court ruling that charges under the riders were unlawful.

The PUCO must protect customers from unjust and unreasonable rates. Thus, the PUCO should add the following language to Duke's rider tariffs: "Any charge collected from customers under this rider later determined unlawful, unreasonable, or imprudent by the PUCO or Ohio Supreme Court is refundable to customers." This language should be permanent in the rider tariffs. Or at the very least, the PUCO should add language to all rider tariffs that is consistent with other tariffs requiring all tariffs to have the same language.⁹⁸

⁹⁵ See *id.* at 8, 19.

⁹⁶ See *id.* ¶ 18.

⁹⁷ See, e.g., Case No. 17-32-EL-AIR *et al.*, Application (March 2, 2017) (Duke Ex. 1) at Schedule E1 Sheet 89; Sheet 122; Case No. 17-1263-EL-SSO *et al.*, Direct Testimony of James E. Ziolkowski (Duke Ex. 18) Attachment JEZ-1 at 177.

⁹⁸ See e.g. Duke Tariff Sheet 103.11 (Effective June 29, 2018).

The Settlement does acknowledge that the automatic adjustments made to riders are subject to reconciliation, including refunds.⁹⁹ But that consumer safeguard needs to be incorporated explicitly in the utility's tariffs.

2. The Settlement's purported benefits are obtainable without the unnecessary and excessive cost of the Settlement to consumers, and are more than offset by those costs.

As OCC Witness Kahal explained, Rider PSR is not in any way needed to meet the policy objectives that Duke claims the Settlement provides.¹⁰⁰ It accomplishes no policy goal, it is contrary to giving consumers the benefits of the competitive market, and it only serves to raise customer charges as captive utility customers provide an unwarranted subsidy for a non- utility investment.¹⁰¹ The \$19.2 million revenue reduction in base rates is insufficiently small to either offset the costs of the Settlement (most especially Rider PSR) or in and of itself (as explained by OCC Witness Duann, addressed below).¹⁰² So while Duke may assert that the Settlement addresses public interest objectives, it does so at a cost for customers that is unreasonably high.¹⁰³ The public interest requires not only that public interest goals be appropriately addressed but that the utility does so at the lowest reasonable cost, according to OCC Witness Kahal.¹⁰⁴ As aptly summarized by Duke Witness Fetter, Duke's obligation is to provide safe and

⁹⁹ See Settlement at 10.

¹⁰⁰ See Kahal Testimony at 24:8-9.

¹⁰¹ See *id.* at 24:10-13.

¹⁰² See *id.* at 24:14-17.

¹⁰³ See *id.* at 24:20-21.

¹⁰⁴ See *id.* at 24:21-23.

reliable service at the lowest reasonable cost.¹⁰⁵ The Settlement fails to do so.¹⁰⁶

Therefore, the Settlement, as a package, does not benefit customers and the public interest and should be rejected.¹⁰⁷

3. Rider PSR is a costly subsidy that does not benefit customers or the public interest.

a. Duke's own analysis of Rider PSR shows that the rider is going to cost consumers a lot of money.

Duke's own forecast of Rider PSR's costs, through Duke Witness Judah Rose, shows that Rider PSR will be very costly for consumers. Duke provides economic forecasts for the OVEC plants, including costs, market revenues, and "net margins," for the period January 1, 2018 to May 31, 2025 (the period covered by the Settlement).¹⁰⁸ The net margin is the plants' forecasted earnings from energy, ancillary services, and capacity sales into the PJM markets, net of the cost of those sales, and net of the plants' demand charges to cover fixed costs.¹⁰⁹ The net margins according to Duke's analysis show losses (charges to consumers) for the entire period covered by the Settlement.¹¹⁰ The present value of Rider PSR charges to consumers under Duke's analysis is \$77 million, or approximately \$94-95 million in nominal dollars.¹¹¹

¹⁰⁵ See *id.* at 24:23-25:2.

¹⁰⁶ See *id.* at 25:2-3.

¹⁰⁷ See *id.* at 25:3-5.

¹⁰⁸ See Direct Testimony of James F. Wilson (OCC Ex. 11) filed June 25, 2018 at 14:15-17.

¹⁰⁹ See *id.* at 14:17-19.

¹¹⁰ See *id.* at 15:3-5; see also Confidential Version of Direct Testimony of James F. Wilson (OCC Ex. 11a) filed June 25, 2018 at 15:3-5.

¹¹¹ See Wilson Testimony at 33:11-13.

There are certain key assumptions made in Duke's analysis. They are the energy and capacity prices earned by the plants, and the cost of the coal burned by the plants.¹¹² These assumptions determine how often the plants run, and what they earn when they run.¹¹³ Duke's assumptions regarding energy, capacity, and coal price reflect what those prices will be and, directionally, which way they are going.¹¹⁴ The reasons underlying Duke's forecasted energy prices include a return to normal weather, higher natural gas prices, lower reserve margins due to load growth and retirements in excess of new entry, and potential new regulations, inflation, and increasing new plant construction.¹¹⁵ The reasons underlying Duke's forecasted capacity prices include lower reserve margins due to load growth and retirements in excess of new entry, higher new plant construction costs, raising the RPM penalty, and PJM implementing new mitigation of "buy-side market power."¹¹⁶

b. Duke's assertions regarding a lower reserve margins are unlikely to happen.

OCC Witness Wilson explained that PJM's targeted reserve margins have generally been close to 16%, while the cleared quantities have been greater than the targets by four percent or more in each of the last seven delivery years, and in nine of the last ten.¹¹⁷ The lowest excess in the last ten delivery years was 3.5 percent in 2014-15.¹¹⁸ The excess cleared capacity reflects a very conservative sloped capacity demand curve

¹¹² See Wilson Testimony at 15:12-13.

¹¹³ See *id.* at 15:13-14.

¹¹⁴ See Wilson Confidential Testimony at 16.

¹¹⁵ See Wilson Testimony at 18; Confidential Wilson Testimony at 18.

¹¹⁶ See Wilson Testimony at 19:2-7; Confidential Wilson Testimony at 19:2-7.

¹¹⁷ See Wilson Testimony at 19:12-15.

¹¹⁸ See *id.* at 19:15-16.

used in RPM and very conservative (that is, high) estimates of the cost of new entry.¹¹⁹ The excess results from the market's eagerness to build new capacity in PJM, especially new combined cycle units supplied by the growing Marcellus/Utica natural gas supply region, and also renewable resources, whose costs have been declining.¹²⁰ The excess capacity has been maintained despite many plant retirements over the past several years, as affirmed by OCC Witness Wilson.¹²¹ Duke's analysis assumes PJM reserve margins much lower than have been in place in recent years, and its forecasts are therefore not as reliable as OCC Witness Wilson's.¹²² As he explained, consumers will likely pay even more than Duke forecasts under Rider PSR.

Clearing a much lower amount of capacity would result in much higher capacity prices, due to the RPM sloped demand curve.¹²³ Clearing a much lower amount of capacity would also tend to result in much higher energy prices.¹²⁴ With less reserves, shortage and near-shortage conditions should occur much more often, and these circumstances generally lead to higher energy prices.¹²⁵ The market has demonstrated a high degree of comfort with the level of capacity and energy prices seen over the past several years.¹²⁶ There has been substantial new entry at these prices, suggesting that new entrants consider these prices sufficiently compensatory.¹²⁷ If energy or capacity

¹¹⁹ *See id.* at 19:18-20.

¹²⁰ *See id.* at 19:20-20:1.

¹²¹ *See id.* at 20:1-2.

¹²² *See id.* at 20:8-9.

¹²³ *See id.* at 21:3-4.

¹²⁴ *See id.* at 21:4-5.

¹²⁵ *See id.* at 21:5-7.

¹²⁶ *See id.* at 21:12-13.

¹²⁷ *See id.* at 21:13-15.

prices were to trend upward, testified OCC Witness Wilson, even more aggressive new entry would be expected, which would prevent such price increases from proceeding very far.¹²⁸

Further, capacity and energy revenues are substitutes. Capacity prices rise when energy prices are low, and capacity prices fall when energy prices are high.¹²⁹ That is, capacity prices are supposed to provide the “missing money,” in addition to energy and ancillary services earnings, needed to attract and retain sufficient resources.¹³⁰

Accordingly, as OCC Witness Wilson explained, it is illogical to forecast (as does Duke Witness Rose) that energy and capacity prices will both rise concurrently, and it is not likely to happen without a substantial change in market conditions.¹³¹

Additionally, Duke’s assumptions regarding reserve margins equaling target levels after 2021-22 does not seem likely to occur.¹³² OCC Witness Wilson testified that the Reliability Pricing Model (“RPM”) demand curve and its parameters are currently under review, and PJM does not recommend any substantial change to them.¹³³ The market is comfortable with the capacity prices provided by recent RPM results that show excess cleared capacity.¹³⁴ It is likely that the excess capacity will continue to be procured.¹³⁵

¹²⁸ *See id.* at 21:15-17.

¹²⁹ *See id.* at 21:19-21.

¹³⁰ *See id.* at 21:21-22:1.

¹³¹ *See id.* at 22:1-4.

¹³² *See id.* at 22:6-9.

¹³³ *See id.* at 22:9-11.

¹³⁴ *See id.* at 22:11-12.

¹³⁵ *See id.* at 22:12-13.

c. Duke's assertions regarding the penalty rate being too low are wrong.

OCC Witness Wilson testified that Duke is wrong about its assertions regarding the penalty rate being too low.¹³⁶ Duke cites no evidence that PJM or its market monitor considers the RPM penalty rate too low, or that a process is underway with the goal of raising the penalty rate.¹³⁷ While a stakeholder process is currently underway focusing on a different parameter that may result in changes to the RPM penalty rate, stakeholders are split on whether the penalty rate should change, and if changed, whether it should increase or decrease.¹³⁸ In fact, PJM's proposal is to maintain the "status quo."¹³⁹

In any case, even if the penalty rate increases, the potential impact on capacity prices is unclear, according to OCC Witness Wilson. There could be little or no impact.¹⁴⁰ The theory Duke cites for the impact of the penalty rate on RPM offer and clearing prices has not been reflected in recent auction results, for reasons discussed by PJM's market monitor in his analysis of the 2017 RPM base residual auction.¹⁴¹ And Duke's assertion that the RPM penalty rate is too low is inconsistent with Duke's assumption that RPM reserve margins will equal target levels.¹⁴² If that were to happen, there would likely be many more Performance Assessment Hours, and the alleged flaw in the penalty formula would be eliminated.¹⁴³

¹³⁶ See *id.* at 22:18-19.

¹³⁷ See *id.* at 22:19-23:2.

¹³⁸ See *id.* at 23:2-5.

¹³⁹ See *id.* at 23:5-6.

¹⁴⁰ See *id.* at 23:8-9.

¹⁴¹ See *id.* at 23:9-12.

¹⁴² See *id.* at 23:14-16.

¹⁴³ See *id.* at 23:16-24:2.

OCC Witness Wilson's critique of Duke's assumptions regarding the penalty rate further call into question the accuracy of Duke's Rider PSR forecast. Consumers will likely pay even more.

d. Duke's assertions regarding buy-side market power mitigation, OVEC utilization rates, and OVEC dispatch and margins are wrong.

OCC Witness Wilson testified that Duke's assertion that PJM plans to implement new buy-side market power mitigation, and that that will raise capacity prices, is wrong. Duke Witness Rose misrepresents stakeholder processes and FERC proceedings in which he does not participate.¹⁴⁴ The PJM filing to which he cites makes no claim that PJM's proposal is intended to mitigate exercise of market power.¹⁴⁵ It remains unclear what, if anything, will come out of that proceeding, and what, if any, impact it may have on capacity prices.¹⁴⁶

Duke's assertion regarding OVEC's utilization rate is doubtful, at best, testified OCC Witness Wilson.¹⁴⁷ OVEC is an old plant and uses a fuel (coal) that is high in carbon emissions.¹⁴⁸ For these older coal plants, it is more likely that the economics will worsen rather than improve after 2021.¹⁴⁹

OCC Witness Wilson's critique of Duke's assumptions regarding the penalty rate further call into question the accuracy of Duke's Rider PSR forecast. Consumers will likely pay even more.

¹⁴⁴ See *id.* at 24:7-8.

¹⁴⁵ See *id.* at 24:8-9.

¹⁴⁶ See *id.* at 24:9-11.

¹⁴⁷ See *id.* at 24:16-17.

¹⁴⁸ See *id.*

¹⁴⁹ See *id.* at 25:1-8. See also Confidential Wilson Testimony at 3-8.

e. OCC’s alternative net margin analysis for OVEC is more realistic and shows even larger charges to consumers under Rider PSR for consumers.

OCC Witness Wilson prepared an alternative estimate of OVEC’s net margins (and thus costs to consumers under Rider PSR) based on a very simple assumption and calculation.¹⁵⁰ Assuming that the forecasted economic outcomes for 2018 to 2021 do not improve (or worsen) after 2021 (that is, using the average outcome over this period for the subsequent years), OVEC’s net cost for Duke (charges to consumers) would be \$119 million (\$95 million on a present value basis).¹⁵¹ This is a more likely outcome for these plants.¹⁵² It is still rather optimistic, as it is based on what OCC Witness Wilson considers rather optimistic assumptions for the 2018-2021 period.¹⁵³

f. Rider PSR will not stabilize consumers’ rates, and will not provide a hedge against volatile electric rates.

Duke Witness Rose discusses price volatility and asserts that power prices have exhibited, and will continue to exhibit, “very significant annual volatility.”¹⁵⁴ To support this claim, he presents the high-low range of energy prices.¹⁵⁵ But, as OCC Witness Wilson testified, this is not a standard measure of volatility, and it is not something customers care about – customers pay monthly bills that reflect average costs over the

¹⁵⁰ See Wilson Testimony at 25:12-13.

¹⁵¹ See *id.* at 25:13-17.

¹⁵² See *id.* at 25:17.

¹⁵³ See *id.* at 25:17-19.

¹⁵⁴ See *id.* at 28:9-10.

¹⁵⁵ See *id.* at 28:11-12.

period.¹⁵⁶ Further, customers may pay prices that were set months or years in advance.¹⁵⁷

Duke provided no examples or estimates of the potential impact of Rider PSR on the stability of customers' rates or the volatility of their bills.¹⁵⁸ Duke has performed no analysis illustrating how Rider PSR could provide customers with value as a hedge.¹⁵⁹

OCC Witness Wilson testified that Rider PSR would not serve as a hedge and stabilize customer rates served under the SSO.¹⁶⁰ SSO customers will be served by one- to three-year full requirements contracts resulting from competitive auctions.¹⁶¹ As a result of this process, the rates SSO customers will pay will be established through blending the results of multiple auctions held months or years in advance of delivery.¹⁶² The rate resulting from each auction will tend to reflect forward prices at the time of the auction plus a markup.¹⁶³ Forward prices for delivery periods several months or a few years out tend to be fairly stable.¹⁶⁴ Consequently, the rates paid by SSO customers will tend to be fairly stable over time.¹⁶⁵ This has been seen in the auctions held over the past several years to serve various Ohio utilities' SSO customers.¹⁶⁶

¹⁵⁶ *See id.* at 28:12-14.

¹⁵⁷ *See id.* at 28:14-15.

¹⁵⁸ *See id.* at 28:17-20.

¹⁵⁹ *See id.* at 29:1-4.

¹⁶⁰ *See id.* at 29:6-9.

¹⁶¹ *See id.* at 29:9-11.

¹⁶² *See id.* at 29:11-13.

¹⁶³ *See id.* at 29:13-14.

¹⁶⁴ *See id.* at 29:14-16.

¹⁶⁵ *See id.* at 29:16-17.

¹⁶⁶ *See id.* at 29:17-18.

By contrast, the OVEC net cost will reflect potentially relatively volatile PJM market revenues, netted from relatively stable OVEC plant costs.¹⁶⁷ The OVEC output would presumably be offered into the PJM day-ahead and real-time energy markets.¹⁶⁸ OCC Witness Wilson explained that unlike forward prices for delivery periods months or years in advance, such market prices can reflect extreme weather, unexpected plant outages, and various other unanticipated circumstances, as has occurred over the past year.¹⁶⁹ Rider PSR amounts will potentially reflect this volatility, although they will be cumulated over a quarterly period.¹⁷⁰ Consequently, as OCC Witness Wilson described, Rider PSR would add a relatively volatile component to the SSO customers' rates that otherwise do not include any such volatile components.¹⁷¹

Also, Rider PSR amounts will be lagged at least one quarter (essentially, one season), because Rider PSR will be calculated quarterly.¹⁷² As a result, testified OCC Witness Wilson, the PSR amounts to be collected from customers in one quarter will tend to be positive [negative] when PJM market prices were lower [higher] than expected in a *prior* quarter, which would generally occur due to the peculiar weather and other conditions of that season.¹⁷³ Thus, as SSO customers' rates change from year to year reflecting movements in forward prices, the changes in the relatively volatile quarterly PSR amounts are perhaps about as likely to move the same direction as the opposite

¹⁶⁷ See *id.* at 29:20-21.

¹⁶⁸ See *id.* at 29:21-30:1.

¹⁶⁹ See *id.* at 30:1-3.

¹⁷⁰ See *id.* at 30:4-5.

¹⁷¹ See *id.* at 30:5-7.

¹⁷² See *id.* at 30:9-10.

¹⁷³ See *id.* at 30:10-14.

direction to SSO rates, and will move four times per year.¹⁷⁴ It cannot be assumed, therefore, that the PSR will tend to hedge or stabilize SSO customers' rates.¹⁷⁵

Customers served by competitive service providers would not have their rates stabilized under Rider PSR, either. OCC Witness Wilson explained that customers who are served by competitive service providers may be exposed to market price fluctuations, or may pay fairly stable rates, depending upon the choices they make that reflect their preferences.¹⁷⁶ The potential impact of Rider PSR on the trajectory of such customers' rates would also depend on the extent to which the OVEC net costs in one quarter are uncorrelated or anti-correlated with the costs at which the customer will be supplied in the following quarter, when the OVEC net costs will be collected through Rider PSR.¹⁷⁷ To the extent Rider PSR amounts might be uncorrelated with market price fluctuations and tend to stabilize some customers' bills, said OCC Witness Wilson, they would do so primarily for those customers who have by their choices indicated a preference for market-based prices rather than stable prices.¹⁷⁸ Again, Rider PSR would be lagged at least one quarter, and corresponds to only a very small part of Duke's load.¹⁷⁹ Consequently, to the extent Rider PSR could provide some shopping customers some price stability despite the lag, the impact would be very small.¹⁸⁰

¹⁷⁴ *See id.* at 30:14-18.

¹⁷⁵ *See id.* at 30:18-19.

¹⁷⁶ *See id.* at 32:12-14.

¹⁷⁷ *See id.* at 32:14-18.

¹⁷⁸ *See id.* at 32:18-22.

¹⁷⁹ *See id.* at 31:22-32:1.

¹⁸⁰ *See id.* at 32:2-3. Additionally, Duke does not propose any way to allocate Rider PSR's financial risk between Duke and its customers. Duke suggests that the Settlement has provisions that "protect the public interest," noting provisions pertaining to forced outages, prudency reviews, and carrying charges, in addition to the treatment of capacity performance assessments. *See id.* at 32:19-22. But none of these

4. The Settlement's proposed rate of return is unreasonable and does not benefit customers or the public interest.

OCC Witness Dr. Duann testified that Duke's customers will be paying approximately \$40.4 million per year in additional costs through higher (than they otherwise should be) base distribution rates if the proposed Settlement is adopted.¹⁸¹ More specifically, under the proposed Settlement, Duke's customers will be forced to accept a \$19.2 million rate reduction and forego the \$59.6 million base rate reduction they are entitled to.¹⁸²

The higher rate of return as recommended in the proposed Settlement will also result in a higher pre-tax rate of return applicable to Rider DCI (and possibly other riders).¹⁸³ These additional costs in Rider DCI and other riders, paired with charges from a higher and unreasonable rate of return, could be substantial.¹⁸⁴ There is no demonstration that Duke's customers, or the public generally, will receive sufficient offsetting benefits were the rate of return in the proposed Settlement adopted.¹⁸⁵

a. The reduction in Duke's distribution rates to customers should be larger and would be were an appropriate Gross Revenue Conversion Factor used.

As OCC Witness Duann testified, the annual revenue requirement of \$467,775,683 and the proposed annual revenue decrease of \$19,177,171 recommended in

provisions affect the fundamental structure of Rider PSR under which the OVEC net cost is passed through 100 percent to customers. *See id.* at 32:22-33:2.

¹⁸¹ *See* Direct Testimony of Daniel J. Duann (OCC Ex. 7) filed June 25, 2018 at 28:15-18.

¹⁸² *See id.* at 28:18-21.

¹⁸³ *See id.* at 29:1-3.

¹⁸⁴ *See id.* at 29:6-8.

¹⁸⁵ *See id.* at 29:8-11.

the proposed Settlement are unreasonable.¹⁸⁶ Duke's customers are entitled to a much larger rate reduction. This is because a reasonable rate of return and an updated Gross Revenue Conversion Factor ("GRCF") should be used in calculating Duke's revenue requirement.¹⁸⁷

The erroneous and unreasonable annual revenue requirement recommended in the proposed Settlement is calculated by using an excessively high rate of return of 7.54 percent and a GRCF of 1.5613731.¹⁸⁸ OCC Witness Dr. Daniel J. Duann estimated a reasonable annual revenue requirement, using a rate of return of 6.75 percent and a GRCF of 1.2846742.¹⁸⁹

The GRCF of 1.2846742 was calculated based on a federal corporate income tax rate of 21 percent.¹⁹⁰ It is consistent with the GRCF proposed in the Settlement to calculate the pre-tax return of 8.94 percent for Rider DCI (as explained below, that pre-tax return is inappropriate for Rider DCI).¹⁹¹

Further, OCC Witness Duann calculated that Duke's customers should see a reduction in base rate revenue requirement of approximately of \$59,569,253 instead of a reduction of \$19,177,171 as recommended in the proposed Settlement.¹⁹² Consequently, if the proposed Settlement is approved, Duke's customers will be asked to pay an

¹⁸⁶ *See id.* at 30:4-6.

¹⁸⁷ *See id.* at 30:6-8.

¹⁸⁸ *See id.* at 30:9-12.

¹⁸⁹ *See id.* at 30:12-14.

¹⁹⁰ *See id.* at 30:14-16.

¹⁹¹ *See id.* at 30:16-18.

¹⁹² *See id.* at 31:1-16.

additional \$40.4 million in base distribution rates annually as a result of the higher rate of return and GRCF recommended in the proposed Settlement.¹⁹³

OCC Witness Duann testified that the pre-tax rate of return of 8.94 percent used in calculating Rider DCI is unreasonable because it is based on an unreasonably high rate of return of 7.54 percent.¹⁹⁴ The pre-tax rate of return of 8.94 percent proposed in the Settlement does reflect an updated GRCF that is based on the current federal corporate income tax rate of 21 percent.¹⁹⁵ But this pre-tax rate of return should be reduced to reflect a more reasonable return on equity of 8.28 percent and rate of return of 6.75 percent as recommended by OCC.¹⁹⁶ If the OCC-recommended rate of return of 6.75 percent is adopted, the pre-tax rate of return applicable to Rider DCI would be reduced to 7.94 percent.¹⁹⁷ The increase in the pre-tax rate of return on capital investment from 7.94 percent to 8.94 percent, as recommended in the proposed Settlement, will increase the annual revenue requirement of Rider DCI.¹⁹⁸

Though part of the Settlement, it is unreasonable to continue to use a GRCF of 1.5613731 to calculate the annual revenue requirement of Duke's base distribution rate.¹⁹⁹ A GRCF of 1.2846742 based on the current prevailing federal corporate income tax rate of 21 percent should be used, as proposed by OCC Witness Dr. Duann.²⁰⁰ By not

¹⁹³ *See id.* at 31:16-20.

¹⁹⁴ *See id.* at 32:4-6.

¹⁹⁵ *See id.* at 32:6-9.

¹⁹⁶ *See id.* at 32:9-12.

¹⁹⁷ *See id.* at 32:12-14.

¹⁹⁸ *See id.* at 32:16-18.

¹⁹⁹ *See id.* at 33:6-7.

²⁰⁰ *See id.* at 33:7-9.

using a reasonable and updated GRCF, the proposed Settlement would result in a revenue requirement that is much higher than it otherwise should be.²⁰¹ The resulting base distribution rates will be unjust and unreasonable.²⁰²

The use of an unreasonably high GRCF would also effectively allow Duke to earn a rate of return and a return on equity that are much higher than those recommended in the proposed Settlement.²⁰³ In other words, under the proposed Settlement, Duke's shareholders are given a return on the distribution-related rate base that is much higher than those that can be earned by investing in other investments with comparable risks.²⁰⁴ This does not benefit customers or the public interest. It solely benefits Duke's shareholders.

b. A 9.84 percent return on equity is unreasonable and does not benefit customers or the public interest.

The Settlement proposes an unreasonably high return on equity ("ROE") of 9.84 percent for Duke's base rates. The 9.84 percent ROE would also be used for various capital recovery riders (principally Rider DCI) that may be approved under the Settlement.²⁰⁵ OCC Witness Kahal testified that the ROE determined in the Settlement affects both the magnitude of the base rate reduction and the magnitude of rate increases going forward through capital recovery riders.²⁰⁶

²⁰¹ See *id.* at 33:9-12.

²⁰² See *id.* at 33:12-13.

²⁰³ See *id.* at 33:16-18.

²⁰⁴ See *id.* at 33:19-21.

²⁰⁵ See Kahal Testimony at 25:15-18.

²⁰⁶ See *id.* at 25:18-20.

OCC Witness Kahal testified that a 9.84 percent ROE exceeds a reasonable estimate of Duke's cost of equity because Duke is a very low-risk delivery service utility.²⁰⁷ This is confirmed by comparing the 9.84 percent ROE to comparable awards recently granted by state commissions to electric utilities. For 2017, the average ROE granted in electric general rate cases was 9.68 percent, declining to 9.59 percent for the first quarter of 2018.²⁰⁸ But most electric rate cases involve vertically-integrated utilities, meaning that they reflect the risks of generation supply operations.²⁰⁹ The approved ROE for distribution electric utilities is typically lower than for vertically integrated electric utilities.²¹⁰ The average ROE award in 2017 for distribution electric utilities was 9.43 percent, and for the first quarter of 2018 it was 9.0 percent.²¹¹

As OCC Witness Kahal observed, distribution electric utilities have had little difficulty maintaining financial integrity (such as strong credit ratings) with approved ROEs significantly below Duke's proposed 9.84 percent.²¹² There clearly is room to lower the Settlement ROE for Duke from the 9.84 percent proposal.²¹³

c. Using a 9.84 ROE for capital recovery riders, such as Rider DCI, is inappropriate.

Further, the 9.84 percent ROE is not appropriate for capital recovery riders such as Rider DCI. OCC Witness Kahal testified that the 9.84 percent ROE does not account

²⁰⁷ See *id.* at 26:2-4.

²⁰⁸ See *id.* at 26:15-16.

²⁰⁹ See *id.* at 26:16-18.

²¹⁰ See *id.* at 26:18-20.

²¹¹ See *id.* at 26:20-21.

²¹² See *id.* at 27:3-5.

²¹³ See *id.* at 27:5-6.

for the very low risk attributes of riders (such as Rider DCI).²¹⁴ Rider DCI allows Duke to file for incremental capital cost recovery on a quarterly basis without the normal lags and intense scrutiny associated with base rate cases.²¹⁵ Duke under this rider is not required to demonstrate an overall earnings deficiency in order to obtain prompt collection from customers for incremental capital.²¹⁶

Additionally, nothing in the Settlement in any way restricts Duke's ability to file a base rate case if it believes a rate case is needed to support earnings during the seven-year term of the Settlement.²¹⁷ Hence, Duke may employ both single-issue riders for cost collection from customers and base rate cases, as needed.²¹⁸

Due to the low-risk and favorable features of DCI and other riders, the 9.84 percent ROE award is excessive and exceeds the distribution cost of equity.²¹⁹ It neither benefits customers nor the public interest.

- 5. Approving lesser reliability standards and continuing Rider DCI offers no benefits to customers or the public interest.**
 - a. Duke's failure to meet reliability standards with Rider DCI shows that it harms customers and should not be approved.**

The Settlement's proposal to continue and expand Rider DCI through May 31, 2025 does not benefit customers and is not in the public interest. The PUCO previously approved Rider DCI as a mechanism to enable Duke to collect the incremental revenue requirement

²¹⁴ See *id.* at 27:11-12.

²¹⁵ See *id.* at 27:12-14.

²¹⁶ See *id.* at 27:14-16.

²¹⁷ See *id.* at 27:16-18.

²¹⁸ See *id.* at 27:18-19.

²¹⁹ See *id.* at 27:21-22.

on certain plant-related distribution investments to prevent reliability performance standards from taking a negative turn.²²⁰ And to help ensure that this objective was met, the PUCO authorized Duke to collect \$169 million from customers through the rider between 2015 and May 31, 2018.²²¹ To further emphasize the inseparable relationship between Rider DCI and reliability, the PUCO specifically stated:

The Commission further finds that the Company is dedicating sufficient resources towards reliability. Duke is correct to aspire to move from a reactive to a more proactive maintenance program. As we have noted with other, similar programs, we believe it is detrimental to the state's economy to require the utility to be reactionary or allow the performance standards to take a negative turn before we encourage the EDU to proactively and efficiently replace and modernize infrastructure and, therefore, we find it reasonable to permit the recovery of prudently incurred distribution infrastructure investment costs...The Commission finds the adoption of Rider DCI and the improved service that will come with the replacement of aging infrastructure will facilitate improved service reliability and further align the Company's and its customers' expectations.²²²

Accordingly, the purpose of Rider DCI is to provide customers with improved service reliability. Duke's failure to meet its reliability standards demonstrates that Duke is not meeting the PUCO's objectives for Rider DCI. Therefore, it does not benefit customers or the public interest and should not be approved.

In fact, authorizing Rider DCI appears to have had the opposite of the intended effect. Before Rider DCI, Duke met both its CAIDI and System Average Interruption Duration Index ("SAIFI") standards for years. After Rider DCI, with customers paying

²²⁰ Case 14-841-EL-SSO, Opinion and Order (April 2, 2015 at 66-72).

²²¹ *Id.*

²²² *Id.* at page 71-72.

millions of dollars to improve reliability, reliability quickly deteriorated.²²³ As OCC Witness Williams testified, extension or expansion of Rider DCI past May 31, 2018 would only serve to reward Duke for providing poor service reliability for its customers.²²⁴ Such an outcome is not in the public interest and would be unjust and unreasonable for customers.

b. Rider DCI should not be approved because customers' and Duke's interests are not aligned.

R.C. 4928.143(B)(2)(h) requires the PUCO to determine that, among other things, there is an alignment of the utility and customers' expectations concerning reliability.²²⁵ The PUCO previously approved Rider DCI based on the PUCO Staff's examination of the reliability of Duke's distribution system.²²⁶ The PUCO Opinion and Order read:

In deciding whether to approve an ESP that contains any provision for distribution service, R.C. 4928.143(B)(2)(h) directs the Commission, as part of its determination, to examine the reliability of the EDU's distribution system and ensure that customers and the EDU's expectations are aligned and that the EDU is placing sufficient emphasis on and dedicating sufficient resources to the reliability of its distribution system.²²⁷

The PUCO approved Rider DCI for the three-year term of Duke's prior ESP (June 1, 2015 – May 31, 2018) because it found that Duke's expectations for reliability were sufficiently aligned with its customers. The PUCO Opinion and Order stated:

The Commission finds that Duke's expectations and customers' expectations are sufficiently aligned. In examining the reliability of

²²³ See Williams Testimony at 24:11-13.

²²⁴ See *id.* at 24:13-16.

²²⁵ See R.C. 4928.143(B)(2)(h).

²²⁶ See Williams Testimony at 26:20-27:1.

²²⁷ Case No. 14-841-EL-SSO, Opinion and Order (April 2, 2015 at 71).

the Company's distribution system, the Commission notes that Duke consistently meets the SAIFI and CAIDI standards.²²⁸

As noted earlier, Duke has now consistently failed to meet its reliability performance standards since Rider DCI was approved. Duke's failure to meet the minimum reliability performance standards demonstrates that customers' and Duke's expectations for reliability are not aligned as required under R.C. 4928.143(B)(2)(h).²²⁹

c. There is no support for continuing Rider DCI.

OCC objected to the PUCO Staff's failure to reasonably examine the impact of Rider DCI on customer reliability.²³⁰ PUCO Staff recommended continuing Rider DCI, yet the recommendation was made without any factual support for why the rider should be continued.²³¹ Specifically, PUCO Staff's recommendation was made:

- without examining the Duke distribution system to ensure that Duke and its customers' expectations regarding reliability are aligned as required before the approval of an infrastructure modernization program in Ohio Revised Code 4928.143(B)(2)(h);²³²
- without performing an analysis of the costs and benefits of the programs that were previously authorized by the PUCO;²³³
- without examining the costs and benefits of new programs that Duke now proposes;²³⁴
- without recommending that customers be shielded from paying unreasonable costs associated with the "Business

²²⁸ *Id.*

²²⁹ In addition to not being in consumers' or the public's interest, this also shows that important regulatory principles and practices are violated.

²³⁰ See OCC objections to the Staff Report (OCC Ex. 17) at 5-6.

²³¹ See Williams Testimony at 29:17-21.

²³² See Staff Report at 9-10.

²³³ *Id.*

²³⁴ *Id.*

Continuity Effort” and an AMI Transition Plan involving Duke’s smart grid program; and²³⁵

- without considering the impact that the proposed revenue spending caps will have on customer bills and overall affordability of service.²³⁶

Sadly for customers, there is nothing in the record on whether the PUCO Staff examined any of the proposed programs included in Rider DCI to determine if the programs are expected to contribute to improved reliability.²³⁷ Without such an examination, and without such a determination, Rider DCI should not be approved.

d. There is no evidence that the PUCO Staff examined Duke’s proposed new programs to be included in Rider DCI.

Duke proposed two new programs (Self-Optimizing Grid and Targeted Undergrounding) to be funded through Rider DCI.²³⁸ Duke intends to spend an additional \$10 million annually for the Self-Optimizing Grid over the next six years.²³⁹ Additionally, Duke intends to spend another \$70 million between 2018 and 2022 for the Targeted Undergrounding program.²⁴⁰ Yet as OCC Witness Williams testified, the PUCO Staff performed no analysis of the projected impact these programs would have on customer reliability.²⁴¹ Nor did Duke provide any such analysis along with its proposal for these new programs. Customers should not be required to pay for either program

²³⁵ *Id.*

²³⁶ *Id.*

²³⁷ *See* Williams Testimony at 33:9-12.

²³⁸ *See id.* at 34:8-10.

²³⁹ *See id.* at 34:10-12.

²⁴⁰ *See id.* at 34:12-13.

²⁴¹ *See id.* at 34:15-16.

until and unless an evaluation is performed that demonstrates that these new programs will have a positive impact on the SAIFI and CAIDI reliability standards.

- e. **The PUCO should not allow Duke to charge customers for self-healing teams or self-optimizing grid programs without further analysis.**

If the performance of Duke's self-healing teams are any indication of the expected performance of the Self-Optimizing Grid, the results will not be good for customers. Self-healing teams are intended to automatically reroute power during an outage event so that fewer customers are interrupted.²⁴² Duke installed 30 self-healing teams as part of the Duke smart grid program.²⁴³ Another three self-healing teams were installed in 2016 and funded through Rider DCI.²⁴⁴ Yet, OCC Witness Williams testified that these self-healing teams have not operated successfully when they were called upon.²⁴⁵

The self-healing teams operated successfully about 80% of the time when they were called upon in 2016.²⁴⁶ Duke did not track self-healing team performance in 2017.²⁴⁷ The success rate in other years was even worse.²⁴⁸ While the Self-Optimizing Grid may be different from self-healing teams, the application of the distribution automation technology used in both should be proven used and useful with a much higher success rate before customers are burdened with any additional costs. It is instructive on this score to note that in Case No. 14-1051-GE-RDR, the PUCO did not accept a

²⁴² *See id.* at 35:1-2.

²⁴³ *See id.* at 35:2-3.

²⁴⁴ *See id.* at 35:3-4.

²⁴⁵ *See id.* at 35:5-9.

²⁴⁶ *See id.* at 35:10-11.

²⁴⁷ *See id.* at 35:11-12.

²⁴⁸ *See id.* at 35:7-9.

recommendation by Duke tying charging consumers costs associated with self-healing teams that achieved a 90 percent success rate.²⁴⁹ OCC Witness Williams testified that customers should not be required to pay for imprudent investments that Duke makes in equipment that is not proving to be used and useful.²⁵⁰ Further deployments of self-healing teams and Self-Optimizing Grid should achieve specific performance requirements before costs are collected from customers.²⁵¹

f. There is no benefit to customers or the public interest under the Settlement where Duke is authorized to charge consumers over \$623 million through Rider DCI but stakeholder input is prevented and reliability standards are reduced.

The Settlement supports extending Rider DCI through May 31, 2025.²⁵² It increases Rider DCI's revenue caps to over \$623 million between 2018 and 2025.²⁵³ Notwithstanding the Settlement's extension of Rider DCI, and the rider's hefty price-tag for consumers, the Settlement merely requires Duke to work with PUCO Staff to develop an annual plan to emphasize proactive distribution maintenance.²⁵⁴

Although the annual plan is supposed to include identification of expenditures that will help reduce customer minutes interrupted,²⁵⁵ there is no requirement for the plan to quantify or verify reliability impacts on an annual basis.²⁵⁶ OCC Witness Williams

²⁴⁹ *In the Matter of the Application of Duke Energy Ohio, Inc. to Adjust Rider DR-IM and Rider AU for 2013 SmartGrid Costs*. Case No. 14-1051-GE-RDR, Opinion and Order (April 8, 2015 at 6).

²⁵⁰ *See* Williams Testimony at 36:2-5.

²⁵¹ *See id.* at 36:5-7.

²⁵² *See* Settlement at 10-14.

²⁵³ *See* Williams Testimony at 36:12-15.

²⁵⁴ *See* Settlement at 14.

²⁵⁵ *See id.*

²⁵⁶ *See* Williams Testimony at 37:7-8.

pointed out that the annual audit identified in the Settlement²⁵⁷ is a financial audit and does not evaluate if programs being implemented are benefiting customers.²⁵⁸ The plan will not be submitted to PUCO Staff until December 1, 2019 (and each December thereafter).²⁵⁹ Yet customers under the Settlement are required to pay for the DCI well before the plan is even drafted.²⁶⁰ Further, the plan will not be publicly filed, and Duke will not make it available to parties other than PUCO Staff.²⁶¹ Therefore, other parties will not have the opportunity to question the work plan, the priority of spending under the plan, or to contest the lack of quantified benefits of the plan before the PUCO.²⁶²

Beyond excluding parties from any review of Rider DCI work plans, the Settlement proposes ineffective reliability standards. As OCC Witness Williams noted, poor reliability performance by Duke has had no negative impact on the revenue caps.²⁶³ Customers are required to pay rider DCI even if Duke fails to meet its reliability performance standards between 2018 and 2025.²⁶⁴ But if Duke meets the minimum reliability performance standards in 2018, Duke can be eligible to *increase* the Rider DCI revenue cap by \$4.7 million (from \$42.1 million to \$46.8 million) for 2019.²⁶⁵ By meeting the minimum reliability performance standards in 2019, Duke would be able to

²⁵⁷ See Settlement at 11.

²⁵⁸ See Williams Testimony at 37:8-10.

²⁵⁹ See Settlement at 11.

²⁶⁰ See Williams Testimony at 37:12-13.

²⁶¹ See *id.* at 37:13-14.

²⁶² See *id.* at 37:14-17.

²⁶³ See *id.* at 38:19.

²⁶⁴ See *id.* at 39:17-18.

²⁶⁵ See *id.* at 38:19-22; Settlement at 11.

increase the revenue cap by an additional \$4.7 million (from \$56.1 million to \$60.8 million) for 2020.²⁶⁶

But the reliability standards proposed in the Settlement do not reflect residential customers' expectations for reliability, and so Duke should not be rewarded for meeting them. OCC Witness Williams testified that, based on a recent customer perception survey, the vast majority of Duke residential customers consider 2-3 interruptions of more than 5 minutes per year as acceptable.²⁶⁷ The vast majority of customers consider an acceptable duration for a non-storm related outage to be less than two hours.²⁶⁸ The reliability standards proposed under the Settlement permit much longer outage durations than considered acceptable by customers.²⁶⁹

g. Additional costs that Duke is trying to shoehorn into Rider DCI are inappropriate.

Duke Witness Schneider revealed that Duke is replacing 80,000 Echelon meters with Itron meters as part of an effort to sustain its failing smart grid program.²⁷⁰ The total capital expense planned for replacing the 80,000 Echelon meters is just over \$10 million.²⁷¹ Duke contends that if the capital costs are in FERC distribution capital accounts, they will be included in Rider DCI.²⁷²

²⁶⁶ See Williams Testimony at 38:22-39:2; Settlement at 11.

²⁶⁷ See Williams Testimony at 39:7-9.

²⁶⁸ See *id.* at 39:9-10.

²⁶⁹ See *id.* at 39:10-12.

²⁷⁰ See *id.* at 40:3-5. Further, as explained in more detail below, Duke intends to replace approximately 500,000 meters as part of its AMI Transition Plan. Consumers will be charged even more.

²⁷¹ See *id.* at 40:5-6.

²⁷² See *id.* at 40:6-8.

Additionally, the Settlement would allow Duke to spend up to \$20 million through Rider DCI to install a battery storage project(s) for the purpose of deferring circuit investments or addressing distribution reliability issues.²⁷³ Duke has provided no further support for the \$20 million investment.²⁷⁴ Duke has provided no assurance that the battery storage project(s) will support reliability improvement on the distribution system.²⁷⁵ Duke has not demonstrated that the battery storage project is an infrastructure modernization program as required under R.C. 4928.143(B)(2)(h).²⁷⁶ Further, PUCO Staff has not analyzed Duke's distribution system to determine if any battery storage projects will align customers' and Duke's expectations regarding reliability.²⁷⁷

Duke just intends to install the battery storage project to "show the value of distributed battery storage can provide to the grid."²⁷⁸ At a potential \$20 million price-tag, the PUCO should require more to protect customers' and the public interest.

Here is the bottom-line. The costs associated with replacing Echelon meters should be addressed as part of a comprehensive resolution of all of the issues associated with Duke's smart grid program. As OCC Witness Williams testified, Duke should not be permitted to charge customers for replacing the meters through Rider DCI.²⁷⁹

The proposed battery storage project(s) under the Settlement lack sufficient information to enable an evaluation of the proposal to determine if funding is qualified

²⁷³ See *id.* at 40:10-13.

²⁷⁴ See *id.* at 40:13-14.

²⁷⁵ See *id.* at 40:14-15.

²⁷⁶ See *id.* at 40:19-20.

²⁷⁷ See *id.* at 40:21-41:2.

²⁷⁸ See *id.* at 40:15-17.

²⁷⁹ See *id.* at 41:13-15.

under Rider DCI.²⁸⁰ The PUCO should maintain approval authority over all battery storage project(s).²⁸¹ Before approving any battery storage project(s), the PUCO should require Duke to file an application that contains sufficient details to determine if the project qualifies as an infrastructure modernization program under R.C. 4928.143(B)(2)(h) and ensure that any revenues associated with the project are used to reduce the overall Rider DCI revenue cap.²⁸²

6. The proposed changes to the Net Metering Rider and Supplier Cost Reconciliation Rider offer no benefits to customers or the public interests.

OCC Witness Gonzalez testified that the proposed changes to the Net Metering Rider (“Rider NM”) harms net metering customers by not compensating them for providing generation capacity service.²⁸³ Duke is proposing to compensate excess generation provided by net metering customers at the Rider RE (Retail Energy) level.²⁸⁴ In other words, this compensation is only for the energy portion of the generation supplied.²⁸⁵ Additionally, the modification to the Supplier Cost Reconciliation Rider (“Rider SCR”) harms SSO customers who could potentially double pay for the customer generator’s excess kWh – one payment to Duke and another payment to suppliers.²⁸⁶

Duke has failed to provide any analysis to support the proposed change to Rider NM. Duke simply asserts that “[c]ustomer-owned solar installations are not a capacity

²⁸⁰ *See id.* at 41:15-17.

²⁸¹ *See id.* at 41:17-18.

²⁸² *See id.* at 41:18-42:2.

²⁸³ *See* Direct Testimony of Wilson Gonzalez (OCC Ex. 6) filed June 25, 2018 at 8:4-5.

²⁸⁴ *See id.* at 8:14-15.

²⁸⁵ *See id.* at 8:15-16.

²⁸⁶ *See id.* at 8:6-8.

resource that the Company and other customers can depend on to meet the capacity needs in the Duke Energy Ohio service territory.”²⁸⁷ This assertion is too simplistic and terse when dealing with this complicated issue, according to OCC Witness Gonzalez.²⁸⁸ Distributed generation technologies vary in their coincidence with the PJM system peak.²⁸⁹ Therefore, setting the capacity value at zero for all customer generation technology combinations without accommodating for their peak load contribution in their bills is problematic.²⁹⁰

The latest PUCO Finding and Order concerning this issue clearly states that “customer-generators using advanced meters should receive the benefit of their peak load contributions in the form of lower bills for electric service, instead of in the form [of] a higher credit for excess generation.”²⁹¹ As OCC Witness Gonzalez testified, it is unfair to net metering customers to allow Duke to benefit from part of a PUCO Order diminishing customer generator excess generation remuneration while ignoring the same Order’s provision of lowering net-metering customer bills to account for peak load contributions.²⁹²

Duke is proposing to add a charge on SSO customers through Rider SCR to collect from customers Duke’s payment to net metering customers for their excess

²⁸⁷ *See id.* at 10:10-13.

²⁸⁸ *See id.* at 11:2-3.

²⁸⁹ *See id.* at 11:3-5.

²⁹⁰ *See id.* at 11:5-8.

²⁹¹ *See id.* at 11:10-13.

²⁹² *See id.* at 11:13-12:1.

generation.²⁹³ Utilities argued for a similar type of charge in Case No. 12-2050-EL-ORD.²⁹⁴ In that case Duke stated:

facilitation of net metering as presently contemplated by the Commission will be time consuming and costly for Duke Energy Ohio. One example is the requirement that the EDU purchase net excess generation from customer-generators, for which there is no present mechanism for cost recovery. The Company therefore supports the FirstEnergy Companies' request that the Commission explicitly specify how cost recovery for such changes is to occur.²⁹⁵

The PUCO found that

electric utilities should be provided the *opportunity* to file an application with the Commission for the deferral of costs of providing customer credits from net metering. The electric utilities may file an application to recover the deferred costs of providing net metering in base distribution rates, or through some other appropriate rider or mechanism, and the Commission will consider the application.²⁹⁶

The proposed charge component is not appropriate in this proceeding. Instead the proposed charge component, if approved, would create uncertainty as to the effects of net-metering. A new state-wide investigation of net-metering would be more appropriate.²⁹⁷

Additionally, the two net metering related rider modifications proposed in the Settlement can negatively impact public interests that may result from the PUCO's PowerForward initiatives. One of the topics discussed at PowerForward has been the

²⁹³ See *id.* at 14:13-14.

²⁹⁴ See *id.* at 15:4-5.

²⁹⁵ See *id.* at 15:5-13; Case No. 12-2050-EL-ORD, Reply Comments of Duke Energy Ohio, Inc. (1/8/16) at 3-4.

²⁹⁶ Case No. 12-2050-EL-ORD, Finding and Order (11/8/17) at 19 (*italics added*).

²⁹⁷ See Gonzalez Testimony at 16:4-7.

integration of distributed energy resources such as solar PV, demand response, storage, and other resources to the modern grid.²⁹⁸ Such an integration of distributed energy resource into the transmission and distribution network can benefit both the utility and the customer by enhancing reliability and saving costs for consumers.²⁹⁹ Duke's proposal to remove the capacity payment from Rider NM without lowering the customer generators bill for peak load contribution will increase the payback period of distributed energy resources and restrict their deployment.³⁰⁰

Thus, the PUCO should reject Duke's Rider NM proposal because it harms customers and is not in the public interest.³⁰¹

7. Duke's smart grid deployment is a case study in what goes wrong when monopolies, rather than markets, make decisions regarding the advancement of technology.

Duke began installing smart meters in Ohio in 2008.³⁰² Ten years and \$400 million later,³⁰³ Duke's smart grid is virtually useless. Now, under the Settlement, Duke proposes that it take the current smart grid assets, scrap them,³⁰⁴ and replace them with new smart grid infrastructure (through a proposed "Ohio AMI transition"). And in doing so Duke will charge customers hundreds of millions of dollars for the new

²⁹⁸ *See id.* at 18:6-8.

²⁹⁹ *See id.* at 18:8-11.

³⁰⁰ *See id.* at 18:18-20.

³⁰¹ *See id.* at 13:11-13.

³⁰² Direct Testimony of Barbara Alexander (OCC Ex. 12) filed June 25, 2018 at 13:13.

³⁰³ Direct Testimony of Paul J. Alvarez (OCC Ex. 18) filed June 25, 2018 at Exhibit PJA-6; Alexander Testimony at 9:5-7.

³⁰⁴ Hearing Transcript at Vol. II, p. 354:4-7 (cross examination of Duke witness Donald Schneider) ("Q. What does Duke plan to do with the Echelon meters that are taken off the system as a result of the AMI transition plan? A. Scrap them.").

infrastructure,³⁰⁵ and continue charging customers for the scrapped parts.³⁰⁶ And to top it all off, Duke Witness Donald Schneider admitted that Duke’s new smart grid system will be no better than the current smart grid::

Q. So there are no new benefits to customers from . . . completing the AMI transition plan, correct?

A. That’s correct.³⁰⁷

The Settlement’s smart grid proposal is ill advised. It gives Duke a free pass on its failed current smart grid system. In short, it does not hold utilities accountable for their imprudent decisions.

- a. **Duke plans to remove its entire residential smart grid system – which it finished installing less than three years ago – and replace it with a different system at a cost of hundreds of millions of dollars to customers.**

Duke currently uses two different smart grid systems in Ohio.³⁰⁸ Most of Duke’s residential customers are connected to the “node” system, also referred to as the “Echelon” system because the meters on the node system are made by a company called Echelon.³⁰⁹ Customers on the Echelon system have Echelon meters that are connected to communication nodes manufactured by Ambient/Ericsson.³¹⁰ The Echelon system connects to a meter data management system called “EDMS.”³¹¹

³⁰⁵ Alvarez Testimony at 24, Table 3.

³⁰⁶ Hearing Transcript at Vol. V, p. 1044:6-25.

³⁰⁷ *Id.* at Vol. II, p. 401:25-402:3.

³⁰⁸ Schneider Testimony at 3:8-9.

³⁰⁹ *Id.* at 3:6-10; 6:11-12.

³¹⁰ *Id.* at 3:9-12.

³¹¹ *Id.* at 7:13-15.

Duke's non-residential customers are not connected to the Echelon system.³¹² Instead, they are connected to a the "mesh" system, also referred to as the "Itron" system, because the meters are made by a company called Itron.³¹³ The Itron meters connect to Connected Grid Routers or CGRs, which serve the same function as the nodes in the Echelon system.³¹⁴ The Itron system connects to its own meter data management system called "MDM."³¹⁵

Using two different smart grid systems is unusual (if not unprecedented).³¹⁶ These systems do not complement each other. To the contrary, as Duke Witness Schneider admitted, they run in parallel and are redundant.³¹⁷

Duke plans to remove the entire Echelon system – every Echelon meter, every node, and the EDMS – even though it just finished installing the Echelon system less than three years ago.³¹⁸ Duke then plans to replace it with the Itron system through what it refers to as the "Ohio AMI Transition."³¹⁹ Duke projects that the Ohio AMI Transition will cost \$143.4 million in capital costs,³²⁰ though as discussed in more detail below,

³¹² Hearing Transcript at Vol. II, p. 358:18-20. A small number of residential customers have already been moved onto the Itron system as well. Schneider Testimony at 6:12-14.

³¹³ *Id.* at 6:12-13.

³¹⁴ *Id.* at 3:12-14; Hearing Transcript at Vol. II., p. 351:24-352:2.

³¹⁵ Schneider Testimony at 7:16-17; Hearing Transcript at Vol. II, p. 345:7-19.

³¹⁶ Alexander Testimony at 8:13-15 ("The presence of two separate AMI metering, meter data management systems, and communications systems is high unusual. I have not seen other utilities implement such an approach.").

³¹⁷ Schneider Testimony at 5, Figure 1 (showing the two smart grid systems separately); Hearing Transcript at Vol. II, p. 346:8-14 (Duke witness Schneider admitting that using two different systems is a poor design).

³¹⁸ Alexander Testimony at 31:1-3.

³¹⁹ Schneider Testimony at 12:17-13:5.

³²⁰ *Id.* at 15:7-8.

these projections understate the actual cost to customers of the Ohio AMI Transition by hundreds of millions of dollars.³²¹

Duke's proposal to replace its newly-installed Echelon system is confirmation of the imprudent decisions that Duke has made over the past ten years regarding smart grid.

b. Duke has made one imprudent decision after another throughout its smart grid deployment to the detriment of its customers who are being asked to pay for these imprudent decisions.

The history of Duke's deployment to date shows that nearly every step of the way, Duke had a choice to make, and it consistently made the wrong choice for consumers.

Duke's imprudent business decisions began early on in its smart grid deployment. In 2007, Duke selected Echelon to supply the meters for its smart grid system (including residential and nonresidential meters).³²² At the time, Echelon did not even manufacture the type of meter necessary for Duke's nonresidential customers.³²³ Duke knew this, but it went ahead and chose Echelon anyway.³²⁴ This was imprudent; it simply makes no sense to hire a company to provide a product that the company does not provide. Further, there's no evidence that Duke ever disclosed this fact to the PUCO or to anyone else. This, too, was imprudent.

In 2008, Duke began installing Echelon meters for its residential customers.³²⁵ Duke intended for all customers (residential and nonresidential) to eventually be

³²¹ See *infra*.

³²² Hearing Transcript at Vol. II, p. 358:3-9.

³²³ *Id.* at 360:24-361:3.

³²⁴ *Id.* at 360:24-361:3.

³²⁵ *Id.* at 358:21-25.

connected to the Echelon system.³²⁶ Having all customers on the same system is fundamental to proper rate grid design.³²⁷ Duke could have waited to see if Echelon would begin manufacturing nonresidential meters, but instead, it moved ahead with the residential Echelon deployment without confirmation that a nonresidential meter would be available from Echelon. This was imprudent.

It did not take long for this imprudent decision to derail Duke's smart grid deployment. Around 2011, Duke realized that Echelon would *never* manufacture the necessary nonresidential customer meters.³²⁸ Duke therefore had to abandon its plan to add nonresidential customers to the Echelon system.³²⁹ But Duke did not disclose this change in plans to the PUCO or to anyone else until 2014 – three years later.³³⁰ This was imprudent.³³¹

As of early 2011, Duke had installed about 180,000 Echelon meters and 32,000 nodes, meaning its smart grid deployment was only about 25% complete at the time.³³² Armed with the knowledge that the Echelon system could never be deployed for nonresidential customers, Duke could have pressed pause on its deployment of the Echelon system for residential customers and sought guidance from the PUCO on how to proceed. Instead, Duke forged ahead and continued installing Echelon meters at a rapid

³²⁶ *Id.* at 362:10-14.

³²⁷ Tr. Vol. II at 346:8-14.

³²⁸ *Id.* at 362:15-20.

³²⁹ *Id.* at 345:1-6, 362:21-25.

³³⁰ Alexander Testimony at 8:15-17; 15:19-16:1.

³³¹ See Hearing Transcript at Vol. IX, p. 1516:19-1517:5 (OCC witness Alexander stating that it would be standard regulatory policy for a utility to inform the PUCO if it were making a significant change to the design and implementation of a system when it had previously gotten authority from the PUCO to install a different system).

³³² Alexander Testimony at 13:13-14.

rate. Over the next year, Duke doubled the number of Echelon meters on its system from 180,000 to 360,000 and nearly tripled the number of nodes from 32,000 to 84,000.³³³ It was imprudent for Duke to continue installing the Echelon system for residential customers when it knew that the Echelon system could never be installed for nonresidential customers.³³⁴

Around the same time (2011-2012), Duke also became aware of two other facts that should have caused it to reevaluate its Echelon deployment. First, in 2011 or early 2012, Duke became aware of MDM.³³⁵ MDM is a meter data management system that is superior to the EDMS system that Duke had installed for use with Echelon meters. The primary advantage of MDM over EDMS is that only MDM produces billing quality interval data – data this is required to provide the benefits of smart grid, like time-of-use rates.³³⁶ Relatedly, by mid-2011 at the latest, Duke knew that the Echelon system could not be used to offer customers time-of-use rates at scale.³³⁷ Despite this knowledge, Duke continued installing Echelon meters and the associated nodes, which connect only to the inferior EDMS. By early 2013, Duke had installed 547,00 meters and 127,000 nodes.³³⁸

³³³ *In re Application of Duke Energy Ohio, Inc. to Adjust Rider DR-IM & Rider AU for 2011 SmartGrid Costs*, Case No. 12-1811-GE-RDR, Opinion & Order at 3 (Mar. 27, 2013) (358,788 meters and 84,384 nodes installed through Q1 2012).

³³⁴ Alexander Testimony at 26:2-4.

³³⁵ Hearing Transcript at Vol. II, p. 363:10-13.

³³⁶ Schneider Testimony at 8:1-4.

³³⁷ Alexander Testimony at 12:11-16; 25:22-26:2.

³³⁸ *In re Application of Duke Energy Ohio, Inc. to Adjust Rider DR-IM & Rider AU for 2012 SmartGrid Costs*, Case No. 13-1141-GE-RDR, Opinion & Order at 3-4 (Apr. 9, 2014) (547,194 meters and 127,232 nodes installed through Q1 2013).

OCC Witness Alexander testified that the decision to continue installing Echelon meters and to continue connecting them to EDMS was imprudent.³³⁹

In late 2012 or early 2013, Duke decided on an alternative smart grid plan for its nonresidential customers. For those customers, Duke would install Itron meters and Connected Grid Routers.³⁴⁰ These customers would be connected to MDM and not EDMS.³⁴¹ But despite now having made the decision to use the Itron mesh system for nonresidential customers, Duke once again continued installing thousands and thousands of Echelon meters and nodes for its residential customers. By the first quarter of 2014, Duke had installed 716,000 meters and 141,000 nodes.³⁴² OCC Witness Alexander testified that Duke's decision to continue installing Echelon meters and the corresponding nodes for residential customers, even after it had decided to use the Itron system for nonresidential customers, was imprudent.³⁴³

At this point, Duke's deployment was nearly complete and most of the damage had been done. Duke had simultaneously installed two smart grid systems that would never be compatible with each other – one that worked, and one that did not. But Duke continued. In 2016, the nodes connected to the Echelon system were failing at a higher rate than expected.³⁴⁴ When Ericsson stopped providing repairs, Duke simply stopped getting them repaired. Duke did not look for another vendor who could provide repair

³³⁹ Alexander Testimony at 26:2-4.

³⁴⁰ Hearing Transcript at Vol. II, p. 363:1-4.

³⁴¹ *Id.* at 363:5-9.

³⁴² *In re Application of Duke Energy Ohio, Inc. to Adjust Rider DR-IM & Rider AU for 2013 SmartGrid Costs*, Case No. 14-1051-GE-RDR, Opinion & Order at 3 (Apr. 8, 2015) (716,074 meters and 141,259 nodes installed through April 2014).

³⁴³ Alexander Testimony at 26:2-4.

³⁴⁴ Hearing Transcript at Vol. II, p. 366:21-367:1.

service and did not try to find out what it might cost to repair them.³⁴⁵ Duke also recently found out that Verizon's 2G/3G network likely will be discontinued after 2022, which may cause a problem because the Echelon system is not compatible with 4G.³⁴⁶ But again, Duke did not explore ways to fix this problem, such as using a cellular provider other than Verizon or replacing the communication network cards in the existing Echelon meters.³⁴⁷ Instead, Duke chose the most capital intensive option of replacing the whole system. Duke's failure to consider reasonable alternatives to current problems with the Echelon system is imprudent.³⁴⁸

Every time Duke had a choice to make, it chose the most expensive, capital-intensive option to the detriment of its consumers. The obvious benefit to this approach – benefit for Duke, not its customers – is that it increases Duke's rate base and thus increases charges to customers and Duke's profits. Smart grid is supposed to benefit customers. It is not an excuse for capital spending to boost a utility's bottom line. But that is what it has been for Duke, and that is what it will continue to be if the Ohio AMI Transition proceeds under this Settlement.

c. Duke's current smart grid (the Echelon system) provides almost none of the benefits that Duke promised it would.

Duke's Echelon-based smart grid system is a failure. Duke justified spending \$200 million in customer money and another \$200 million in taxpayer money on that system by promising numerous smart grid benefits. It has delivered almost none of them:

³⁴⁵ *Id.* at 367: 12-22.

³⁴⁶ Schneider Testimony at 10:8-20.

³⁴⁷ Hearing Transcript at Vol. II, p. 381:17-382:10; Alvarez Testimony at 28:9-29:1.

³⁴⁸ For further discussion regarding Duke's failure to properly evaluate alternatives to its capital-intensive and expensive Ohio AMI Transition, *see infra*.

- Duke promised customers access to real-time data.³⁴⁹ The Echelon system does not provide customers with real-time data.³⁵⁰
- Duke promised customers the ability to notify them by text message about an outage event.³⁵¹ The Echelon system does not have an outage reporting feature.³⁵²
- Duke promised customers the ability to connect to in home digital display devices.³⁵³ The Echelon system does not have this functionality.³⁵⁴
- Duke promised customers the ability to receive forecasts of their monthly usage.³⁵⁵ The Echelon system’s web portal does not provide this information.³⁵⁶
- Duke promised the ability to generate billing-quality interval data.³⁵⁷ The Echelon system’s meter data management system does not generate billing-quality interval data.³⁵⁸

³⁴⁹ Alexander Testimony at 11:9 (citing the July 28, 2008 testimony of Duke witness Todd Arnold in Case No. 07-589-GA-AIR).

³⁵⁰ *Id.* at 17:10-12 (the Echelon meters “are not equipped with home area network radios or equivalent technology that would allow customers to obtain access to real time energy usage data”). *See also In re Application of Duke Energy Ohio to Adjust & Set its Gas & Elec. Recovery Rate for SmartGrid Deployment*, Case No. 09-543-GE-UNC, Opinion & Order (May 13, 2010) (summarizing stipulation where Duke agreed that “SmartGrid will enable customers in all rate classes to receive energy cost information that will allow the customer to react in real time”).

³⁵¹ Alexander Testimony at 11:10-11.

³⁵² *Id.* at 21:18-22:1; *Id.* at Exhibit BRA-11.

³⁵³ *Id.* at 11:14.

³⁵⁴ *Id.* at 17:10-13.

³⁵⁵ *Id.* at 11:11.

³⁵⁶ *Id.* at 21:9-11 (noting that customers cannot see the predicted amount of their monthly bill, which would necessarily be available if Duke were able to provide projected monthly energy usage).

³⁵⁷ *Id.* at 9:11-12; *see also* Hearing Transcript at Vol. II, p. 381:1-6.

³⁵⁸ Alexander Testimony at 17:5-6 (the Echelon energy data management system “is not capable of providing billing quality customer energy usage data, and the interval data captured by the Echelon meters is not relied upon by Duke for billing any customer”).

- Duke promised the ability for remote configuration and firmware upgrade capability.³⁵⁹ The Echelon system cannot be upgraded remotely.³⁶⁰
- Duke promised customers prepaid metering and other flexible billing options.³⁶¹ Duke does not provide prepaid metering or other flexible billing options (like pick your own due date) to customers connected to the Echelon meter data management system.³⁶²
- Duke promised customers non-pilot, time-of-use rates.³⁶³ Customers connected to the Echelon meter data management system cannot participate in time-of-use rates.³⁶⁴
- Duke promised Marketers, in 2012, the necessary billing system functionality to offer customers time-differentiated rates.³⁶⁵ Six years later, Duke has included these upgrades as part of the Settlement.³⁶⁶

Duke promised these benefits to convince the PUCO to approve its smart grid plan and to induce the Federal Government to provide \$200 million in taxpayer dollars to offset the cost of its smart grid investment.³⁶⁷ Then it installed a smart grid system that it knew could not deliver the vast majority of the promised benefits.

Duke has spent this money on the Echelon grid smart system imprudently, and customers should not be obligated to pay for Duke's imprudence. By not holding

³⁵⁹ *Id.* at 9:10-11.

³⁶⁰ *Id.* at 8:7-8.

³⁶¹ *Id.* at 11:14-15; *see also In re Application of Duke Energy Ohio, Inc. for a Waiver of Certain Sections of the Ohio Adm. Code for SmartGrid Pilot Programs*, Entry ¶ 20 (June 2, 2010) (“Duke also asserts that payment plans will be available once Duke has full functionality in its SmartGrid billing system.”).

³⁶² Alexander Testimony at 22:1-3.

³⁶³ *Id.* at 14:6-8 (citing the approved Stipulation & Recommendation (Feb. 24, 2012) in Case No. 10-2326-GE-RDR (the “Mid-Term Review Settlement”).

³⁶⁴ *Id.* at 15:3-7.

³⁶⁵ *Id.* at 14:8-11.

³⁶⁶ *See* Settlement Attachment F.

³⁶⁷ Alexander Testimony at 9:1-12.

shareholders responsible for the risk associated with the failed grid smart investment, the Settlement unreasonably converts consumers into investors. That harms customers and is not in the public interest. The Settlement should be rejected.

d. The limited functionality of the Echelon smart grid system denied customers the promised benefits of smart grid.

As described above, Duke installed an Echelon smart grid system that does not work. But in one critical regard, the Echelon system *could have* provided important functionality for customers, but Duke intentionally denied customers that functionality.

Billing quality interval data is essential for providing customers the benefits of smart grid, including time-differentiated rates or demand response programs that rely on hourly usage information.³⁶⁸ EDMS (the energy data management system that is connected to the Echelon smart meters) does not provide billing-quality interval data.³⁶⁹ It's not that the Echelon system *cannot* provide billing-quality interval data. No – Duke knew that it could, but simply chose not to use that function, thus denying its residential customers the opportunity to benefit from smart grid.³⁷⁰

Duke's apparent justification for denying customers these benefits is that it "found that the cost and long-term support of that functionality [providing billing-quality interval data] was not optimal."³⁷¹ This explanation fails for a variety of reasons. First, the phrase "not optimal" is vague and doesn't lend necessary support for Duke's imprudent decision-making. Second, Duke did not provide any cost data supporting this

³⁶⁸ *Id.* at 13:2-4; 14:19-21.

³⁶⁹ Schneider Testimony at 8:2-4.

³⁷⁰ *See* Alexander Testimony at 19:8-17; Alvarez Testimony at 25:18-21.

³⁷¹ Alexander Testimony, Exhibit PJA-11.

conclusion, so there is no way for the PUCO to evaluate its validity. Third, Duke claims that it did not provide this functionality because it is too expensive. But now, Duke says that it needs to replace the entire Echelon system with a new system for hundreds of millions of dollars—so that it can provide customers with the benefits of smart grid, including the very functionality that it allegedly deemed too expensive to provide with the Echelon system.

The PUCO should see through Duke’s approach. Duke intentionally limited the ability of its smart grid system to provide promised benefits to customers. Now Duke is using that system’s shortcomings – shortcomings that Duke manufactured – as the basis for massive capital investments to be paid for by customers.

- e. **As a result of Duke’s numerous imprudent smart grid decisions, the PUCO should disallow the date certain book value of the Echelon system, \$68.7 million, as including that cost neither benefits consumers nor the public interest.**

By PUCO order in Case No. 10-2326-GE-RDR (the “Mid-Deployment Review Case”), the test year in Duke’s base rate case (Case No. 17-32-EL-AIR) can include only “prudently incurred costs associated with the [smart grid] program.”³⁷² For the numerous reasons described above, Duke’s smart grid costs have not been prudently incurred, and customers should not be required to pay for those costs. Accordingly, the PUCO should exclude from Duke’s rate base the remaining book value of the Echelon system, which is \$68,730,098.³⁷³ To do otherwise puts customers at risk for the failed grid smart

³⁷² Mid-Deployment Review Case, Opinion & Order at 15 (June 13, 2012).

³⁷³ Alexander Testimony at 1:8-14, 25:7-13.

investment, thereby converting consumers into investors. That harms customers and is not in the public interest.

8. The PUCO should not allow Duke to charge customers even higher rates by accelerating the depreciation of the Echelon system that Duke is scrapping, as doing so benefits neither customers' nor the public interest.

Duke plans to remove the entire Echelon system and throw it away.³⁷⁴ This harms customers in various ways. First, Duke is removing the Echelon system long before the end of its useful life. The useful life of Echelon meters is 20 years, and the useful life of the communication nodes is ten years.³⁷⁵ Duke just finished installing the Echelon system in late 2015,³⁷⁶ which means that at least some of the Echelon system should last until nearly 2035. In fact, the first Echelon meter was installed in 2008,³⁷⁷ so every single Echelon meter installed in Duke's service territory would have a useful life that extends to at least 2028. Yet Duke plans to remove every single Echelon meter and node by 2022.³⁷⁸ This deprives customers of the full value of the Echelon meters that they helped pay for.³⁷⁹

Making matters worse, Duke will continue to charge customers for the Echelon system even after it is scrapped.³⁸⁰ And if that weren't bad enough, the Settlement allows Duke to charge customers not only for the discarded meters and nodes, but it allows Duke

³⁷⁴ *See infra*.

³⁷⁵ Alexander Testimony at 10:6-10.

³⁷⁶ Hearing Transcript at Vol. II, p. 363:14-18.

³⁷⁷ Alexander Testimony at 13:13; Hearing Transcript at Vol. II, p. 358:21-25.

³⁷⁸ Schneider Testimony at 15:7-11.

³⁷⁹ Further, the Echelon meters themselves are functional. They accurately count kWh and can be used for purposes of accurately billing customers. *See* Hearing Transcript at Vol. II, p. 368:25-369:6. That is, they don't need to be replaced at all.

³⁸⁰ *See infra*.

to accelerate the depreciation of these assets so that it can charge customers even faster.³⁸¹ This is an unjust and unreasonable outcome for consumers.. The PUCO should not allow Duke to accelerate the depreciation of assets it is discarding long before the end of its useful life.³⁸² This would be an unfair result for the consumers that the PUCO is charged with protecting.

9. Customers should not pay for a new smart grid system and then double-pay by continuing to pay for the old system that Duke discards, as doing so benefits neither customers' nor the public's interest.

If the PUCO does not disallow the remaining \$68.7 million book value of the Echelon system, then at a bare minimum, it should not allow customers to be simultaneously charged for the Echelon system and for the replacement Itron system.

Under the Settlement, Duke would be permitted to remove every Echelon meter and every communication node and replace them with new Itron meters and connected grid routers.³⁸³ Further, under the Settlement, Duke can charge customers for removing the nodes and replacing them with connected grid routers under Rider PF, which it estimates will cost over \$20 million.³⁸⁴ Finally, the Settlement allows Duke to charge customers for the new Itron meters under Rider DCI.³⁸⁵

But according to Duke, when it removes an Echelon meter and replaces it with an Itron meter, it will get accelerated recovery of the full cost of the Itron meter under Rider DCI, *and* it will continue to charge customers for the remaining value of the Echelon

³⁸¹ Alexander Testimony at 20:20-23.

³⁸² Alvarez Testimony at 29:19-30:2.

³⁸³ Settlement at 18; OCC Ex. 2 (Duke's response to PUCO Staff Data Request 14-002).

³⁸⁴ OCC Ex. 2.

³⁸⁵ Settlement at 17.

meter that it has now scrapped.³⁸⁶ This is unfair and does not benefit customers or the public interest. Customers should not be made to pay – on an accelerated basis through a rider – for Duke to replace assets and then still be required to pay for the old assets. At a minimum, the PUCO should find that when Duke seeks to charge customers for a new Itron meter or connected grid router through Rider PF or Rider DCI (or any other rider), then the remaining value of the corresponding scrapped Echelon meter or communication node should be used to reduce the revenue requirement under the applicable rider.

10. Duke should not be allowed to charge customers for a new Itron smart grid because it did not consider *any* less costly alternatives.

Duke's deployment of the Echelon system has failed. OCC witnesses described in detail the numerous shortcomings of that system and the failure of Duke to deliver the promised benefits to customers.³⁸⁷ Duke's smart grid witness, Donald Schneider, spent most of his testimony explaining why the Echelon system is broken and needs to be fixed.³⁸⁸

The reasonable approach to fixing Duke's smart grid contains three primary steps. First, identify what functionalities the system *should* have. Should the system provide billing quality interval data for all customers? Should customers have access to real-time energy data? Should customers be able to participate in time-of-use rates or similar time-based programs like peak time rebates? Should Marketers have the ability to offer customers time-differentiated rates and programs? Should customers have access to flexible billing options like pick your own due date? Should Duke be required to design a

³⁸⁶ Hearing Transcript at Vol. V, p. 1044:6-25.

³⁸⁷ See generally Alexander Testimony, Alvarez Testimony.

³⁸⁸ See generally Schneider Testimony.

system that is consistent with the Connect My Data standard? Should all customers have access to these things or is it more appropriate to offer them only to customers who ask for them or who are most likely to actually use them? Which of these functionalities is most important and why? How quickly do customers need access to these upgrades? What is the market for goods and services that will allow customers to take advantage of smart grid? As OCC witness Alvarez explained, only once these and other policy questions are answered can one reasonably decide what type of technology to deploy and how to deploy it.³⁸⁹

Second, once functionality specifications and policy goals are identified, all available alternatives for accomplishing those goals should be evaluated to determine how those goals can be accomplished at the least cost for consumers. In other words, the PUCO should “rigorously evaluate, in a transparent manner, all options available to addressing the shortcomings of the Echelon metering system in order to find the most advantageous approach for the least cost to customers.”³⁹⁰

Third, Duke must implement the least cost plan effectively and efficiently.

Unfortunately for Duke’s customers, Duke has skipped the second step. Duke identified various problems with the Echelon system. But instead of evaluating the different possible ways to fix that problem, it chose one solution and ignored all other possibilities.

The Echelon system’s meter data management system, EDMS, does not provide billing quality interval data and thus does not allow for large scale time-differentiated

³⁸⁹ See Alvarez Testimony at 39:9-12.

³⁹⁰ *Id.* at 43:8-11.

rates for customers.³⁹¹ Duke's solution to this problem is to remove every single Echelon meter and communication node connected to EDMS, replace them with Itron meters and CGRs, discard EDMS, and replace it with a new meter data management system called MDM.³⁹² Duke did not consider *any* alternatives to this wholesale replacement. For example, as explained by OCC Witness Alvarez, Duke could have considered a software translation program that would map EDMS data into a format that is compatible with MDM and thus would allow for billing quality interval data.³⁹³ In fact, as OCC Witness Alvarez pointed out, Duke already did this on a small scale for customers that participated in its time-of-use pilot.³⁹⁴ Similarly, Duke could have considered customized software to deliver billing-quality energy data through EDMS, which would have allowed customers to benefit from time-of-use rates without replacing the Echelon system.³⁹⁵ Duke did not look into these or any other solutions. Instead, it chose the most capital-intensive solution possible: removing the entire existing system and replacing it at a cost to consumers of nearly half a billion dollars.³⁹⁶

Duke claims that the Echelon system will no longer function as a smart grid after 2022 because Verizon's 2G/3G network (on which the Echelon system relies) will be retired.³⁹⁷ There are several possible solutions to this problem. For example, Duke could have replaced the communications network cards in the Echelon meters with cards that

³⁹¹ Schneider Testimony at 8:2-4.

³⁹² *Id.* at 12:17-15:4.

³⁹³ Alvarez Testimony at 26:8-14.

³⁹⁴ *Id.* at 26:14-16.

³⁹⁵ *Id.* at 27:1-3.

³⁹⁶ *Id.* at 26:16-18; 27:3-5.

³⁹⁷ Schneider Testimony at 10:8-11:23.

could communicate directly with the public 4G network.³⁹⁸ Duke did not even look at this option.³⁹⁹ Duke could have replaced the communications network cards in the Echelon meters with cards that could be read by the new connected grid routers.⁴⁰⁰ Duke did not even look at this option.⁴⁰¹ Duke could have replaced the communications network, including the communications cards in the existing electric meters, with the private 4G network now supported by Ericsson.⁴⁰² Duke did not even look at this option.⁴⁰³ Duke could have worked with a wireless provider other than Verizon who might be able to offer a solution, but Duke did not even look at this option.⁴⁰⁴ Instead of considering these or other potentially less costly options, Duke's solution is to remove every single Echelon meter and communication node connected to EDMS and replace them with Itron meters and CGRs that are compatible with 4G.⁴⁰⁵

The communication nodes connected to the Echelon system are failing at an unexpectedly high rate, and Ericsson is no longer manufacturing nodes.⁴⁰⁶ There are various potential solutions to this problem. Duke could have talked to other technology companies to see if they could manufacture nodes. Duke could have worked with outside vendors to see if they are able to repair the nodes. But once again, Duke did not even look

³⁹⁸ Alvarez Testimony at 28:9-12.

³⁹⁹ *Id.* at 29:1.

⁴⁰⁰ *Id.* at 28:13-15.

⁴⁰¹ *Id.* at 29:1.

⁴⁰² *Id.* at 28:16-21.

⁴⁰³ *Id.* at 29:1.

⁴⁰⁴ Hearing Transcript at Vol. II, p. 381:17-382:10.

⁴⁰⁵ Schneider Testimony at 12:17-15:4.

⁴⁰⁶ Schneider Testimony at 9:9-13.

at these options.⁴⁰⁷ And once again, Duke instead decided that the only option was to remove the entire Echelon system at a massive cost to consumers.

When problems arose with the Echelon system, Duke did not determine the least-cost way to address those problems. Instead, it chose a solution that is extremely expensive and capital intensive, thus driving up costs for consumers and increasing Duke's rate base and profits. The PUCO should not endorse this type of approach to grid modernization. It should require utilities to carefully plan grid modernization initiatives by identifying (with PUCO and stakeholder guidance) the desired functionalities of a smart grid system and delivering those functionalities at the least cost to consumers.

11. Duke's shareholders – and not its customers – should pay any costs to fix the defects in the Echelon system. This is because Duke – and not its customers – is responsible for failing to deliver to customers the promised benefits of smart grid.

Customers bear no responsibility for the numerous failures of Duke's smart grid deployment, as explained by OCC Witness Alexander:

[I]t was Duke, and Duke alone, who developed system requirements for the meter data management system, prepared specifications, managed the procurement process, and ultimately oversaw the deployment of the meter data management system it didn't use. And it was Duke, and Duke alone, who limited the functionality of the meter data management system such that customers were denied access to the dynamic pricing options that they paid for and were promised both at the PUCO and through the DOE grant.⁴⁰⁸

But under the Settlement, Duke's customers will pay 100% of the costs to fix the problems with the Echelon system, and Duke's shareholders will pay zero. This is unjust.

⁴⁰⁷ Hearing Transcript at Vol. II, p. 367:12-22.

⁴⁰⁸ Alexander Testimony at 19:10-17; *see also* Hearing Transcript Vol. II, p. 367:2-4 (Duke witness Schneider acknowledging that Duke's residential customers are not causing the Echelon system to fail).

“Requiring customers to pay more now for a replacement system for the Echelon metering system would reward Duke for its imprudent actions in continuing to install the Echelon metering system.” The Settlement converts customers into investors when the just and reasonable result is for Duke’s shareholders to fix the mistakes that their company made.⁴⁰⁹

12. The PUCO should not approve the Settlement’s \$20 million battery storage proposal because it is undefined and provides unknown (if any) benefits to customers.

The Settlement allows Duke to spend \$20 million on battery storage projects under Rider DCI, purportedly “for the purpose of deferring circuit investments or addressing distribution reliability issues.”⁴¹⁰ Beyond these vague references and the \$20 million cost, the Settlement says nothing at all about what these battery storage projects might entail:

- The number of battery storage projects is unknown.⁴¹¹
- The battery storage projects have not been designed or located.⁴¹²
- The basis for the proposed \$20 million in costs has not been justified in sufficient detail.⁴¹³

⁴⁰⁹ Alexander Testimony at 3:16-18; 21:3-4; 40:2-5; Alvarez Testimony at 9:13-16.

⁴¹⁰ Settlement at 13.

⁴¹¹ Alexander Testimony at 33:9.

⁴¹² *Id.* at 33:11.

⁴¹³ *Id.* at 33:12-13.

- Duke has not conducted any cost-benefit analysis of any specific battery storage project on reliability compared to more traditional investments.⁴¹⁴ In fact, Duke will not even commit to doing a cost-benefit analysis for battery storage projects before charging customers.⁴¹⁵
- Duke has not developed or proposed specific criteria to evaluate the performance and cost-effectiveness of any battery storage projects funded under the Settlement.⁴¹⁶
- Duke's attempt to link the battery storage proposal to the impact on reliability as measured by outage frequency and length and/or avoidance of more traditional reliability-related circuit investments is not a typical purpose of battery storage projects, most of which are related to generation supply reliability and often associated with microgrid projects and/or distributed generation projects to impact generation supply reliability and costs.⁴¹⁷

OCC Witness Alexander testified that the battery storage proposal benefits neither customers nor the public interest.⁴¹⁸ Any proposed battery storage project that seeks to avoid otherwise required reliability expenditures should be accompanied by an obligation to prepare and submit for review a specific cost-benefit analysis and documentation as to the criteria for the location of such projects, the analysis that will justify its proposal, and evaluation criteria to allow the public to determine that the project has its intended results.⁴¹⁹ Allowing Duke to obtain an additional \$20 million in cost recovery for projects that are not otherwise documented as more cost-effective than more traditional circuit

⁴¹⁴ *Id.* at 34:3-4.

⁴¹⁵ *Id.* at 34:4-7.

⁴¹⁶ *Id.* at 34:9-11.

⁴¹⁷ *Id.* at 35:14-20.

⁴¹⁸ *Id.* at 40:13-15.

⁴¹⁹ *Id.* at 40:17-22.

specific investments is likely to result in higher costs to customers and the potential for double-recovery of reliability related investments already allowed under Rider DCI.⁴²⁰

D. The Settlement violates important regulatory principles and practices.

1. The Settlement's proposed rate of return and return on equity violates regulatory principles and practices.

OCC Witness Duann testified that The regulatory principles in setting a reasonable rate of return (and its associated components such as return on equity, cost of debt, and capital structure) for a regulated utility in the United States are well-established and recognized.⁴²¹ There is really no dispute regarding these fundamental regulatory principles.⁴²² OCC Witness Duann summarized the regulatory principles as:

- (1) The resulting rates (as set based on the authorized rate of return) paid by the customers of the regulated utility should be just and reasonable;
- (2) The regulated utility should have funds available to continue its normal course of business;
- (3) The regulated utility should have access to capital (both equity and debt) at reasonable cost under current market conditions; and
- (4) The shareholders of the regulated utility should be provided the opportunity (not a guarantee) to earn a fair (but not excessive) return on their invested capital in comparison to other investments available.⁴²³

a. Duke's rate of return under the Settlement is linked to PUCO Staff's CAPM analysis, which improperly used forecasted yields.

OCC Witness Duann explained that in a rate of return analysis, the risk-free return used in a CAPM analysis is typically derived from the actual yields (or interest rates) of

⁴²⁰ *Id.* at 40:22-41:3.

⁴²¹ *See* Duann Testimony at 6:17-20.

⁴²² *See id.* at 6:20-7:1.

⁴²³ *See id.* at 7:2-14.

long-term (usually from ten-year maturity to 30-year maturity) United States Treasury notes and bonds.⁴²⁴ The actual yields of these government notes and bonds are considered a good proxy for risk-free return.⁴²⁵ But the risk-free return of 4.45% used in the Staff Report (used as a basis for the rate of return under the Settlement) was based on the forecasted (instead of actual) yields of 30-year Treasury bonds by the Congressional Budget Office (4.1%) and the Bureau of Labor Statistics (4.8%).⁴²⁶ OCC Witness Duann pointed out that the PUCO Staff did not indicate when these two yield forecasts were made or to what time period (for example, next year or next five years) the forecasted yields were referring.⁴²⁷

This estimated risk-free return of 4.45% is overstated and unreasonable for various reasons, testified OCC Witness Duann.⁴²⁸ First, this proposed “risk free return” of 4.45% was not supported by actual financial market conditions.⁴²⁹ The daily yields of the U.S. Treasury notes and bonds from January 3, 2017 through December 29, 2017 were consistently below three percent and considerably lower than 4.45%.⁴³⁰

Second, the yields of 30-year U.S. Treasury bonds were exclusively used. The yields of Treasury notes and bonds with a shorter maturity were not considered.⁴³¹ This unnecessarily overstates the risk-free return to be used in the CAPM analysis.⁴³² The

⁴²⁴ See *id.* at 10:2-5.

⁴²⁵ See *id.* at 10:5-6.

⁴²⁶ See *id.* at 10:6-9.

⁴²⁷ See *id.* at 10:9-12.

⁴²⁸ See *id.* at 10:14-15.

⁴²⁹ See *id.* at 10:15-17.

⁴³⁰ See *id.* at 10:17-11:2.

⁴³¹ See *id.* at 11:4-6.

⁴³² See *id.* at 11:6-7.

yield on a debt security with a longer maturity is almost always higher than the yield on a debt security with a shorter maturity.⁴³³ The yields of U.S. Treasury notes and bonds with different maturity should be used in estimating a risk-free return for the CAPM analysis.⁴³⁴ Historically, PUCO Staff has consistently used the average actual yields of U.S. Treasury notes and bonds with different maturity as a proxy for the risk-free return used in the CAPM analysis.⁴³⁵ For example, in the Staff Report for the last Duke electric distribution rate case (Case No. 12-1682-EL-AIR), the actual yields of the 10-year U.S. Treasury notes and 30-year U.S. Treasury bonds were used in estimating the risk-free return.⁴³⁶ The resulting risk-free return in the Staff Report in that case was 2.255 percent.⁴³⁷ There is no valid reason to depart from this well-established practice.⁴³⁸

Third, explained OCC Witness Duann, the forecasted yields of long-term government bonds are subjective and have frequently turned out to be wrong, especially over a longer forecasting period.⁴³⁹ For example, in PUCO Case No. 12-1682-EL-AIR *et al.*, Duke’s witness in that case (and in this case), Roger A. Morin, Ph.D., indicated that he relied on “the forecast yields on 30-year U.S. Treasury bonds from three prominent sources: Global Insight, Value Line, and Consensus Economics Inc.” in developing his risk-free return in that case.⁴⁴⁰ Dr. Morin concluded in his direct testimony in that case

⁴³³ See *id.* at 11:7-8.

⁴³⁴ See *id.* at 11:8-10.

⁴³⁵ See *id.* at 11:10-13.

⁴³⁶ See *id.* at 11:13-16.

⁴³⁷ See *id.* at 11:16-17.

⁴³⁸ See *id.* at 11:17-19.

⁴³⁹ See *id.* at 12:1-3.

⁴⁴⁰ See *id.* at 12:5-9.

that “[t]he average 30-year long-term bond yield forecast of 4.7% is a reasonable estimate of the risk-free rate for purpose of a forward-looking CAPM analysis.”⁴⁴¹ It is not surprising that these forecasted yields from the three “prominent” sources were way off from the actual yields of the 30-year U.S. Treasury bonds during the 2014 to 2017 period.⁴⁴² The actual yields were much lower than those forecasted yields.⁴⁴³

In summary, there is no reason to deviate from the well-established method of estimating the risk-free return in this proceeding or why it is reasonable to do so.⁴⁴⁴ A risk-free return used in a CAPM should be based on the actual market yields rather than any forecasted yields.⁴⁴⁵ Thus, the risk-free return used in the CAPM analysis should be no higher than three percent at this time.⁴⁴⁶

b. The equity risk premium of seven percent is overstated.

The PUCO Staff proposed an equity risk premium of seven percent for its CAPM analysis.⁴⁴⁷ This equity risk premium was a derived spread of arithmetic mean total returns between large company stocks (12.1%) and long-term government bonds (5.1 percent) in 2014.⁴⁴⁸ This “equity risk premium” of seven percent is overstated and should be reduced accordingly.⁴⁴⁹ A review of the source indicated in the Staff Report,

⁴⁴¹ *See id.* at 12:15-17.

⁴⁴² *See id.* at 13:1-3.

⁴⁴³ *See id.* at 13:3-4.

⁴⁴⁴ *See id.* at 13:14-16.

⁴⁴⁵ *See id.* at 13:16-17.

⁴⁴⁶ *See id.* at 13:17-19.

⁴⁴⁷ *See id.* at 14:2-3.

⁴⁴⁸ *See id.* at 14:3-5.

⁴⁴⁹ *See id.* at 14:5-7.

the *Ibbotson SBBI 2015 Classical Yearbook*, shows that the arithmetic means annual total return for the period of 1926 to 2014 for long-term government bonds was 6.1 percent, not 5.1 percent as cited in the Staff Report.⁴⁵⁰ If this error were corrected, the resulting equity premium, as calculated using the Staff Report's methodology, would be six percent, not seven percent.⁴⁵¹

Additionally, more recent financial data regarding the long-term market returns of different classes of assets compiled in a similar report support a six percent equity risk premium.⁴⁵² Specifically, a review of the annual total returns compiled in the *Duff & Phelps 2017 SBBI Yearbook* would indicate the equity risk premium (as calculated by the difference between the arithmetic means of the annual returns of large corporations and government bonds for the period of 1926 to 2016) is approximately six percent.⁴⁵³ If the risk premium were calculated by the difference between the geometric means of annual returns for the same period, the equity risk premium would be 4.5%.⁴⁵⁴ Both measurements are below the seven percent equity risk premium cited in the Staff Report.⁴⁵⁵ In summary, a reasonable estimate of the equity risk premium currently is likely to be six percent instead of seven percent.⁴⁵⁶

⁴⁵⁰ See *id.* at 14:8-12.

⁴⁵¹ See *id.* at 14:12-14.

⁴⁵² See *id.* at 14:16-19.

⁴⁵³ See *id.* at 14:10 -15:5.

⁴⁵⁴ See *id.* at 15:5-7.

⁴⁵⁵ See *id.* at 15:7-9.

⁴⁵⁶ See *id.* at 15:9-10.

c. Applying unequal weights to the CAPM and DCF violates regulatory principles.

The PUCO Staff applied different and unequal weights (0.25 and 0.75, respectively) to the results obtained through the CAPM and DCF analyses to calculate a baseline ROE.⁴⁵⁷ The Staff Report indicated that this unequal weighting was due to the relatively low “beta” value of the comparable companies in the proxy group.⁴⁵⁸ This seems to indicate a lower average “beta” of the proxy group would make the CAPM result less reliable or relevant when estimating Duke’s return on equity.⁴⁵⁹ All things being equal, a lower “beta” will lead to a lower estimated ROE under the CAPM.⁴⁶⁰ But a lower estimated ROE resulting from the CAPM does not diminish the validity or the reasonableness of the CAPM result, testified OCC Witness Duann.⁴⁶¹ Based on the theoretical basis of CAPM, a lower average “beta” is exactly the parameter that should be included to reflect the expected result that an investment with a lower risk (as reflected through a lower volatility) such as a regulated utility would require a lower return.⁴⁶² A lower “beta” is not a reason to under-weigh the CAPM result.⁴⁶³

OCC Witness Duann testified that the assignment of unequal weights to the CAPM and DCF results is also a departure from the well-established method used in the Staff Reports of many electric and gas distribution rate cases in the past.⁴⁶⁴ In these past

⁴⁵⁷ See *id.* at 15:13-15.

⁴⁵⁸ See *id.* at 15:15-17.

⁴⁵⁹ See *id.* at 15:17 -16:1.

⁴⁶⁰ See *id.* at 16:3-4.

⁴⁶¹ See *id.* at 16:4-5.

⁴⁶² See *id.* at 16:6-9.

⁴⁶³ See *id.* at 16:9-10.

⁴⁶⁴ See *id.* at 16:12-14.

proceedings, the Staff Reports typically calculated the simple average (that is equal weightings) of the CAPM and DCF results as the baseline ROEs until recently.⁴⁶⁵ The Staff Report has failed to provide an adequate and reasonable justification or explanation for this change in its method of analysis.⁴⁶⁶

d. PUCO Staff's adjustment to the baseline return on equity based on an outdated rate case is inappropriate.

The Staff Report (again, upon which the ROE in the Settlement is based) proposed an adjustment factor of 1.019 to the baseline ROE to account for equity issuance and other costs.⁴⁶⁷ This proposed adjustment factor of 1.019 was not based on Duke's actual financial data in this proceeding.⁴⁶⁸ Rather, this adjustment factor was based on the retained earnings and common equity data of a Duke electric distribution rate case almost ten years ago.⁴⁶⁹ According to the Staff Report, this number of 1.019 was chosen because Duke has negative retained earnings.⁴⁷⁰ By allowing this adjustment, the Staff Report increased the recommended ROE from a range of 9.05 percent to 10.05 percent to a range of 9.22 percent to 10.24 percent.⁴⁷¹

OCC Witness Duann testified that this adjustment is unnecessary and unreasonable. First, the addition of an equity issuance and other costs to a baseline ROE is contrary to established regulatory principles of setting a reasonable rate of return for a

⁴⁶⁵ See *id.* at 16:14-16.

⁴⁶⁶ See *id.* at 16:16-18.

⁴⁶⁷ See *id.* at 17:2-3.

⁴⁶⁸ See *id.* at 17:3-4.

⁴⁶⁹ See *id.* at 17:4-7.

⁴⁷⁰ See *id.* at 17:7-9.

⁴⁷¹ See *id.* at 17:9-11.

regulated utility.⁴⁷² This adjustment in the Staff Report reflected a misunderstanding of the purpose and function of setting a reasonable ROE for a regulated utility.⁴⁷³ The purpose of setting a ROE is to provide the investors an opportunity to earn a currently-determined return on invested capital that is comparable to the returns that can be earned by the investors from alternative investments with comparable risks.⁴⁷⁴ The purpose of setting a reasonable ROE and a reasonable ROR for a regulated utility is not to authorize the regulated utility to collect from customers previously incurred costs associated with issuing equity.⁴⁷⁵ Any equity issuance and other costs should have already fully reflected in the market prices of common stock, per share earnings and dividend projections, and other market signals of those electric utilities selected in the comparable group.⁴⁷⁶ There is no need to make an additional equity issuance and other costs adjustment after the fact.⁴⁷⁷

Second, even if an adjustment for equity issuance and other costs can be allowed, there is no actual cost basis for the proposed adjustment factor of 1.019.⁴⁷⁸ As indicated in the Staff Report, this adjustment factor of 1.019 was based on the retained earnings and common equity data presented in Duke's electric distribution rate case almost ten years ago.⁴⁷⁹ It was not based on the financial information filed in the pending Rate Case

⁴⁷² *See id.* at 17:14-16.

⁴⁷³ *See id.* at 17:17-18.

⁴⁷⁴ *See id.* at 17:18-18:2.

⁴⁷⁵ *See id.* at 18:2-4.

⁴⁷⁶ *See id.* at 18:4-7.

⁴⁷⁷ *See id.* at 18:7-9.

⁴⁷⁸ *See id.* at 18:11-12.

⁴⁷⁹ *See id.* at 18:12-15.

Application.⁴⁸⁰ There was also no demonstration in the Staff Report that Duke was likely to incur these costs soon or the magnitude of these costs.⁴⁸¹ The Staff Report simply used a generic 3.5% “adder” as a proxy for equity issuance and other costs.⁴⁸² This addition of an arbitrary and unproven equity issuance and other costs would unreasonably increase the cost of electric services to Duke’s customers.

e. The Staff Report recommended an unreasonable ROE and ROR based on unreasonable data and methodology.

The ROE and ROR proposed in the Staff Report (upon which the ROE and ROR in the Settlement are based) were derived using unreasonable data and methodology, testified OCC Witness Duann.⁴⁸³ In addition, the recommended ROE and ROR in the Staff Report are much higher than those authorized in rate cases for electric distribution utilities in recent years in many other jurisdictions.⁴⁸⁴

Specifically, the average ROE authorized for the 12 delivery-only electric utilities (similar to Duke) in rate cases decided in 2016 was 9.31%.⁴⁸⁵ The average ROE authorized for the 14 delivery-only electric utilities in rate case decided in 2017 was 9.43%.⁴⁸⁶ Similarly, the average authorized rate of return for all electric utilities (including delivery-only electric utilities) in cases decided in 2016 was 7.28% and 7.18%

⁴⁸⁰ See *id.* at 18:15-16.

⁴⁸¹ See *id.* at 18:16-18.

⁴⁸² See *id.* at 18:18-19.

⁴⁸³ See *id.* at 19:5-7.

⁴⁸⁴ See *id.* at 19:7-9.

⁴⁸⁵ See *id.* at 19:11-13.

⁴⁸⁶ See *id.* at 19:13-15.

for cases decided in 2017.⁴⁸⁷ These are all below the midpoint ROE and ROR recommended in the Staff Report.⁴⁸⁸ There is no justification to authorize Duke a return on equity or a rate of return that is significantly higher than those authorized for electric distribution utilities nationwide.⁴⁸⁹

OCC Witness Duann testified that one of the fundamental principles in setting a reasonable ROE for a regulated utility is to ensure that an ordinary investor can earn a return from investing in the regulated utility comparable to the returns he or she expects to earn from other investments with similar risk.⁴⁹⁰ If such a comparable ROE is authorized by the regulatory agency, the regulated utility is afforded an opportunity to attract capital at reasonable terms, to maintain its financial integrity, and to have funds available to conduct its normal business of providing utility services.⁴⁹¹ In this regard, the average ROE authorized nationwide in recent years can be viewed as a proxy for the opportunity cost to an investor considering investing in Duke Energy Corporation directly and Duke indirectly.⁴⁹² The average ROE authorized in recent years in Ohio and other jurisdictions can be considered a useful “yardstick” in determining if a return on equity or a rate of return is reasonable for Duke and for its consumers to pay.⁴⁹³

⁴⁸⁷ *See id.* at 19:15-17.

⁴⁸⁸ *See id.* at 19:17-18.

⁴⁸⁹ *See id.* at 19:18-20:2.

⁴⁹⁰ *See id.* at 20:7-10.

⁴⁹¹ *See id.* at 20:10-14.

⁴⁹² *See id.* at 20:14-17.

⁴⁹³ *See id.* at 20:17-20.

The PUCO has expressed a similar view regarding the consideration of the average reported ROE for comparable utilities in the past.⁴⁹⁴ For example, in its Opinion and Order approving an ESP of AEP Ohio, the PUCO stated:

We agree with Walmart and OCC that AEP Ohio’s requested ROE is too high, as **gauged by comparison with the average reported ROE for comparable utilities since 2012** (Walmart Ex. 1 at 9-10) (emphasis added).

Duke has advocated in the past for using the authorized ROEs of comparable utilities in setting a reasonable return on equity for a regulated utility.⁴⁹⁵ This is yet another indication that it is reasonable for the PUCO to consider the average return on equity and rate of return authorized for distribution-only electric utilities in other jurisdictions when setting a reasonable ROE and ROR for Duke here.⁴⁹⁶

As OCC Witness Duann pointed out, there is no evidence in the record that Duke is facing any unique circumstances to justify a much higher ROE as compared to the average or typical ROE authorized for electric utilities considered as a group.⁴⁹⁷ Instead, Duke has operated in a favorable (or credit-supportive) regulatory environment in Ohio where Duke is given a number of riders and stability charges unrelated to the costs of providing services.⁴⁹⁸ The credit rating agency recognized this and has recently revised Duke’s outlook from “stable” to “positive” and affirmed Duke’s existing credit ratings.⁴⁹⁹ In its Credit Action report, Moody’s noted that the “positive” outlook recognized Duke’s

⁴⁹⁴ Case No. 13-2385-EL-SSO *et al.*, Opinion & Order, 84 (Feb. 25, 2015).

⁴⁹⁵ See Duann Testimony at 21:9-12.

⁴⁹⁶ See *id.* at 21:12-16.

⁴⁹⁷ See *id.* at 22:4-12.

⁴⁹⁸ See *id.* at 22:14-17.

⁴⁹⁹ See *id.* at 22:17-19.

financial credit metrics to remain strong and Duke would continue to benefit from numerous riders and trackers as they resulted in more stable and predictable cash flow for the utility.⁵⁰⁰ In short, it seems that Duke does not appear to exhibit any financial, operational, and regulatory risks that would make it riskier than the U.S. electric distribution utilities as a group.⁵⁰¹ Thus, according to OCC Witness Duann, there is no valid reason to give Duke a return on equity or a rate of return that is much higher than those recently authorized for electric distribution utilities in Ohio and other jurisdictions.⁵⁰²

f. Using the Staff Report as its starting point, the Settlement proposes an ROE, ROR, and GRCF that violate important regulatory principles and practices.

The proposed Settlement stipulates a capital structure of 49.25% long-term debt and 50.75% equity, and a return on equity of 9.84% in setting the rate of return for Duke in these proceedings.⁵⁰³ The overall rate of return agreed upon in the proposed Settlement is 7.54%.⁵⁰⁴ The cost of long-term debt would be 5.16% based on the stipulated rate of return, return on equity and capital structure.⁵⁰⁵ The proposed Settlement also stipulates that, in calculating the base distribution revenue requirement, a GRCF of 1.5673731, will be used.⁵⁰⁶ This GRCF, the same as the one used in the Staff

⁵⁰⁰ See *id.* at 22:19-23:1.

⁵⁰¹ See *id.* at 23:1-3.

⁵⁰² See *id.* at 23:3-6.

⁵⁰³ See *id.* at 27:8-10.

⁵⁰⁴ See *id.* at 27:10-11.

⁵⁰⁵ See *id.* at 27:11-13.

⁵⁰⁶ See *id.* at 27:15-17.

Report, is calculated based on a federal corporate income tax rate of 35%.⁵⁰⁷ The proposed Settlement specifies the use of a pre-tax return of 8.94% in calculating the revenue requirement of Rider DCI.⁵⁰⁸ This 8.94% pre-tax return is based on a federal corporate income tax rate of 21%.⁵⁰⁹

This proposal violates fundamental regulatory principles, according to OCC Witness Duann. As discussed earlier, one of the fundamental regulatory principles in public utility regulation in the United States (including Ohio) is:

The resulting rates (as set based on the authorized rate of return) paid by the customers of the regulated utility should be just and reasonable.⁵¹⁰

The proposed Settlement does not meet this requirement because it will result in base distribution rates, Rider DCI, and possibly other riders and charges that are unjust and unreasonable.⁵¹¹ Specifically, the additional annual cost of the base distribution service to be collected from Duke's customers, if the proposed Settlement is adopted, is estimated to be approximately \$40.4 million.⁵¹² This does not include the other unreasonable cost increases in Rider DCI and other riders.⁵¹³

Another fundamental regulatory principle in public utility regulation is:

The shareholders of the regulated utility should be provided the opportunity (not a guarantee) to earn a fair (but not excessive)

⁵⁰⁷ See *id.* at 27:17-19.

⁵⁰⁸ See *id.* at 27:19-28:1.

⁵⁰⁹ See *id.* at 28:2-3.

⁵¹⁰ See *id.* at 34:20-35:3.

⁵¹¹ See *id.* at 35:4-6.

⁵¹² See *id.* at 35:6-9.

⁵¹³ See *id.* at 35:9-10.

return on their invested capital in comparison to other investments available.⁵¹⁴

The proposed Settlement does not meet this requirement because it allows Duke to earn an excessively high rate of return of 9.16% from its electric rate base and a corresponding return on equity of 13.04%.⁵¹⁵ Even though the stipulated rate of return is 7.54% and return on equity is 9.84% under the proposed Settlement, the use of an overstated GRCF of 1.5613731 in calculating the annual revenue requirement of the base distribution service allows Duke to earn a much higher return on equity (13.04%) and rate of return (9.16%) on its distribution-related rate base.⁵¹⁶ These re-calculated ROR and ROE are much higher than those stipulated in the proposed Settlement, the midpoint of the range of ROR and ROE proposed in the Staff Report, and OCC's recommended ROR and ROE.⁵¹⁷

Based on information compiled in a trade publication, *Regulatory Focus*, the rate of return of 9.16% and return on equity of 13.04% resulting from the proposed Settlement are much higher than the nationwide averages for ROEs and RORs authorized in recent years.⁵¹⁸ There is no valid reason for the PUCO to authorize such an exceedingly high ROR of 9.16% and ROE of 13.04% for Duke given the average ROR and ROE authorized for distribution-only electric utilities nationwide in recent years.⁵¹⁹ Consequently, if the proposed Settlement is adopted, the shareholder of Duke (that is the

⁵¹⁴ See *id.* at 35:16-21.

⁵¹⁵ See *id.* at 36:1-3.

⁵¹⁶ See *id.* at 36:22-38:8.

⁵¹⁷ See *id.* at 36:3-6.

⁵¹⁸ See *id.* at 36:8-11.

⁵¹⁹ See *id.* at 11-14.

parent company, Duke Energy Corporation) is being provided the opportunity to earn an excessively high return on their invested capital in comparison to other investments available.⁵²⁰

Additionally, according to OCC Witness Duann, the proposed Settlement, if approved by the PUCO, with its associated unreasonably high cost of basic electric services and potential additional costs in Rider DCI and other riders and charges in Duke's service territory, will be detrimental to the welfare of many Ohioans and the Ohio economy.⁵²¹ The proposed Settlement, at a minimum, would violate state electric services policy regarding: (1) the availability to consumers of adequate, reliable, safe, efficient, non-discriminatory, and reasonably priced retail electric service; (2) the protection of at-risk populations; and (3) the state's effectiveness in the global economy.⁵²²

The Settlement, if approved by the PUCO, will substantially increase the cost of basic distribution service to customers within Duke's service territory.⁵²³ A higher and unreasonably-priced electric service will negatively affect many, if not all, residential, commercial and industrial customers within Duke's service territory

Similarly, a higher and unreasonably-priced electric distribution service will be especially challenging to those Duke customers who are least able to pay for electricity or those may be at higher risk without electricity due to medical and other conditions.⁵²⁴

⁵²⁰ See *id.* at 36:14-17.

⁵²¹ See *id.* at 38:12-15.

⁵²² See *id.* at 38:15-19; R.C. 4928.02 (A), (L), and (N).

⁵²³ See Duann Testimony at 39:1-3.

⁵²⁴ See *id.* at 39:10-13.

Those at-risk customers may already have difficulty in paying or obtaining electric service for various reasons.⁵²⁵ The substantial additional costs resulting from the proposed Settlement will likely have negative effects in protecting those at-risk population.⁵²⁶

A higher and unreasonably-priced electric distribution service will also be a barrier to facilitate Ohio's effectiveness in the global economy, OCC Witness Duann pointed out.⁵²⁷ The negative impacts of a higher price on the economy are well known to economists and policymakers.⁵²⁸ A higher price of electricity will reduce the purchasing power of Duke's many residential customers.⁵²⁹ These residential customers will have less money to spend on other goods and services after paying for their higher monthly electricity bills.⁵³⁰ Consequently, those commercial customers of Duke such as restaurants and shops that serving the residential customers are likely to see their sales and earnings decline when their customers have fewer dollars to spend.⁵³¹ A higher price of electricity will increase the costs of manufacturing in Ohio and make those Ohio-based industrial companies in Duke's service territory less competitive.⁵³² The prices of Ohio-manufactured goods and services will likely to increase because of higher price of electricity.⁵³³ The market shares of Ohio's export to other states and other countries will

⁵²⁵ *See id.* at 39:13-14.

⁵²⁶ *See id.* at 39:14-16.

⁵²⁷ *See id.* at 39:18-19.

⁵²⁸ *See id.* at 39:19-21.

⁵²⁹ *See id.* at 39:21-22.

⁵³⁰ *See id.* at 39:22-40:1.

⁵³¹ *See id.* at 40:1-3.

⁵³² *See id.* at 40:3-5.

⁵³³ *See id.* at 40:6-7.

likely to decline as a result of a higher price of electricity from the proposed Settlement.⁵³⁴

2. The Settlement forces customers to pay retail rates subsidies to unregulated generation through Rider PSR.

OCC Witness Kahal testified that Rider PSR is completely inconsistent with accepted regulatory principles.⁵³⁵ It forces distribution customers to pay in retail rates the losses that Duke expects to incur (*i.e.*, the above market costs for merchant capacity) for a non-regulated investment, OVEC, completely unrelated to Duke's distribution service that the PUCO regulates.⁵³⁶ Rider PSR is reasonably expected to impose massive net charges on customers, and in return, customers receive no benefit.⁵³⁷ While Duke implies that Rider PSR would provide a "hedge" benefit, there is no persuasive evidence that this alleged hedge has any significant value or that customers even want the hedge.⁵³⁸

Given this lack of persuasiveness regarding the supposed hedge benefit, Duke turns to the argument that Rider PSR is needed to maintain its financial integrity.⁵³⁹ This argument is also unpersuasive. There is simply no accepted regulatory principle that can support the imposition of an onerous above-market subsidy for a non-regulated investment on captive utility distribution customers.⁵⁴⁰

⁵³⁴ See *id.* at 40:7-9.

⁵³⁵ See Kahal Testimony at 21:21-22.

⁵³⁶ See *id.* at 21:22-22:3.

⁵³⁷ See *id.* at 22:3-5.

⁵³⁸ See *id.* at 22:5-8.

⁵³⁹ See *id.* at 22:8-10.

⁵⁴⁰ See *id.* at 22:11-13.

a. Background regarding OVEC and Rider PSR.

Duke is a nine percent co-owner of OVEC, a wholesale utility that owns two major coal fired stations (one in Indiana, one in Ohio) originally constructed in the 1950s.⁵⁴¹ This ownership and entitlement amounts to about 200 MW.⁵⁴² Along with its partial ownership, Duke receives nine percent of the power supply from the two plants priced on a cost of service basis, with the entitlement defined under the Inter-Company Power Agreement (“OVEC Agreement”).⁵⁴³ Because Duke is a distribution electric utility, the OVEC Agreement power supply is not used for supplying power to Duke’s retail customers, but is instead sold into the PJM wholesale market for market prices and revenue.⁵⁴⁴ In other words, Ride PSR is purely financial and has nothing to do with the physical provision of electric service to Duke’s customers.⁵⁴⁵ If wholesale market revenue exceeds what Duke is charged under the OVEC Agreement, then it receives a net gain.⁵⁴⁶ But if that wholesale market revenue falls short of the OVEC Agreement charges, then Duke incurs a loss.⁵⁴⁷

Duke is seeking to shift this market risk from itself and its shareholders to its utility customers through Rider PSR.⁵⁴⁸ Duke’s customers under this rider would be credited if Duke receives a net gain.⁵⁴⁹ And under the rider, customers would pay Duke

⁵⁴¹ *See id.* 28:4-6.

⁵⁴² *See id.* at 28:6.

⁵⁴³ *See id.* at 28:6-9.

⁵⁴⁴ *See id.* at 28:9-13.

⁵⁴⁵ *See id.* at 28:13-14.

⁵⁴⁶ *See id.* at 28:14-16.

⁵⁴⁷ *See id.* at 28:16-17.

⁵⁴⁸ *See id.* at 28:18-20.

⁵⁴⁹ *See id.* at 28:20-21.

for any loss.⁵⁵⁰ At the present time Rider PSR, if in effect, would produce a very substantial net loss that distribution customers would be required to subsidize through payments to Duke.⁵⁵¹ That result is to customers' detriment.

The Rider PSR proposal is resolved in Section III.D.9. of the Settlement. Subject to certain conditions (including Duke making reasonable efforts to transfer its OVEC Agreement entitlement), Duke is permitted to impose Rider PSR on distribution customers retroactive to January 1, 2018 until May 31, 2025, or about seven and a half years. The Settlement is silent regarding what happens after that, but it does not rule out an extension, if requested by Duke.⁵⁵²

b. Rider PSR is not required to ensure continued operation of OVEC, nor is it related to Duke's utility service.

Duke has not even *claimed* that Rider PSR is required to ensure continued operation of OVEC.⁵⁵³ That is not surprising, according to OCC Witness Kahal, as such a claim would not be credible since Duke's entitlement is only nine percent.⁵⁵⁴ Clearly, the purpose of Rider PSR is to protect Duke's earnings against financial losses from OVEC over the life of the Settlement, *i.e.*, until June 2025.⁵⁵⁵

Further, Rider PSR is not related to Duke's utility service. Duke provides retail distribution and SSO service to its customers. Under the OVEC Agreement arrangement, Duke is functionally equivalent to being the owner of 200 MW of coal-fired merchant

⁵⁵⁰ See *id.* at 28:21-22.

⁵⁵¹ See *id.* at 28:22-29:2.

⁵⁵² See *id.* at 29:4-9.

⁵⁵³ See *id.* at 29:17-18.

⁵⁵⁴ See *id.* at 29:18-19.

⁵⁵⁵ See *id.* at 29:19-21.

capacity on a non-regulated basis.⁵⁵⁶ Such an investment and business arrangement could be either profitable or unprofitable depending on market conditions.⁵⁵⁷ At the present time, it appears to be highly unprofitable, and this unprofitability seems unlikely to change any time soon if ever.⁵⁵⁸ And under Rider PSR that unprofitability means consumers would be subsidizing Duke above the market price of power.⁵⁵⁹ That will hurt consumers.

According to OVEC's FERC Form 1 for 2017 (the most recent public data), Duke paid \$57.7 million for 1.074 million MWh, or a cost of \$53.73 per MWh.⁵⁶⁰ Based on current and near-term market data supplied by Duke Witness Rose, this OVEC Agreement price is well above current and near-term market.⁵⁶¹ Duke Witness Rose reports actual 2017 spot energy prices for the OVEC plants of \$28.20 per MWh.⁵⁶² Based on published forward market data (using the AEP-Dayton trading hub as a proxy), this is expected to increase only modestly during 2018-2021 as compared to 2017.⁵⁶³ Duke Witness Rose also reports actual 2018-2021 capacity prices from the PJM capacity auctions averaging \$43.90 per kWh-year, or roughly \$8 per MWh if a 60% capacity factor is assumed.⁵⁶⁴ This data implies that the wholesale market value at present and in

⁵⁵⁶ *See id.* at 30:3-5.

⁵⁵⁷ *See id.* at 30:5-6.

⁵⁵⁸ *See id.* at 30:6-8.

⁵⁵⁹ *See id.* at 30:8-9.

⁵⁶⁰ *See id.* at 30:13-14.

⁵⁶¹ *See id.* at 30:14-16.

⁵⁶² *See id.* at 30:16-17.

⁵⁶³ *See id.* at 30:18-20.

⁵⁶⁴ *See id.* at 30:20-31:2.

the near term for the OVEC power is about \$38 per MWh (capacity plus energy).⁵⁶⁵ This compares with an average cost in 2017 paid by Duke of about \$54 per MWh.⁵⁶⁶ This suggests a current and near-term going forward loss of about \$16 per MWh or about \$17 million annually for 1.1 MWh of annual sales.⁵⁶⁷

c. Customer subsidization of Duke's earnings through Rider PSR is not justified by OVEC's history.

Duke's description of OVEC's does not provide the full picture. Additional information is needed to fully understand why Rider PSR could be so costly and onerous for customers.

The OVEC capacity was indeed constructed to serve DOE needs and did so for nearly 50 years, with the contract ending in 2003.⁵⁶⁸ But during that time period the two power plants (and associated transmission) were almost entirely depreciated and costs largely if not fully recovered.⁵⁶⁹ Analysis of OVEC investment patterns since the DOE contract termination notice was given (which was in 2001) and actual termination in 2003 using FERC Form data is insightful. For example, the 2001 OVEC FERC Form 1 reports that total utility plant that year was \$347.1 million but beginning year net plant was a mere \$21.8 million.⁵⁷⁰ Hence, the plant was more than 90% depreciated, and the

⁵⁶⁵ See *id.* at 31:4-5.

⁵⁶⁶ See *id.* at 31:5-6.

⁵⁶⁷ See *id.* at 31:7-8. This analysis reflects current and near-term losses associated with the Duke OVEC Agreement entitlement and therefore Rider PSR. Formal projections of Rider PSR gains or losses are presented in the studies of Duke Witness Rose and OCC Witness Wilson. These two witnesses project losses over 2018 to May 2025 of about \$77 million and \$95 million for Witnesses Rose and Wilson, respectively. See *id.* at 31:10-15.

⁵⁶⁸ See *id.* at 34:14-15.

⁵⁶⁹ See *id.* at 34:15-17.

⁵⁷⁰ See *id.* at 34:20-35:1. Note that OVEC only reports net plant data for one of the plants (that is in Ohio) as the other plant (in Indiana) is owned by its subsidiary, Indiana-Kentucky Electric Corporation, which

resulting fixed costs for OVEC would be quite modest for consumers to pay, as explained by OCC Witness Kahal.⁵⁷¹

Beginning in 2001, OVEC began an expensive retrofit program to add selective catalytic reduction controls to both plants at a cost of about \$335 million as reported in the OVEC FERC Form 1.⁵⁷² By the end of 2003, the OVEC net utility plant (for both plants) had risen to \$385.1 million, a dramatic increase.⁵⁷³ The investment spending did not stop there. During the more recent time period 2011-2013, OVEC spent many hundreds of millions of dollars at the two plants to install flue gas desulfurization (“FGD”) equipment.⁵⁷⁴ The OVEC 2017 FERC Form 1 reports that at December 31, 2017, gross utility plant (for both power plants) totaled \$2.78 billion and net plant of \$1.34 billion.⁵⁷⁵ Comparing gross utility plant in 2004 to 2017 implies an increase and therefore capital investment by OVEC on the order of about \$1.7 billion over those 13 years.⁵⁷⁶

This shows, says OCC Witness Kahal, that Duke’s description of OVEC’s history is incomplete and even somewhat misleading. Duke seeks to tie the large OVEC legacy contract to the need to serve DOE needs and that OVEC costs are a “legacy of a [by gone] deregulation era.”⁵⁷⁷ This is not the case. The two plants were almost fully

does not report a FERC Form 1 for that year. Thus, the two figures cited probably must be doubled to obtain a full picture. *See id.* at 35, n. 10.

⁵⁷¹ *See id.* at 35:1-3.

⁵⁷² *See id.* at 35:5-7.

⁵⁷³ *See id.* at 35:7-8.

⁵⁷⁴ *See id.* at 35:9-11.

⁵⁷⁵ *See id.* at 35:11-13. FERC Form 1 data indicates 2017 gross utility plant of \$2.78 billion versus \$1.13 billion in 2004. *See id.* at 35, n. 11.

⁵⁷⁶ *See id.* at 35:13-15.

⁵⁷⁷ *See id.* at 35:20-36:1.

depreciated when DOE gave notice to end the contract and the power supply no longer was needed.⁵⁷⁸ Instead, the co-owners – including Duke – chose to invest massively in those plants to ensure many decades more of additional operation.⁵⁷⁹ As Duke Witness Rose reports, the OVEC co-owners chose in 2011 to extend the OVEC Agreement to 2040. This extension made perfect sense to them at the time since they had invested well over \$1 billion in recent years to permit continued operation.⁵⁸⁰

The co-owners could have chosen to retire the plants when almost fully depreciated but did not. Instead, they chose to invest nearly \$2 billion more in the plants.⁵⁸¹ This may have been based on a business judgment in recent years by the co-owners (including Duke) that the power plants would have market value greatly exceeding the cost of those investments.⁵⁸² That business judgment may or may not have been reasonable at the time, but that is not the point. Had the co-owners been correct in their business judgment, OVEC and the OVEC Agreement could have turned out to be a lucrative investment and contract for Duke. In such a case, as the OVEC investment and OVEC Agreement is a non-utility venture, Duke would have no obligation to share any profits with retail customers. Undoubtedly, in the competitive environment they were operating in, they would be retained entirely for Duke shareholders. Instead, as explained by OCC Witness Kahal, the OVEC co-owners and Duke guessed wrong about the market, undertook massive investments that now appear to be uneconomic, and want

⁵⁷⁸ *See id.* at 36:2-3.

⁵⁷⁹ *See id.* at 36:3-5.

⁵⁸⁰ *See id.* at 36:5-8.

⁵⁸¹ *See id.* at 36:10-11.

⁵⁸² *See id.* at 36:11-14.

captive utility distribution customers to subsidize the investment losses – in effect bail them out.⁵⁸³ Duke is now attempting to socialize OVEC losses to consumers while it previously intended to privatize the OVEC profits to the benefit of its shareholders had market conditions been more favorable for coal plants.⁵⁸⁴

The DOE national defense argument is a red-herring. The lion’s share of the OVEC “legacy” costs reflect recent, post-DOE contract investments, intended to generate lucrative unregulated profits. Putting OVEC’s history into proper context, there is no policy justification for Rider PSR, OVEC is merely a recent unregulated merchant plant investment that failed to meet profit expectations. This is a familiar story in the unregulated generation market for older coal-fired plants. Rider PSR is merely an attempt to procure for Duke a subsidy funded by captive customers for that failed investment and is nothing less than an unwarranted transfer of wealth from monopoly utility customers to Duke and its shareholders. OCC Witness Kahal testified that this request to subsidize a failed non-utility investment, as a policy matter, is highly improper.⁵⁸⁵

d. Rider PSR’s purported hedge value does not justify Rider PSR.

Duke’s argument (Rider PSR provides value as a hedge) – which was never persuasive to begin with – was originally based on the notion that the Rider PSR would extend to 2040.⁵⁸⁶ The shorter, roughly seven year term undermines that already

⁵⁸³ See *id.* at 36:16-37:2.

⁵⁸⁴ See *id.* at 37:2-5.

⁵⁸⁵ See *id.* at 37:11-19.

⁵⁸⁶ See *id.* at 38:2-3.

questionable argument.⁵⁸⁷ More importantly, if customers were clamoring for such a hedge, then one could be obtained far less expensively in the form of a six or seven-year unit contingent contract for, say, 200 MWs of coal capacity, at a fixed capacity price.⁵⁸⁸ OCC Witness Kahal has seen no customer interest at all in such a hedge.⁵⁸⁹

e. Rider PSR undermines Duke’s incentive to transfer OVEC.

The Settlement requires Duke, consistent with prior PUCO orders, to engage in on-going, good faith efforts to transfer its OVEC entitlement.⁵⁹⁰ This requirement is meaningless. Because Duke’s customers are forced to subsidize Duke’s failed investment to enhance Duke’s profits, Rider PSR removes any incentive for Duke to transfer the entitlement, as doing so would only serve to reduce its profits.⁵⁹¹

f. Neither regulatory consistency, nor matters regarding Duke’s credit rating or financial integrity, justify Rider PSR.

i. Regulatory consistency does not support Rider PSR.

Although Duke asserts that “regulatory consistency” favors approving Rider PSR, the assertion is wrong. OCC Witness Kahal explained that it fails to take into account the different facts and circumstances, based on record evidence at the time, in very different cases.⁵⁹² For example, in the AEP case of several years ago, there was a very different

⁵⁸⁷ See *id.* at 38:3-4.

⁵⁸⁸ See *id.* at 38:5-7.

⁵⁸⁹ See *id.* at 38:7-8.

⁵⁹⁰ See *id.* at 38:12-17.

⁵⁹¹ See *id.* at 38:15-17.

⁵⁹² See *id.* at 39:4-7.

record on wholesale market price projections.⁵⁹³ While the PUCO identified at that time a potential benefit from the OVEC power (a finding very much in dispute even at that time), there is now a clear consensus, even among Duke’s witnesses, that Rider PSR will only impose losses on customers.⁵⁹⁴ Consequently, there is no way that the PUCO could find a benefit for customers at this time and under this Settlement for the proposed Rider PSR.⁵⁹⁵ In the present case, the evidence is different with far greater evidence from both the utility and OCC witnesses of utility customer harm. Similarly, the Dayton Power & Light Company case involved different facts and circumstances, including financial distress allegations that are not relevant here.⁵⁹⁶

Duke’s “precedent” or “me too” argument is not a valid basis for approving a 2018 Settlement provision that imposes the onerous Rider PSR on Duke’s customers.

ii. Matters regarding Duke’s credit rating or financial integrity do not justify Rider PSR.

Duke’s financial integrity/credit rating arguments are desperate attempts to justify the subsidization by utility customers of Duke’s profits and to cover an uneconomic (post DOE) investment, according to OCC Witness Kahal.⁵⁹⁷ Unlike the FirstEnergy and Dayton parent companies, Duke does not have an acute credit quality problem even if the Rider PSR subsidy is not approved (not that those issues would justify the subsidy).⁵⁹⁸

⁵⁹³ See *id.* at 39:7-9. Also, AEP’s proposal is on appeal to the Ohio Supreme Court as violative of Ohio law and preempted. See Supreme Court Case Nos. 17-749 and 752.

⁵⁹⁴ See Kahal Testimony at 39:9-12.

⁵⁹⁵ See *id.* at 39:12-14.

⁵⁹⁶ See *id.* at 39:16-18. OCC has sought rehearing on the PUCO’s approval of the Reconciliation Rider.

⁵⁹⁷ See *id.* at 40:6-8.

⁵⁹⁸ See *id.* at 40:9-12.

Even if it could be shown that rejecting Rider PSR would seriously weaken Duke's credit ratings, this would be a problem that should be addressed by Duke management and the Duke Energy Corporation parent, not distribution utility customers.⁵⁹⁹ Management, testified OCC Witness Kahal, is ultimately responsible for ensuring that Duke is properly capitalized, not customers, who have no say over regulated investments and corporate financial policies.⁶⁰⁰

iii. Duke's credit ratings are good and do not justify Rider PSR.

Duke's testimony demonstrates that it has very strong credit ratings – corporate ratings of Baa1 (Moody's) and A- (S&P).⁶⁰¹ More importantly, Duke's secured debt ratings are medium single A, i.e., A2 (Moody's) and A (S&P).⁶⁰² S&P rates Duke's business risk profile as "Excellent" and the outlook of both credit agencies is stable or positive.⁶⁰³ Also, Duke's credit rating history in recent years has been quite stable.⁶⁰⁴ It has maintained these strong low to medium single A ratings without having the benefit of a Rider PSR subsidy.⁶⁰⁵ For that reason, testified OCC Witness Kahal, the argument that Duke cannot sustain a reasonable credit quality without the Rider PSR subsidy is unpersuasive.⁶⁰⁶

⁵⁹⁹ See *id.* at 40:12-16.

⁶⁰⁰ See *id.* at 40:16-18.

⁶⁰¹ See *id.* at 40:22-23.

⁶⁰² See *id.* at 41:1-2.

⁶⁰³ See *id.* at 41:2-5.

⁶⁰⁴ See *id.* at 41:7-8.

⁶⁰⁵ See *id.* at 41:8-9.

⁶⁰⁶ See *id.* at 41:9-11.

Not only is there no clear evidence of a credit rating problem, there is no evidence of Rider PSR being a solution to a (nonexistent) problem. Duke conducted an analysis of Rider PSR assuming that it collects from customers an annual subsidy of \$18 million.⁶⁰⁷ Duke attempts to show that an \$18 million profit subsidy would improve its cash flows/debt ratio (as one reasonably would expect), but the improvement is not very pronounced – from about 19.4% to 20.3%.⁶⁰⁸ As noted above, Duke’s credit ratings have been very strong and stable for many years without Rider PSR.

iv. Duke’s management and its parent are responsible for Duke’s financial integrity, so Rider PSR would not be justified regardless.

OCC Witness Kahal explains that “even if [Duke] had made a persuasive showing [regarding the impact on Duke’s credit rating were Rider PSR denied], this would not justify requiring Utility customers to subsidize this non-utility investment and transaction.”⁶⁰⁹ This is because it is ultimately the responsibility of Duke management and its parent to ensure Duke’s financial integrity and that it is properly capitalized.⁶¹⁰ Duke operates under the financial umbrella of Duke Energy Corporation, a diverse energy company with a market equity capitalization of \$55 billion and annual cash flow of over \$8 billion.⁶¹¹ Credit weakening can be caused by excessive debt relative to a utility’s regulated, cost of service cash flow.⁶¹² The level of debt and capitalization are

⁶⁰⁷ See *id.* at 41:13-14.

⁶⁰⁸ See *id.* at 41:17-21.

⁶⁰⁹ See *id.* at 42:9-11.

⁶¹⁰ See *id.* at 42:11-13.

⁶¹¹ See *id.* at 42:13-15.

⁶¹² See *id.* at 42:16-17.

entirely under the control of management.⁶¹³ If Duke incurs losses under the OVEC Agreement, management can adjust its financial policies as needed and as appropriate to maintain reasonable credit ratings.⁶¹⁴ This is no less than management's public utility responsibility.⁶¹⁵

v. The PUCO should adhere to fundamental regulatory principles rather than any hypothetical prognosis about Duke's credit rating that is unsupported by the record in this case.

OCC Witness Duann testified that there is no credible evidence that Duke's credit ratings (or credit quality) will be significantly impacted by the rejection of the proposed Settlement or components of the Settlement, including rider PSR.⁶¹⁶ Given its current healthy financial condition, credit rating and a "supportive" regulatory environment in Ohio, it is very unlikely that Duke will lose its investment grade credit rating if the proposed Settlement were rejected by the PUCO.⁶¹⁷

Duke currently has an A-minus rating with a Stable outlook from S&P and a Baa1 rating with a Positive outlook from Moody's.⁶¹⁸ These credit ratings of Duke are several notches above the minimum credit rating considered as Investment Grade by S&P and Moody's.⁶¹⁹ In order for Duke to fall below the Investment Grade credit rating, the two agencies have to conclude that the financial impacts, if any, of the rejection of the

⁶¹³ See *id.* at 42:17-18.

⁶¹⁴ See *id.* at 42:18-20.

⁶¹⁵ See *id.* at 42:20-21.

⁶¹⁶ See Duann Testimony at 41:14-16.

⁶¹⁷ See *id.* at 41:16-19.

⁶¹⁸ See *id.* at 41:21-22.

⁶¹⁹ See *id.* at 41:22-42:2.

proposed Settlement on Duke are so severe, so long-lasting, and substantially beyond the control of Duke that a multiple notch down grading is warranted.⁶²⁰

Contrarily, if Duke receives a credit rating upgrade, rates collected from customers will not be reduced proportional to Duke's reduced cost of debt. The cost of Duke's long-term debt that is used in setting the rates and charges under the proposed Settlement has already been decided at 5.16%.⁶²¹ It will not be changed with or without the approval of the proposed Settlement.⁶²² Consequently, the rates and charges decided through the proposed Settlement and to be collected from Duke's customers will not be changed as a result of the change, if any, in Duke's credit rating and cost of issuing debt securities.⁶²³ In other words, if the approval of the proposed Settlement can indeed lead to an upgrade of Duke's credit rating and such an upgrade can indeed lead to a lowering cost of debt, the savings in the cost of debt to Duke will not be passed along to Duke's customers.⁶²⁴ The savings in the cost of debt to Duke will go directly into the profit of Duke.⁶²⁵ On the other hand, any additional costs to Duke's customers for rates and rider, including rider PSR, set by the PUCO in order to enhance or maintain Duke's current credit ratings are real and substantial and will be collect from its customers after the approval of the proposed Settlement.⁶²⁶

⁶²⁰ *See id.* at 42:2-6.

⁶²¹ *See id.* at 42:12-13.

⁶²² *See id.* at 42:14.

⁶²³ *See id.* at 42:15-17.

⁶²⁴ *See id.* at 42:18-21.

⁶²⁵ *See id.* at 42:21-22.

⁶²⁶ *See id.* at 42:22 through 43:2.

It is important to note that for credit rating agencies the most important consideration in assigning the credit rating of a regulated utility is whether the regulated utility can pay the bond holders the interests and principle on time for its debt.⁶²⁷ But according to OCC Witness Duann, the PUCO's responsibility, as a regulatory agency vested with public trust and the protection of public interest, is much broader.⁶²⁸ The PUCO needs to consider whether the rate charged to customers are just and reasonable, whether the financial integrity of the utility is not threatened unnecessarily, and whether the public safety, convenience, and general economy are properly safeguarded.⁶²⁹ All of these considerations are not necessarily reflected in a credit rating analysis by the rating agencies.⁶³⁰

To assist the PUCO there are three fundamental regulatory principles that have been developed and tested over a long period of time:

1. The regulated utility should have funds available to continue its normal course of business;
2. The regulated utility should have access to capital (both equity and debt) at reasonable cost under current market conditions; and
3. The shareholders of the regulated utility should be provided the opportunity (not a guarantee) to earn a fair (but not excessive) return on their invested capital in comparison to other investments available.⁶³¹

These regulatory principles have endured and promoted a well-functioning and growing regulated utility industry over a long period of time.⁶³² The PUCO should simply adhere

⁶²⁷ *See id.* at 43:9-12.

⁶²⁸ *See id.* at 43:19-20.

⁶²⁹ *See id.* at 43:20-44:4.

⁶³⁰ *See id.* at 44:4-45:9.

⁶³¹ *See id.* at 45:14-46:3.

⁶³² *See id.* at 46:5-6.

to these fundamental regulatory principles and Ohio statutes, rather than any hypothetical prognosis about the credit rating of Duke, in evaluating the proposed Settlement.⁶³³ It would be contrary to sound regulatory policies and established regulatory principles for the PUCO to set the rates and terms of service paid by customers solely or mainly to enhance or maintain Duke's credit ratings.⁶³⁴ Duke, if properly managed, should be able to enhance or maintain its credit ratings and financial integrity on its own.⁶³⁵

3. Under R.C. 4928.38, Duke may no longer receive transition revenues and “shall be fully on its own in the competitive market.”

A market development period was provided under S.B. 3 to provide electric utilities in Ohio time to prepare for a competitive market environment. Under R.C. 4928.38, an electric utility had the opportunity to receive transition revenues⁶³⁶ from the starting date of competitive retail electric service through the end of the market development period. That limited opportunity to collect transition revenue expired on December 31, 2005. R.C. 4928.38 provides that once a utility's market development period ends, “the utility shall be fully on its own in the competitive market” and that the commission “shall not authorize the receipt of transition revenues or any equivalent revenues” after the termination of the market development period.⁶³⁷ Duke has already reaped the benefit of the market development period to the tune of hundreds of millions of dollars paid for by consumers, and it is over.

⁶³³ See *id.* at 46:6-9.

⁶³⁴ See *id.* at 46:9-12.

⁶³⁵ See *id.* at 46:12-13.

⁶³⁶ R.C. 4928.39 defines transition costs as costs unrecoverable in a competitive environment.

⁶³⁷ See R.C. 4928.38 (requiring that after the market development period is over, the utility is to no longer receive transition revenues and “shall be fully on its own in the competitive market.”).

The market period has elapsed. From December 31, 2005 onwards, prices are supposed to be determined based solely on market forces.⁶³⁸ That is, Duke cannot charge captive customers of regulated services for revenues to support deregulated power plants.⁶³⁹ Duke and OVEC, individually and respectively, are now “wholly responsible” for whether they are in a competitive position in the generation market.⁶⁴⁰ Customers should not be asked to guarantee Duke’s profitability on its ownership in OVEC.⁶⁴¹ Here, that is precisely what Duke is proposing because Rider PSR, if approved, would essentially amount to a bail-out funded by consumers for PPA Units. This would be bad public policy, it is a violation of Ohio public policy in R.C. 4828.02(H) among other policies, and it is contrary to the legislative mandate (R.C. 4928.38) that the industry is to be on its own in the competitive market.⁶⁴²

- 4. The Settlement does not properly or fully account for the tax reductions that consumers should benefit from.**
 - a. The law requires that the PUCO properly and fully account for the tax reductions.**

OCC supports the PUCO's protection of customers in Case No. 18-47-AU-COI. But that is not the only forum where the PUCO can protect customers from paying too much for their utilities' taxes. The PUCO should – and indeed must – reduce rates in all currently-pending cases before it to reflect the lower tax rate under the Tax Cuts and Jobs Act of 2017 (“TCJA”).

⁶³⁸ *See id.*

⁶³⁹ *See id.*

⁶⁴⁰ *See id.*

⁶⁴¹ *See id.*

⁶⁴² *See id.*

Binding Ohio Supreme Court precedent requires the PUCO to account for changes to tax rates under the TCJA when setting new rates in pending cases before it. In *East Ohio Gas Co. v. PUCO*,⁶⁴³ the PUCO knew that tax rates changed from the time of the test period to the time that new rates would actually be in effect.⁶⁴⁴ The Supreme Court of Ohio found that "[i]t was the *duty* of the commission to consider not only the taxes actually assessed during the test period, but to compute what they would be after the test period *in view of the change in laws*"⁶⁴⁵ Because the PUCO knew about the change in tax rate at the time of its order, its decision to base rates on the old tax rate was "arbitrary and unreasonable."⁶⁴⁶ The Court remanded the case to the PUCO and instructed it to determine the amount of taxes that the utility would actually pay when setting new rates.⁶⁴⁷

The binding precedent of the Ohio Supreme Court is unambiguous: when the PUCO has actual knowledge of the tax rate that a utility will be assessed, the PUCO must account for the actual tax liability when setting rates.

The PUCO has in past cases followed the Court's dictate and made adjustments that reflect changes in the actual taxes a utility is liable for. In *In re Application of Ohio Power Co. to Increase Certain of its Filed Schedules Fixing Rates and Charges for Electric Service*,⁶⁴⁸ for example, the PUCO cited *East Ohio Gas* and concluded, quite

⁶⁴³ 133 Ohio St. 212 (1938).

⁶⁴⁴ *Id.* at 226.

⁶⁴⁵ *Id.* (emphasis added).

⁶⁴⁶ *Id.*

⁶⁴⁷ *Id.* at 227. *See also Gen. Tel. Co. v. PUCO*, 174 Ohio St. 575, 576-80 (1963) (citing *East Ohio Gas* and concluding that the PUCO is required to set rates based on the actual federal taxes that a utility will pay).

⁶⁴⁸ PUCO Case No. 78-676-EL-AIR, 1979 Ohio PUC LEXIS 2 (Apr. 16, 1979).

plainly: "Ohio law *requires* that all known changes in the tax laws after the test year must be recognized in setting rates."⁶⁴⁹ Accordingly, the PUCO approved rates based on a new tax rate that went into effect after the test period ended.⁶⁵⁰

Similarly, in *In re Application of the Cleveland Electric Illuminating Co. for Authority to Amend and Increase its Filed Schedules Fixing Rates and Charges for Electric Service*,⁶⁵¹ the PUCO adjusted tax allowances to reflect the lower tax liability of utilities in response to the Tax Reform Act of 1986. There, the PUCO rejected the utility's argument that a higher tax allowance should be approved.⁶⁵² Parties argued that allowing any rate higher than the actual tax rate would cause the utility to over-collect its costs from customers and that known and measurable tax changes should be recognized.⁶⁵³ The PUCO agreed and found that allowing the utility to charge customers utility rates based on outdated, higher tax rates "would, without a doubt, overstate [federal income tax] expense for the period [the utility's] rates approved in this case will be in effect."⁶⁵⁴

In light of Ohio Supreme Court precedent and the PUCO's own acknowledgment that changes in tax rates must be accounted for in pending cases, the PUCO must protect customers in all cases currently before it by accounting for the impacts of the TJCA, including this one.

⁶⁴⁹ *Id.* at *41 (emphasis added).

⁶⁵⁰ *Id.*

⁶⁵¹ Case No. 86-2025-EL-AIR, 1987 Ohio PUC LEXIS 28 (Dec. 16, 1987).

⁶⁵² *Id.* at *194-200.

⁶⁵³ *Id.* at *194-96.

⁶⁵⁴ *Id.* at *197 (citing *Ohio Power*, Case No. 78-676-EL-AIR (Apr. 16, 1979)).

b. OCC Witness Effron confirms that the PUCO should properly and fully account for the tax reductions based on regulatory principle.

OCC Witness Effron addresses the development of the revenue requirement used to support Duke's new base distribution rates, as it relates to the criteria used by the PUCO to evaluate settlements.⁶⁵⁵ He concludes that it violates an important regulatory principle – “namely that rates charged for the provision of regulated utility services should be based on a revenue requirement consistent with the costs of providing such services.”⁶⁵⁶

The Settlement shows a revenue requirement of \$467,776,000 for distribution service.⁶⁵⁷ The revenue requirement does not properly reflect Duke's cost of service that will be incurred when rates under the Settlement go into effect. Based on the Gross Revenue Conversion Factor used to calculate the Revenue Deficiency (Excess), the \$467,776,000 revenue requirement includes a federal income tax expense that is calculated using a federal income tax rate of 35%.⁶⁵⁸ The TCJA was signed into law in December 2017.⁶⁵⁹ Among other changes affecting the determination of federal taxable income after January 1, 2018, the TCJA reduces the corporate income tax rate to 21%.⁶⁶⁰ This change has a significant effect on the determination of federal income taxes and will impact Duke's income tax obligation when the Settlement rates go into effect, according

⁶⁵⁵ Direct Testimony of David J. Effron (OCC Ex. 9) filed June 25, 2018 at 3:17-20.

⁶⁵⁶ *Id.* at 4:19-22.

⁶⁵⁷ *See id.* at 5:5-6.

⁶⁵⁸ *See id.* at 5:12-14.

⁶⁵⁹ *See id.* at 5:14-15.

⁶⁶⁰ *See id.* at 5:16-18.

to OCC Witness Effron.⁶⁶¹ The federal income tax is a substantial component of the total revenue requirement.⁶⁶² As the Settlement revenue requirement of \$467,776,000 includes federal income tax expense calculated at a rate of 35%, instead of the actual rate that Duke will be paying, 21%, it is significantly overstated.⁶⁶³

With a federal income tax rate of 35%, the Settlement revenue requirement includes federal income tax expense of \$39,276,000, which takes account of current income tax expense and normalized deferred income tax expense.⁶⁶⁴ If the present federal income tax rate of 21% is used (which is to say, if the tax rate that Duke will actually pay is used) to calculate the federal income tax expense, the expense included in the Settlement revenue requirement is reduced by \$15,710,000 to \$23,566,000, explained OCC Witness Effron.⁶⁶⁵ That reduction to the federal income tax expense results in a reduction of \$20,183,000 to Duke's revenue requirement, from \$467,776,000 to \$447,593,000.⁶⁶⁶ If the revenue requirement used to calculate Duke's new rates is not modified accordingly, consumers will pay too much for Duke's base distribution rates because they will not be based on Duke's cost of providing service.⁶⁶⁷

Duke and the signatory parties concede that the TCJA should result in net savings for consumers.⁶⁶⁸ The Settlement provides: "The Signatory Parties agree that Rider DCI

⁶⁶¹ *See id.* at 5:18-20.

⁶⁶² *See id.* at 5:20-21.

⁶⁶³ *See id.* at 5:21-23.

⁶⁶⁴ *See id.* at 6:5-8.

⁶⁶⁵ *See id.* at 6:16-18.

⁶⁶⁶ *See id.* at 6:18-20.

⁶⁶⁷ *See id.* at 6:20-23.

⁶⁶⁸ *See id.* at 7:3-4.

shall be calculated using the lower federal tax rates established under the TCJA as reflected in the pre-tax return to be used in the Rider DCI [Distribution Capital Investment] calculation described in Paragraph 4(a) of Stipulation Part III.E.”⁶⁶⁹ But at the same time, the Settlement recognizes that it does not fully reflect the savings consumers should benefit from “because certain matters, such as the refund of jurisdictional excess ADITs [accumulated deferred income taxes], remain unresolved.”⁶⁷⁰

Modifying the rate of return used in Rider DCI does not pass on to consumers all of the benefits of the tax cut. Rider DCI addresses eligible distribution plant, but not other elements of the distribution rate base.⁶⁷¹ As of the date certain in Case No. 17-0032-EL-AIR, the distribution rate base was over \$200 million greater than “Distribution Rate Base for Rider DCI” as of that date.⁶⁷² OCC Witness Effron testified that Rider DCI does not address the reduced revenue requirement on the distribution rate base not covered by Rider DCI.⁶⁷³ The benefits to consumers of the lower tax rate associated with the return on distribution rate base other than net distribution plant are not reflected in Rider DCI.⁶⁷⁴

Further, Rider DCI includes specified caps on annual revenue increases.⁶⁷⁵ If these caps are reached, explained OCC Witness Effron, customers will not realize benefits in the form of lower rates attributable to the TCJA, because the capped Rider

⁶⁶⁹ *See id.* at 7:5-8.

⁶⁷⁰ *See id.* at 7:8-14.

⁶⁷¹ *See id.* at 8:5-6.

⁶⁷² *See id.* at 8:6-8.

⁶⁷³ *See id.* at 8:8-10.

⁶⁷⁴ *See id.* at 8:10-12.

⁶⁷⁵ *See id.* at 8:14.

DCI revenues would then be the same as if there had been no reduction to the federal income tax rate.⁶⁷⁶

The signatory parties' reliance on Case No. 18-047-AU-COI to clear up issues regarding the tax cut is misplaced here. That case may be a useful forum to address matters such as the treatment of tax savings from January 1, 2018 until the time that permanent distribution rates can be reduced prospectively to reflect the income tax savings from the TCJA, the refund of excess deferred taxes, and other matters.⁶⁷⁷ But we *know* that the income tax rate reduction in the TCJA reduces the base rate revenue requirement.⁶⁷⁸ There is no dispute but that the full effect of the TCJA tax savings must be passed on to customers. Given that the TCJA will result in tax savings and that the effect of the reduction to the income tax rate on Duke's revenue requirement can be calculated, there is no sound reason why the reduced taxes under the TCJA should be excluded from the determination of the revenue requirement used to establish Duke's base distribution rates.⁶⁷⁹

Excluding the income tax savings due to the TCJA rate reduction from the determination of base distribution rates charged to Duke's customers violates the regulatory principle that rates for regulated utility services should be based on costs, according to OCC Witness Effron.⁶⁸⁰ Therefore, the PUCO should not approve the Settlement.

⁶⁷⁶ *See id.* at 8:14-18.

⁶⁷⁷ *See id.* at 9:6-9.

⁶⁷⁸ *See id.* at 9:9-10.

⁶⁷⁹ *See id.* at 9:13-17.

⁶⁸⁰ *See id.* at 9:19-22.

5. The Settlement recommends less stringent reliability standards that were developed behind closed doors.

Ohio law and PUCO rules require utilities to have minimum service reliability standards.⁶⁸¹ Additionally it is Ohio policy to encourage cost-effective and efficient access to information regarding the development of performance standards.⁶⁸² Unfortunately for customers, the proposed reliability standards in the Settlement violate the Ohio policy and PUCO rules.

Under the Ohio Administrative Code, the two standards that are used to measure reliability performance are SAIFI and CAIDI.⁶⁸³ These two reliability standards are uniformly applied across every electric distribution utility in the State of Ohio.⁶⁸⁴ Duke's application to establish new reliability standards proposed higher numbers for both SAIFI and CAIDI. This means that Duke's reliability performance would be measured by less stringent standards.⁶⁸⁵

Typically, an electric utility files an application to establish reliability performance standards that must include historical performance, system design, technological advancements, service area geography, and the results from customer perception surveys.⁶⁸⁶ The reliability standards address the quality of electric service that customers should receive during typical "blue sky" days, or days without consideration of the impact that major adverse weather conditions or other causes of major outages may

⁶⁸¹ See R.C. 4928.11 and 4905.22; Ohio Adm. Code 4901:1-10-10.

⁶⁸² See R.C. 4928.02(E).

⁶⁸³ See Ohio Adm. Code 4901:1-10-10(B). The Momentary Average Interruption Frequency Index, or MAIFI, is not used to measure reliability performance under the Ohio Administrative Code.

⁶⁸⁴ See Direct Testimony of Peter J. Lanzalotta (OCC Ex. 19) file June 25, 2018 at 6:11-12.

⁶⁸⁵ See *id.* at 6:12-16.

⁶⁸⁶ See Ohio Adm. Code 4901:1-10-10(B)(4)(a).

have on the distribution system.⁶⁸⁷ The standards exclude outages during major events⁶⁸⁸ and those outages that result from transmission system failures.⁶⁸⁹ The distribution reliability standards also exclude performance data for outages that have durations under five minutes.⁶⁹⁰

The PUCO Staff has created guidelines that are to be used by Ohio's electric utilities when establishing reliability performance standards.⁶⁹¹ These guidelines require averaging previous performance over at least five years to establish a historical performance baseline.⁶⁹² The historical performance baseline is then adjusted based upon factors including system design, technological advancements, service area geography, and the results from the customer perception survey.⁶⁹³ Each of these specific factors are quantified as appropriate in the utility's application to establish new reliability performance standards.⁶⁹⁴

There is no evidence in the record that the proposed standards in the Settlement were developed consistent with this process. Duke has failed to give any, let alone sufficient, information regarding the methodology supporting the development of the proposed SAIFI and CAIDI standards, as pointed out by OCC Witness Lanzalotta.⁶⁹⁵ Instead, Duke seeks to hide from the public the process or supporting calculations

⁶⁸⁷ See Lanzalotta Testimony at 7:7-10.

⁶⁸⁸ See Ohio Adm. Code 4901:1-10-01(T).

⁶⁸⁹ See Ohio Adm. Code 4901:1-10-10(B)(4)(c).

⁶⁹⁰ See Ohio Adm. Code 4901:1-10-01(CC).

⁶⁹¹ See Lanzalotta Testimony at 7:15-16.

⁶⁹² See *id.* at 7:16-18.

⁶⁹³ See *id.* at 7:18-8:3.

⁶⁹⁴ See *id.* at 8:3-4.

⁶⁹⁵ See *id.* at 9:7-10.

because the standards evolved from confidential settlement discussions.⁶⁹⁶ If Duke seeks to rely solely on its application, then the methodology used to develop the proposed standards are inconsistent with the PUCO rules and Staff guidelines.⁶⁹⁷

The proposed CAIDI standards will permit less reliable electric power supply to Duke customers in all years 2018 – 2025 than is permitted by the CAIDI standard that is currently in effect, 122.81 minutes per interruption.⁶⁹⁸ The proposed CAIDI standard in the Settlement is also less stringent than the 134.00 minute CAIDI standard that was proposed in Duke’s application, meaning customers can experience longer duration outages.⁶⁹⁹ As explained by OCC Witness Lanzalotta, the proposed SAIFI standard will permit less reliable electric power service in 2018 than was permitted by the SAIFI standard in effect previously, 1.05 interruptions per customer per year.⁷⁰⁰

This is unfortunate for customers, who will receive less reliable service at a higher cost under the proposed Settlement. Generally, SAIFI reflects how many (frequency) annual outages the average customer will experience, while CAIDI reflects how long (duration) those outages last, in minutes per outage.⁷⁰¹ Duke’s CAIDI performance in both 2016 and 2017 failed to meet its reliability benchmark standard of 122.81 minutes of interruption and showed significant declines in reliability for consumers compared to the previous three years from 2013 through 2015.⁷⁰² Its 2016 CAIDI performance also

⁶⁹⁶ *See id.* at 9:10-13.

⁶⁹⁷ *See id.* at 9:13-15.

⁶⁹⁸ *See id.* at 8:13-15.

⁶⁹⁹ *See id.* at 8:15-18.

⁷⁰⁰ *See id.* at 8:18-9:2.

⁷⁰¹ *See id.* at 10:5-7.

⁷⁰² *See id.* at 10:12-15.

showed a significant decline in reliability for consumers compared to the previous year, with CAIDI increasing from 117.32 minutes per interruption in 2015 to 136.42 minutes in 2016, an increase of 13.6% or 19.1 minutes per interruption.⁷⁰³ The 2017 CAIDI performance, while its 127.28 minutes reflected some 9 minutes of improvement compared to 2016, still failed to meet its CAIDI standard.⁷⁰⁴ Duke's CAIDI performance reflects the fact that the outages being experienced by customers, with major event data excluded, caused customers to experience increasingly longer outage durations.⁷⁰⁵

In 2017, after four years of static or declining reliability performance, Duke's SAIFI reliability index was 1.16 interruptions per customer, which failed to meet its 2017 standard for SAIFI of 1.05 interruptions per customer.⁷⁰⁶ This was a decline in reliability for consumers from its 2016 SAIFI of 1.05 interruptions which just met the 2016 standard of 1.05 interruptions.⁷⁰⁷

Duke's declining CAIDI reliability performance for consumers reflects, in part, its approach to system reliability.⁷⁰⁸ As addressed by Duke's Application:

Duke Energy Ohio's reliability strategy involves preventing outages and working to reduce the number of customers impacted by an event, through reliability improvement programs, implementing communication / sectionalization logic in automated equipment, and large outage investigations to identify root causes and complete appropriate corrective action plans.⁷⁰⁹

⁷⁰³ See *id.* at 10:15-19.

⁷⁰⁴ See *id.* at 10:19-11:2.

⁷⁰⁵ See *id.* at 11:2-4.

⁷⁰⁶ See *id.* at 11:6-8.

⁷⁰⁷ See *id.* at 11:8-10.

⁷⁰⁸ See *id.* at 11:12-13.

⁷⁰⁹ See Case No. 16-1602-EL-ESS, Application (July 22, 2018) (Duke Ex. 4) at 4-5.

OCC Witness Lanzalotta testified that this approach, preventing outages and working to reduce the number of customers affected by each outage, directly works to reduce the metrics upon which SAIFI is based.⁷¹⁰ But this approach may not improve CAIDI even if Duke reduces the number of customer interruptions that occur.⁷¹¹

Duke attributes its increase in its 2016 CAIDI to its “continued focus on improvements to SAIDI and SAIFI.”⁷¹² Duke cites to its efforts to minimize the effect of a fault through the installation of sectionalizing devices such as reclosers and fuses.⁷¹³ These sectionalizing devices limit the impact of a fault by isolating the resulting outage to a smaller number of customers. By isolating the fault in this manner, a larger number of customers avoided an outage.⁷¹⁴ Duke claims that this benefit also results in fewer customers being restored in short duration during the restoration process, thus resulting in an impact to CAIDI.⁷¹⁵

But there has not been a reduction in the number of Duke’s customers impacted by outages.⁷¹⁶ Duke has not been reducing the number of customer interruptions at all.⁷¹⁷ Duke has had some success in reducing the number of outage events from 25,660 events in 2013 down to 19,518 events in 2017, although in 2016, the number of such events reached almost 24,000.⁷¹⁸ But Duke has had no success in reducing the total number of

⁷¹⁰ See Lanzalotta Testimony at 12:1-3.

⁷¹¹ See *id.* at 12:3-4.

⁷¹² See *id.* at 12:6-7.

⁷¹³ See *id.* at 12:7-9.

⁷¹⁴ See *id.* at 12:10-11.

⁷¹⁵ See *id.* at 12:11-13.

⁷¹⁶ See *id.* at 12:15-16.

⁷¹⁷ See *id.* at 12:16-17.

⁷¹⁸ See *id.* at 13:3-5.

customers whose electric service was interrupted due to these events, and no success in reducing the total number of customer minutes of such interruptions.⁷¹⁹

To the contrary, Duke's annual number of customer interruptions due to all causes has increased, from 680,764 in 2013 to 832,567 in 2017, an increase of more than 151,800 customer interruptions per year, or an increase of 22% in four years.⁷²⁰

Similarly, Duke's annual number of customer minutes of interruption due to all causes has increased from 80,240,883 in 2013 to 105,965,751 in 2017, an increase of more than 25,000,000 customer minutes of interruption per year, or an increase of more than 32% in four years.⁷²¹

OCC Witness Lanzalotta testified that this reliability performance is not due to a quirk regarding the calculation of CAIDI, as Duke maintains.⁷²² It is due to the fact that Duke electric customers are currently experiencing more than an additional 150,000 customer interruptions per year and more than an additional 25,000,000 customer minutes of interruption per year, compared to 2013.⁷²³ There is no benefit to approving these reliability levels, where customers receive less reliable service.

6. The proposed changes to Duke's vegetation management program violates Ohio regulatory principles and should not be approved.

The proposed Settlement allows Duke to recover \$10.7 million through base rates and \$10 million through the electric service reliability rider ("ESRR") for Duke's

⁷¹⁹ See *id.* at 13:5-8.

⁷²⁰ See *id.* at 13:10-13.

⁷²¹ See *id.* at 13-16.

⁷²² See *id.* at 14:1-2.

⁷²³ See *id.* at 14:2-5.

vegetation management program.⁷²⁴ But Duke is not *currently* meeting its basic duty to provide safe and reliable service, so giving it more money makes no sense and changing its program would make matters worse. Tree-related outages have been the source of more customer interruption minutes (“CIM”) in each of the past two years than any other outage cause.⁷²⁵ The total increase in CIM from tree-related outages in 2016 and 2017 combined was greater than from any other cause.⁷²⁶ Duke currently attempts to trim its distribution system facilities on a four-year cycle.⁷²⁷ Under such a cycle, Duke should trim about 25% of the overhead distribution circuit miles on its system, or about 2,050 miles on a system with about 8,200 total circuit miles.⁷²⁸ A review of Duke’s Rule 26 data shows that in 2016, it trimmed about 1,703 miles and in 2017, it trimmed about 1,791 miles, both well below the level needed to trim the entire system every four years.⁷²⁹

Additionally, Duke has had inconsistent results in reducing the number of outage events attributable to vegetation, with as few as 2,083 events in 2017, and as many as 2,612 events in 2016, with the other years falling in between these two levels, as pointed out by OCC Witness Lanzalotta.⁷³⁰ But both the number of customer interruptions due to vegetation and the number of customer interruption minutes due to vegetation showed

⁷²⁴ See Settlement at 14-15.

⁷²⁵ See Lanzalotta Testimony at 15:1-3.

⁷²⁶ See *id.* at 15:3-4.

⁷²⁷ See *id.* at 15:14-15.

⁷²⁸ See *id.* at 15:15:17.

⁷²⁹ See *id.* at 15:17-19.

⁷³⁰ See *id.* at 16:1-6.

substantial increases in 2016 and 2017, during the same time that Duke was failing to maintain its four-year cycle on schedule.⁷³¹

Now, Duke is proposing as part of the Settlement to change from a four-year tree-trimming cycle to a five-year cycle to help its ability to maintain planned vegetation management work on schedule.⁷³² Of course, there is more to changing to a five-year cycle than just changing the dates that tree trimmers show up to trim a particular feeder.⁷³³ Under a four-year cycle, four years of growth is removed during each scheduled trim.⁷³⁴ Under a five-year cycle, five years of tree growth needs to be removed so that tree branches do not grow onto the wires before the next scheduled trim in five years.⁷³⁵ This typically means that the last trim on the four-year cycle must remove five years of growth to prevent branch contact during the last year before the next scheduled trim in five years.⁷³⁶ This indicates an increase in vegetation management costs just to get to the point where scheduled trims are five years apart.⁷³⁷

In addition to more costs, it is not clear that customers' expectations are aligned with the utilities. As OCC Witness Peter J. Lanzalotta notes, "residential customers are typically sensitive about the trimming of the trees in the vicinity of their homes."⁷³⁸ A five-year cycle will need to cut back tree branches in the vicinity of Duke's distribution

⁷³¹ See *id.* at 16:6-9.

⁷³² See *id.* at 16:10-12.

⁷³³ See *id.* at 16:12-14.

⁷³⁴ See *id.* at 16:14-15.

⁷³⁵ See *id.* at 16:15-17:1.

⁷³⁶ See *id.* at 17:1-3.

⁷³⁷ See *id.* at 17:3-5.

⁷³⁸ See *id.* at 17:8-9.

wires about 25% more on a five-year cycle than with a four-year cycle in order to maintain electric service reliability.⁷³⁹ OCC Witness Lanzalotta notes the increased tree and limb removal is rarely welcomed by homeowners.⁷⁴⁰ Thus, five-year vegetation management cycles for distribution facilities are typically more common in largely rural service areas where there is lower customer density.⁷⁴¹ In sum, there hasn't been showing made that the proposed changes to the distribution vegetation management plan will remedy recent increases in tree-related customer interruptions and customer interruption minutes or otherwise benefit customers.⁷⁴² Additionally, there is no evidence that Duke has actually incurred additional tree-trimming expenses that are not going to be collected through base rates.⁷⁴³

7. The PUCO should disallow the date certain book value of the Echelon system—\$68.7 million—because the system has not been shown to be used and useful for customers.

Neither Duke nor the PUCO Staff have demonstrated that the Echelon system is used and useful for customers. Under R.C. 4909.15(A)(1), the PUCO is required, when setting base rates, to determine the “valuation as of the date certain of the property of the public utility used and useful ... in rendering public utility service”⁷⁴⁴ But in this case, there is no evidence that the Echelon system is used and useful.

⁷³⁹ See *id.* at 17:9-12.

⁷⁴⁰ See *id.* at 17:12-13.

⁷⁴¹ See *id.* at 17:13-15.

⁷⁴² See *id.* at 17:17-20.

⁷⁴³ See Williams Testimony at 43:11-13.

⁷⁴⁴ R.C. 4909.15(A)(1).

The Staff Report says nothing at all about whether the Echelon system is used and useful.⁷⁴⁵ And the PUCO Staff effectively admitted that it did not look at this issue. In the direct testimony of PUCO Staff Witness James Schweitzer, he responded to OCC's objection that the PUCO Staff failed to address whether the Echelon system was used and useful.⁷⁴⁶ Notably, Mr. Schweitzer does not claim that PUCO Staff actually addressed this issue.⁷⁴⁷ If PUCO Staff had in fact addressed this, then Mr. Schweitzer would have replied, "Staff analyzed the used and usefulness of the Echelon system and concluded that it was used and useful." But he did not say this. Instead, he claimed that PUCO Staff did not need to look at the used and usefulness of the Echelon system because he believes that issue was resolved in annual rider audits of Duke's smart grid rider, Rider DR-IM.⁷⁴⁸

But Mr. Schweitzer is incorrect. The PUCO did not find, in any of the most recent Rider DR-IM audits, that the Echelon system was used and useful. In each of the recent Rider DR-IM cases, PUCO Staff issued a report of its audit.⁷⁴⁹ None of these reports uses the word "prudent," and none of these reports uses the phrase "used and useful" or any derivative thereof.⁷⁵⁰ Nor do the orders in these cases approving Duke's Rider DR-IM rates.⁷⁵¹ Further, Mr. Schweitzer agreed that in determining whether property is used and

⁷⁴⁵ See generally Staff Report.

⁷⁴⁶ Direct Testimony of James W. Schweitzer (Staff Ex. 6) filed July 2, 2018 at 3:10-14.

⁷⁴⁷ *Id.* at 3:15-4:7.

⁷⁴⁸ *Id.* at 4:4-7.

⁷⁴⁹ OCC Ex. 13 (Staff Audit from Case No. 17-1403-EL-RDR); OCC Ex. 14 (Staff Audit from Case No. 16-1404-EL-RDR); OCC Ex. 21 (Staff Audit from Case No. 15-883-EL-RDR); OCC Ex. 15 (Docket Card from Case No. 15-833-EL-RDR).

⁷⁵⁰ OCC Ex. 13 (Staff Audit from Case No. 17-1403-EL-RDR); OCC Ex. 14 (Staff Audit from Case No. 16-1404-EL-RDR); OCC Ex. 15 (Docket Card from Case No. 15-883-GE-RDR); see also Hearing Transcript at Vol. IX, p. 1500:16-1501-3.

⁷⁵¹ Case No. 17-1403-EL-RDR, Finding & Order (Mar. 21, 2018); Case No. 16-1404-EL-RDR, Entry (Dec. 21, 2016).

useful, an important part of the PUCO Staff's process is to do a physical inspection of the property.⁷⁵² Indeed, physical inspection of property is the *only* method that Mr. Schweitzer could identify for evaluating used and usefulness.⁷⁵³ But in the annual rider cases, PUCO Staff performed an audit of financial statements through "document review, interviews, and interrogatories," not physical inspections of plant.⁷⁵⁴ Thus, PUCO Staff could not have reached any conclusions regarding used and usefulness in these proceedings.

Even more telling, PUCO Staff signed a settlement in Case No. 15-883-GE-RDR (one of the audit cases that Mr. Schweitzer refers to in his testimony) where it agreed, along with the other signatory parties (Duke, OCC, and OP&E), that the PUCO was explicitly *not* addressing whether the Echelon system was used and useful: "The Signatory Parties are not agreeing that Duke's SmartGrid, or any component thereof, is 'used and useful,' or that any related expenses are appropriate for ratemaking, for purposes of the rate case that Duke must file by October 22, 2016, per the stipulation and Commission Order in Case No. 10-2326-GE-RDR."⁷⁵⁵ The PUCO approved the settlement in Case No. 15-883-GE-RDR without modification.⁷⁵⁶ In other words, Mr. Schweitzer's claim that the PUCO has already found the Echelon system to be used and useful is wrong.

⁷⁵² Hearing Transcript at Vol. IX, p. 1533:14-17, 1534:1-1535:5.

⁷⁵³ *Id.* at 1535:6-8; 1536:12.

⁷⁵⁴ OCC Ex. 13 at 2; OCC Ex. 14 at 2; OCC Ex. 21 at 2.

⁷⁵⁵ OCC Ex. 16 (January 1, 2016 Stipulation and Recommendation filed in Case No. 15-883-GE-RDR).

⁷⁵⁶ Case No. 15-883-GE-RDR, Opinion & Order Mar. 31, 2016).

In light of this, the record on whether the Echelon system is used and useful is as follows:

- The Staff Report says nothing about whether the Echelon system is used and useful.
- The Settlement says nothing about whether the Echelon system is used and useful.
- None of Duke’s witnesses testified that the Echelon system is used and useful.
- The PUCO Staff explicitly agreed that the PUCO was *not* making a finding as to used and usefulness in an annual smart grid rider audit.
- OCC’s witnesses uncovered significant evidence that the Echelon system is not at all useful in providing the benefits and services that Duke promised and that are required for a system to be considered a smart grid system.⁷⁵⁷

The PUCO should therefore conclude that the Echelon system is not used and useful under R.C. 4909.15(A)(1) and should disallow the entire remaining book value of the Echelon system, which is \$68,730,098.⁷⁵⁸ Allowing such costs is not in consumers’ or the public’s interest.

8. The Settlement violates the PUCO-approved settlement in the Mid-Deployment Review Case.

In an approved settlement in Case No. 10-2326-GE-RDR (the “Mid-Deployment Review Case”), Duke agreed to file a base rate case within one year of full deployment of its smart grid.⁷⁵⁹ Case No. 17-32-EL-AIR is that case. The settlement also requires Duke

⁷⁵⁷ See *supra*.

⁷⁵⁸ Alexander Testimony at 1:8-14, 25:7-13.

⁷⁵⁹ *In re Application of Duke Energy Ohio, Inc. to Adjust Rider DR-IM & Rider AU for 2010 SmartGrid Costs & Mid-Deployment Review*, Case No. 10-2326-GE-RDR, Opinion & Order at 15 (June 13, 2012).

to quantify, in its test year revenue requirement, the savings to customers from smart grid:

The Company commits to filing an electric distribution rate case in the first year after full deployment of SmartGrid as defined herein. The rate case will include the SmartGrid investment and adjusted operating expenses. The test year used in the base rate application shall begin no earlier than the date of full deployment such that the revenue requirement requested in that case *will reflect the level of the benefits attributable to SmartGrid which have actually been achieved by the Company* and all prudently incurred current costs associated with the program.⁷⁶⁰

The “level of the benefits attributable to SmartGrid” can mean only one thing: the dollar value of those benefits.⁷⁶¹ But Duke does not know what the dollar value of those benefits are.⁷⁶² It did not identify any such benefits in its rate case application or testimony, and despite repeated attempts at discovery, Duke simply stated that it does not track this data.⁷⁶³ Likewise, the Staff Report did not address this issue or otherwise attempt to quantify the level of benefits attributable to smart grid in the test year.⁷⁶⁴ Nor could the PUCO Staff’s witness identify any test year savings from Duke’s smart grid.⁷⁶⁵

Duke’s and PUCO Staff’s argument appears to be that OCC and the PUCO should simply take their word for the fact that there are O&M savings from smart grid and that those savings are in fact being passed along to customers through a reduction in

⁷⁶⁰ Alexander Testimony at 2:18-2:2 (quoting *In re Application of Duke Energy Ohio, Inc. to Adjust Rider DR-IM & Rider AU for 2010 SmartGrid Costs & Mid-Deployment Review*, Case No. 10-2326-GE-RDR, Stipulation & Recommendation (Feb. 24, 2012) (the “Mid-Deployment Review Settlement”) (emphasis added).

⁷⁶¹ Hearing Transcript at Vol. IX, p. 1538:5-8.

⁷⁶² *Id.* at 1504:12-15.

⁷⁶³ Alexander Testimony at 6:15-19; *Id.* at Exhibit BRA-2.

⁷⁶⁴ *Id.* at 2:18-3:3.

⁷⁶⁵ Hearing Transcript at Vol. IX, p. 1538:9-13.

Duke's base rate revenue requirement. But this requires too long a leap of faith. If Duke cannot identify how much those savings are, then there is no possible way to determine whether those savings are reflected in Duke's base rates, as required by the Mid-Deployment Review Settlement. The Settlement does not address this issue, and thus it violates the Mid-Deployment Review Settlement.

To remedy this legal error, the PUCO should require Duke to reduce the revenue requirement in its base rate case by \$12.933 million.⁷⁶⁶ This is the amount of agreed O&M savings from smart grid from the Mid-Deployment Review Settlement, *i.e.*, the annual amount of savings that were passed on to customers through Duke's smart grid rider.⁷⁶⁷ If Duke cannot identify the actual amount of test year savings to customers from its smart grid deployment, then the PUCO should continue to require Duke to credit customers with \$12.933 million in savings per year by reducing the revenue requirement accordingly.

9. **Duke's proposed Ohio AMI Transition is unlawful, and therefore violates important regulatory principles and practices, because Duke has not shown (or even attempted to show) that it will be cost-effective as required by R.C. 4928.02, R.C. 4928.06, and PUCO precedent.**
 - a. **There is no evidence that the Ohio AMI Transition will be cost-effective.**

Under R.C. 4928.02, it is "the policy of this state to ... [e]ncourage innovation and market access for *cost-effective* supply- and demand-side retail electric service including, but not limited to, demand-side management, *time-differentiated pricing*, waste energy

⁷⁶⁶ Alexander Testimony at 2:18-3:6; 7:1-7; 38:21-39:4.

⁷⁶⁷ *Id.* at 3:3-6.

recovery systems, *smart grid programs*, and *implementation of advanced metering infrastructure*.”⁷⁶⁸ These are not mere aspirational goals. The PUCO is *required* to effectuate this policy: “the public utilities commission *shall ensure* that the policy specified in section 4928.02 of the Revised Code is effectuated.”⁷⁶⁹ In DP&L’s most recent electric security plan case, the PUCO agreed that smart grid must be cost-effective. There, OCC Witness Williams testified that all smart grid programs should be evaluated to determine if they are cost effective and provide sufficient benefits to customers.⁷⁷⁰ The PUCO responded, stating simply, “We agree.”⁷⁷¹

Approval of the Settlement would violate R.C. 4928.02(A), R.C. 4928.06, and PUCO precedent because Duke has not shown – and has not even attempted to show – that the new Itron smart grid system will be cost-effective.

Duke projects that its proposed Ohio AMI Transition (the replacement of the entire Echelon system with the Itron system) will cost \$169,211,762 over a twenty-year period, with a net present value of \$134,706,353.⁷⁷² To show that the Ohio AMI Transition is cost-effective, therefore, Duke would need to show that the benefits to consumers would be greater than \$134,706,353 on a net present value basis. But Duke did not do this.

⁷⁶⁸ R.C. 4928.02(D) (emphasis added).

⁷⁶⁹ R.C. 4928.06(A) (emphasis added).

⁷⁷⁰ *In re Application of the Dayton Power & Light Co. to Establish a Standard Service Offer in the Form of an Elec. Security Plan*, Case No. 16-395-EL-SSO, Opinion & Order ¶ 59 (Oct. 20, 2017) (“OCC witness Williams contends that ... all smart grid programs should be evaluated to determine if they are cost effective and provide sufficient benefit to customers. We agree.”).

⁷⁷¹ *Id.*

⁷⁷² Schneider Testimony at Attachment DLS-1. OCC disputes these numbers (*see generally* Alvarez Testimony), but even using Duke’s own numbers, it has not shown that the Ohio AMI Transition is cost-effective.

Instead, Duke Witness Schneider compared only the cost of the Ohio AMI Transition with Duke's estimated cost of continuing to use the Echelon system in what he refers to as his "cost analysis."⁷⁷³ Duke made no attempt at all to provide the PUCO with evidence regarding the benefits to customers from the Ohio AMI Transition. There is no evidence regarding the value of the benefits to customers from Duke's smart grid proposal.

When asked about this omission, Duke witness Schneider admitted that he did not do any analysis of the monetary benefits to customers under the Itron system as compared to the Echelon system, stating that in his mind, "There was no need to."⁷⁷⁴ Despite Mr. Schneider's claim, there was a need to: the law requires it.

The PUCO cannot approve Duke's plan to replace the entire Echelon system with the Itron system without any evidence regarding its cost-effectiveness. This violates R.C. 4928.02, 4928.06, and PUCO precedent.

b. It is impossible for the PUCO to find that Duke's grid modernization initiatives will be cost-effective because the majority of the costs and benefits are unknown.

The Settlement contains a variety of smart grid proposals, most of which are vaguely defined, and most of which contain no information about their potential costs and benefits.

Under the Settlement, Duke would create a new PowerForward Rider ("Rider PF").⁷⁷⁵ Rider PF would be divided into three components. Component one would

⁷⁷³ Schneider Testimony at Attachment DLS-1.

⁷⁷⁴ Hearing Transcript at Vol. II, p. 372:9.

⁷⁷⁵ Settlement at 16.

include “those incremental costs, if any, the Company incurs as a result of a Commission directive issued upon the conclusion of the PowerForward initiative.”⁷⁷⁶ Component one of Rider PF is not the same as, but rather is in addition to, the Ohio AMI Transition.⁷⁷⁷ But the Settlement provides no additional details about component one. It says nothing about how much it will cost, or how much customers might benefit from any initiatives funded through Rider PF component one. Thus, there is no basis for the PUCO to evaluate whether Rider PF component one will be cost-effective as required by R.C. 4928.02 and R.C. 4928.06.

Component two of Rider PF includes, among other things, “the enablement of PJM settlement data transfer enhancements,” which are described in more detail in Attachment F to the Settlement.⁷⁷⁸ Attachment F includes \$12.6 million in costs,⁷⁷⁹ which are in addition to the costs associated with Duke’s proposed Ohio AMI Transition.⁷⁸⁰ But again, Duke provides no information about the value of the benefits to customers from this \$12.6 million investment, so there is no way for the PUCO to evaluate whether this proposal is cost effective.

Component three of Rider PF provides that Duke will file a new infrastructure modernization plan, which will include (but not be limited to) an upgrade to Duke’s customer information system.⁷⁸¹ This new infrastructure modernization plan is in addition

⁷⁷⁶ Settlement at 16.

⁷⁷⁷ Hearing Transcript at Vol. II, p. 348:3-6.

⁷⁷⁸ Settlement at 16-17.

⁷⁷⁹ Alexander Testimony at 29:8-9.

⁷⁸⁰ Hearing Transcript at Vol. II, p. 349:4-7.

⁷⁸¹ Settlement at 17.

to Duke's Ohio AMI Transition.⁷⁸² Duke has not developed this plan,⁷⁸³ does not know how much it will cost,⁷⁸⁴ and will not commit to any limit on the amount that it might charge customers under this new infrastructure modernization plan.⁷⁸⁵ In light of this, there is no way for the PUCO to evaluate how much component three of Rider PF will cost and how much it might benefit customers. It is impossible for the PUCO to determine that this portion of Duke's proposal is cost-effective, as required by R.C. 4928.02 and 4928.06.

The PUCO should not approve Rider PF because (i) it contains several grid modernization proposals that are so vague and undefined as to be meaningless, and (ii) there is no way for the PUCO to determine whether the many different grid modernization proposals under the Settlement will be cost-effective for consumers.

c. The Settlement and supporting testimony dramatically understate the cost to consumers of Duke's smart grid proposals.

The Settlement makes it appear as though customers will be charged around \$41 million for Duke's smart grid proposals.⁷⁸⁶ But Duke plans to use the Settlement as the basis to proceed with its Ohio AMI Transition, even though the Settlement does not say

⁷⁸² Hearing Transcript at Vol. II, p. 355:14-356:13-16. It's not clear what the possible purpose of Rider PF component three could be, beyond upgrades to the customer information system. Duke is already going to proceed with the Ohio AMI Transition under Rider DCI and Rider PF component two, then it is going to proceed with more grid modernization deriving from PowerForward under Rider PF component one. It is anyone's guess what further grid modernization will be necessary or even possible after Duke completes the many other rounds of grid modernization contemplated by the rest of the Settlement.

⁷⁸³ Hearing Transcript at Vol. II, p. 356:13-16.

⁷⁸⁴ *Id.* at 356:17-19.

⁷⁸⁵ *Id.* at 357:2-5.

⁷⁸⁶ *See* Settlement at 18 (\$28,625,000); Settlement Exhibit F (\$12.6 million for data access enhancements); Alvarez Testimony at 12:7-9. This would, of course, be in addition to the unknown amounts that customers would pay under Rider PF components one and three, both of which defer charging costs to customers to future proceedings.

so.⁷⁸⁷ Duke projects that the Ohio AMI Transition will cost \$169.2 million⁷⁸⁸ -- more than four times the amount identifiable in the Settlement. Unfortunately, even that doesn't tell the whole story. In fact, the situation is "dramatically worse than that for customers."⁷⁸⁹ The Ohio AMI Transition will not cost customers \$169.2 million. It will cost them \$486 million⁷⁹⁰ -- nearly triple Duke's projected cost and more than ten times the amount stated in the Settlement.

Duke understated the cost of its Ohio AMI Transition because it ignored certain costs associated with the project. These include (i) \$24.1 million that Duke proposed to spend for removal of nodes and installation of Itron meters in 2017 and 2018 (referred to as the "business continuity effort"), (ii) \$144.9 million in book value for equipment retired prematurely, (iii) \$86.0 million in carrying charges on the Ohio AMI Transition capital, (iv) \$14.5 million in carrying charges on the business continuity effort capital, and (v) \$56.0 million in carrying charges on the book value of equipment to be retired prematurely.⁷⁹¹ But these costs cannot be ignored because they are costs that customers will actually pay if Duke proceeds with the Ohio AMI Transition.⁷⁹²

In contrast, Duke overstated the cost of continuing with the current Echelon-based system. According to Duke's witness, it will cost \$326.2 million to continue the Echelon

⁷⁸⁷ Hearing Transcript at Vol. II, 353:16-19; Alvarez Testimony at 14:1-2.

⁷⁸⁸ Schneider Testimony at Attachment DLS-1.

⁷⁸⁹ Alvarez Testimony at 13:13.

⁷⁹⁰ *Id.* at 13:8-20.

⁷⁹¹ *Id.* at 17:6-7, Exhibit PJA-2. These amounts totaling \$325.6 million at stated on a nominal value basis. They total \$255.5 million in net present value. *See id.* at 17:6-7.

⁷⁹² *Id.* at 16:17-18 ("Duke has ignored many types of costs customers will be forced to pay if the PUCO approves Duke's Echelon metering system replacement proposal.").

system (on a nominal basis).⁷⁹³ But this overstates the actual cost by \$76.7 million because it uses an unreasonable 20-year useful life instead of a more appropriate 15-year useful life.⁷⁹⁴ After correcting for this error, the cost of continuing the Echelon system would be \$249.5 million on a nominal value basis.⁷⁹⁵ Thus, using Duke's own calculations but adjusting for errors, the \$486 million cost to install the Itron system is substantially higher than the \$249.5 million cost of continuing the Echelon system.⁷⁹⁶

As discussed above, Duke's analysis of the Itron system is flawed because it considers only the costs, and not the benefits, of the system and thus says nothing about whether the Itron system will be cost-effective for customers.⁷⁹⁷ But even if the PUCO were to utilize Duke's cost-only approach to evaluating smart grid, it should still conclude that the Ohio AMI Transition is a bad deal for customers because it will cost customers an extra \$236 million (\$486 million - \$249.5 million) as compared to fixing the Echelon system.

10. The Staff Report failed to exclude the full amount of smart grid costs that customers paid through Rider DR-IM during the test period.

Customers should not be double-charged for costs by paying them both through base rates and through rider charges. OCC objected to the Staff Report on the grounds that it failed to verify that the expenses in the test year were not also being collected from

⁷⁹³ Schneider Testimony at Attachment DLS-1.

⁷⁹⁴ Alvarez Testimony at 21:15-18. Duke's use of a 20-year useful life is ironic, given that under Duke's Ohio AMI Transition, it would rip out the entire Echelon system just three years after it was done being installed.

⁷⁹⁵ Alvarez Testimony at 23:4-7.

⁷⁹⁶ Alvarez Testimony at 23:4-7.

⁷⁹⁷ *See supra.*

customers through Duke's smart grid rider, Rider DR-IM.⁷⁹⁸ In response to this objection, PUCO Staff Witness Liphtratt stated that the test year expenses under Rider DR-IM were "verified as part of Staff's audit in Case No. 15-883-GE-RDR."⁷⁹⁹

But Mr. Liphtratt's testimony in this regard is erroneous for several reasons. First, in Case No. 15-883-GE-RDR, the PUCO approved a Rider DR-IM revenue requirement of \$55 million.⁸⁰⁰ But the Staff Report does not exclude this amount from Duke's base rate revenue requirement. Instead, the Staff Report excluded only \$29,466,269 based on Rider DR-IM charges.⁸⁰¹ Mr. Liphtratt was unable to explain how Staff arrived at \$29,466,269 instead of \$55 million.⁸⁰² The uncertainty surrounding the \$29,466,269 number is compounded by the fact that in Schedule C-3.21, PUCO Staff cites an entirely different case (Case No. 16-1404-EL-RDR) than the one Mr. Liphtratt relies on (Case No. 15-883-GE-RDR). Mr. Liphtratt could not explain this discrepancy either.⁸⁰³ In short, Staff's testimony proved that the Staff Report is unreliable on this issue.

In summary, the PUCO required customers to pay \$55 million for Rider DR-IM during the test year. But then only \$29.5 million in DR-IM costs were excluded from Duke's base rate revenue requirement. Customers are double-paying \$25.5 million⁸⁰⁴ in smart grid charges.

⁷⁹⁸ See Direct Testimony of David M. Liphtratt (Staff Ex. 13) filed July 2, 2018 at 3:8-10.

⁷⁹⁹ Liphtratt Testimony at 4:7-8.

⁸⁰⁰ *In re Application of Duke Energy Ohio, Inc. to Adjust Rider DR-IM & Rider AU for 2014 SmartGrid Costs*, Case No. 15-883-GE-RDR, Opinion & Order at 7 (Mar. 31, 2016).

⁸⁰¹ See Staff Report, Schedule C-3.21.

⁸⁰² Hearing Transcript at Vol. XI, p. 1859:19-23.

⁸⁰³ *Id.* at 1865:19-1866:1.

⁸⁰⁴ \$55 million - \$29.5 million.

11. Other states have learned the lesson that it is more important to get smart grid done right the first time than to rush into expensive, uncertain grid modernization projects.

Duke did just about everything wrong in its first attempt at installing a smart metering system (the Echelon system). To protect consumers, the PUCO cannot let this happen again. As OCC Witness Alvarez concluded: “The single most important role the PUCO can fulfill regarding Duke’s metering system shortcomings is to ensure the same mistakes are not made twice.”⁸⁰⁵

Other states took steps to ensure that utilities got it right the first time they installed a smart grid system. For example, in Maryland, the public service commission adopted statewide minimum functionalities and criteria for advanced metering systems, which included many of the capabilities that Duke promised but never delivered.⁸⁰⁶ In Texas, the Texas Public Utilities Commission adopted a formal rule defining functionalities of an advanced metering system to guide the Texas utilities in such investments.⁸⁰⁷ In Maine, Central Maine Power Company proposed an AMI deployment for its electric customers, and it included functionalities that are not present with Duke’s Echelon system.⁸⁰⁸ In these states, utilities installed smart grid systems that have the functionalities that Duke promised but never delivered.⁸⁰⁹ And each of these preceding

⁸⁰⁵ Alvarez Testimony at 39:4-6.

⁸⁰⁶ Alexander Testimony at 23:8-11.

⁸⁰⁷ *Id.* at 23:14-17.

⁸⁰⁸ *Id.* at 23:11-14.

⁸⁰⁹ *Id.* at 14:17-15:2.

examples is from 2007 – the year before Duke began installing the Echelon system in Ohio.⁸¹⁰

More recently, other states have taken a measured approach, declining to approve expensive smart grid programs. In Massachusetts, for instance, the Department of Public Utilities recently rejected the smart meter deployments of all three investor-owned utilities in that state, citing the high cost of prematurely-retired assets and uncertainty surrounding the value of time-varying rates as primary considerations.⁸¹¹ In North Carolina, the commission rejected Duke’s proposal for a smart grid rider to charge customers for initiatives under a “Power Forward” grid modernization initiative.⁸¹² It found, among other things, that (i) there was no evidence that Duke needed to collect grid modernization costs through a rider as opposed to through base rates,⁸¹³ (ii) there was no evidence that Duke needed a grid modernization rider to remain a “strong, financially viable company,”⁸¹⁴ (iii) the lack of a rider could incentivize Duke’s management to “economize and make more worthwhile investments,” and (iv) approving Duke’s proposed grid modernization rider could have resulted in unjust and unreasonable rates.⁸¹⁵ And most recently, the Kentucky Public Service Commission rejected two

⁸¹⁰ *Id.* at 23:8-19; *see also id.* at Exhibit BRA-2.

⁸¹¹ Alvarez Testimony at 19:9-31; 35:14-17 (citing Massachusetts Dept. of Pub. Util., DPU 15-120, 15-121, 15-122, Order at 121-22 (May 10, 2018)).

⁸¹² *In re Application of Duke Energy Carolinas, LLC, for Adjustment of Rates & Charges Application to Elec. Util. Serv. in N.C.*, N.C. Util. Comm. Docket Nos., E-7, Sub 1146, Sub 819, Sub 1152, Sub 1110 (June 22, 2018) (the “NC Order”).

⁸¹³ NC Order at 145.

⁸¹⁴ *Id.*

⁸¹⁵ *Id.* at 143 (“the greater weight of the evidence supports the conclusion that to allow the Grid Rider as requested would create unjust and unreasonable rates, in the Company’s favor”).

utilities' proposals for full deployment of smart meters.⁸¹⁶ The Kentucky PSC ruled that replacing the utilities' meters would result in "wasteful duplication" because the current meters had long remaining useful lives (15-17 years).⁸¹⁷ The PSC also found that (i) the utilities' failed to demonstrate that their proposal was the least cost option and (ii) their cost-benefit analyses were flawed because they assumed a 20 year useful life for meters being depreciated over 15 years.⁸¹⁸ In short, the risk to consumers was too great to approve the utilities' \$300 million proposals.⁸¹⁹

The PUCO should follow these other states' lead. It should not approve the Settlement and Duke's proposal to charge customers hundreds of millions of dollars for a new smart grid system until (i) it has fully and clearly defined the functional specifications required for Duke's new smart grid,⁸²⁰ (ii) it answers important questions about the actual needs of Duke's customers as pertains to smart grid,⁸²¹ and (iii) it answers important policy questions regarding who should pay for smart grid upgrades and whether the utility needs to own all smart grid capital infrastructure.⁸²²

This would be consistent with the PUCO's approach to grid modernization for DP&L. In DP&L's case, the PUCO postponed DP&L's grid modernization efforts until three months after the conclusion of the Commission's PowerForward initiative so that

⁸¹⁶ *In re Joint Application of Louisville Gas & Elec. Co. & Kentucky Utilities Co. for Full Deployment of Advanced Metering Systems*, Case No. 2018-00005, Order (Aug. 30, 2018).

⁸¹⁷ *Id.* at 12.

⁸¹⁸ *Id.* at 14.

⁸¹⁹ *Id.*

⁸²⁰ Alvarez Testimony at 39:9-11.

⁸²¹ *Id.* at 39:18-41:8.

⁸²² *Id.* at 41:9-42:2.

DP&L should “have a full opportunity to incorporate the results of the initiative into its comprehensive infrastructure modernization plan.”⁸²³

There is no rush for Duke to spend hundreds of millions of dollars on new meters, communications infrastructure, billing system upgrades, and customer information system upgrades. Importantly, Duke’s current meters (the Echelon meters) are functional electric meters. They accurately count monthly kWh usage and can be used to accurately bill customers.⁸²⁴ They do not need to be replaced for Duke to be able to continue to provide distribution service to customers. The PUCO should reject Rider PF and should not allow Duke to charge customers for the replacement of the Echelon system at this time through Rider PF, Rider DCI, or any other collection mechanism.

E. The ESP in the proposed settlement fails the MRO v. ESP test, and thus harms consumers.

1. The Standard

An electric distribution utility is required to provide a “standard service offer” to all consumers in its certified territory.⁸²⁵ This requirement may be met through either an MRO or an ESP.⁸²⁶ Whereas an MRO must be determined through a competitive-bidding process, “[a] utility has considerably more flexibility to fashion a rate plan as an ESP.”⁸²⁷

⁸²³ *In re Application of the Dayton Power & Light Co. to Establish a Standard Service Offer in the Form of an Elec. Security Plan*, Case No. 16-395-EL-SSO, Entry (July 12, 2018). *See also id.*, Opinion & Order ¶ 59 (Oct. 20, 2017) (“OCC witness Williams contends that the Commission should complete our PowerForward initiative before authorizing DP&L to invest in grid modernization and that all smart grid programs should be evaluated to determine if they are cost effective and provide sufficiency benefit to customers. We agree.”).

⁸²⁴ Hearing Transcript at Vol. II, p. 368:25-369:6.

⁸²⁵ R.C. 4928.141(A).

⁸²⁶ *Id.*

⁸²⁷ *In re Ohio Edison Co.*, 146 Ohio St.3d 222, 223 (2016).

Due to a utility’s “considerably more flexibility” in an ESP, the importance of the statutory test that must be met before the PUCO can approve, or modify and approve, an electric company’s ESP cannot be overstated. That test, enshrined in R.C. 4928.143(C)(1), provides that the PUCO cannot approve, or modify and approve, an ESP unless the PUCO finds that the ESP “including its pricing and all other terms and conditions, including any deferrals and 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.”⁸²⁸ This Court has described the statutory test as the “*only* substantive requirement” that a rate plan fashioned as an ESP must meet.⁸²⁹ So unless the statutory test is properly applied, there are no safeguards to ensure the availability to consumers of adequate, reliable, safe, efficient, nondiscriminatory, and reasonably priced retail electric service.⁸³⁰

The statutory test does not bind the PUCO to do a strict price comparison.⁸³¹ It may consider both quantitative and qualitative benefits of an ESP.⁸³² But the statutory test does instruct the PUCO to consider pricing and all other terms and conditions in evaluating if an ESP is more favorable in the aggregate than an expected MRO.⁸³³ Without such consideration, the PUCO does not meet its obligations under R.C. 4928.143(C)(1).

⁸²⁸ R.C. 4928.143(C)(1).

⁸²⁹ *In re Ohio Edison Co.*, 146 Ohio St.3d at 223 (italics added).

⁸³⁰ *See* R.C. 4928.02(A).

⁸³¹ *In re Ohio Edison Co.*, 146 Ohio St.3d at 226.

⁸³² *See id.*

⁸³³ *Id.*

2. Duke evaluates the proposed ESP under the ESP v. MRO test improperly.

The ESP v. MRO test is an important consumer protection that provides a required vetting of a utility's ESP proposal. This statutory requirement exists for a reason. Duke's approach to the statutory test is dismissive and renders this important consumer protection as meaningless.

Duke wants "credit" (i.e., count as a benefit) for proposing flawed riders (Riders RM and IRM) and then subsequently withdrawing them in a settlement.⁸³⁴ Although withdrawing flawed originally-proposed riders could reduce harm to consumers, it is a flawed premise that Duke can initially request riders that are bad for consumers and then later claim a benefit under the ESP v. MRO standard by withdrawing the request for the riders.⁸³⁵ Withdrawing the request for the riders cannot be considered an affirmative benefit enabling an ESP to pass the statutory test.⁸³⁶ And true, low-income programs (particularly if funded by shareholders) could be considered a quantified benefit. But as explained by OCC Witness Kahal, the problem is that this dollar benefit for a relatively small subset of consumers pales in comparison with the massive cost penalty that all customers (including low-income customers) will incur under Rider PSR in the Settlement.⁸³⁷ The PUCO should arrange for assistance to low-income consumers in some other manner than allowing a utility in an ESP to use signatures of low-income representatives on a settlement that increases the electric rates of all consumers.⁸³⁸

⁸³⁴ See Kahal Testimony at 54:9-11.

⁸³⁵ See *id.* at 54:11-14.

⁸³⁶ See *id.* at 54:15-16.

⁸³⁷ See *id.* at 54:18-20.

⁸³⁸ See *id.* at 54:21-23.

Another and crucial point is that OCC witnesses do not find the \$19.2 million base rate reduction to be a favorable outcome (even if were proper to reflect it in the ESP test, which it is not).⁸³⁹ Consumers should receive a larger rate reduction to capture tax cut benefits and a lower ROE.⁸⁴⁰

Finally, Duke warns that the \$19.2 million base rate reduction cannot be assumed absent the Settlement.⁸⁴¹ But Duke has the burden of proof regarding the ESP test.⁸⁴² It does not seem credible, as pointed out by OCC Witness Kahal, that Duke would voluntarily accept the \$19.2 million reduction in the base rate case if it expected a substantially different (better for Duke) result with no Settlement.⁸⁴³ Duke's apparent assumption that the \$19.2 million rate reduction is a net benefit that would not have occurred absent both the Settlement and the ESP is simply neither credible nor reasonable.⁸⁴⁴

3. Properly applying the ESP v. MRO test shows that Duke's proposed ESP fails the test.

The proposed ESP should be evaluated based on what is actually being proposed without the hypothetical of assuming that exactly the same riders and cost deferrals could be proposed (and would be approved) absent an ESP.⁸⁴⁵ It is unknown if that

⁸³⁹ *See id.* at 55:1-3.

⁸⁴⁰ *See id.* at 55:3-5.

⁸⁴¹ *See id.* at 55:7-8.

⁸⁴² *See* R.C. 4928.143(C).

⁸⁴³ *See* Kahal Testimony at 55:9-11.

⁸⁴⁴ *See id.* at 55:12-14.

⁸⁴⁵ *See id.* at 51:11-13.

hypothetical is in fact true.⁸⁴⁶ Duke's hypothetical is designed to render the statutory test meaningless.⁸⁴⁷

No doubt, there is likely to be an adverse impact upon customer charges from the proposed ESP (although it cannot be fully quantified at this time).⁸⁴⁸ Nonetheless, as explained by OCC Witness Kahal, the most readily quantifiable harm from the proposed ESP is the above-market costs that utility customers would be forced to bear under Rider PSR.⁸⁴⁹ While this harm can only be estimated using projections, credible evidence today would suggest that over the seven-and-a-half-year recovery period in the Settlement the net cost to Duke retail distribution customers would be on the order of about \$77 million (Duke Witness Rose's net present value estimate) to \$95 million (OCC Witness Wilson's net present value estimate).⁸⁵⁰ "It is clear that the proposed ESP, both as originally filed and per the Settlement, does not pass the quantitative portion of the statutory test."⁸⁵¹ Further, the proposed ESP does not provide qualitative benefits that would leave one to conclude that the ESP is more beneficial than the MRO alternative.⁸⁵² Duke has proposed a vast array of single-issue ratemaking adders that run the risk of overcharging customers and blunting efficiency incentives relative to incentives under standard ratemaking.⁸⁵³

⁸⁴⁶ *See id.* at 51:14.

⁸⁴⁷ *See id.* at 51:14-15.

⁸⁴⁸ *See id.* at 51:18-19.

⁸⁴⁹ *See id.* at 51:19-21.

⁸⁵⁰ *See id.* at 51:21-52:3.

⁸⁵¹ *See id.* at 52:5-6.

⁸⁵² *See id.* at 52:9-11.

⁸⁵³ *See id.* at 52:11-13.

OCC Witness Kahal testified that the proposed ESP fails the statutory test.⁸⁵⁴ It includes rate riders and cost deferrals that could adversely affect customer rates as compared to an MRO alternative even though there is insufficient information available to fully quantify all the adverse impacts.⁸⁵⁵ The Rider PSR quantitative impact can be reasonably estimated, and such estimates demonstrate substantial harm to Duke's customers.⁸⁵⁶ The adverse impacts on customer charges would not be offset by qualitative benefits.⁸⁵⁷ If anything, the proposed ESP would result in qualitative harm relative to the MRO alternative.⁸⁵⁸ The PUCO should reject the proposed ESP in the Settlement for failing to pass the statutory ESP versus MRO test.

F. The PUCO should not adopt the marketers' proposal to increase standard service offer costs for consumers.

In one regard, the Settlement avoid further harming customers by avoiding efforts, such as by marketers IGS and RESA, to artificially increase the competitively-bid price of Duke's standard offer. What the marketers recommend—increasing the standard offer price relative to their prices⁸⁵⁹—is one of the worst things that could be done to customers. As OCC witness Willis explained, the standard service offer benefits all customers, including shopping and non-shopping customers.⁸⁶⁰ This is because the standard offer (i) is competitively bid, (ii) gives customers an option for generation service without the confusing process of selecting a supplier, (iii) is a safety net for all

⁸⁵⁴ See *id.* at 55:17.

⁸⁵⁵ See *id.* at 55:17-20.

⁸⁵⁶ See *id.* at 55:20-22.

⁸⁵⁷ See *id.* at 55:22-23.

⁸⁵⁸ See *id.* at 55:23-56:1.

⁸⁵⁹ See RESA/IGS Ex. 1 (Hess Testimony).

⁸⁶⁰ OCC Ex. 22 (Willis Testimony).

customers, and (iv) provides a competitive price-to-compare that customers can use to evaluate marketer offers when deciding whether to shop for their generation.⁸⁶¹

The marketers' efforts to increase consumer prices for the standard offer should be rejected to protect consumers and the public interest.

G. The Attorney Examiners' ruling keeping confidential the annual cost of Rider PSR should be reversed.

Transparency and accountability are vital in PUCO hearings.⁸⁶² Although Rider PSR's total cost is public information, as is the fact that each year Rider PSR will be a charge, the Attorney Examiners held that the *amount* of the yearly cost is confidential.⁸⁶³ The PUCO should reverse that ruling for the reasons explained by the Environmental Law & Policy Center, Environmental Defense Fund, Natural Resources Defense Council, Ohio Environmental Council, and the Sierra Club, so that Ohioans know what Duke itself expects Rider PSR to cost on a yearly basis.

There is no justification for keeping Rider PSR's estimated yearly cost confidential, particularly in light of the overwhelming presumption in Ohio law that favors transparency. Duke's witness testifying to Rider PSR's estimated yearly cost admitted that making the yearly cost public would not enable a Duke competitor to: 1) calculate OVEC's coal price, 2) calculate OVEC's projected capital spending, or 3) calculate any specific parameter.⁸⁶⁴ Further, Duke's counsel offered nothing but

⁸⁶¹ *Id.* at 7:16-8:5.

⁸⁶² *See, e.g.,* R.C. 4905.07 and .12; *State ex rel. Cincinnati v. Daniels*, 108 Ohio St. 3d 518 (2006). Ohio Adm. Code 4901-1-15(F) allows a party to seek reversal of Attorney Examiner rulings by "discussing the matter as a distinct issue in its initial brief . . ."

⁸⁶³ *See* Hearing Transcript at Vol. II, p. 285:1-7.

⁸⁶⁴ *See id.* at 279:24-280:14.

conclusory statements regarding why the yearly cost should be confidential.⁸⁶⁵ That is not sufficient to overcome the presumption in favor of transparency.⁸⁶⁶

In a Joint Motion for Reconsideration,⁸⁶⁷ the Conservation Groups⁸⁶⁸ asked the Attorney Examiners to reconsider their ruling, but the Attorney Examiners declined to do so. The reasons stated in the Conservation Groups' motion are equally applicable on brief and further confirm that the Attorney Examiners' ruling that the amount of Rider PSR's annual cost should be public. The PUCO should reexamine this issue under Ohio Adm. Code 4901-1-15(F) and reverse the Attorney Examiner's ruling that this important information remain hidden from the public.

V. CONCLUSION

Duke's proposals are a frontal attack on competitive electric markets and the benefits to Ohioans that flow from markets. Duke's proposals therefore are also an attempted invalidation of the Ohio law that years ago restructured utilities to give Ohioans market prices instead of government-set prices. The Ohio General Assembly determined as state policy that Ohio will "ensure effective competition in the provision of retail electric service by avoiding anticompetitive subsidies."⁸⁶⁹ And the General Assembly required that, with the termination of transition revenues, the electric "utility

⁸⁶⁵ See *id.* at 281:12-25.

⁸⁶⁶ See, e.g., *State ex rel. Besser v. Ohio State Univ.*, 89 Ohio St. 3d 396, 400-03 (2000).

⁸⁶⁷ See Joint Motion for Reconsideration and Request for Expedited Treatment Submitted on behalf of The Environmental Law & Policy Center, Environmental Defense Fund, Natural Resources Defense Council, Ohio Environmental Council, & the Sierra Club filed August 9, 2018.

⁸⁶⁸ Environmental Law & Policy Center, Environmental Defense Fund, Natural Resources Defense Council, Ohio Environmental Council, and Sierra Club.

⁸⁶⁹ R.C. 4928.02(H).

shall be fully on its own in the competitive market.”⁸⁷⁰ Duke cannot disregard Ohio law by filing a case at the PUCO seeking the very things that the statutes prohibit.

In any event, the PUCO is without jurisdiction under federal and state law to approve Rider PSR. Rider PSR will hurt consumers by interfering with the competitive generation market, by awarding a subsidy that consumers will pay and by disregarding wholesale market prices in favor of state subsidized rates, that distort the wholesale market.

The Settlement should also be rejected because it fails all prongs of the PUCO’s three-prong test for evaluating settlements, and the statutorily mandated ESP v. MRO test for evaluating an ESP.

Respectfully submitted,

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⁸⁷⁰ R.C. 4928.38.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the foregoing Initial Post-Hearing Brief has been served upon the below-named persons via electronic transmission this 11th day of September 2018.

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Summary: Brief Initial Post-Hearing Brief by the Office of the Ohio Consumers' Counsel electronically filed by Ms. Deb J. Bingham on behalf of Michael, William J. Mr.