**BEFORE**

**THE PUBLIC UTILITIES COMMISSION OF OHIO**

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| --- | --- | --- |
| In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Approval of Phase Two of Their Distribution Grid Modernization Plan. | ) ) ) ) ) ) | Case No. 22-704-EL-UNC |
| In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Review of Rider AMI (2019). | ) ) ) ) ) | Case No. 18-1647-EL-RDR |
| In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Review of Rider AMI (2020). | ) ) ) ) ) | Case No. 19-1903-EL-RDR |
| In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Review of Rider AMI (2021). | ) ) ) ) ) | Case No. 20-1672-EL-RDR |

**INITIAL BRIEF**

**BY**

**OFFICE OF THE OHIO CONSUMERS’ COUNSEL**

**AND**

**NORTHWEST OHIO AGGREGATION COALITION**

|  |  |
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**TABLE OF CONTENTS**

**PAGE**

[I. INTRODUCTION 1](#_Toc173315537)

[II. BACKGROUND 4](#_Toc173315538)

[A. Beginnings of FirstEnergy’s Grid Modernization 4](#_Toc173315539)

[B. FirstEnergy Grid Modernization Plan 5](#_Toc173315540)

[C. The Settlement 6](#_Toc173315541)

[III. ARGUMENT 8](#_Toc173315542)

[A. FirstEnergy’s track record on distribution modernization matters is not beneficial to consumers. 9](#_Toc173315543)

[B. The Settlement harms consumers because any benefits to consumers are outweighed by the costs. 10](#_Toc173315544)

[1. FirstEnergy’s AMI BCA underestimates consumers’ costs. 11](#_Toc173315545)

[a. FirstEnergy’s present value cost estimate calculates the present value of the capital FirstEnergy spends, not the present value of the revenue requirements consumers must pay, to consumers’ detriment. 11](#_Toc173315546)

[b. FirstEnergy’s BCA ignores the stranded costs of the legacy meters the stipulated AMI deployment would replace, to consumers’ detriment. 12](#_Toc173315547)

[2. FirstEnergy’s BCA exaggerates benefits to consumers, to consumers’ detriment. 15](#_Toc173315548)

[a. AMI benefit projections assume incorrect valuations for the cost of energy avoided and the value of load reductions secured through TOU rates, harming consumers. 15](#_Toc173315549)

[b. FirstEnergy uses an inappropriate and inconsistent timeframe for the BCA, to consumers’ detriment. 17](#_Toc173315550)

[c. Environmental impacts are inappropriately included in the BCA, to consumers’ detriment. 18](#_Toc173315551)

[d. Time of Use (“TOU”) rate participation by consumers is likely exaggerated. 19](#_Toc173315552)

[3. The BCA for residential consumers is even worse for residential consumers than for all FirstEnergy consumers. 20](#_Toc173315553)

[C. The Settlement violates important regulatory principles and practices. 21](#_Toc173315554)

[1. The Grid Mod II Settlement violates the terms of the PUCO-approved Grid Mod I supplemental settlement. 21](#_Toc173315555)

[2. Rider recovery and advance regulatory review violates important ratemaking principles. 23](#_Toc173315556)

[D. The PUCO should reject the Settlement because it harms consumers and violated regulatory principles. However, if the PUCO accepts the Settlement, it should be modified to require more protections for residential consumers. 24](#_Toc173315557)

[IV. CONCLUSION 26](#_Toc173315558)

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**INITIAL BRIEF**

**BY**

**OFFICE OF THE OHIO CONSUMERS’ COUNSEL**

**AND**

**NORTHWEST OHIO AGGREGATION COALITION**

# INTRODUCTION

The Office of the Ohio Consumers’ Counsel (“OCC”) and the Northwest Ohio Aggregation Coalition (“NOAC”) represent consumers. OCC is the statutory body entrusted with representing the interests of residential consumers.[[1]](#footnote-2) NOAC represents a broader range of community interest to include residential, small business, family farms, hospitals, schools, and local governments in its aggregations.

Like the PUCO, we often support energy efficiency, demand reduction, and grid modernization in concept – but only if it makes sense and is done prudently. What FirstEnergy and the other signatory parties to the settlement propose neither makes sense nor is prudently done. Residential and similar small load consumers’ (“residential consumers”) money will not be well spent if the settlement is approved.

The settlement is significantly less costly than the original application with significant support from large commercial and industry customers for the provisions concerning their interests in the settlement. It is common knowledge that it is easier to achieve demand reduction for large load entities. But the same is not true for residential consumers. For example, homes with home bound sick or disabled, small children, or elderly people cannot readily avail themselves of time of use rates. This is also true for clinics, schools, nursing homes, and many other consumers within NOAC’s aggregations. These consumers are also most often the least able to afford electricity. While they cannot avail themselves of time of use rates, their bills will go up under the settlement.

The larger problem is that FirstEnergy’s residential consumers paid a lot and got little in return for Grid Mod I – certainly not what FirstEnergy promised. After the PUCO-appointed auditor (Daymark Energy Advisors) audited FirstEnergy’s actual performance to deliver residential cost savings, the auditor concluded that “the lack of clear documentation\*\*\*combined with the lack of direct reporting as to operational savings being achieved, precluded a direct audit determination of a current and future level of operational savings to be credited to Rider AMI [consumers].”[[2]](#footnote-3) As the settlement stands, we must oppose it because of the residential provisions that worsen the problem.

**That leaves the real question: can residential smart meters in the FirstEnergy territory deliver enough savings where this investment makes sense**? Not with the multiple roles FirstEnergy is assigned in the settlement, nor with its staging sequence.

There are really two project types in the smart meter proposal. The first is the deployment of the smart meters. The installation of these meters is in the monopoly functions of a “wires company.”[[3]](#footnote-4) There are staging issues with the proposed deployment. There is over $100 million in stranded cost for prematurely retiring existing meters that FirstEnergy will almost certainly seek to charge to consumers. And the demonstrated return on the hundreds of millions of dollars consumer invested in smart meters is near zero, while FirstEnergy enjoys handsome returns on the investment. (Consumer and corporate goals are not aligned.)

Second is the peak demand reduction/time of use. This is **not** a core function of a wires company such as FirstEnergy. FirstEnergy failed in the original pilot project to deliver the time of use consumer savings expected despite lavish advertising expense. Grid Mod 1 expanded the rollout ten-fold, but FirstEnergy’s performance on delivering consumer savings was as bad or worse. **Increasing the volume of smart meters is not the solution.** **Keeping the same time of use contractor (FirstEnergy) did not improve time of use or consumer savings**. Yet, the settlement would add another million smart meters and keep the same failed vendor and expand its non-core function.

Residential demand reduction/time of use is a tough nut to crack. Arizona has had some success, and nearly all (and likely all) jurisdictions have better performance than FirstEnergy. So there are experienced, honest companies who bring better track records. We recommend that the PUCO amend the settlement to order FirstEnergy to issue a request for proposals to evaluate the best way to proceed on voluntary residential demand reduction/time of use for currently deployed meters. The proposals should be made public and seek public comment before selection by the PUCO. If the selected program proves the existing smart meters are cost effective and used and useful, only then should additional rollout proceed.

Below we make additional important consumer protection recommendations, for example, on privacy, oversight, and cost benefit analysis.

# II. BACKGROUND

## Beginnings of FirstEnergy’s Grid Modernization

As part of the American Reinvestment and Recovery Act, passed to stimulate the U.S. economy in the wake of the Great Recession of 2008-2009, the Department of Energy distributed $4 billion in Smart Grid Investment Grants (“SGIG”).[[4]](#footnote-5) Cleveland Electric Illuminating Company applied for and received a $57 million grant from this program to fund a pilot, including advanced metering infrastructure (“AMI”), distribution automation (“DA”), and integrated volt-var control (“IVVC”).[[5]](#footnote-6)

Though just 5,000 smart meters were envisioned in the SGIG application, the PUCO approved another 39,000 smart meter installations, with costs to be collected from consumers through Rider AMI.[[6]](#footnote-7) Now, FirstEnergy’s Grid Modernization II (“Grid Mod II”) application seeks to replace these meters, though the meters are, on average, just 13 years old.[[7]](#footnote-8) Although the peak-time rebate program demonstrated reductions in usage in response to notifications of savings event days,[[8]](#footnote-9) FirstEnergy offers no such program today. FirstEnergy’s grid modernization efforts got off to a rocky start.

## FirstEnergy Grid Modernization Plan

In 2016, FirstEnergy filed an application for the first phase of a multi-year Grid Modernization Plan (“Grid Mod I”). FirstEnergy proposed three deployment scopes and speeds for the components of its pilot program, including AMI, DA, and IVVC, as well as an Advanced Distribution Management System (“ADMS”).[[9]](#footnote-10) In July 2019, the PUCO approved a Supplemental Stipulation and Recommendation calling for an initial three-year deployment Grid Mod I. This settlement agreement limited Grid Mod I spending to $516 million in capital and $139 million in O&M, with costs to be charged to consumers through Rider AMI.[[10]](#footnote-11) This approval occurred even while FirstEnergy consumers were already paying for Rider DMR, which, as demonstrated by a subsequent audit, was not used by FirstEnergy to modernize the grid.[[11]](#footnote-12)

The supplemental settlement required the PUCO Staff to oversee an assessment to evaluate whether the actual functionality and performance of Grid Mod I delivered on anticipated capabilities and benefits to consumers.[[12]](#footnote-13) To this end, an auditor selected and overseen by PUCO Staff examined 22 different operational benefits FirstEnergy projected in their Grid Mod I business plan. The auditor concluded that: 1) that the level of benefits documented did not match the level of benefits projected; 2) that data documenting benefit delivery was unavailable; and 3) that inadequate resources had been dedicated to securing the benefits FirstEnergy projected from their Grid Mod I deployment.[[13]](#footnote-14)

In July 2022, even though the auditor had not yet completed the operational benefits assessment of Grid Mod I, FirstEnergy submitted an application for Grid Mod II. FirstEnergy proposed another $626 million in capital spending and $300 million in O&M spending, expanding AMI to 700,000 more consumers, adding DA and IVVC to hundreds more circuits, and “enhancing” the recently completed ADMS installation with a Distributed Energy Resource Management System (“DERMS”) module.[[14]](#footnote-15) FirstEnergy also proposed several pilot and customer programs as part of the plan.[[15]](#footnote-16)

## The Settlement

On April 12, 2024, FirstEnergy, the PUCO Staff, and other parties agreed to the Settlement. OCC and NOAC did not sign the Settlement and oppose it. The Settlement, if approved by the PUCO, will reduce FirstEnergy’s capital spending to $421 million, and continue to collect costs from consumers through rider AMI.[[16]](#footnote-17) The Settlement secures this reduction by eliminating the DA, IVVC, and ADMS enhancements from the plan (with the exception of DERMS). The Settlement also eliminates other previously proposed programs, and accelerates the deployment of AMI.[[17]](#footnote-18) AMI deployment would double under the terms of the Settlement, from the 700,000 smart meters FirstEnergy had originally proposed for Grid Mod II to 1.4 million. This would complete smart meter installations for all remaining consumers who did not yet have one upon the completion of Grid Mod I.[[18]](#footnote-19)

The Settlement also specifies that FirstEnergy will develop and promote time-of-use rates (“TOU”) as an optional standard service offer to consumers.[[19]](#footnote-20) The Settlement authorizes other programs to continue as originally proposed, including consumer’ energy management reports, data access improvements (for marketers and aggregators), and DER hosting capacity maps.[[20]](#footnote-21)

Protections for residential consumers under the Settlement are few.[[21]](#footnote-22) The operational savings from smart meters anticipated by the proposed Settlement will be used to offset charges to consumers under Rider AMI.[[22]](#footnote-23) The Settlement also specifies more stringent performance reporting requirements, as it should, given FirstEnergy’s failure to demonstrate operational benefits under Grid Mod I.[[23]](#footnote-24)

# III. ARGUMENT

The PUCO should reject the Settlement. FirstEnergy’s inability to deliver anticipated benefits in Grid Mod I speaks volumes about FirstEnergy’s ability to deliver the promised results of Grid Mod II.[[24]](#footnote-25) As the Introduction sets out (and is incorporated here) residential time of use programs are a tough nut to crack, and FirstEnergy repeatedly failed to deliver projected consumer benefits. Its performance is far below what other vendors achieved in other jurisdictions. There is every reason to bring in outside expertise to sort out the problem first before further residential smart meter deployment. Continuing with FirstEnergy at the helm and increasing the number of residential meters is not the answer.

Yet the Settlement essentially asks the PUCO to trust that FirstEnergy will deliver benefits to consumers in excess of costs consumers will pay on $710 million in stipulated smart meter spending.[[25]](#footnote-26) Given FirstEnergy’s poor performance on Grid Mod I (as documented in the operational benefits audit), FirstEnergy has not demonstrated that a $710 million smart meter deployment in Grid Mod II is justified, reasonable, and beneficial to consumers.[[26]](#footnote-27)

The PUCO applies a three-prong test for reviewing settlements: the test examines whether the settlement a product of serious bargaining among capable, knowledgeable parties; whether the settlement, as a package, benefits ratepayers and the public interest; and whether the settlement violates any important regulatory principle or practice.[[27]](#footnote-28) Here the Settlement fails on the second and third prongs. The Settlement does not benefit ratepayers because Grid Mod II’s cost outweighs its benefits, and the Settlement violates important regulatory principles by providing FirstEnergy a virtually guaranteed return on its investment instead of providing an opportunity to earn on prudent investment. The Settlement should be rejected.

## A. FirstEnergy’s track record on distribution modernization matters is not beneficial to consumers.

FirstEnergy’s Distribution Modernization Rider (“DMR”) was adopted as part of its fourth electric security plan.[[28]](#footnote-29) Though touted by FirstEnergy as a commitment to invest in their distribution grids, no spending or investment plans were provided.[[29]](#footnote-30) OCC and others appealed this PUCO decision to the Ohio Supreme Court.[[30]](#footnote-31) The Supreme Court rejected the DMR as unlawful and unreasonable in 2019[[31]](#footnote-32) after an estimated $456 million had been collected from FirstEnergy consumers. An audit of the DMR could not find that the funds collected from consumers through the DMR were spent to modernize FirstEnergy’s grid, directly or indirectly.[[32]](#footnote-33) Further, the auditor was also unable to eliminate the possibility that rider DMR funds collected from consumers were used as part of bribes FirstEnergy has admitted paying to Ohio lawmakers.[[33]](#footnote-34)

## B. The Settlement harms consumers because any benefits to consumers are outweighed by the costs.

The benefit-cost analysis (“BCA”) FirstEnergy developed for the stipulated AMI expansion exaggerates consumers’ economic benefits and understates their costs.[[34]](#footnote-35) OCC/NOAC Witness Alvarez adjusted for errors in FirstEnergy’s analysis, comparing the adjusted smart meter benefit/cost analysis to FirstEnergy’s smart meter benefit/cost analysis presented in the table below. This comparison shows that when FirstEnergy’s errors are corrected the AMI expansion is not in the best interest of consumers.[[35]](#footnote-36) Further, OCC/NOAC Witness Alvarez noted that the benefit-to-cost ratio for residential consumers will be even worse than it will be for FirstEnergy’s consumers as a whole, because benefits accrue primarily to commercial and industrial users.[[36]](#footnote-37)

|  |  |  |
| --- | --- | --- |
|  | NPV – OCC/NOAC | NPV – FE |
| Estimated Benefits | $ (350,164,056) | $ (445,185,766) |
| Estimated Costs |  |  |
| Capital | $ 420,807,985 | $ 352,106,307 |
| Incremental O&M | $ 132,211,859 | $ 153,841,018 |
| Stranded Meter Costs | $ 144,400,000 |  |
| Operational Savings | $ (164,242,842) | $ (209,993,438) |
| Total | $ 533,177,001 | $ 295,953,887 |
| Net Benefits | $ (183,012,946) | $ 149,231,879 |
| Benefit-to-Cost Ratio | 0.66 | 1.50 |

As shown by the corrected benefits and costs in OCC/NOAC Witness Alvarez’s table above, the settlement is not in the best interest of consumers. The PUCO should not approve a Settlement that allows FirstEnergy to charge consumers $710 million in smart meter spending based upon FirstEnergy’s flawed analysis. The PUCO should protect consumers by rejecting the Settlement because it will harm consumers.

### FirstEnergy’s AMI BCA underestimates consumers’ costs.

The smart meter benefit cost analysis developed by FirstEnergy for the proposed Settlement underestimates costs to consumers by $213 million (in present value).[[37]](#footnote-38) Thus, the Settlement should be rejected.

#### FirstEnergy’s present value cost estimate calculates the present value of the capital FirstEnergy spends, not the present value of the revenue requirements consumers must pay, to consumers’ detriment.

FirstEnergy’s AMI BCA indicates it will spend $421 million in capital to implement the proposed Settlement. FirstEnergy calculates the present value of that capital spending at $352 million.[[38]](#footnote-39) However, after accounting for carrying charges, that is impossible.[[39]](#footnote-40)

Consumers pay more than FirstEnergy’s costs. Consumers must also pay FirstEnergy’s interest on debt, a return on equity of capital provided by shareholders (profits), and income taxes on FirstEnergy’s profits. OCC/NOAC Witness Alvarez estimated that over 15 years, consumers will reimburse FirstEnergy $729 million for the $421 million in capital FirstEnergy will spend to implement the Settlement if approved.[[40]](#footnote-41) These consumer payments can be discounted into present value using the same cost of capital FirstEnergy uses to arrive at the revenue requirements consumers will actually pay over time. Doing so, the present value to consumers of FirstEnergy’s $421 million capital spend is $421 million, not the $352 million FirstEnergy presents in their AMI BCA.[[41]](#footnote-42) This error understates the present value of consumer costs by $69 million.[[42]](#footnote-43)

#### FirstEnergy’s BCA ignores the stranded costs of the legacy meters the stipulated AMI deployment would replace, to consumers’ detriment.

FirstEnergy is not likely to forgive the repayment by consumers of the capital FirstEnergy spent to deploy the meters that are currently in service.[[43]](#footnote-44) FirstEnergy incurred costs to install the current meters, and will expect consumers to repay those costs, plus interest expenses, a return on capital provided by shareholders (profits), and FirstEnergy’s income taxes.[[44]](#footnote-45) Indeed, FirstEnergy estimates that the amount of capital invested in existing meters that consumers have yet to repay amounts to $144.4 million.[[45]](#footnote-46)

This short-changes consumers. The $144.4 million in capital spent on the existing meters, but yet to be repaid by consumers, represents what is known as a *stranded cost*.[[46]](#footnote-47) If these meters are removed from service prematurely to make way for smart meters, the meters will not provide the value in recording and reporting consumers’ energy use, but consumers will still be required to pay.[[47]](#footnote-48) Further, consumers will be paying for both the old meters removed from service, as well as for the new smart meters, at the same time.[[48]](#footnote-49)

There are no provisions in Ohio law governing electric utilities charging consumers for stranded costs in these circumstances. This is highlighted by the reality that there is a statute – R.C. 4928.40 – allowing electric utilities to collect for so-called “stranded” investments in other circumstances. Other state utility regulators have recognized the problem of stranded meter costs and taken steps to address it. And these steps did not prohibit utilities from deploying smart meters, they merely required the respective utility to take reasonable steps to ensure customers were not over-charged. In 2018, the Massachusetts Department of Public Utilities rejected three utilities’ applications to install smart meters due in large part to the outstanding cost of existing meters that the Department recognized consumers would have to pay.[[49]](#footnote-50) Several years later, when the book value of the existing meters had been paid down a bit, the Department reconsidered (and eventually approved) the utilities’ AMI deployment proposals.[[50]](#footnote-51)

Another example can be found at the Kentucky Public Service Commission with respect to multiple applications by Kentucky Utilities/Louisville Gas and Electric (“KU/LGE”) to install smart meters. In its first application the utility withdrew its AMI proposal as part of a rate case settlement agreement, as the proposal faced criticism over cost effectiveness and stranded meter costs. The Kentucky PSC rejected the utility’s second application to install smart meters, citing concerns over cost-effectiveness and the size of stranded meter costs.[[51]](#footnote-52) In its third smart meter application, KU/LGE proposed innovative ratemaking concepts designed to deploy smart meters at zero net cost to consumers. Employing deferred cost recovery for smart meters, a regulatory asset for stranded meter costs (amortized over time), and a regulatory liability for projected smart meter benefits (also amortized over time), KU/LGE’s AMI revenue requirement analysis indicated that the utility could deploy smart meters and secure a reasonable opportunity for shareholders to earn a return on investment. This could be done at no incremental cost to consumers. The Kentucky Commission approved a settlement agreement which included a full AMI application (as well as specifications for a peak-time rebate program pilot).[[52]](#footnote-53)

The PUCO should follow a similar approach and refuse to authorize deployment of new smart meters at the expense of consumers while they are still paying for stranded costs of current meters.

### FirstEnergy’s BCA exaggerates benefits to consumers, to consumers’ detriment.

The AMI BCA FirstEnergy developed exaggerates customer benefits in multiple ways. FirstEnergy includes incorrect valuations for cost of energy avoided and load reductions from TOU participation. Next, it inappropriately includes environmental benefits. Additionally, it assumes a time-of-use (“TOU”) rate participation that is unlikely to be as fast or as great as projected. It does so by ignoring its own history of comparable programs and the abysmal participation rates.

#### AMI benefit projections assume incorrect valuations for the cost of energy avoided and the value of load reductions secured through TOU rates, harming consumers.

FirstEnergy’s assumptions exaggerate the impacts on overall energy usage and system loads at peak. Further, the values FirstEnergy assigns to avoided energy ($ per kWh) and system loads at peak ($ per MW-day) are also exaggerated and compounded through multiplication.

In its initial (pre-Settlement) Grid Mod II BCA, for its IVVC program benefit estimate, FirstEnergy assumed an average energy cost of $0.055 per kWh conserved.[[53]](#footnote-54) Though the IVVC program was eliminated in the Settlement, the use of $0.055 as an estimate of value per kWh conserved is appropriate, as it approximates the cost of energy FirstEnergy can avoid purchasing due to energy conserved.[[54]](#footnote-55) However, in its energy conservation benefit projections for AMI, FirstEnergy assumes an average benefit of $0.127 per kWh conserved based on a consumer’s bill falling by an average of $0.127.[[55]](#footnote-56) While this is true in the short term, Mr. Alvarez testified that FirstEnergy’s costs have not actually fallen by $0.127 per kWh. FirstEnergy’s costs have only fallen by the amount of energy not purchased, or $0.055, as assumed in FirstEnergy’s original IVVC benefit projection.[[56]](#footnote-57) The inaccurate rate of $0.127 per kWh covers not just variable fuel costs, but also transmission and distribution (T&D) costs that are largely fixed and will not fall as the amount of energy consumed falls.[[57]](#footnote-58)

In its AMI BCA, FirstEnergy assigns a price for generation capacity avoided that ranges from $128.53 per MW-year (benefit Year 1) to $348.38 per MW-year (benefit Year 20).[[58]](#footnote-59) This appears to be a significant error, when compared to the most recent PJM generation capacity auction where the clearing price was just $34.13 per MW-year (or 25% to 90% lower), that artificially increases FirstEnergy’s AMI benefit projections.[[59]](#footnote-60) Further exaggerating costs avoided, FirstEnergy includes T&D construction capacity costs, that do not change subject to small changes in demand.[[60]](#footnote-61)

FirstEnergy projects system peak load reductions of 144 MW in its three service geographies from AMI, including reductions resulting from both TOU rate adoption and consumer energy management reports.[[61]](#footnote-62) As described above, the benefits projected from these programs are already aggressive. But even if achieved, the 144 MW estimate is only 1.5% of FirstEnergy’s collective peak demand, which was about 9,500 MW in 2023.[[62]](#footnote-63) Further, the 144 MW reduction is spread over hundreds of circuits,[[63]](#footnote-64) resulting in no meaningful capacity reduction on any one circuit. Yet FirstEnergy projects $110 million in T&D capacity costs avoided from this 1.5% reduction in system peak load.[[64]](#footnote-65) OCC/NOAC Witness Alvarez estimated the value of T&D capacity savings from a 1.5% reduction in system-wide demand to be insignificant.[[65]](#footnote-66)

#### FirstEnergy uses an inappropriate and inconsistent timeframe for the BCA, to consumers’ detriment.

FirstEnergy expects to replace smart meters after just 15 years of operation but projects 20 years of benefits from smart meters. As explained by OCC/NOAC Witness Alvarez,

FirstEnergy depreciates smart meters over 15 years, which reflects the expected useful life of smart meters and their associated AMI communication network. Use of an expected 15-year depreciation period for smart meters is common. Further, an expected 15-year useful life for smart meters is confirmed by FirstEnergy’s own pilot. The 44,000 smart meters installed from 2010-2012 are now between 12 and 14 years old and will be replaced if the PUCO approves the Settlement.

When developing a BCA, standard practice is to assume a benefit period (in years) equal to the expected useful life of the equipment used to deliver the benefits. It would be inappropriate to assume a 20-year benefit period for an asset that is expected to be replaced in only 15 years. Yet this is exactly what FirstEnergy has done in their AMI BCA.[[66]](#footnote-67)

This mismatch of time frames overstates the benefit to consumers, contributing to the invalidity of FirstEnergy’s AMI BCA. Further, the nature of this error reinforces FirstEnergy’s lack of credibility and underscores OCC/NOAC’s position that FirstEnergy will be unable to deliver on the benefits promised through the Settlement.

#### Environmental impacts are inappropriately included in the BCA, to consumers’ detriment.

FirstEnergy’s AMI benefit projections also assume that environmental benefits constitute an economic benefit to consumers suitable for inclusion in an AMI BCA, including $113 million in greenhouse gas reduction benefits, comprising a bit more than 10% of the overall AMI benefit value.[[67]](#footnote-68) While these greenhouse gas reductions are associated with the energy conservation FirstEnergy projects through Grid Mod II and are

valuable to society generally, FirstEnergy’s consumers do not experience the direct economic benefit of these reductions. As explained by OCC/NOAC Witness Alvarez, “(t)his makes greenhouse gas reductions an intangible type of benefit. The monetization and inclusion of intangible benefits in benefit projections reduces the level of tangible benefits a utility must deliver such that benefits to consumers exceed costs to consumers. It is inappropriate to substitute the value of an intangible benefit for a tangible benefit. Consumers place a dramatically higher value on tangible benefits than they do to intangible benefits.”[[68]](#footnote-69)

The monetization of greenhouse gas reduction impliedly assumes that consumers

are willing to pay for relatively small amounts of greenhouse gas reductions. There is no evidence to demonstrate this. While some FirstEnergy consumers may be fine paying more, many FirstEnergy consumers will not want to pay the increase to reduce greenhouse gas. FirstEnergy provides no consumer research that indicates otherwise.

#### Time of Use (“TOU”) rate participation by consumers is likely exaggerated.

While not included in Witness Alvarez’s adjusted BCA calculation,[[69]](#footnote-70) FirstEnergy’s TOU rate participation is likely exaggerated. FirstEnergy has promoted time-of-use rates with negligible results. Although FirstEnergy spent $375,000 promoting TOU rates in 2022 and 2023,[[70]](#footnote-71) during that period TOU rate participation averaged an anemic 158 customers[[71]](#footnote-72) out of 700,000 consumers with smart meters. This works out to an average recruiting cost of $1,187 per participant per year.[[72]](#footnote-73) Compare this to the benefits of TOU rates, which FirstEnergy estimates *in total* (for all participants over two years) at $5,484.[[73]](#footnote-74) Given the low level of customer participation in FirstEnergy’s TOU rates, residential consumers who bear the costs of both TOU marketing and the smart meters that enable TOU rates are not benefitting from the program.[[74]](#footnote-75)

FirstEnergy projects that 140,000 of its consumers will be billed on TOU rates within twelve years, resulting in a total of $189.5 million in (nominal) benefits over 20 years,[[75]](#footnote-76) or about 20% of total projected AMI benefits. However, 69% of FirstEnergy’s residential consumers secure service through a marketer or government aggregator.[[76]](#footnote-77) FirstEnergy has no control over these organizations and the rates they offer, nor does FirstEnergy exert meaningful influence over the rate choices made by the consumers of these organizations. Considering only the 590,000 consumers who currently secure energy supply through First Energy,[[77]](#footnote-78) 140,000 TOU rate participants works out to a 24% TOU rate participation. With the exception of Arizona, there are no “opt-in” TOU rate programs (where consumers must take action to switch to a TOU rate) that have achieved anything close to such a high participation rate.[[78]](#footnote-79) OCC and NOAC strongly oppose opt out programs for time of use rates.

### The BCA for residential consumers is even worse for residential consumers than for all FirstEnergy consumers.

FirstEnergy projects that the economic value of reliability improvements enabled by smart meters will be $140.6 million (nominal), or about 15% of total AMI benefits.[[79]](#footnote-80) Service interruption costs are much greater for commercial and industrial consumers than for residential consumers.[[80]](#footnote-81) OCC/NOAC Witness Alvarez explained that a one-hour service interruption for single large commercial and industrial customer incurs as much cost as a one-hour service interruption for 3,500 residential consumers.[[81]](#footnote-82)

While the economic value of reliability improvements available from AMI accrue disproportionately to commercial and industrial customers, AMI costs are borne primarily by residential consumers. Residential consumers make up about 89% of FirstEnergy’s consumer base,[[82]](#footnote-83) meaning that 89% of smart meters will be installed on residential consumer premises, and that the percentage of AMI costs assigned to the residential class in class cost of service studies (CCOSS) will likely approach 89%.[[83]](#footnote-84)

Because the settlement shifts additional costs to residential customers, it is not in their best interest. Thus, the PUCO should reject this flawed settlement.

## **C. The Settlement violates important regulatory principles and practices.**

The Settlement should also be rejected because it violates the terms of the Supplemental Stipulation and Recommendation the PUCO approved in Case No. 16-481-EL-UNC. This violation alone justifies PUCO rejection of the Settlement. Further, the rider cost recovery specified in the Settlement violates fundamental ratemaking principles, thereby shifting the risk of inappropriate, premature, and cost-ineffective investments from shareholders to consumers.

### 1. The Grid Mod II Settlement violates the terms of the PUCO-approved Grid Mod I supplemental settlement.

The supplemental Grid Mod I settlement approved by the PUCO states: “Midway through the implementation period, Staff will perform an operational benefits assessment and a review or will obtain a consultant to conduct an operational benefits assessment and a review, to be completed prior to the commencement of Grid Mod II, to evaluate whether the actual functionality and performance of the project is consistent with the planned specifications.”[[84]](#footnote-85) This language indicates that even before tainted H.B. 6 was unveiled, the intervenors were concerned that FirstEnergy would not deliver the level of benefits promised from Grid Mod 1. These concerns were well-founded at the time and given the H.B. 6 bribery scandal these concerns are based on even firmer footing today.

The PUCO-approved supplemental Grid Mod I settlement states “[t]here shall be no approval to begin implementation of Grid Mod II and no approval of costs or charges to customers for Grid Mod II, until after an independent Commission audit according to ratemaking standards and other standards is filed and the Commission resolves issues in a decision. If, through no fault of the Companies, the audit process is not resolved in a fashion that supports a timely transition between Grid Mod I and Grid Mod II, the Companies may seek Commission authorization to move forward with Grid Mod II, subject to the results of the Commission audit.”[[85]](#footnote-86)

Thus, Grid Mod II may not move forward until “planned specifications” for Grid Mod I have been delivered, as determined by an audit. As discussed above, the auditor concluded:

1. the level of benefits documented did not match the level of benefits projected;
2. data documenting benefit delivery was unavailable; and
3. inadequate resources had been dedicated to securing the benefits FirstEnergy projected from their Grid Mod I deployment.[[86]](#footnote-87)

The auditor’s report documents that Grid Mod I failed to deliver “planned specifications.” Because the Grid Mod I supplemental settlement expressly subjects approval of Grid Mod II to the results of the audit, and the audits found that the benefits FirstEnergy promised did not match what it delivered, the PUCO should deny authorization to move forward with Grid Mod II by rejecting the Settlement.

### 2. Rider recovery and advance regulatory review violates important ratemaking principles.

The Settlement violates regulatory principles by *guaranteeing* a rate of return rather than an *opportunity* to achieve a stated rate of return. But “[i]t is a fundamental regulatory principle that the approved rate of return is to afford the utility’s shareholders the opportunity to achieve the stated rate of return but is not a guarantee.”[[87]](#footnote-88)OCC/NOAC Witness Alvarez explained that to this end, “regulators, Staff, and intervenors have historically relied on the capital spending governance encouraged by cost disallowance risk and regulatory lag to 1) eliminate inappropriate, premature, and cost-ineffective capital spending; and 2) reduce the impact of information (and resource and expertise) asymmetry.”[[88]](#footnote-89)

In contrast, advance regulatory review, which is part and parcel to rider ratemaking, is intended to reduce regulatory lag to practically nothing, but it comes with significant unintended consequences.[[89]](#footnote-90) OCC/NOAC Witness Alvarez identified these unintended consequences practically as eliminating cost disallowance risk by shifting of investment risk from shareholders to consumers, and an effective shift of the burden of prudence from utilities to intervenors.[[90]](#footnote-91)

Allowing advance regulatory review such as that contemplated in First Energy’s Grid Modernization plans violates the important regulatory principle that utilities have the opportunity to earn a return on their investment but should bear the risk of cost disallowance to ensure that their investment is prudent.[[91]](#footnote-92) The Settlement violates this important regulatory principle, and thus the PUCO should reject the settlement.

## The PUCO should reject the Settlement because it harms consumers and violated regulatory principles. However, if the PUCO accepts the Settlement, it should be modified to require more protections for residential consumers.

The PUCO should reject the Settlement. **That leaves the real question: can residential smart meters in the FirstEnergy territory deliver enough savings where this investment makes sense**? Not with the multiple roles FirstEnergy is assigned in the settlement, nor with its staging sequence. If the PUCO determines to proceed with the Settlement, then the Settlement should be modified to include additional consumer protections:

1. The Settlement should order FirstEnergy to issue a request for proposals to evaluate the best way to proceed on voluntary residential demand reduction/time of use for currently deployed meters. The proposals should be made public and seek public comment before selection by the PUCO. If the selected program from the responses to the requests for proposals proves the existing smart meters are cost effective (scoring 1.0 or greater) and used and useful, only then should additional residential rollout proceed. Implementation of this recommendation would maximize the benefits of the smart meter deployment and constitutes good policy for all utilities in Ohio with smart meters.[[92]](#footnote-93)
2. The PUCO should clarify that the provision of individual interval data to marketers without customer authorization is limited to 1) consumers currently receiving supply from the marketer; and 2) for the purposes of bill validation only. The Settlement should specify that the sharing of individual consumer and interval usage data for all other purposes still requires consumer authorization.[[93]](#footnote-94)
3. The PUCO should require FirstEnergy, NOPEC, aggregators, and all Ohio marketers to adopt, comply with, and publish consumer data protection and use policies. Such policies should clearly explain to consumers 1) the types of data the organization collects on consumers; 2) the purposes for which such data will be used without additional consumer authorization; 3) the optional purposes for which such data will be used only with additional consumer authorization; 4) the rules the organization will follow to securely store and handle consumer data; and 5) the procedures the organization will follow in the event of a data breach.[[94]](#footnote-95)
4. The settlement extends various programs to NOPEC (*e.g.*, hourly interval data at pp. 21-23) and marketers (*e.g.*, the right to facilitate smart thermostat rebates at p. 12). In the interest of making the settlement consistent with FirstEnergy’s testimony at the evidentiary hearing (Transcript Vol. 1, p. 34), and in ensuring that consumers have as much access to a variety of competitive products as possible, the PUCO should order that aggregators such as NOAC have access to the same programs under the same conditions applicable to NOPEC and marketers.
5. The PUCO should remove from the Settlement the provision that FirstEnergy remove their TOU rate offerings once three marketers offer some sort of time-varying rate, or once three different time-varying rate options are available in the market. Consumers should have as many time-varying rate options available to them as possible, including options from distribution utilities as well as marketers and government aggregators. Further, this specification inappropriately limits the PUCO’s right to determine when market offerings are sufficiently abundant as implied by its Order in 12-3151-EL-COI dated March 26, 2014.[[95]](#footnote-96)
6. The PUCO should order that FirstEnergy may not recover stranded legacy meter costs, as there is no legal basis for recovering such costs, nor submit an application for Grid Mod III until an operational benefits assessment conducted by an independent third party indicates: 1)that the benefits delivered to residential consumers by FirstEnergy’s smart meter deployment exceed the costs to consumers of the deployment; and 2)that the benefits delivered to residential consumers by FirstEnergy’s Grid Mod I DA and IVVC deployments exceed the costs to consumers of those deployments.[[96]](#footnote-97)

# IV. CONCLUSION

The Settlement is not in the best interest of consumers because its costs exceed it benefits and it violates important regulatory principles. Therefore, the PUCO should reject the Settlement because it fails the PUCO’s three-prong test.

Alternatively, if the PUCO approves the Settlement, it should adopt OCC/NOAC’s consumer protection recommendations as modifications to the Settlement.

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that a copy of this Initial Brief was served on the persons stated below via electronic transmission, this 31st day of July 2024.

*/s/ William J. Michael*

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The PUCO’s e-filing system will electronically serve notice of the filing of this document on the following parties:

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1. R.C. 4911 *et seq.* [↑](#footnote-ref-2)
2. Case No. 16-481-EL-UNC, Daymark Energy Advisors’ Operational Benefits Assessment of FirstEnergy Ohio’s Grid Mod I (November 14, 2022). [↑](#footnote-ref-3)
3. Electric distribution utilities often use outside vendors in large rollouts. [↑](#footnote-ref-4)
4. Direct Testimony of Paul J. Alvarez, at 4 (June 11, 2024). [↑](#footnote-ref-5)
5. *Id.* [↑](#footnote-ref-6)
6. *Id.* [↑](#footnote-ref-7)
7. Alvarez Testimony, at 4. [↑](#footnote-ref-8)
8. *Id.*,at 5. [↑](#footnote-ref-9)
9. Case No. 16-481-EL-UNC, FirstEnergy application (February 29, 2016). [↑](#footnote-ref-10)
10. Case No. 16-481-EL-UNC, PUCO Order (July 17, 2019). [↑](#footnote-ref-11)
11. Alvarez Testimony, at 8. [↑](#footnote-ref-12)
12. Case No. 16-481-EL-UNC, Supplemental Stipulation and Recommendation, pp. 5-6 (January 25, 2019). [↑](#footnote-ref-13)
13. Case No. 16-481-EL-UNC, Operational Benefits Assessment of FirstEnergy Ohio’s Grid Mod I, Daymark Energy Advisors, p. 2 (November 14, 2022). [↑](#footnote-ref-14)
14. Alvarez Testimony, at 9. [↑](#footnote-ref-15)
15. *Id.* [↑](#footnote-ref-16)
16. *Id.*,at 10. [↑](#footnote-ref-17)
17. *Id.* [↑](#footnote-ref-18)
18. *Id.*,at 10-11. [↑](#footnote-ref-19)
19. *Id.*,at 11. [↑](#footnote-ref-20)
20. *Id.* [↑](#footnote-ref-21)
21. *Id.* [↑](#footnote-ref-22)
22. *Id.* [↑](#footnote-ref-23)
23. *Id.*,at 12. [↑](#footnote-ref-24)
24. *Id.*,at 7. [↑](#footnote-ref-25)
25. *Id.* [↑](#footnote-ref-26)
26. *Id.*, at 7. [↑](#footnote-ref-27)
27. *Consumers’ Counsel v. Pub. Util. Comm.*, 64 Ohio St.3d 123, 126, 592 N.E.2d 1370 (1992). [↑](#footnote-ref-28)
28. Alvarez Testimony, at 5*.* [↑](#footnote-ref-29)
29. *Id.*,at 6. [↑](#footnote-ref-30)
30. *In re Application of Ohio Edison Co.*, 157 Ohio St.3d 73, 2019-Ohio-2401, Order on Appeal (June 19, 2021). [↑](#footnote-ref-31)
31. *Id.* [↑](#footnote-ref-32)
32. Case No. 17-2474-EL-UNC, *An Audit Report of the Ohio Companies’ Rider DMR*, Daymark Energy Advisors (January 14, 2022) at 5-9. [↑](#footnote-ref-33)
33. *Id.* at 7; *see also* U.S. District Court, Southern District of Ohio, Western Division, Case No. 1:21-cr-0086-TSB, Deferred Prosecution Agreement (July 22, 2023). [↑](#footnote-ref-34)
34. Alvarez Testimony, at 30. [↑](#footnote-ref-35)
35. *Id.*, at 30. [↑](#footnote-ref-36)
36. *Id.*, at 31. [↑](#footnote-ref-37)
37. *Id.*, at 25. [↑](#footnote-ref-38)
38. Stipulation and Recommendation, Attachment A (April 12, 2024). [↑](#footnote-ref-39)
39. Alvarez Testimony, at 26. [↑](#footnote-ref-40)
40. *Id.*, at 26. [↑](#footnote-ref-41)
41. *Id.*, at 26-27. [↑](#footnote-ref-42)
42. *Id*. [↑](#footnote-ref-43)
43. *Id.* at 27. [↑](#footnote-ref-44)
44. *Id.* [↑](#footnote-ref-45)
45. *Id.* (citing Attachment 11, Companies’ response to OCC’s STIP-INT-02-001(b)). [↑](#footnote-ref-46)
46. *Id.* [↑](#footnote-ref-47)
47. *Id.* [↑](#footnote-ref-48)
48. *Id.* [↑](#footnote-ref-49)
49. Massachusetts DPU Case Nos. 15-120, 15-121, and 15-122/123, pp. 120-122 (May 10, 2018). [↑](#footnote-ref-50)
50. Massachusetts DPU Case Nos. 21-80B, 21-81B, and 21-82B, Order, p. 192 (November 30, 2022). [↑](#footnote-ref-51)
51. Kentucky PSC Case No. 2018-00005, Order (August 30, 2018). [↑](#footnote-ref-52)
52. Kentucky PSC Case Nos. 2020-000349/350, Order (June 30, 2021). [↑](#footnote-ref-53)
53. Alvarez Testimony, Attachment 8, PUCO DR-001 Attachment 1 (original Grid Mod II benefit-cost analysis), p. 2, Columns “CEI”, “OE” and “TE”, line 23. [↑](#footnote-ref-54)
54. *Id.*, at 21. [↑](#footnote-ref-55)
55. *Id.*, Attachment 9, Companies’ response to OCC Set 4-INT-013. [↑](#footnote-ref-56)
56. *Id.*, at 21. [↑](#footnote-ref-57)
57. *Id.*, at 21-22. [↑](#footnote-ref-58)
58. *Id.*, Attachment 1, p. 2, Columns “CEI”, “OE”, and “TE”, lines 130-149. [↑](#footnote-ref-59)
59. *Id.*, at 22. [↑](#footnote-ref-60)
60. *Id.*, at 22. [↑](#footnote-ref-61)
61. *Id.*, Attachment 1, Tab “AMI Benefits,” cell P128 (50.4MW) plus cell AH118 (93.45 MW). [↑](#footnote-ref-62)
62. “OH\_Hourly\_Load\_by\_Class.” Available at <https://www.firstenergycorp.com/upp/oh/oh_load_data.html>. [↑](#footnote-ref-63)
63. Alvarez Testimony, Attachment 10, OCC Set 2 INT-004-Attachment 3.xlsx, tab “Circuit List Compare” (219 circuits). [↑](#footnote-ref-64)
64. *Id.*, Attachment 1, p. 2, Column “Total”, line 256 ($34.5 million) plus p. 4, Column “Total”, line 254 ($75.7 million). [↑](#footnote-ref-65)
65. *Id.*, at 23. [↑](#footnote-ref-66)
66. *Id.*, at 24. [↑](#footnote-ref-67)
67. *Id.*, Attachment 1, p. 6, line 210. [↑](#footnote-ref-68)
68. *Id.*, at 24. [↑](#footnote-ref-69)
69. *Id.*, at 30. [↑](#footnote-ref-70)
70. *Id.*,Attachment 2, Company response to PUCO DR 015 “O.” [↑](#footnote-ref-71)
71. *Id.*,Attachment 3, OCC Set 2-STIP-INT-009 Attachment 1. [↑](#footnote-ref-72)
72. $375,000 divided by 2 years divided by 158 average participants. [↑](#footnote-ref-73)
73. Alvarez Testimony, Attachment 3. [↑](#footnote-ref-74)
74. Alvarez Testimony, at 16. [↑](#footnote-ref-75)
75. Alvarez Testimony, Attachment 1, PUCO DR-014 Attachment 1.xlsx, Tab “AMI Benefits”. Stipulation and Recommendation update to benefit-cost analysis provided as a supplemental response to OCC Set 2-STIP-INT-005 on June 5, 2024, p. 2, Columns “CEI”, “OE”, and “TE”, line 17 (10% participation rate) multiplied by 1.4 million AMI meters, line 32. [↑](#footnote-ref-76)
76. PUCO Website. Available at <https://puco.ohio.gov/utilities/electricity/resources/market-monitoring>. [↑](#footnote-ref-77)
77. Residential customer count 1,899,862 as reported by CEI, OE, and TE on U.S. EIA Form 861 (2022) multiplied by 31%. [↑](#footnote-ref-78)
78. Alvarez Testimony, at 15. [↑](#footnote-ref-79)
79. *Id.*, at 31. [↑](#footnote-ref-80)
80. *Id*. [↑](#footnote-ref-81)
81. *Id*. [↑](#footnote-ref-82)
82. Customer count by class data supplied by the Companies on U.S. EIA Form 861 (2022). [↑](#footnote-ref-83)
83. Alvarez Testimony, at 32. [↑](#footnote-ref-84)
84. Case No. 16-481-EL-UNC, Supplemental Stipulation and Recommendation, at p. 5 (January 25, 2019). [↑](#footnote-ref-85)
85. *Id*., pp. 5-6. [↑](#footnote-ref-86)
86. Case No. 16-481-EL-UNC, Operational Benefits Assessment of FirstEnergy Ohio’s Grid Mod I. Daymark Energy Advisors, p. 2 (November 14, 2022). [↑](#footnote-ref-87)
87. *In re Columbus Southern Power Co*., Case No. 11-346-EL-SSO, et al., Opinion and Order (August 8, 2012). Case No. 19-468-GA-ALT. [↑](#footnote-ref-88)
88. Alvarez Testimony, at 41. [↑](#footnote-ref-89)
89. Alvarez P, Costello K, Ericson S, and Stephens D. *Alternative ratemaking in the US: A prerequisite for grid modernization or an unwarranted shift of risk to customers?* Electricity Journal, 35 (2022) 107200. [↑](#footnote-ref-90)
90. Alvarez Testimony, at 42-45. [↑](#footnote-ref-91)
91. *In re Columbus Southern Power Co*. [↑](#footnote-ref-92)
92. Alvarez Testimony, at 46. [↑](#footnote-ref-93)
93. *Id.* [↑](#footnote-ref-94)
94. *Id.*, at 46-47. [↑](#footnote-ref-95)
95. *Id.* [↑](#footnote-ref-96)
96. *Id.*, at 48. [↑](#footnote-ref-97)