

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Ohio)	
Edison Company, The Cleveland Electric)	
Illuminating Company, and The Toledo)	Case Nos.12-2190-EL-POR
Edison Company For Approval of Their)	12-2191-EL-POR
Energy Efficiency and Peak Demand)	12-2192-EL-POR
Reduction Program Portfolio Plans for 2013)	
through 2015)	

**INITIAL BRIEF
BY THE
NATURAL RESOURCES DEFENSE COUNCIL,
THE SIERRA CLUB
AND
CITIZEN POWER**

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The Sierra Club, the Natural Resources Defense Council and Citizen Power (“Intervenors”), submit this initial post-hearing brief regarding the 2013-2015 Energy Efficiency and Peak Demand Reduction Program Portfolio Plans (“Plan”) of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company (“FirstEnergy” or “Companies”), in accordance with the briefing schedule established in this proceeding. The Intervenors respectfully request, based on the established record, that the following recommendations, modifications and changes to the Plan as presented below are adopted by this Commission prior to approval.

I. Introduction

FirstEnergy proposed an Energy Efficiency and Peak Demand Reduction Program Portfolio Plan (“Plan”) that fails to meet Ohio’s statutory and administrative requirements. Using the Companies’ own projections, the Plan is not designed to save the amount of additional energy each year that the Companies are required to save under Revised Code Section 4928.66(A)(1)(a). This is because the Companies designed the Plan to meet minimum statutory targets *only* by extensively relying on “banked” savings

from prior years—in contrast to other utilities that will be running programs designed to exceed statutory targets *without* extensive reliance on banked savings.

The Companies did not design programs to achieve the broad objectives the Commission has established for energy efficiency programs and program plans. This is evident in the flawed market potential study, the unjustified avoided cost values, and the harm to customers by withholding energy efficiency savings from the PJM capacity auctions. None of these many deficiencies are surprising. The Companies' leadership views energy efficiency as a threat to generation margins, and resents being required to run energy efficiency programs. The Commission must make changes to this Plan to address its many failings, in order to further state policies and provide customers a chance to participate in meaningful energy efficiency and peak demand reduction programs, and consider devolving administration of FirstEnergy's residential programs to a third party board.

II. Applicable Ohio Law and Ohio Administrative Code Sections

Revised Code Section 4928.66(A)(1)(a) requires electric distribution utilities (“EDUs”) to implement energy efficiency programs that achieve, beginning in 2009 and extending to 2025 and thereafter, a specified amount energy savings of each year. By 2025, the cumulative amount of annual energy savings must equal 22 percent. Over the years of the Plan, the Companies' programs must save an additional (compared to what the programs have already saved) 0.9% of three-year average load in 2013, an additional 1.0% of three-year average load in 2014, and an additional 1.0% of three-year average load in 2015. Energy efficiency programs, in addition to “traditional” programs that remove barriers to and provide incentives for investments in energy efficiency, may include a new combined heat and power or waste energy recovery system (with “savings” to be estimated by the Commission¹), the results of energy

¹ O.R.C. 4928.66(A)(1)(a)

efficiency programs sited at customer facilities, the results of smart grid investment programs, and transmission and distribution infrastructure improvements that reduce line losses.²

Ohio Administrative Code Chapter 4901:1-39 defines terms related to energy efficiency and peak demand reduction and describes both planning and filing requirements that the Companies' Plan must adhere to. Especially relevant to this proceeding are the definitions for: achievable potential,³ cost effective,⁴ energy benchmark,⁵ market transformation,⁶ and total resource cost test.⁷ Chapter 4901:1-39-03 contains program planning requirements. A comprehensive energy efficiency and peak demand reduction program portfolio plan begins with an assessment of the amount of technical, economic, and achievable potential for energy efficiency and peak demand reduction.⁸ In developing a program for inclusion in the portfolio plan, an EDU is required to consider a number of criteria, including: relative cost-effectiveness, the program's benefit to all members of a customer class, including non-participants, the potential for broad participation, the potential to integrate the proposed program with programs of other utilities, the degree to which a program bundles measures to avoid the creation of lost opportunities, the degree to which a program engages the energy efficiency supply chain, the degree to which a program successfully addresses market barriers or market failures, the degree to which a program leverages knowledge gained from existing program implementation, and the degree to which a program promotes market transformation.⁹

² O.R.C. 4928.66(A)(2)(d)

³ O.A.C. 4901:1-39-01(A)

⁴ O.A.C. 4901:1-39-01(F)

⁵ O.A.C. 4901:1-39-01(K)

⁶ O.A.C. 4901:1-39-01(N)

⁷ O.A.C. 4901:1-39-01(Y)

⁸ O.A.C. 4901:1-39-03(A)

⁹ O.A.C. 4901:1-39-03(B)

Each EDU is required to file a comprehensive portfolio plan, including a range of programs that will promote innovation and market access for cost-effective energy efficiency and peak demand reduction for all customer classes and meet *or exceed* statutory energy efficiency requirements.¹⁰ The Commission makes clear in its June 17, 2009 Entry on Rehearing in Case No. 08-888-EL-ORD (the case in which O.A.C. Chapter 4901:1-39 was promulgated) that the statutory energy efficiency requirements are *minimum* requirements,¹¹ and again notes in its October 15, 2009 Entry on Rehearing that the Commission has an obligation to ensure that an EDU pursues *all* cost-effective energy efficiency measures.¹² The portfolio must be cost-effective (based on the total resource cost test) on a portfolio basis.¹³ The plan must include a description of the proposed programs, including an explanation of why a program was suggested given the program design criteria in O.A.C. 4901:1-39-03(B),¹⁴ program objectives,¹⁵ a description of the program's marketing approach including rebates or incentives and how they are expected to influence customer behavior,¹⁶ a description of the implementation approach,¹⁷ and proposed market transformation activities.¹⁸

III. Argument

A. FirstEnergy's Foundation for the Plan, the Market Potential Study, is Flawed

¹⁰ O.A.C. 4901:1-39-04(A)

¹¹ Entry on Rehearing, Case No. 08-888-EL-ORD, June 17, 2009, Page 13, Finding 25.

¹² Entry on Rehearing, Case No. 08-888-EL-ORD, October 15, Page 20, Finding 26.

¹³ O.A.C. 4901:1-39-04(B)

¹⁴ O.A.C. 4901:1-39-04(C)(5)(a)

¹⁵ O.A.C. 4901:1-39-04(C)(5)(b)

¹⁶ O.A.C. 4901:1-39-04(C)(5)(g)

¹⁷ O.A.C. 4901:1-39-04(C)(5)(h)

¹⁸ O.A.C. 4901:1-39-04(C)(5)(k)

As described in O.A.C. Chapter 4901:1-39-03(A), the amount of energy efficiency that can reasonably be captured by utility energy efficiency programs is a critical input into the development of the program portfolio plan; a utility must estimate this potential prior to proposing a plan. The assessment of potential must include an assessment of the amount of energy savings technically possible, cost-effective to implement, and finally the amount of this cost-effective amount that *can* be captured with well-designed and managed energy efficiency programs.

As stated in O.A.C. Chapter 4901:1-39-01(A), “achievable potential” means:

The reduction in energy usage or peak demand that would likely result from the expected adoption by homes and businesses of the most efficient, cost-effective measures, given effective program design, taking into account remaining barriers to customer adoption of those measures. Barriers may include market, financial, political, regulatory, or attitudinal barriers, or the lack of commercially available product.

This means that determining achievable potential is not as simple as asking a customer if they would be inclined to participate in a program targeting a given end-use, or asking them questions about their attitudes and intentions regarding energy use. Customers are not energy experts, and today FirstEnergy customers have little experience with well-run energy efficiency programs.¹⁹ “Lacking such experience, they cannot be expected to have an accurate view of their interest and ability to benefit from future efficiency programs.”²⁰

But asking customers their interest and intentions regarding end-use specific— but otherwise undefined -- energy efficiency programs was *exactly* the method used by the Companies’ analyst, Black & Veatch, to determine achievable potential. Customers who indicated a 5 out of 5 interest level in a program were used to determine “base-case” efficiency potential. Customers who indicated a 4 out of 5 interest level in a program were included in determining high-case efficiency potential.²¹ This method

¹⁹ NRDC Exhibit 1, Swisher Direct Testimony at 6, Line 12.

²⁰ *Id.*

²¹ FirstEnergy Exhibit 12: Ohio Edison Plan, Black & Veatch, Market Potential Study: Energy Savings and Demand Reduction for Ohio Edison, Toledo Edison, and The Illuminating Company, June 22, 2012 at 96.

has only been employed for FirstEnergy and is not peer-reviewed according to the Companies' own analyst²², and it is unsupported and produced unrealistic results.²³

For example, using the Black & Veatch method, *maximum achievable potential* for energy efficiency from 2015 onwards²⁴ is most often between .5% and .7% of load per year,²⁵ less the current achieved energy savings in leading states. This is unrealistically low and highlights the methodological flaw in the analysis. The Companies' service territory's purported *maximum achievable potential*, according to the Black & Veatch method, is one-half to one-fourth of the *actual achieved* energy savings in leading jurisdictions. And the leading states' achieved energy savings are of course a fraction of the *maximum achievable* energy efficiency in those states.²⁶ Additionally, the definition of achievable potential clearly references "effective program design." The Companies to-date have not delivered effective programs, and the program designs in this Plan contain many flaws and lack detail (discussed below). In this situation, Black & Veatch should have based maximum achievable potential on the observed results from energy efficiency programs²⁷ in the field in states where programs save a lot of energy.

Because the Companies are not arguing they lack sufficient achievable potential to fulfill their O.R.C. 4928.66(A)(1)(a) energy efficiency targets, the Commission should not require the Companies to withdraw the Plan and re-file with a market potential study conducted using a more reasonable and supported methodology. However, the Commission should require the Companies to file a market

²² Transcript Vol. II, page 221, lines 10-17.

²³ NRDC Exhibit 1, Swisher Direct Testimony at 7, Line 11-22.

²⁴ Swisher at 7, Line 12.

²⁵ Black & Veatch, Market Potential Study: Energy Savings and Demand Reduction for Ohio Edison, Toledo Edison, and The Illuminating Company, June 22, 2012, at Page 13 and 14, Tables 1-1 and 1-2.

²⁶ Swisher Direct at 9, Line 3.

²⁷ Swisher Direct at 5, Line 2.

potential study conducting using standard, well-vetted methodologies for the next portfolio plan. The Commission should require:

- The methodology of the study to be shared with, commented upon, changed, and approved by the Collaborative Group and Commission Staff prior to study launch
- The Companies' analyst to base achievable potential and expected adoption of energy efficient technologies on the best performing programs in Ohio and other jurisdictions,²⁸
- The Companies' analyst to verify self-reported surveys used to determine appliance saturations and technology shares with on-site surveys,²⁹
- The Companies' analyst to "ground-truth" the study results with the actual achieved energy savings from high-saving portfolios in other jurisdictions, and
- The analyst should use avoided costs developed with common analytic practices (as discussed below).

B. The Companies' Avoided Costs Contain Multiple Errors of Logic and Analysis and Should be Revised for Future Portfolio Plans.

The Companies' analysis of avoided costs is, like the Market Potential Study, flawed and results in exclusion of a substantial amount of cost-effective energy efficiency opportunities. According to O.A.C. Chapter 4901:1-39-04(B), the Companies must demonstrate that their Plan is cost-effective on a portfolio basis, and each proposed program within a portfolio plan must also be cost-effective, though every measure need not be. "Cost effective" is defined according to the Total Resource Cost test,³⁰ defined in O.A.C. 4901:1-39-01(Y) as:

An analysis to determine if, for an investment in energy efficiency or peak-demand reduction measure or program, on a life-cycle basis, the present value of the avoided supply costs for the periods of load reduction, valued at marginal cost, are greater than the present value of the monetary costs of the demand-side measure or program borne by both the electric utility and the participants, plus the increase in supply costs for any

²⁸ Swisher Direct at 8, Line 17.

²⁹ Swisher Direct at 8, Line 19.

³⁰ O.A.C. 4901:1-39-01(F)

periods of increased load resulting directly from the measure or program adoption. Supply costs are those costs of supplying energy and/or capacity that are avoided by the investment, including generation, transmission, and distribution to customers. Demand-side measure or program costs include, but are not limited to, the costs for equipment, installation, operation and maintenance, removal of replaced equipment, and program administration, net of any residual benefits and avoided expenses such as the comparable costs for devices that would otherwise have been installed, the salvage value of removed equipment, and any tax credits.

The avoided supply costs are thus a critical input – the benefits side of the equation – in determining whether and to what degree an investment in energy efficiency is cost-effective. This determination will influence how much energy efficiency is reasonable for a utility to pursue. “Underestimating avoided costs will tend to discourage energy efficiency investments. Some potential efficiency measures will not pass utility cost-effectiveness tests using the depressed avoided costs, although the same measures would appear cost-effective using the full avoided costs.”³¹ Underestimating avoided costs could also lead a utility to emphasize only the lowest cost measures (because those are the only ones that appear to be cost-effective). Later, if more comprehensive upgrades are considered, the package of remaining measures may be more expensive because the cheapest measures have already been implemented.³²

It appears the Companies under-estimated the true avoided costs of electricity supply.³³ The main components of FirstEnergy’s avoided costs are lower than one would expect using common-practice avoided cost analysis methods and assumptions, and some components are missing entirely (and thus assigned zero value). Some estimates are internally inconsistent. Using one set of avoided costs provided in discovery, and levelized at 8.5%, the average avoided energy cost is about \$42.5 per-MWh. However, when levelized in the cost-effectiveness calculations, the avoided energy cost is even lower; averaging only about \$25 per-MWh.³⁴ The Companies’ estimated avoided capacity costs are based on market prices then escalated using price projections from the Energy Information Administration’s 2012 Annual Energy

³¹ NRDC Exhibit 1, Swisher Direct Testimony at 22, Line 17.

³² Swisher Direct 23, Line 7.

³³ Swisher Direct at 22, Line 10.

³⁴ Swisher Direct at 24, Line 8.

Outlook for the region. Adopting price forecasts and escalation forecasts from different sources is suspect.³⁵

Second, FirstEnergy appears to significantly underestimate future avoided energy and capacity costs. The Companies' avoided cost estimates increase only 1% per-year³⁶ after 2015, unrealistic in a time when the EPA's Mercury and Air Toxics Standards (MATS) regulations take effect and require the retrofit or replacement of coal plants.³⁷ The Companies' avoided generation capacity costs also appear unrealistically low. Their avoided generation capacity costs per-kW-year are estimated at only \$9 in 2013, jumping to about \$107 in 2016, dropping to \$52 in 2018, and escalating at about 2% annually thereafter.³⁸ Using the Companies' estimates, the 20-year present value (at 8.5% discount rate) of the future avoided generation capacity costs is only about one-half the annualized capital cost of a new combustion turbine.³⁹ Avoided costs are unrealistic and logically inconsistent if the future market price trajectory never reaches the cost of new capacity because these avoided costs describe a future in which capacity will never be built.⁴⁰

The errors with avoided costs propagate throughout the evaluation of the portfolio's cost-effectiveness. According to the Companies' TRC cost/benefit tables, estimated generation capacity costs per-year are around \$30 per-kW-year.⁴¹ Even using the \$54 per-kW-year capacity cost that can be calculated using another method,⁴² "capacity cost levels would not cover the capital costs of combustion turbines or environmental retrofits, let alone more expensive new baseload capacity. Therefore, the

³⁵ NRDC Exhibit 1, Swisher Direct Testimony at 25, Line 12.

³⁶ Swisher Direct at 24, Line 8.

³⁷ Swisher Direct at 24, Line 14.

³⁸ Swisher Direct at 24, Line 19.

³⁹ Swisher Direct at 25, Line 6.

⁴⁰ Swisher Direct at 25, Line 16.

⁴¹ Swisher Direct at 26, Line 3.

⁴² Swisher Direct at 26, Line 6.

avoided capacity costs appear to be unrealistically low, especially for systems that have any load growth at all, or where investments are needed to build new capacity in response to load growth.”⁴³

Additionally, the Companies’ avoided costs also excluded T&D losses, environmental costs, and price elasticity feedbacks,⁴⁴ which would further increase the value of energy efficiency in the cost-effectiveness analysis. But because the Companies are not arguing they lack sufficient cost-effective energy efficiency potential to fulfill their O.R.C. 4928.66(A)(1)(a) energy efficiency targets, the Commission should not require the Companies to withdraw the Plan and re-file with avoided costs calculated using common-practice methodologies. However, the Commission should require the Companies to use common practice-calculated avoided costs in the next portfolio plan. The Commission should require:

- The avoided cost methodology to be shared with, commented upon, changed, and approved by the Collaborative Group and Commission Staff before the Companies begin analyzing the next portfolio;
- The Companies to analyze avoided costs using internally consistent, transparent methods, based on the well-vetted best-practices described in the National Action Plan Guide to Resource Planning with Energy Efficiency;
- The Companies to engage independent outside forecasters, approved by the Collaborative Group and Commission staff, to estimate future avoided costs of energy and capacity;
- The Companies to include avoided Transmission and Distribution system losses, avoided environmental costs, including residual emissions⁴⁵ if necessary based on the study methodology and a planning assumption of a non-zero chance of CO2 regulation,⁴⁶ and price elasticity feedbacks⁴⁷ in the analysis.

⁴³ NRDC Exhibit 1, Swisher Direct Testimony at 26, Line 7.

⁴⁴ Swisher Direct at 26, Line 14.

⁴⁵ Swisher Direct at 26, Line 21.

⁴⁶ Swisher Direct at 27, Line 5.

⁴⁷ Swisher Direct at 27, Line 13.

C. Flawed Cost Analysis and Market Potential Study Leave Opportunities on the Table.

Together, the Companies' flawed avoided cost analysis and market potential study result in the Companies leaving cost-effective energy efficiency opportunities unaddressed. As discussed above, the analytical flaws of the avoided cost analysis include: the exclusion of several important costs, calculated capacity costs that incredibly suggest new capacity will never be built, and energy costs that escalate at an unexplained low rate. These deficiencies tend to lower avoided costs and make the portfolio appear *less* cost-effective than it would be had the Companies used standard, reproducible methods to determine avoided cost in their analysis. The analytical flaws in the market potential study also suggest that there is *more* cost-effective potential for energy savings than the Companies' analyst reports. An energy efficiency program that effectively removed barriers to investment would likely get more participation than the participation projected by assigning customers who indicated willingness to participate in an end-use specific but otherwise undefined energy efficiency program. The analyst's method appears to only capture "free-riders:" those who would have undertaken an investment in energy efficiency without the program, who are generally only a fraction of all participants in a well-designed program.

The Companies are understating the amount of cost-effective energy efficiency they could implement over the Plan period: indeed, the Plan "is focused on ensuring that just enough widgets: light bulbs, showerheads, efficient refrigerators, etc enter the market to generate the minimum savings to achieve FirstEnergy's benchmarks."⁴⁸

D. Plan Does Not Describe How the Benchmarks Will Be Met.

The Companies claim the Plan is "designed to meet" the benchmarks, but the Plan never describes *how*. We now know that the Plan can only meet the benchmarks with the use of "banked savings" of uncertain quality and composition, and that FirstEnergy EDUs will be in a poor position to meet the 2016 benchmarks.

⁴⁸ Reed Direct at 5, Line 2.

According to O.R.C. 4928.66(A)(1)(a), a utility must implement energy efficiency programs that achieve energy savings equal to 0.3% of three-year average load in 2009, an *additional* amount of energy efficiency each year until 2025, and a “cumulative annual energy savings in excess of twenty-two per cent by the end of 2025.” A plain reading of the law suggests that a utility should achieve the *additional* amount of energy efficiency each year, which is measured each year by taking the specified percentage of prior three-year average sales, and that these annual efforts – when added to one another – should exceed 22 percent of prior three-year average load in 2025. The Administrative Code supports this interpretation as well: “energy benchmark” is defined as “the annual level of energy savings that an electric utility must achieve as provided in division (A)(1)(a) of section 4928.66 of the Revised Code.”⁴⁹ Ohio’s approach – a focus on the annual energy savings impact until 2025 – is sensible as well as lawful. A sole focus on the annual targets would encourage utilities to focus resources on short-lived measures, because these will have the least impact on future throughput. A sole focus on the cumulative 2025 target would not encourage early action by utilities to save energy: Witness the lack of development to meet Ohio’s “advanced energy” benchmark.⁵⁰ Ohio’s approach means that a utility’s programs should save the *additional* amount of energy each year while keeping in mind how much of those savings will still be around in 2025. So in determining whether this Plan is “designed to achieve” the statutory energy savings benchmarks, the Commission should focus on whether the Plan appears designed to save the *additional* amount of energy that is required of the Companies each year: 0.9% of prior three-year average load in 2013 and 1.0% in 2014 and 2015.

But FirstEnergy’s Plan does not easily reveal the amount of *additional* energy savings required of the Companies and projected to be saved by the Plan. The Companies only present benchmarks on a cumulative basis⁵¹ (where each year’s saving requirement is added to the previous year), and their witness

⁴⁹ O.A.C. 4901:1-39-01(K)

⁵⁰ O.R.C. 4928.64(B)(1)

⁵¹ FirstEnergy Exhibit 2, Direct Testimony of Eberts; Exhibit BDE-1, Column 10.

expressed confusion⁵² when asked to determine the amount of incremental energy efficiency required of the Companies each year. In rebuttal testimony, the Companies stated that the “correct” way to determine the additional amount of energy savings required of the Companies each year is to subtract the cumulative benchmark in one year from the previous year’s benchmark,⁵³ a curious reading of O.A.C. 4901:1-39-01(K) contrary to the plain language of O.R.C. Section 4928.66.

Using cumulative benchmarks and savings to determine compliance with the law prior to 2025 only makes sense if the Companies exclude savings that do not “accumulate.” The aspect of energy efficiency performance that cumulative savings measures is the energy-saving impact *this year* of the energy efficiency measures installed through the Companies’ programs to-date (because this is what matches up with cumulative targets calculated by adding previous years’ *additional* targets). Thus, short-lived measures – for example, “savings” from the one-year measure life 2010 On-Line Program – should be excluded from 2011 cumulative savings, because this program is not saving any energy in 2011. But the Companies’ rebuttal witness indicates they do not do this.⁵⁴ The Companies’ myopic focus on cumulative savings appears to be an artifact of its previous poor performance in saving energy. In its approval of the Companies’ waiver of benchmark compliance in 2009, the Commission stated: “Although the Commission will amend FirstEnergy's 2009 benchmarks to zero, the Commission agrees with OP&E that FirstEnergy should meet the cumulative energy savings mandated by the statute.”⁵⁵ OP&E had recommended “that the Commission waive the benchmarks for 2009 but that the Commission require FirstEnergy to meet the cumulative energy savings *implicit* in the statute over three years [emphasis added].”⁵⁶ Thus, cumulative savings only became important after the Companies failed to deliver the *additional* amount of energy required each year in the statute.

⁵² Transcript Vol. II page 4-12.

⁵³ FirstEnergy Exhibit 22, Demiray Rebuttal Testimony at 6, Line 2.

⁵⁴ Transcript Vol. VI, page 1093, lines 8-9

⁵⁵ Finding and Order, Case No. 09-1004-EL-EEC, et al., January 7, 2010, Page 4, Finding 10.

⁵⁶ Id. at Page 3, Finding 8.

In this proceeding, the key question for the Commission related to the “designed to achieve” mandate is whether the Plan allows the Companies to meet the *additional* amount of energy savings required each year in the statute. There, the Plan manifestly fails. As explained in Exhibit DES-5, even including savings from the Mercantile Customer Program, where projecting saving savings were unknown by the witness⁵⁷ and basing savings on the annualized accounting convention, the Plan fails to achieve the *additional* amount of energy efficiency required of each Operating Company in 7 out of 9 Company-compliance years. The Companies claim this is not a problem: they have a “bank” of over-compliance from previous years.⁵⁸

But in a landscape where the Commission has determined that the energy efficiency standard is a floor, not a ceiling, where we know that the Companies have under-estimated the cost-effective energy efficiency opportunity, and where the Companies’ customers have had limited opportunities to participate in well-designed energy efficiency programs since 2009, the Companies should be offering a comprehensive suite of energy efficiency programs now (as the other utilities are), not designing a Plan around “banked savings” of uncertain quality and composition when other utilities in the state are exceeding their targets and adding to their bank. Moreover, it is worrying that the Companies only explained their compliance strategy on rebuttal, and even then were unable to adequately describe the composition of these banked savings.⁵⁹

Designing a plan around the use of “banked” savings is contrary to the public policy rationale for banking. The concept of banking exists to keep a utility from stopping programs when it reaches an annual energy efficiency target, reducing program momentum and harming relationships with customers and the energy efficiency supply chain. It allows a utility to keep a program going, confident it can use extra savings produced in one year in another. The Companies’ use of “banked savings” in a portfolio plan is unprecedented, will result in the installation of fewer energy-saving measures, and is contrary to

⁵⁷ Transcript Vol. I, page 81, lines 19.

⁵⁸ FirstEnergy Exhibit 22, Demiray Rebuttal Testimony at 5, Line 16.

⁵⁹ Transcript Vol VI, page 1116, lines 2-16.

law, which requires a utility to save an *additional* amount of energy each year. Also, the reliance on banked savings puts the Companies in poor position to meet future benchmarks. Programs cannot be started one day and save energy the next.⁶⁰

In this proceeding, the Commission should find that the Plan is manifestly not designed to achieve the statutory benchmarks, require the Companies to adopt and implement several supplemental programs and, employing budgets additional to the Companies' proposed budget, increase the amount of energy that this Plan will save.

E. FirstEnergy's continued refusal to bid forecasted savings into the PJM BRA, and thus pursue revenue and lower capacity prices for customers by bidding, is unacceptable and must be remedied by this Commission.

The Companies have an obligation to "take all reasonable and cost-effective steps" to avoid unnecessary price increases for their customers.⁶¹ This is an obligation already recognized by the Commission and expressed in the Ohio Revised Code. But the Companies' plan for future base residual auctions ("BRAs") in their Portfolio is to bid only *installed* energy efficiency credits for which it has ownership rights *secured at the time of the PJM auctions*, provided these credits are *of scale*, will meet PJM standards, and are approved by PJM.⁶² By planning to bid only installed resources and refusing to include forecasted savings in future PJM auctions, the Companies are once again attempting to skirt their obligations and are demonstrating that they have no interest in securing hundreds of millions of dollars in savings for their customers.

⁶⁰Transcript Vol. V, page 954, lines 12-22

⁶¹ As discussed in PUCO Case No. 12-814-EL-UNC Entry at ¶4 which refers to Ohio Revised Code Sections 4905.22, 4905.70 and 4928.02

⁶² First Energy Exhibit 1, Direct Testimony of John Dargie, page 15, lines 5-8.

Without Commission action, FirstEnergy will continue to pass unnecessary record high capacity prices on to its customers for many years to come.

As Sierra Club expert witness states:

“. . . the failure to bid the savings from planned efficiency program savings results in substantially higher costs for FirstEnergy’s customers. This comes in the form of both lost revenue from the proceeds of the auction and from the likelihood that FirstEnergy’s efficiency and demand response resources would likely have reduced the clearing price of the auction, thus saving FirstEnergy’s customers money on every MW needed to fulfill their load obligation.”⁶³

In order to ensure that FirstEnergy’s customers receive the full benefits of investing in energy efficiency over the long term, and in order to mitigate the transmission constraint in the PJM ATSI zone in the near term, the Commission should require that FirstEnergy bid all eligible forecasted savings into future PJM auctions and in accordance that FirstEnergy files timely Measurement and Valuation (“M&V”) plans with PJM to ensure that savings will qualify for participation in future BRAs according to the recommendations provided herein.

1. The FirstEnergy Companies Have an Obligation to Take All Reasonable and Cost-effective Steps to Avoid Unnecessary Price Increases for Their Customers.

The May 7, 2012 BRA for the ATSI zone delivery year 2015/2016 resulted in the highest capacity price of all the zones in the PJM footprint. Anticipating these record capacity prices for the 2015/16 BRA due to scheduled plant retirements and perceived transmission constraints in the ATSI zone, the Commission issued an Entry in Case No. 12-814-EL-UNC directing FirstEnergy to utilize all “reasonable and cost-effective steps” to address capacity prices, including the bidding of potential energy efficiency and peak demand reduction credits into the BRA. FirstEnergy’s Witness debated this directive calling it a mere “expectation” of the

⁶³ Sierra Club Exhibit 1, Direct Testimony of Jeff Loiter, page 4, lines 7-12.

Commission, an expectation that FirstEnergy has ignored in this proposal.⁶⁴ In an entry dated February 29, 2012, the Commission required FirstEnergy to submit a report “detailing potential energy efficiency and peak demand reduction offers into the May 2012 PJM BRA auction for the 2015/2016 year.”⁶⁵ The Commission listed several statutes⁶⁶ to be considered by FirstEnergy as a basis for such a request:

- **R.C. 4905.22:** “Every public utility shall furnish necessary and adequate service and facilities, and every public utility shall furnish and provide with respect to its business such instrumentalities and facilities, as are adequate and in all respects just and reasonable.”

- **R. C. 4905.70:** “The public utilities commission shall initiate programs that will promote and encourage conservation of energy and a reduction in the growth rate of energy consumption, promote economic efficiencies, and take into account long-run incremental costs.”

- **R.C. 4928.02:** “It is the policy of this state to do the following throughout this state:

- (A) Ensure the availability to consumers of adequate, reliable, safe, efficient, nondiscriminatory, and reasonably priced retail electric service; [...]

- (I) Ensure retail electric service consumers protection against unreasonable sales practices, market deficiencies, and market power;

⁶⁴ Transcript Volume VI, pages 1670-71, 13-25

⁶⁵ *In the Matter of the Commission’s Review of the Participation of the Cleveland Electric Illumination Company, the Ohio Edison Company, and the Toledo Edison Company in the May 2012 PJM Reliability Pricing Model Auction*, Case No. 12-814-EL-UNC, Commission Entry at ¶3 (February 29th, 2012).

⁶⁶ PUCO Case No. 12-814-EL-UNC, Entry at ¶4.

(J) Provide coherent, transparent means of giving appropriate incentives to technologies that can adapt successfully to potential environmental mandates; [...]

(M) Encourage the education of small business owners in this state regarding the use of, and encourage the use of, energy efficiency programs and alternative energy resources in their businesses;

(N) Facilitate the state's effectiveness in the global economy. In carrying out this policy, the commission shall consider rules as they apply to the costs of electric distribution infrastructure [...] (Emphasis Added).

All of these statutes are relevant to bidding energy efficiency savings into the PJM capacity auction because, as evident by the Commission's Entry, energy efficiency savings bid into the auction can assist in a) the mitigation of unjust and unreasonable price increases, b) providing reliable adequate service, and c) keeping prices low for businesses to increase Ohio's competitiveness.

FirstEnergy refused to issue a detailed report as required in the 12-814 Entry, or to develop a bid for any amount of resources into the BRA, instead offering only excuses for not being able to comply.⁶⁷ Then, in its application and Stipulation for an electric security plan ("ESP"), FirstEnergy, at signatory parties' request in order to reach settlement, decided to make a limited bid of only some of the installed energy efficiency into the BRA.⁶⁸ As Sierra Club estimated in that case, limiting the bid to this portion of installed resources—essentially ignoring

⁶⁷ 12-814-EL-UNC Entry at ¶4.

⁶⁸ Case No. 12-814-EL-UNC, FirstEnergy Reply (March28, 2012).

three years of statutorily mandated energy efficiency savings—cost FirstEnergy customers an estimated \$600 million.⁶⁹

2. FirstEnergy has an obligation to amend their energy efficiency programs to ensure that customers, knowingly tender ownership of the Companies’ energy efficiency resources.

In response to objections over the Companies’ handling of the 2015/16 BRA, and to mitigate the impact of the transmission constraint in the ATSI zone for future BRAs, the Commission’s Opinion and Order in Case No. 12-1230-EL-SSO states the Companies should take steps to amend their energy efficiency programs to ensure that customers, knowingly and as a condition of participation in the programs, tender ownership of the energy efficiency resources to the Companies.⁷⁰ Further, the Commission ordered FirstEnergy to verify that the energy savings will qualify for participation in the BRAs, and the Companies should bid qualifying energy resources into the auction in order to comply with the efficiency and peak demand benchmarks in Revised Code Section 4928.66.⁷¹ Additionally, in Commissioner Roberto’s dissenting opinion, it was noted that the information in [the Commission’s] record was insufficient to find that the Companies “dedicated sufficient resources to reliability, particularly in the form of participation in the [PJM] base residual auctions whose very purpose is reliability.”⁷²

⁶⁹ Case No. 12-1230-EL-SSO, Sierra Club Initial Brief at 16-17 (June 22, 2012).

⁷⁰ *In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Authority to Establish a Standard Service Offer Pursuant to R.C. § 4928.143 in the Form of an Electric Security Plan*. Case No. 12-1230-EL-SSO, Opinion and Order (February 29th, 2012).

⁷¹ *Id.* at 38.

⁷² *Id.*, Dissenting Opinion of Commissioner Roberto at 5 (July 18, 2012).

The record in this case remains insufficient on this point. FirstEnergy still attempts to limit the amount of this bid by placing its own definitions of what qualifying resources consist of. These definitions go above and beyond what PJM considers as a qualifying resource for bidding purposes and should be rejected by the Commission. FirstEnergy is going to spend the proposed budgets on the resource regardless of whether they participate or clear in the BRA. As such, the Companies should be required to bid those savings into the auctions for which they qualify. To best ensure these resources will clear the auctions and provide FirstEnergy's customers with revenue to offset their energy efficiency investment costs, and to lower capacity prices and increase reliability, FirstEnergy should bid the resources in at a price sufficient to cover the incremental PJM measurement and verification costs, but not higher.

3. Despite ample knowledge of its statutory obligations, the Commissions' directive, and the likely consequences for its customers the Companies propose to withhold bidding of any planned EE credits in future auctions.

Despite the Commission's Entry in 12-814 and Order in 12-1230, FirstEnergy's plan as proposed is to, once again, only submit a limited bid of installed resources in future BRAs and withhold from bidding any forecasted EE savings. FirstEnergy witness Dargie states that the Companies intend to bid eligible *installed* energy efficiency resources for which it has ownership rights *at the time of the PJM auctions* provided that these credits are *of scale*, will meet PJM Measurement and Verification ("M&V") standards and are included in an M&V plan approved by PJM.⁷³ The Companies were not able to provide evidence of what was meant by their restriction that resources were "of scale." This requirement is an arbitrary bidding restriction that FirstEnergy attempts to impose on any future bid to limit the savings provided to its

⁷³ First Energy Exhibit 1, Direct Testimony of John Dargie Direct Testimony, page 15, lines 5-8.

customers. With no clear explanation of this requirement, the Commission cannot be assured that a reasonable bid will be made. The Commission should reject the Companies' restriction that resources are "of scale." The proposed strategy is simply a continuation of the Companies diminished bid strategy of the 2015/16 BRA, which resulted in an estimated \$600 million in avoidable costs to FirstEnergy customers. All of these restrictions proposed by the Companies contradict the Commission's Order that "the Companies should bid qualifying energy resources into the auction."⁷⁴

PJM allows for these forecasted savings to be bid in, so long as they meet the M&V requirements to which FirstEnergy witness Dargie testifies. Per the Commission's Order in Case No. 12-1230-ELSSO, the Companies will have ownership of all forecasted savings. PJM allows for the bidding of forecasted resources in capacity auctions to ensure that those resources that will provide benefits to the customers are recognized without delay. The record in this case contains no legitimate concern over the risk of ownership of forecasted resources. Other utilities in the PJM footprint have successfully employed the PJM BRA to secure for customers the full value of their energy efficiency investments and further state policy.⁷⁵ The Companies repeat the same justifications for severe restrictions on future, potential bids. The Companies have unilaterally decided to not bid *any forecasted savings* into the PJM BRAs going forward without even considering the alternatives.

But there simply is no justification for the Companies continued refusal to act in the interests of their customers. In Case No. 12-814, the Companies stated they did not have time to

⁷⁴ Case No. 12-1230-EL-SSO, Opinion and Order at 38.

⁷⁵ O.R.C. 4928.02: "It is the policy of this state to [...] (A) Ensure the availability to consumers of adequate, reliable, safe, efficient, nondiscriminatory, and reasonably priced electric service; [...] (M) Encourage the education of small business owners in this state regarding the use of, and encourage the use of, energy efficiency programs and alternative energy resources in their businesses; [...] (N) Facilitate the state's effectiveness in the global economy."

evaluate and verify bids for the approaching BRA. In Case No. 12-1230, FirstEnergy cited uncertainty and risk, a lack of profit motive, and that the ESP was not the proper docket for evaluating BRA participation.⁷⁶ Since then, the Companies have had several months to evaluate and propose a comprehensive bidding plan for future auctions, including any needed risk mitigation to ensure that its customers recognize the savings they deserve.

It is critical that FirstEnergy bid the forecasted savings into the first BRA available for which those savings will be qualified as in accordance with PJM rules and procedures. PJM BRAs operate on a 3-year forward basis, meaning that savings bid into the May 2013 auction will impact capacity prices for the 2016/17 deliverability year. Any delay in ensuring these savings are accounted for in the PJM baselines delays or eliminates the benefits of customers' investments in energy efficiency. For example, if FirstEnergy does not bid savings reasonably expected to occur in 2015 into the May 2013 auction and instead waits until those savings are installed, the impact of those savings would not be recognized until the May 2016 BRA for the 2019/20 deliverability year. By not bidding forecasted savings, FirstEnergy is adding significant delay in recognizing benefits that derive from efficiency resources that PJM allows to qualify. This should not be tolerated by the Commission. FirstEnergy should be required to bid its forecasted savings into the auctions as recommended herein.

4. The Commission Should Disregard the Companies present the same meritless and unsupported excuses for not planning to bid in forecasted savings.

The Commission's Order in Case No. 12-1230 addressed the various post hoc excuses that FirstEnergy made for not bidding anticipated energy efficiency resources into the BRA. The

⁷⁶ Case No. 12-1230-EL-SSO, FirstEnergy Initial Brief at 69-72 (June 22, 2012).

Companies make the same excuse in this case for not including forecasted savings in their Plan. Specifically, FirstEnergy claims that bidding forecasted savings will create a series of risks, such as a shortfall, that could expose the Companies to severe financial harm.⁷⁷ Indeed, the record contains no explanation of this severe financial harm as the Companies have not conducted or offered quantitative analysis on these risks.

In April 2012, FirstEnergy first raised the issue of risk and wanting to be held harmless by the Commission for participating in the auction. The Companies have had more than enough time to properly study and quantify the risk of participating in the auction. Yet, FirstEnergy unabashedly admits once again that it has not performed a “paper analysis” of the risks or any quantification of the risks.⁷⁸ Not only did FirstEnergy not quantify the risks that it tried to claim excuses it from considering participation in the BRA, but FirstEnergy did not even bring the issue of risk to the Commission for potential mitigation. When asked about what risk mitigation the Companies considered when determining future PJM bids, Mikkelsen stated that the only option they considered was not bidding forecasted savings at all.⁷⁹ This negligence should be alarming to the Commission. Furthermore, there is no evidence in the record that FirstEnergy made any specific requests to the Commission to mitigate risks. The Companies should have brought those risks to the Commission for mitigation before deciding not to include forecasted savings in any future auction. In addition, they certainly should have explained potential mitigation strategies as a means for receiving approval of their position to bid no forecasted resources. Without an evaluation of the alternatives, the Companies have not provided sufficient

⁷⁷ Transcript Volume VI, pages 1670-71, 13-25

⁷⁸ *Id.*

⁷⁹ *Id.*

information in the record that the strategy proposes is the best strategy for the Companies and their customers. The Commission should reject FirstEnergy's proposal and implement the strategy outlined here.

To the extent any shortfalls did arise between the resources bid and the resources realized, FirstEnergy would have the ability to purchase supplemental resources during incremental auctions, likely to be accomplished at a lower price. Sierra Club expert witness states:

“ . . . the PJM BRA framework includes not only the initial auction three years in advance of the delivery date for capacity, but additional incremental auctions in which market participants can continue to buy and sell the obligation to provide capacity. Should the Companies find that, say, two years after the initial auction, they believe they will not achieve their forecast savings, they can shed part of their obligation in the later incremental auctions, thus mitigating this risk.”⁸⁰

Incremental auctions between the BRA and the delivery year allow entities to sell or purchase megawatts should the need arise. Experience with incremental auctions provides sufficient comfort that these incremental auctions will clear at a much lower price than the BRA and create an opportunity to true up any shortfall.

With hundreds of millions of dollars at stake, the Companies owe a duty to their customers to get the full value of their energy efficiency investments and to offset the predicted record capacity price. Instead, FirstEnergy has continued to blatantly ignore this duty citing risks that (a) the Companies never quantified or compared to potential benefits and (b) were never raised with the Commission in an application for specific mitigation measures even after multiple opportunities to do so. Simply put, risk has nothing to do with FirstEnergy's decision. What really matters, what drove the Companies' decision not to participate in the previous

⁸⁰ Sierra Club Exhibit 1, Direct Testimony of Jeff Loiter, page 4, lines 18-24.

auction, and is motivating them to not include forecasted savings for future PJM auctions, is that they were unwilling to save their customers hundreds of millions of dollars without a profit for their shareholders. If this calculated, and wholly imprudent, decision is allowed to stand, Ohio customers will be stuck for many years to come with potentially hundreds of millions of dollars in clearly avoidable costs—money that should stay in the wallets of FirstEnergy customers.

IV. Recommendations

A. Residential Programs Must be Improved to Reduce the Companies' Dependence on Banked Savings and to Manifest a Foundation to Achieve Future Increased Benchmarks.

1. Summary of Recommended Modifications to FirstEnergy Residential Programs.

FirstEnergy's proposed residential sector programs could provide substantially more savings than are projected by FirstEnergy in each year of its Three-year Plan. Such savings are possible by modifying current program designs and by re-aligning the residential sector's strategic direction. The current Plan is largely, if not singularly, focused on just meeting the prescribed minimum benchmarks. There is little broader strategic focus on developing a culture of efficiency that would create a sustainable and supportive environment for customers, contractors, design professionals, manufacturers and other key stakeholders. The current Plan is focused on ensuring that just enough widgets: light bulbs, showerheads, efficient refrigerators, etc. enter the market to generate the minimum savings to achieve FirstEnergy's benchmarks.

In addition to its lack of strategic focus and failure to support and grow an energy efficiency infrastructure within the three FirstEnergy Ohio EDUs' service territories, FirstEnergy's proposed residential program portfolio has other serious program design flaws and

fails to fully capture economies of scale from joint program implementation. To address these concerns and to grow FirstEnergy's residential savings several program recommendations were presented in testimony and are summarized below. These revisions would not only help FirstEnergy to meet and exceed its benchmarks without relying on banked savings, but also to much better position FirstEnergy to meet future benchmarks, particularly the two percent savings goals that begin in 2019.

Key program recommendations are:

- Eliminate or at least significantly reduce reliance on efficiency kits and re-allocate funding to more aggressive Efficient Products Program components. Efficiency kits represent a disproportionate 36 percent of the residential sector portfolio's savings. Savings estimates for efficiency kits appear to be overstated and the assumptions used to derive these savings estimates should be critically reviewed and revised accordingly.
- Reallocated efficiency kit budget should be redirected to develop a more robust retail market for efficient products, primarily through expanded retailer participation in upstream lighting incentives, and increased existing home retrofit participation and savings through increased numbers of all-electric and comprehensive audits.
- Attain a better balance of program savings relative to how FirstEnergy customers use electricity. As proposed, the Plan attains 88 percent of its savings from three program activities: appliance recycling, efficiency kits and retail lighting. In comparison, less than 3 percent of residential sector savings come from heating, cooling and domestic water heating which represent about 32 percent of residential electricity use. In-home audit efforts and HVAC and DHW rebates should be significantly increased using budget re-allocated from efficiency kits.
- Revise the Residential New Construction Program to make ENERGY STAR v3.0 an option, not a requirement, and develop a tiered incentive structure. This approach would lower the barrier for builder participation in the program and provide an incentive for savings beyond ENERGY STAR.

- Revise or at least better define certain measure eligibility criteria to minimize free-ridership to ensure that ratepayer funds provide real savings
- Encourage FirstEnergy – and all the Ohio electric and gas utilities – to move quickly to joint program implementation for any and all programs that entail significant trade ally engagement. This would reduce program implementation costs and remove unnecessary impediments to trade ally participation in program efficiency activities.

These recommendations, with the possible exception of joint program implementation, could be implemented quickly; within a matter of a month or two assuming a dedicated effort by FirstEnergy to engage in meaningful discussions with the Collaborative, other key stakeholders, and the Commission. Further, these changes should all be cost-effective. While doing a revised benefit cost analysis of the proposed changes is beyond the resources of the Intervenors, most of the proposed changes entail the re-allocation of funds and/or increased spending for program activities that are either currently in place or are proposed in FirstEnergy’s Plan.

2. Lack of Comprehensiveness and an Unbalanced Portfolio

The Companies are proposing to attain a disproportionate amount of savings from a limited number of program activities. For the residential sector, just three program activities are expected to generate nearly 88 percent of its residential sector savings: retail lighting, efficiency kits, and refrigerator recycling. In particular the Companies’ proposed efficiency kits represent 36 percent of total 2013-2105 aggregate residential savings. Figure 1 of Sierra Club Witness Reed’s Testimony⁸¹ shows the breakout of 2013 residential savings for Ohio Edison. These kits represent the single largest source of residential savings in all three years of the Plan. From an end use perspective an estimated 62 percent of residential

⁸¹ Sierra Club Exhibit 2: Direct Testimony of Glenn Reed, Figure 1: *2013 Residential Energy Savings by Major Subprogram*.

savings are from lighting, while lighting represents approximately 11 percent of total residential energy use.⁸²

In comparison, only 1.4 percent of residential savings are projected to come from actual in-home audits and any resulting improvements made to participating customers' homes⁸³. While heating, cooling and water heating represent about 32 percent of residential electricity use,⁸⁴ FirstEnergy only proposes to attain 2.4 percent of its residential savings from the cumulative efforts of their in-home Comprehensive and All-electric audits and from their efficient heating, cooling, and water heating equipment rebates. In short, FirstEnergy's proposed efficiency portfolio is poorly balanced. By underserving the existing home, HVAC and DHW markets FirstEnergy's proposed programs will not meet the needs of any significant number of customers seeking to achieve comprehensive and meaningful energy savings beyond those attained from lighting improvements. Failure to fully pursue these non-lighting savings will limit FirstEnergy's ability to meet its benchmarks without banking.

3. Reliance on Uncertain Savings from Efficiency Kits

As noted above, FirstEnergy relies on the mailing of efficiency kits for a disproportionate amount of its residential sector savings. Few other efficiency program administrators rely so heavily on mailing six to nine compact fluorescent lamps to residential customers to achieve such a large proportion of both their total residential sector goals and their lighting savings. For

⁸² p 99. Market Potential Study. Energy Savings and Demand Reduction for Ohio Edison, Toledo Edison, and The Illuminating Company. Prepared for FirstEnergy Corp. Black & Veatch Holding Company. June 22, 2012

⁸³ Sierra Club Exhibit 2: Direct Testimony of Glenn Reed, Attachment 1: *Responses to Requests SC Set 1-INT-36*.

⁸⁴ FirstEnergy Exhibit 12: Ohio Edison Plan, Appendix D: *Black & Veatch Market potential Study* at 99, Figure 8-2: *FirstEnergy Ohio Residential Energy Consumption by End Use*.

the residential sector, of the 62 percent of total sector savings coming from lighting, 44 percent comes from mailing efficiency kits to residences.⁸⁵

The Intervenors recommend that the mailing of efficiency kits be eliminated or substantially reduced and that most the budget for efficient kits is reallocated to the Efficient Products Programs, including pursuing a more robust retailer-based program. This approach would better support the long-term transformation of the residential lighting market and minimize the uncertainties in the savings associated with the efficiency kits. The savings assumptions used by FirstEnergy appear to overestimate the savings from the kits. Use of more realistic savings assumptions put attainment of FirstEnergy's benchmarks at risk given their overreliance on this set of measures.

FirstEnergy assumes the same TRM in-service rate (86 percent) for kit lamps as it does for those purchased at retail by a customer. One might expect a lower in-service rate for free CFLs than those purchased intentionally by a consumer at a retail store. FirstEnergy does not provide justification as to why it uses a retail in-service rate for its efficiency kits⁸⁶. Similar in-service rate concerns apply to the smart power strips that are included in the kits for which it appears a 100 percent in-service rate is assumed as there is no in-service rate adjustment to this measures in the Ohio TRM.

In response to discovery questions on its efficiency kit savings assumptions, First Energy noted that similar kits had realization rates of 98 to 102 percent in Pennsylvania.⁸⁷ However, a more detailed review of FirstEnergy's second program year results show that the realization rates

⁸⁵ FirstEnergy Exhibit 12: Ohio Edison Plan, Appendix C-3.

⁸⁶ Sierra Club Exhibit 2: Direct Testimony of Glenn Reed, Attachment 2: *Requests to Responses SC Set 4–RPD-14*.

⁸⁷ Sierra Club Exhibit 2: Direct Testimony of Glenn Reed, Attachment 3: *Requests to Responses SC Set 1–INT-6*.

were not derived through any robust evaluation effort. In fact, the in-service rates for efficiency kit CFLs were treated as a “deemed” value (84 percent in Pennsylvania) and were not subject to revision. The program evaluator did estimate that CFLs distributed by efficiency kits had an initial in-service rate (ISR) of 70 percent, but this was estimated through online surveys. While a small number of onsite validation surveys were performed the program evaluator noted the difficulty in distinguishing between the CFLs in the efficiency kits and those either already in place or purchased subsequent to the receipt of the efficiency kits.⁸⁸

A follow-up survey of a sample of efficiency kit recipients in Pennsylvania did show a higher in service rate of 82 percent approximately a year later and the program evaluator stated “that it may take one year or more for the ISR to reach 84%.” However, even if one assumes that the ISR for CFLs reaches 84 percent this would translate into a 77 percent ISR as calculated in the Ohio TRM.⁸⁹ This represents a nine percent reduction in the ISR and resulting savings coming from efficiency kit CFLs.

It appears that the in-service rates for all of the measures in the efficiency kits may be overstated. If FirstEnergy is allowed to distribute Efficiency Kits in Ohio the in-service rates for all of the proposed efficiency kit measures should be carefully reviewed and revised accordingly prior to program roll-out. Given the large amount of savings coming from efficiency kits this critical re-examination of the measures’ savings assumptions is warranted.

Another and maybe more important drawback to the efficiency kits is that they circumvent the normal market channels for the promotion and sale of efficient lighting. The efficiency kits do

⁸⁸ Sierra Club Exhibit 2: Direct Testimony of Glenn Reed, page 7, lines 14-21, page 8, lines 1-4.

⁸⁹ State of Ohio Energy Efficiency Technical Reference Manual. Page 13, footnote 8. Vermont Energy Investment Corporation. August 6, 2010.

little if anything to increase the stocking, promotion and sale of CFLs and LEDs by retailers. While many efficient lighting products are already on retailers' shelves in Ohio it is important that FirstEnergy – and all Ohio electric utilities – have an active engagement and visible presence at all key lighting retailers; not just a limited number. The number of lighting choices facing consumers is increasingly overwhelming and bewildering. Consumers face hundreds of lamp choices at home improvements centers and at large hardware stores. Consumers need clear direction as to what the appropriate efficient lighting choices are. Without a constant effort to educate and direct consumers to the appropriate efficient lighting products – supported by reduced retail pricing through upstream incentives – the retail market for efficient lighting in Ohio will remain largely untransformed. The proposed reliance on efficiency kits and resulting underfunding of the Plan's retail lighting component are likely to reduce the number of efficient lighting products purchased at retail. Why use ratepayer funds for program activities that distort the market and work against the interests of FirstEnergy's key trade allies in the lighting market?

Given the uncertainty of the savings from efficiency kits and their failure to adequately support the growth of the retail lighting market their distribution by FirstEnergy should be eliminated or, at a minimum, severely curtailed. Efficiency Kit savings are almost certainly to be less than estimated by FirstEnergy and large scale distribution of the kits works at cross purposes to the goals of the retail lighting program.

As noted above much of the residential efficiency kit budget should be used to further expand the Efficient Products Program. Such an expansion should be through upstream incentives wherever possible. While upstream incentives have historically been restricted to lighting products FirstEnergy should explore expanding upstream incentives to distributors and retailers of HVAC and DHW equipment. If efficiency kits are retained they should be limited

and targeted to hard to reach customer segments, including lower income customers, non-English speaking customers, etc. to complement, not supplant, FirstEnergy's retail lighting efforts. The contents of the efficiency kits should also be modified. The number of CFLs in the kits should be reduced by half or more and replaced with coupons that can be redeemed for CFLs at participating retailers. Finally, all of the products distributed in the efficiency kits should be permanently labeled so that subsequent evaluation activities can unambiguously identify these units distinct from other CFLs, power strips, etc. that the customer may have purchased on their own prior to or subsequent to the receipt of the kit. As noted above, this was an issue in Pennsylvania where the onsite verification audits could not always clearly identify the CFLs distributed through kits.

4. Develop a More Robust and True “Home Performance” Existing Home Retrofit Effort

Efficiency kits represent an estimated 29 percent of the total residential sector budget.⁹⁰ Budget from the kits can and should be re-allocated to multiple residential sector programs and subprograms. While a significant proportion should be spent to support a more robust Efficiency Products Program, there are other components of the residential sector portfolio that are inadequately funded and for which savings are largely unrealized. As noted, little of the savings from the so-called Home Performance Program actually comes from customers making significant improvements to existing homes. Only 3 percent of the Home Performance Program's savings comes from the Comprehensive and All-electric audits. The remainder comes from efficiency kits (81 percent), home energy reports (8 percent), residential new construction (5

⁹⁰ FirstEnergy Exhibit 12: Ohio Edison Plan, Appendix B-1.

percent), and online audits (3 percent).⁹¹ It is highly unusual for a portfolio of residential efficiency programs to achieve greater savings from new construction program efforts than from their existing home retrofit market given the much larger savings potential in existing homes. Through September 2012, there were 12,400 single family and multifamily housing permits pulled in Ohio.⁹² In comparison, there are 5.1 million housing units in Ohio.⁹³

The small relative savings coming from existing home audit and retrofit efforts point to a lack of support for credible, in-home efficiency services for existing homeowners and landlords, not that the residential new construction program is in any way overfunded. This further highlights the lack of balance and strategic focus in FirstEnergy's Plan and its failure to fully tap large savings opportunities within the residential sector.

As further evidence of FirstEnergy's unbalanced focus by example, Ohio Edison proposes to do 11,700 online audits compared to only 4,032 onsite audits over the three years of the Plan.⁹⁴ The three-year onsite audit participant numbers represent less than one-half of one percent of Ohio Edison's residential customers. The unrealized savings from this dismal audit effort are enormous.

The proposed level of in-home audits should be increased dramatically and any such efforts jointly implemented with the gas utilities that overlap with the FirstEnergy utilities. The proposed small number of onsite audits is not likely to make any appreciable impact on the very

⁹¹ Sierra Club Exhibit 2: Direct Testimony of Glenn Reed, Attachment 1: *Responses to Requests SC Set 1-INT-36*.

⁹² <http://www.nahb.org/generic.aspx?sectionID=130&genericContentID=45409>

⁹³ <http://quickfacts.census.gov/qfd/states/39000.html>

⁹⁴ Ohio Edison Company Energy Efficiency & Peak Demand Reduction Program Portfolio. July 31, 2012
Docket No. 12-2190-EL-POR. Appendix C-2.

large savings opportunity for building envelope and HVAC distribution system improvements. As noted, only three percent of residential sector savings come from in-home audit and from HVAC and DHW equipment rebates. This very low level of in-home program audits and subsequent home improvement activity will not support the growth of a robust home performance contractor infrastructure. This is not a credible Home Performance Program. Further, the savings from the online audit are uncertain and may not materialize. FirstEnergy's online savings estimates are not well documented and their transferability to Ohio is not known. It would be better to direct much if not most of these program resources into in-home audits and follow-on measure installations; the results are both visible and tangible. While other program administrators such as those in Connecticut and Massachusetts, offer online audits they mostly do so as a customer education tool and as a means to direct customers into their in-home audit and existing home retrofit program efforts.⁹⁵ Online audits should complement and supplement an aggressive in-home retrofit program effort; not substantially supplant it as FirstEnergy has proposed.

Finally, it is worth noting that the online audit program has cumulative three-year operation costs of nearly one million dollars for Ohio Edison alone. This is greater than the operation costs for Ohio Edison's low income activities or for its combined appliance and consumer electronics program efforts.⁹⁶ The basis for these online audit operation costs is unclear.

5. Proposed Revisions to Residential New Construction Program

⁹⁵ See for example: <http://www.cl-p.com/energycalculator/main.aspx> and <http://c03.apogee.net/calcs/rescalc5x/Question.aspx?hostheader=nstar&utilityid=nstar>

⁹⁶ Ohio Edison Company Energy Efficiency & Peak Demand Reduction Program Portfolio. Appendix B-4. Op. cit.

FirstEnergy's residential new construction Programs requires that participating homes must meet the ENERGY STAR Homes version 3.0 (V3.0) guidelines. This is one of the few, if not the only, instance of FirstEnergy over reaching and setting a program participation bar too high. This is also a program that FirstEnergy seems to have some understanding of the need for trade ally outreach and training, at least as evidenced by their discovery question response.⁹⁷ However, the requirements for V3.0 may be too challenging and demanding even for builders that have previously participated in new construction programs tied to earlier versions of the ENERGY STAR Home criteria.

Experience in other jurisdictions and feedback to ENERGY STAR point to a number of concerns regarding the implementation of the full set of V3.0 criteria. These include HVAC contractor certification requirements, water management system requirements, etc. These stringent program requirements may serve as an impediment to program participation and make it difficult for this subprogram to meet its participation and savings goals.

As an alternative, FirstEnergy should retain ENERGY STAR Homes V3.0 as one option within an expanded new construction subprogram. The revised subprogram would have a tiered incentive structure tied to percentage energy savings above Ohio building code requirements; the greater the savings, the higher the incentive. ENERGY STAR could be one of the proposed tiers or ENERGY STAR certification could be a bonus builder payment for those builders seeking even higher savings. There should also be other minimum program requirements for lighting, mechanical ventilation, and for other electric end uses. Certain components of ENERGY STAR V3.0 should be retained such as some of the thermal envelope checklists.

^{97 97} Responses to Requests SC Set 1-INT-23

An objective of such a tiered incentive structure is that it allows for easier entry into the program by first time builders. Over time the expectation would be for builders to participate at more stringent tiers and the incentive levels could be modified to provide participating builders motivation to move up to more stringent tiers. Also, as Ohio's energy code is revised the incentives for each tier can be revised to better reflect the incremental cost of reaching a given tier.

This tier structure should include a highest tier set at an agreed to level approximating net zero energy for new homes, though not requiring the installation of renewables as a condition for program participation. However, the homes should be "renewable ready" to allow easy and less costly installation of photovoltaics in the future. This level of efficiency would be equivalent to about a 40 to 45 HERS index. Such a tier could be promoted through some type of Net Zero Energy Home Challenge as has been done in other states such as Connecticut which has successfully run its CT Zero Energy Challenge for several years⁹⁸. Savings from homes participating at this level would be larger than those just meeting the ENERGY STAR V3.0 criteria.

6. The Need to Strategically Address Free-Ridership and Measure Eligibility Criteria in Program Design

There is little, if any, discussion in the Plan as to both recognizing free ridership as a legitimate program design concern and proposing what actions would be taken to minimize free ridership. Free ridership is a particular concern in a state like Ohio where there are no adjustments to gross savings to account for free ridership. A poorly designed program that fails

⁹⁸ <http://www.ctzeroenergychallenge.com/>

to consider free ridership will allow a utility to claim gross savings for measures that would have been installed without utility intervention and without the payment of ratepayer funded rebates and incentives. Failure to fully and adequately address free-ridership as part of initial program design may allow FirstEnergy to create the illusion of meeting benchmarks when in fact much of the claimed savings would have occurred regardless of their efforts and the expenditure of ratepayer funds.

Baseline assumptions and program eligibility criteria should be carefully reviewed prior to program roll-out to ensure that current practice is not identified, and rewarded, as an efficient technology or practice. For example, EPA estimates that in 2011 56 percent of all refrigerators sold nationally met or exceeded its ENERGY STAR refrigerator criteria. For TVs this ENERGY STAR market share is 96 percent⁹⁹. This would strongly argue for FirstEnergy to adopt higher program eligibility criteria for refrigerators and TVs in 2013. In Appendix C-1 FirstEnergy does note that program criteria for a number of measures will be either ENERGY STAR or some higher efficiency level; in some cases one of the Consortium for Energy Efficiency's product tiers. Using the recently released 2011 ENERGY STAR market share data and other market intelligence, all of the proposed Efficient Product Program baseline assumptions and measure eligibility criteria should be reviewed prior to 2013 program implementation to minimize free ridership and to ensure that the gross savings attained by FirstEnergy are both real and maximized.

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http://www.energystar.gov/ia/partners/downloads/unit_shipment_data/2011_USD_Summary_Report.pdf?a3fe-16e1

While FirstEnergy has the ability to adjust baseline assumptions and eligibility criteria during the course of its three year program implementation, the program design that FirstEnergy will roll-out should be based on the best available market data. It is not clear that this is the case.

Also note that for a few measure categories FirstEnergy is proposing to provide rebates for technologies that have very different levels of savings. Specifically, FirstEnergy is proposing to rebate storage water heaters and heat pump water heaters. The other example is FirstEnergy's plans to promote halogen lamps in the residential sector. FirstEnergy should not offer rebates for either of these measures for several reasons.

First, there is an overriding concern of creating market confusion. For both technologies the more efficient option saves several times more energy than the less efficient option. Yet consumers will perceive both as being efficient choices since they are being promoted by FirstEnergy. Further, and particularly in the case of the two hot water technologies, the more efficient option is significantly more costly. The net effect will likely be that sales of the less efficient option will cannibalize the sales of the more efficient one.

In the case of the two hot water options the savings from an efficient storage hot water tank could be as little as 3 percent for a 50 gallon tank and this assumes that the baseline for a storage hot water tank is the federal minimum. If the baseline is above the federal minimum then this savings will be even smaller. However, for a heat pump water heater the savings can be upwards and greater than 50 percent. There is little rationale to promote the much less efficient storage hot water heater measure and it should be deleted from FirstEnergy's residential portfolio.

For lighting the Plan is not clear as to what type of efficient halogen technology FirstEnergy is proposing to promote. The federal lamp standards in EISA will require that by 2014 all general service lamps manufactured and imported into the U.S. be at least as efficient as current halogen technology (though due to inventory clearance there will likely be some lower wattage inefficient incandescents on retailers' shelves through much, if not most, of 2014). While there is some likelihood that more efficient halogen technologies – so called 2x halogens - may be available on a limited basis in early 2013 FirstEnergy should not promote this as-not-yet-available technology until more is known as to its performance, availability, savings, and cost.

Even if this technology were to provide cost-effective savings, there are still compelling reasons to exclude it from FirstEnergy's residential lighting portfolio. FirstEnergy estimates that 90 percent of its efficient lighting subprogram savings will come from CFLs and from LEDs. Consumers already face a bewildering array of lamp choices at retailers, particularly at home improvements centers and larger hardware stores where the choices can run into the several hundred. Consumers already have to decide among standard incandescent lamps, halogens, CFLs, and, increasingly, LEDs. Promoting a new "flavor" of halogen lamps will only add to consumer confusion and lack of clarity as to what the *best* efficient lighting product choices are.

This residential lighting landscape is further complicated by the implementation of the EISA standards and the recent mandating of Federal Trade Commission Lighting Facts Labels on most residential lamps. Increasingly consumers will need to choose lamps based on lumens, not on watts. FirstEnergy needs to unambiguously identify CFLs and LEDs as "the" efficient lamp choice and educate consumers how best to choose the right lamp based on both lumens and color temperature. Further, for efficient lighting products it remains critical that program support be restricted to ENERGY STAR qualified products. There are too many non-qualified products,

nearly all LEDs, still on retailer shelves. Any future efficient halogen products will not meet current ENERGY STAR lamp criteria (which are technology specific) and unlikely to meet proposed ENERGY STAR lamp criteria (which are technology neutral).

Given the lack of a commercially available product, uncertainty as to cost and savings, likelihood of increased customer confusion, and the lack of ENERGY STAR qualification, no halogen lamps of any type should be supported by FirstEnergy's Plan. The Commission should eliminate this item from the Plan.

7. The Need for Joint – not Coordinated – Program Delivery

FirstEnergy's programs do not operate in a vacuum. Similar programs are being implemented or proposed by other electric and gas utilities in Ohio. Wherever possible programs and subprograms, e.g., residential new construction and retail lighting programs, should be jointly implemented on a consistent statewide basis. This will help reduce program costs, increase trade ally engagement, and ultimately lead to greater savings and more fully transformed markets for energy efficiency products and services.

While FirstEnergy provides a cursory discussion of program coordination efforts with other utilities in its Plan, there are no sector level - let alone program level - details as to what specific actions and activities that FirstEnergy would undertake to pursue coordination with other Ohio utilities. Further, the level of commitment and timeline to achieve the proposed coordinate programs is uncertain. FirstEnergy – and the other Ohio utilities – must work towards joint program implementation, not just coordination. “Coordination” is too ill-defined a term and is easily open to multiple and conflicting interpretations. Finally, it is not clear from the Plan text if the proposed coordination extends to both electric and to gas utilities. Working jointly with gas

utilities is critical for the successful implementation and engagement with trade allies in the new construction, HVAC, and existing home retrofit program markets.

Joint implementation ensures that trade allies do not have to educate themselves about different program requirements as they do business in different parts of Ohio. Similarly, business customers with facilities in multiple service territories will only need to familiarize themselves with a single set of program requirements. As Ohio utilities move more of their program incentives upstream, being able to speak as a single statewide market will get greater attention from manufacturers, distributors and retailers. Finally, by implementing programs statewide common costs will be shared and unnecessary duplication of services eliminated. This will reduce program costs to both utilities and to ratepayers.

Characteristics of a jointly implemented program include, but are not limited to: identical rebate and incentive levels and measure eligibility criteria, common program application forms and procedures – both hardcopy and online, identical contractor training and certification requirements, common rebate and incentive processing procedures, identical quality control and quality assurance procedures, jointly procured statewide implementation vendors, etc.

B. Commercial/industrial programs must be improved to reduce the Companies' dependence on banked savings and achieve future increased benchmarks.

The Commission should direct the Companies to supplement the Plan with programs to address neglected energy savings opportunities in the Commercial and Industrial sector, modify the plan so it does not waste incentive dollars by providing incentives for baseline technology, and improve program processes.

FirstEnergy claims that the Plan provides “practically all”¹⁰⁰ of the Companies customers with significant opportunities to save energy and money. In fact, the Companies’ Plan neglects several attractive savings opportunities in the Commercial and Industrial sector. Supplementing the Plan with new programs to capture these opportunities would allow the Companies to save more energy from its own proactive efforts and provide its Commercial and Industrial with more opportunities to save money and energy.

1. The Commission should Modify FirstEnergy’s Plans to Include a Stand-Alone Data Center Program.

One significant unaddressed opportunity is in improving the efficiency with which businesses use information technology. “Data centers are servers are mostly very inefficient in terms of energy use, compared to best practices. Due to their rapid market growth and spread into all aspects of business, data centers and servers represent a major energy saving opportunity.”¹⁰¹ But the Companies’ Plan directs no program activity specifically at data centers and servers, even though other utilities (including AEP-Ohio) are dedicating significant resources to capture energy savings opportunities in data centers.¹⁰² Instead the Companies merely include servers as “custom equipment” C&I Energy Efficient Equipment Programs, Small and Large.¹⁰³ This means that the utility will pay incentives for customers that come forward having already completed data center and computer server projects. The Companies should be proactively seeking to encourage energy efficient use of Information Technology by businesses.

¹⁰⁰ FirstEnergy Exhibit 4, Miller Direct Testimony at 4, Line 14.

¹⁰¹ NRDC Exhibit 1, Swisher Direct at 9, Line 18.

¹⁰² Id. at 11, Line 18.

¹⁰³ Id. at 11, Line 10.

On rebuttal, the Companies agreed to “develop marketing materials” and “contract with an implementation vendor that will support comprehensive participation by data centers in the Companies’ Plans,”¹⁰⁴ but confirmed that this effort would come out of the existing Plan budget.¹⁰⁵ Given that this budget is already too small to allow the Companies to meet the benchmarks without the use of “banked savings” of uncertain composition, the Commission should require the Companies to increase the Plan budget by \$4.2 million (approximately equal to AEP’s Data Center program budget over 2012-2014¹⁰⁶ and \$1 million more than the \$3.2 million suggested by Miller¹⁰⁷) for a dedicated data center program. The Commission should order the Companies to:

- Hire an implementation vendor with experience in designing efficient Information Technology systems¹⁰⁸
- A facility assessment to identify server room and data center efficiency opportunities¹⁰⁹
- Payment at standard incentive levels¹¹⁰ for server room and data center efficiency projects, which may include identification and decommissioning of unused “ghost” servers,¹¹¹ server virtualization to reduce the number of physical servers,¹¹² use of centralized or “cloud” services that migrate IT workloads from equipment in server rooms to “the cloud” or a central data center, where operations are highly efficient,¹¹³ refreshing older equipment with Energy Star Servers with maximum power supply efficiencies and minimum power factors at various loads,¹¹⁴ and efficient cooling.¹¹⁵ Projects should also be allowed to include high-

¹⁰⁴ FirstEnergy Exhibit 21, Miller Rebuttal Testimony at 8, Line 9.

¹⁰⁵ Transcript Vol. VI, page 1061, lines 8-10.

¹⁰⁶ NRDC Exhibit 1, Direct Testimony of Joel Swisher, page 11, lines 18-21, page 12, lines 1-3.

¹⁰⁷ FirstEnergy Exhibit 21, Miller Rebuttal Testimony at 8, Line 14.

¹⁰⁸ Swisher Direct at 12, Line 7.

¹⁰⁹ Swisher Direct at 11, Line 20.

¹¹⁰ Swisher Direct at 11, Line 2.

¹¹¹ Swisher Direct at 12, Line 12.

¹¹² Id. at Line 13.

¹¹³ Id. at Line 15.

¹¹⁴ Id. at Line 17

efficiency Uninterruptible Power System (UPS)¹¹⁶, efficient floor layout,¹¹⁷ optimized temperature and humidity set points,¹¹⁸ and air-side economizers.¹¹⁹

2. FirstEnergy's Plan should be Modified to Include Retro-Commissioning.

Another unaddressed opportunity unaddressed by FirstEnergy's Plan is retro-commissioning. "Retro-commissioning is the diagnosis and correction of operational problems 1 in a building's energy systems and equipment, such as lighting and space conditioning, to ensure that they operate according to their intended design, which is rarely the case in practice."¹²⁰ The Companies' Plan dedicates only .2% of plan budget (and anticipated savings)¹²¹ to retro-commissioning, only anticipates 20 customers per-year,¹²² confusingly positions retro-commissioning as a minor element of the custom buildings component of the C&I Energy Efficient Buildings Program – Large¹²³ (even though retro-commissioning is completely different from the building shell measures that otherwise make up the program and an implementation vendor trade ally may not have experience in both)¹²⁴, no retro-commissioning

¹¹⁵ Id. at Line 19.

¹¹⁶ Swisher Direct at 13, Line 1.

¹¹⁷ Id. at Line 3.

¹¹⁸ Id. at Line 5.

¹¹⁹ Id. at Line 7.

¹²⁰ NRDC Exhibit 1, Swisher Direct at 15, Line 1.

¹²¹ NRDC Exhibit 1, Swisher Direct at 13, Line 15.

¹²² Id. at Line 17.

¹²³ Id. at Line 20.

¹²⁴ Id. at Line 22.

activity for smaller facilities.¹²⁵ The positioning in the custom program indicates the Companies expect customers to come to it having already completed projects, instead of the Companies helping customers overcome existing barriers to the identification and implementation of operation energy efficiency opportunities¹²⁶ and building trust and confidence among customers by helping them work with pre-approved, trained and qualified retro-commissioning experts and implementation contractors.¹²⁷

The Commission should require the Companies to implement a dedicated Retro-commissioning Program for large commercial and industrial customers and a Retro-commissioning-lite Program for smaller commercial and industrial programs. Given that the Plan budget is already too small to allow the Companies to meet the benchmarks without the use of “banked savings” of uncertain composition, and the Plan only dedicates a tiny amount of funding to Retro-commissioning, the Commission should require the Companies to increase the Plan budget by \$3.5 million (approximately equal to AEP’s Retro-Commissioning program budget over 2012-2014¹²⁸) for a dedicated Retro-commissioning program. The Commission should order the Companies to develop a program with the following features:

- A dedicated implementation vendor with experience successfully delivering Retro-commissioning services
- Incentives initially set at average levels for the Companies’ Commercial and Industrial portfolio¹²⁹

¹²⁵ Swisher Direct at 14, Line 3.

¹²⁶ Id. at Line 7.

¹²⁷ Id. at Line 10.

¹²⁸ NRDC Exhibit 1, page 16, lines 23-24, page 17, lines 1-2.

¹²⁹ Swisher Direct at 11, Line 2.

- A full Retro-commissioning program aimed at large customers, and a smaller “RCx-lite” program for smaller customers with a limited set of likely efficiency opportunities in HVAC, lighting, and motor controls,¹³⁰
- An initial retro-commissioning study for the customer, in exchange for the customer’s ommitment to complete those recommendations with short (1.5 year) payback times
- Recruitment, oversight and training, as needed, of retro-commissioning service providers
- Where applicable, the commissioning study may include an assessment of energy savings opportunities eligible for retrofit incentives through other utility C&I programs
- Program incentives paid directly to the contractors
- Pre- and post-installation inspections to ensure quality and verify energy savings
- A customer education component, linked to existing industry activity such as Building Operator Certification, to promote the value of retro-commissioning services, targeting senior management, as well as facility operations and maintenance staff.¹³¹

3. The Companies should Offer a C&I New Construction Program.

The Plan also neglects opportunities to increase the efficiency of new construction in the Commercial and Industrial sectors. The Companies’ dedicate about .6% of the program budget to ensuring that buildings are built efficient, about one-tenth the amount dedicated to energy efficiency kits for small businesses.¹³² “The portfolio does not include any program activity directed specifically at new construction of large C&I customer facilities.”¹³³ The portfolio plan calls for 72 small customer participants per year by 2015 across all three Companies, and no

¹³⁰ Swisher Direct at 17, Line 20.

¹³¹ NRDC Exhibit 1, Swisher Direct Testimony, page 17, Line 3.

¹³² Swisher Direct at 18, Line 15.

¹³³ Id. at Line 18.

large customer participants.¹³⁴ Moreover, the program budget makes “little sense”¹³⁵ given the program description: the Companies propose to provide incentives to cover the incremental cost of design services, but the proposed budget is only 15% incentives.¹³⁶

It makes sense to focus program efforts on new construction because eligible projects will increase as the economy improves,¹³⁷ as anticipated by the Companies’ account managers in the Market Potential Study¹³⁸, and “the potential cost and performance synergies of high-efficiency design, not just measure-by-measure equipment improvements, can only be captured in the design phase, before these potential gains become “lost opportunities.”¹³⁹ If these efficiency opportunities are not captured at the time of construction time, they may be prohibitively expensive to implement later.¹⁴⁰

The potential cost and performance synergies in efficient system design include:

- The opportunity to down-size heating and cooling equipment based on reduced loads, thus reducing the capacity, size and cost of, for example, HVAC equipment
- Reduced cost by upgrading equipment when it is new and incremental costs are lowest, compared to replacing equipment still in service at higher incremental cost
- Focus on efficient system design in new construction provides for intensive upgrades, which avoids “cream-skimming” of only the fastest-payback measures.¹⁴¹

Given that the Plan budget is already too small to allow the Companies to meet the benchmarks without the use of “banked savings” of uncertain composition, and the Plan only dedicates a tiny

¹³⁴ Id. at Line 22.

¹³⁵ Swisher Direct at 19, Line 2.

¹³⁶ Id. at Line 5.

¹³⁷ Id. at Line 14.

¹³⁸ FirstEnergy Exhibit 12, Ohio Edison Plan, Appendix D, Market Potential Study at page 48.

¹³⁹ NRDC Exhibit 1, Swisher Direct at 19, Line 15.

¹⁴⁰ Id. at Line 20.

¹⁴¹ Swisher Direct at 20, Line 2.

amount of funding to improving the efficiency of new construction in the commercial and industrial sector, the Commission should require the Companies to increase the Plan budget by \$3 million (approximately equal to AEP's New Construction program budget over 2012-2014) for a dedicated New Construction program. The Commission should order the Companies to develop a program that:

- Engages an implementation vendor with experience successfully delivering new construction programs
- Is a comprehensive effort available to both large and small commercial and industrial customers¹⁴²
- Offers direct design assistance and financial incentives to cover the cost of additional high-efficiency system design and engineering, as well as more efficient technology¹⁴³
- Allows customers to also get incentives for installed energy efficiency measures using the Companies existing rebate structure.¹⁴⁴

4. The Plan Should be Modified to Include a C&I Continuous Improvement Program.

Finally, the Plan excludes a continuous energy improvement program for large commercial and industrial customers. A continuous energy improvement program would help targeted, interested large customers establish energy teams within their organization, develop an energy use baseline and an energy use reduction goal, and make progress toward that goal by using technical assistance provided by the Companies' implementation vendor to develop energy efficiency projects and pursue behavioral changes.¹⁴⁵ Continuous energy improvement programs can help improve communication about energy efficiency between facilities personnel and financial management, and alert the utilities to capital replacement cycles that could present

¹⁴² NRDC Exhibit 1, Swisher Direct at 20, Line 12.

¹⁴³ *Ibid.*

¹⁴⁴ *Id.* at Line 19.

¹⁴⁵ NRDC Exhibit 4, Sullivan Direct Testimony at 11, Line 3.

attractive opportunities for energy efficiency (for example, when a new production line is being designed). AEP is implementing a continuous energy improvement program in its current plan,¹⁴⁶ and utilities in the Pacific Northwest have implemented a program for years.

The Companies' customers are well-placed to benefit from a continuous energy improvement program, as found by Black & Veatch in the Market Potential Study. FirstEnergy Account Representatives interviewed for the Market Potential Study reported that customers in the larger than 700kW demand sector are reacting to the improving economy by hiring additional staff, adding a new production run, or investigating a vacant commercial property for development. Black & Veatch states "this may be an opportunity for FirstEnergy to focus on as its large customers consider expansion of their facilities"¹⁴⁷ and "there continue to be opportunities for improvements in manufacturing process and behavioral improvements, particularly for the largest customers who are looking for higher potential EE savings."¹⁴⁸

But the Companies did not appear to consider a continuous energy improvement program as they developed the Plan, even though they claim elsewhere that they "considered" energy efficiency programs offered by other Ohio utilities (presumably including AEP) as they developed the Plan.¹⁴⁹ On rebuttal, witness Miller stated that the Companies "consider" a continuous energy improvement program sufficiently achieved through marketing and education,¹⁵⁰ and one that is not worthy of the additional operating expenses. The Companies present no evidence for this "consideration." In fact, a continuous energy improvement program

¹⁴⁶ Sullivan Direct at 10, Line 17.

¹⁴⁷ Black & Veatch, Market Potential Study: Energy Savings and Demand Reduction for Ohio Edison, Toledo Edison, and The Illuminating Company, June 22, at 48.

¹⁴⁸ Id. at 50.

¹⁴⁹ Attachment C, EE&PDR Program Plan, Toledo Edison Plan, Page 6.

¹⁵⁰ Transcript Vol VI at 1063 lines 14-21.

would allow the Companies to save more energy cost effectively, and capture efficiencies that would otherwise be lost opportunities as capital is deployed to implement new production processes and refit old ones.

The Companies in general do not devote enough program effort to proactively encouraging energy efficiency in large customers, even though efficiency in this sector is less expensive than encouraging efficiency in small customers.¹⁵¹ Best practice programs “place substantial effort and resources”¹⁵² into working with large customers to generate program savings, but the Companies fail but the Companies fail to propose programs to proactively encourage efficiency in the large customer sector. The Companies’ account representative should be actively selling¹⁵³ energy efficiency projects and programs to large customers rather than serving in a passive “advisory” role.¹⁵⁴

Given that the Plan budget is already too small to allow the Companies to meet the benchmarks without the use of “banked savings” of uncertain composition, and the Plan only dedicates no funding to continuous improvement activities that the Companies own consultant believes could be beneficial over the Plan period, the Commission should require the Companies to increase the Plan budget by \$9 million (approximately equal to AEP’s Continuous Improvement Program budget over 2012-2014¹⁵⁵) for a dedicated Continuous Energy Improvement program. The Commission should order the Companies to develop a program that:

¹⁵¹ Sierra Club Exhibit 1, Loiter Direct Testimony at 13, Line 10.

¹⁵² Id. at Line 13.

¹⁵³ Id. at Line 21.

¹⁵⁴ Id. at Line 20.

¹⁵⁵ Transcript Vol VI, page 1063 lines 12-14.

- Engages an implementation vendor experienced in delivering continuous energy improvement programs in the manufacturing sector
- Targets interested customers within the Companies “top-100” customers
- Is modeled on the AEP-Ohio program, and includes technical assistance, the establishment and ongoing project of energy teams, the creation of an energy use baseline and an energy use reduction goal (unless one already exists), and planning to implement projects and behavioral changes that lead toward reaching that goal.

5. The Plan Should be Modified to Include a Small Business Direct Install Program.

While it is less expensive to reach large customers than small, that is no reason to neglect smaller customers, who also pay for programs. Small business customers have several unique barriers to implementing energy efficiency that programs should address. These firms rarely have personnel who can focus their attention on issues of facility management and energy use, even if they had the knowledge and skill to do so. Second, smaller firms have more limited access to capital. Because higher efficiency equipment typically requires a larger up-front investment which is then recovered through lower operating costs, these firms may not be able to make economically beneficial investments at all. Third, the management staff of smaller firms are typically wearing multiple hats and have limited time to devote to reviewing offers, negotiating with vendors, and completing paperwork.¹⁵⁶

But the Companies propose no targeted action directed to Small Enterprise customers except an energy efficiency kit, which at best only overcomes the “limited access to capital” barrier. The kits “represent nearly 40 percent of the cumulative three-year savings for the small commercial sector for Ohio Edison and nearly 30 percent of the cumulative three year savings for this sub-sector for the other two operating companies.”¹⁵⁷

¹⁵⁶ Sierra Club Exhibit 1, Loiter Direct Testimony at 10, Line 6.

¹⁵⁷ Loiter Direct at 9, Line 15.

A better strategy would be to employ a direct install model for small business customers, combining high incentives with simple program requirements and prescriptive measures to easily address many of the most common efficiency opportunities in small businesses.¹⁵⁸ AEP-Ohio currently runs an “Express” program targeted at small business customers that uses this model.¹⁵⁹ The Commission should require the Companies to direct a substantial portion of the kit budget on a small business direct install program that offers higher incentives, simple program requirements, and payment directly to contractors.

6. The Companies Should not Provide Incentives for Baseline Technologies. The Companies Should Improve Program Processes.

Amid all of the lost opportunities created by the Plan’s limited program scope in the Commercial and Industrial sector, it also appears that the Companies are providing incentives for projects that would have occurred without the use of incentives or the existence of a FirstEnergy program. As reported by the Companies, on July 14, 2012 a provision in the 2007 Energy Independence and Security Act went into effect that prohibits the manufacturing or importation of T-12¹⁶⁰ and low-efficiency T8¹⁶¹ fluorescent lamps. This means these lamps “will soon be disappearing from business installations without any influence on the part of the Companies.”¹⁶² The Companies claim that “there are opportunities to incent standard T-8 lighting installations that provide the early retirement of T-12 lighting installations”¹⁶³, and point to the Illinois and

¹⁵⁸ Loiter Direct at 10, Line 22.

¹⁵⁹ Loiter Direct at 11, Line 4.

¹⁶⁰ FirstEnergy Exhibit 21, Miller Rebuttal at 4, Line 23.

¹⁶¹ Sierra Club Exhibit 1, Loiter Direct at 11, Line 15.

¹⁶² Id. at Line 16.

¹⁶³ Miller Rebuttal at 5, Line 2.

Pennsylvania Technical Reference Manuals. But the existence of an evaluation protocol does not alone justify the existence of a measure in a program. The “early retirement” mentioned by Miller above is a benefit for a short time period (until T12 and low-efficiency T8 lamps are no longer available), then the customer will be “locked into” standard levels of lighting efficiency. It would be as if the Companies provided incentives in 2013 for bulbs minimally more efficient than today’s 60W incandescent (which will similarly be illegal to manufacture or import on January 1, 2014).

“It takes resources (both time and money) to reach customers and convert them to program participants. Rather than stop at the baseline technology they will soon reach as a result of federal standards, the program should bring all customers with whom they engage to the high performance lighting fixtures that are the focus of the rest of the lighting program. The greater savings from the higher efficiency technology come at very little additional cost,”¹⁶⁴ particularly considering the additional administrative cost of trying to reach this same customer again at a later date to bring them to the higher efficiency level. For example, the incremental cost of a high performance 2-lamp T8 fixture over a standard T8 fixture is just \$18, compared with a cost of \$100 for the fixture retrofit in the first place, yet this increases savings by almost 50 percent.¹⁶⁵

To provide a consistent message to the market, maximize the impact of customer engagement, and ensure incentive dollars are not wasted the Commission should require Companies to not provide incentives for T12-to-standard-T8 retrofits, a policy already implemented by Duke.¹⁶⁶

¹⁶⁴ Sierra Club Exhibit 1, Loiter Direct Testimony at 12, Line 2.

¹⁶⁵ Id. at Line 6.

¹⁶⁶ Id. at Line 17.

The Companies also need to improve program processes. The Commission should require the Companies to reduce the wait time for the Companies to confirm application completeness, reduce the wait time for application approval, and develop an online application for Commercial and Industrial incentive programs.¹⁶⁷

C. The Commission Has the Authority and Should Create a Default Requirement that FirstEnergy bid all Eligible Efficiency Resources in Future Base Residual Auctions.

The record in this case is insufficient to justify FirstEnergy's very limited proposal of bidding resources into the PJM BRAs. It is unfortunate that the Companies would recommend ignoring such a drastic savings opportunity for its customers. The Commission should reject FirstEnergy's proposal and adopt the recommendations herein. FirstEnergy should not be able to leave these revenues and capacity savings on the table in future PJM auctions. FirstEnergy's customers invest in energy efficiency programs largely as a means for lowering their need to purchase capacity. If FirstEnergy fails to bid these investments into the BRAs, customers will be paying for capacity twice; once through energy efficiency investments to lower their need, then paying again to have the capacity supplied regardless of their savings efforts. The record in this case demonstrates there is significant value that bidding these resources into auctions will have for FirstEnergy's customers. The Companies should not be permitted to ignore this huge savings opportunity.

For the next (years 2016/2017) and all subsequent BRAs, the Commission should require that FirstEnergy submit its plan for bidding of efficiency resources for approval by the Commission. The plan should be filed at least 90 days before the deadline for submitting all pre-

¹⁶⁷ NRDC Exhibit 4, Sullivan Direct Testimony at 9, Line 17.

requisites for bidding (e.g. an M&V Plan) to PJM and should include, at a minimum, all eligible efficiency resources included in the Companies' portfolio plan and estimated amounts for years without an already approved plan. The approval process should be transparent and should allow interested parties the opportunity to participate to ensure energy efficiency investments receive their maximum value.

Finally, FirstEnergy should be required to present compelling evidence, meaning quantitative analysis, that the financial cost and/or financial risk of bidding certain efficiency resources into the market would be greater than the likely benefits (both capacity payments and impacts on market clearing prices) in order to exclude any expected efficiency savings from its bids.

D. The Commission should modify the shared savings incentive to ensure that FirstEnergy is rewarded for successful program related activities.

Shared savings mechanisms are intended to provide IOUs an earnings opportunity when their energy efficiency programs are successful by offering shareholders a portion of the net benefits customers receive as a reward for excellent performance at saving energy and lowering customer bills, provided minimum performance thresholds are met.¹⁶⁸ In designing a shared savings mechanism, parties have to make several choices:

- The conditions under which the mechanism is triggered,
 - The percentage of net benefits retained by the utility,
 - The programs that contribute to, and the programs that are excluded from, net benefits,
- and
- The maximum dollar amount of incentive irrespective of the percentage of net benefits retained by the utility.

¹⁶⁸ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 12, Line 5.

It is also quite common for shared savings incentive mechanisms to include penalties for when a utility fails to meet performance expectations.¹⁶⁹

The Commission should be mindful that shared savings mechanisms are traditionally and appropriately designed to encourage the development, deployment, and continuous improvement of programs that will save customers money compared to other energy resources and are not duplicative of energy savings that would have happened anyway. A shared savings incentive should not grant a utility a share of savings that it had little or no hand in producing, or a share of “savings” that only exist on a spreadsheet.¹⁷⁰ In deciding whether and what kind of shared savings mechanism to approve in this case, and to ensure that the mechanism encourages the Companies own efforts to proactively encourage energy efficiency, the Commission must take into account two features of Ohio law that are different from the other states that have deployed shared savings incentives: the counting of Transmission and Distribution (“T&D”) projects that reduce line losses as energy efficiency programs, and the counting of mercantile customer projects – existing and new – toward a utility’s energy efficiency benchmark.¹⁷¹

The Companies proposed shared savings mechanism ignores these complexities and encourages a suite of actions that are not traditionally and appropriately included in shared savings mechanisms. Under the proposal:

- The incentive mechanism will be triggered when an individual operating Company exceeds both its annual and cumulative energy savings targets as set forth in Revised Code Section 4928.66(A)(1)(a), provided the Company makes up any compliance deficit from a prior year
- The percentage of net benefits a Company would retain at a given level of performance relative to its target is shown in the following chart:

¹⁶⁹ Id. at Line 12.

¹⁷⁰ Id. at Line 21.

¹⁷¹ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 13, Line 1.

Compliance Percentage	Incentive Percentage
< 100%	0.0%
100-105%	5.0%
> 105-110%	7.5%
> 110-115%	10.0%
> 115%	13.0%

- Net benefits from Mercantile customer projects installed prior to March 23, 2011, behavioral programs that show no persistence beyond a year, and “business as usual” Transmission and Distribution projects would be subtracted from the discounted net lifetime benefits from which the Companies will take a percentage
 - The Companies propose no cap or maximum dollar amount for the incentive
 - The Companies propose no penalties for when the Companies fail to meet the targets in Revised Code Section 4928.66(A)(1)(a), though this is understandable given the non-compliance penalties already included in the law, and
 - The Companies propose to use annualized savings in the calculation of the shared savings incentive.¹⁷²

The Commission should reject the mechanism as-proposed and approve a modified shared savings mechanism. The proposed mechanism is not sufficiently tied to the Companies’ own performance in delivering energy efficiency programs, is overly generous to the Companies, and does not include enough safeguards for customers.¹⁷³

First, under the Companies’ shared savings mechanism, the Companies would begin earning an incentive when the Companies exceed the benchmarks in O.R.C. 4928.66(A)(1)(a) as long as they have made up any outstanding deficit. This is true even if they exceed the benchmarks primarily with T&D

¹⁷² Id. at Line 15.

¹⁷³ Sullivan Direct at 14, Line 9.

projects and mercantile self-direct savings. The Commission can and should separate the discussion of whether the Companies complied with the law from whether and when customers should begin paying the utility an incentive. Not all programs that count toward the benchmarks in O.R.C. 4928.66(A)(1)(a) should also count toward achieving the benchmarks for the purposes of determining shared savings. The incentive should not be triggered by actions that the Companies had little or nothing to do with (as in the Mercantile Customer Program), or “actions” that are mere accountings of things that would have happened anyway (T&D projects).¹⁷⁴

Second, under the Companies’ shared savings mechanism, once the incentive is triggered the Companies will retain a portion of the net benefits from projects that it had little or nothing to do with (Mercantile customer projects installed after March 23, 2011), from projects that may not actually reflect additional action by customers (from the Online Audit program), and from projects on which the Companies are already earning a return (T&D projects). The Companies should not earn a portion of the net benefits from these projects. To do so would reward the Companies for inaction or actions that occurred without its involvement.¹⁷⁵

Also, the Companies’ proposed shared savings “incentive percentage”, the percentage of net benefits retained by the utility at a given level of over-compliance, is identical to the incentive percentages approved by the Commission for American Electric Power-Ohio (“AEP”). However, it does not take into account¹⁷⁶ the Companies’ potentially lucrative¹⁷⁷ lost revenue recovery mechanism, which unlike the decoupling mechanism operating at Duke and AEP, allows the Companies to collect “lost revenues” even if they might be over-collecting their distribution revenue requirement.¹⁷⁸

¹⁷⁴ Id. at Line 20.

¹⁷⁵ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 15, Line 4.

¹⁷⁶ Id. at Line 13.

¹⁷⁷ Id. at Line 24.

¹⁷⁸ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 16, Line 4.

Finally, the shared savings mechanism does not include a cap on the absolute amount of incentive the Companies can collect from customers.¹⁷⁹ This should be required given the Companies' poor track record running the type of energy efficiency programs that shared savings mechanisms are designed to encourage, and the lack of trust between the Companies and the parties.¹⁸⁰

In order to directly tie the Companies' earnings under the shared savings mechanism to its own performance in delivering proactive energy efficiency programs, the Commission should modify the mechanism so that it is triggered when the Companies exceed an "Adjusted Benchmark" each year. This Adjusted Benchmark would be calculated by subtracting Mercantile Self-Direct customer load from the three-year average sales from which the annual energy efficiency benchmarks are determined, and multiplying the result by the annual energy efficiency benchmarks in Revised Code Section 4928.66(A)(1)(a).¹⁸¹ This adjusted benchmark would be used for the limited purpose of determining whether and how much shared savings incentive the Companies are granted.

The shared savings mechanism should be triggered when the Companies exceed this Adjusted Benchmark with verified savings from its energy efficiency programs, excluding savings from:

- T&D projects that do not represent incremental energy efficiency beyond "business as usual levels" (for example, the Companies should exclude reconductoring projects implemented to meet reliability criteria, but could include the results of a modified distribution transformer procurement policy that involves the Companies installing super-efficient distribution transformers).¹⁸²
- Mercantile Self-Direct projects, including both those submitted directly to the Commission and those that are submitted through the Companies' proposed Mercantile Customer Program, because mercantile customers implemented these projects largely without the Companies' involvement and mercantile customer load is excluded from the baseline in calculating the Adjusted Benchmark.¹⁸³
- The results of the On-Line Audit program, because the Companies plan to evaluate the impact of the program using an invalid control group.¹⁸⁴

¹⁷⁹ Id. at Line 12.

¹⁸⁰ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 17, Line 3.

¹⁸¹ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 18, Line 6.

¹⁸² Hearing Transcript Vol V at 952.

¹⁸³ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 18, Line 24.

¹⁸⁴ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 19, Line 2.

Once the Adjusted Benchmark is exceeded in a given year, the Companies should receive an incentive based on the Total Resource Cost test. This incentive should be capped at \$10 million dollars per-year, split among the Operating Companies, and calculated according to the following chart¹⁸⁵:

Annual Energy Efficiency Performance (% of Adjusted Benchmark)	Shared Savings Incentive (% of Net Benefits)
< 100%	0.0%
100-105%	2.0%
> 105-110%	4.0%
> 110-115%	6.0%
> 115%-130%	8.0%
> 130%	10%

Each Company should only claim shared savings once for the measures installed in a given year, and in the year that a measure is installed. In future years, banked energy efficiency savings may be used to determine compliance with O.R.C. 4928.66, but should be subtracted from the energy savings used to determine performance relative to the Adjusted Benchmark in the year in which they are used.¹⁸⁶

E. The Companies’ Residential Programs Should be Administered by a Competent Third Party.

The Companies are unwilling to dedicate management attention and ingenuity to the task of designing, implementing, and improving energy efficiency programs. The Commission should devolve administration and implementation of the residential portfolio to a board.

¹⁸⁵ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 19.

¹⁸⁶ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 20, Line 12.

The Companies' management is hostile to the energy efficiency benchmarks and resents being made to run energy efficiency programs.¹⁸⁷ The Companies have a supply-side bias, rewarding activities that encourage generation sales, rather than those that increase efficiency.¹⁸⁸ Even employees in the energy efficiency department are not rewarded when they meet or exceed Ohio's benchmarks, and receive no assistance to develop professionally as energy efficiency experts.¹⁸⁹ Also, several utilities tie a portion of account representative compensation to the "selling" of energy efficiency: the Companies do not.¹⁹⁰ The programs in the Company's Existing Plan have been poorly implemented according to independent evaluation.¹⁹¹

In this situation, it would be foolish to expect anything to change without Commission and stakeholder intervention. As described above, the proposed Plan still fails to develop program infrastructure that will allow the Companies to meet future targets and transform the market toward energy efficient solutions. The Commission has two options to improve program implementation:

- FirstEnergy could keep running programs, under clear direction from the Commission to focus more on market transformation and the avoidance of lost opportunities, clear direction to shift strategically to building program infrastructure and relationships that will allow it to meet targets through 2025, and greater Collaborative input into program design and implementation, or
- The Commission could assign a board the task of administering the Companies' programs or a portion of its programs, issuing and managing RFPs, monitoring program progress, making mid-stream adjustments to programs, contracting for evaluation, measurement, and verification, and reporting to the Commission.¹⁹²

We recommend that the Commission implement the second option in this case, initially for the non-Community Connections, non-Direct Load Control portion of the Residential portfolio. This would ensure FirstEnergy customers receive programs administered by a group that does not have cultural

¹⁸⁷ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 6, Line 24.

¹⁸⁸ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 20, Line 20.

¹⁸⁹ Hearing Transcript Vol. II at 356.

¹⁹⁰ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 21, Line 4.

¹⁹¹ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 8, Line 14.

¹⁹² NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 22, Line 2.

conflicts with energy efficiency and that would seek to maximize program effectiveness under a given budget constraint. The costs of switching to board administered programs would not be trivial: the board would need to hire experts to advise it, it would need to build savings tracking and customer relationship management systems, and it would need a budget sufficient to attract qualified staff and implementation vendors. The Commission would need to ensure a quick, safe, bi-directional flow of customer information between the board and the Companies. And there would undoubtedly be a transition period where the Companies would continue to administer programs.¹⁹³

In this case, the Commission should establish a Board that would be answerable to the Commission, composed of the Office of the Ohio Consumers' Counsel, a representative of the Environmental Advocates who have intervened in this case, a representative of low income groups or the Community Action Agencies who have intervened in this case, a representative of home performance/HVAC contractors, and a representative of municipal governments in the Companies' service territory. The Commission Staff and a representative of the Companies should participate in a non-voting role. The Board would attempt to reach decisions by consensus, but could vote if necessary.¹⁹⁴ The funds the Board administers would be subject to audit by the auditor of the state.¹⁹⁵ The proposed Board is similar to a board used in Indiana to administer energy efficiency programs.¹⁹⁶

The residential portfolio would be defined as those programs directed at energy efficiency opportunities in one to four family dwellings, residential dwellings three or fewer stories, and individually metered dwellings in larger multifamily complexes.¹⁹⁷ The Board would issue an Request for Proposals within 3 months of Commission approval of this Plan for an implementation contractor that would implement a portfolio of residential programs under the same residential sector budget (inclusive of

¹⁹³ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 23, Line 11.

¹⁹⁴ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 24, Line 4.

¹⁹⁵ Hearing Transcript Vol. V at 982, Line 6.

¹⁹⁶ Hearing Transcript Vol. V at 979, Line 11.

¹⁹⁷ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 24, Line 12.

common costs and EM&V costs) the Company proposes in this case, exclusive of budgets for Community Connections and Direct Load Control, with additions to account for the hiring of an expert to advise the board, incremental IT expenses, and other startup costs. The Board would seek public input as it developed the RFP. The Board would judge responses to the Request for Proposals based on the degree to which the response meets the multiple requirements of program planning under O.A.C. 4901:1:-39-03 and the degree to which the response credibly plans to achieve the energy savings goals the Companies propose from the residential portfolio in this case while working within the outlined budgetary constraints. The Board would not have to choose the lowest bidder. The Commission would review and approve the selected implementation vendor's scope of work.¹⁹⁸

The Board would be responsible for running programs to meet the non-Community Connections projected residential savings in this Plan, though the Companies and the Board would not be assessed compliance penalties if the Board-administered programs are not able to meet targets. Instead, the Board would enter into performance contracts with vendors¹⁹⁹ to encourage performance in excess of benchmarks. Going forward, the Board would be responsible for administering programs to meet the residential sector's portion of the Companies' benchmarks.²⁰⁰ In this Plan, the Companies could shift budget over to residential programs (provided there is potential) if other programs were not performing and the Companies were in danger of not meeting the remaining portion of the benchmarks.²⁰¹

The Companies would be responsible for sharing reasonable customer data with the Board's chosen implementer(s)²⁰², and the Board and its implementers would observe the same data protection and confidentiality standards that the Companies' current vendors observe.²⁰³ The Companies would

¹⁹⁸ Id. at Line 16.

¹⁹⁹ Hearing Transcript Vol. V at 984, Line 6.

²⁰⁰ Hearing Transcript Vol. V at 988, Line 16.

²⁰¹ Hearing Transcript Vol. V at 983, Line 18.

²⁰² NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 25, Line 14.

²⁰³ Id. at Line 17.

collect the budget for approved residential programs (including any additions the Commission makes in this case) through its energy efficiency rider. On a monthly basis, the Company would release the residential portion of these funds to a non-governmental fiscal agent under contract to the Commission, who would then pay the implementation vendor as detailed in the Commission-approved scope of work.²⁰⁴

The Board would file a monthly report at the Commission containing minutes of Board meetings, including votes or decisions made by the Board. The Board will report to the Commission and Company every two months (15 days after the end of the two month period) on the measures installed and jobs completed the previous two months, as well as major changes made by the implementation contractor in program implementation. The Board would submit a Portfolio Status Report conforming to the requirements in O.A.C. 4901:1-39-05(C) on May 15 of each year (excluding 2013). The Board would continue to implement the Residential Portfolio subsequent to 2015, unless the Commission determines otherwise, accepting all responsibilities under O.A.C. 4901:1-39-04, at budget levels approved by the Commission.²⁰⁵ If the Commission approves board administration, the Commission should quickly convene a workshop to discuss transition issues.

V. Conclusion: the Commission should modify the Plan as proposed in this brief in order to provide the Companies with a better chance to meet or exceed the benchmarks in Ohio law and Commission rules.

For the reasons stated above, the Natural Resources Defense Council, Sierra Club and Citizen Power respectfully request the Commission adopt the changes to FirstEnergy's Plan as described. The Public Utilities Commission of Ohio should expect and ensure the same level of energy efficiency performance from the FirstEnergy Electric Distribution Utilities Companies that it does from other Ohio electric distribution utilities.

²⁰⁴ Id. at Line 20.

²⁰⁵ NRDC Hearing Ex. No. 4, Direct Testimony of Dylan Sullivan at 26, Line 6.

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CERTIFICATE OF SERVICE

I hereby certify that a true and accurate copy of the foregoing *Initial Brief by the Natural Resources Defense Council, the Sierra Club, and Citizen Power* has been served upon the following parties via electronic mail on November 20, 2012.

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