BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Annual Verification of the Energy Efficiency and Peak Demand Reductions Achieved by the Electric Distribution Utilities Pursuant to Section 4928.66, Revised Code.	)))))	Case No. 12-665-EL-UNC

REPLY COMMENTS BY THE OFFICE OF THE OHIO CONSUMERS' COUNSEL

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I. INTRODUCTION

R.C. 4928.66(A) requires each electric distribution utility ("EDU") in Ohio to implement energy efficiency and peak demand reduction ("EE/PDR") programs that achieve quantifiable electric savings.[1] These programs can benefit Ohioans in several ways:

- They can lower the costs of electric energy in the wholesale market leading to lower retail electric energy prices in competitively bid auctions.
- They can lower the costs of electric capacity in wholesale markets to the extent that the EE/PDR resources are bid into the PJM Base Residual Auction.
- They can lower the costs of PJM ancillary services (especially from demand response resources).

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[1] The EDUs are Ohio Power Company ("AEP Ohio"), The Dayton Power and Light Company ("DP&L"), Duke Energy Ohio ("Duke") and The Cleveland Electric Illuminating Company, Ohio Edison Company and The Toledo Edison Company ("FirstEnergy").

- They can postpone distribution and transmission upgrades.
- They allow customers to better control their energy use.
- They reduce air emissions and waste from generating facilities.
- The costs of the EE/PDR programs are less than if the equivalent electric services were provided by the utility's supply side generation resources.

This proceeding involves the first verification by the Public Utilities Commission of Ohio ("Commission" or "PUCO") of the annual EE/PDR levels achieved by each Ohio EDU, as required by R.C. 4928.66(B). On February 23, 2012, the Commission chose Evergreen Economics ("Evergreen") to serve as the statewide Independent Program Evaluator for verification of the EDUs' EE/PDR programs.[2] On August 29, 2012, the Report of the Ohio Independent Evaluator ("Report") was docketed in this proceeding. In the Report, Evergreen set forth numerous "over-arching" recommendations, as well as several recommendations specific to each EDU's EE/PDR program.

In response to an Entry dated October 3, 2012, comments on the Report were filed on November 2, 2012.[3] The Office of the Ohio Consumers' Counsel ("OCC") filed comments on behalf of all of the approximately 4.2 million residential customers of Ohio's EDUs. In its Comments, OCC urged the Commission to adopt several of Evergreen's over-arching recommendations, as well as many of its EDU-specific

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[2] Entry (February 23, 2012) at 3.

[3] In addition to OCC, individual comments were filed by the EDUs, Industrial Energy Users-Ohio ("IEU"), Ohio Partners for Affordable Energy ("OPAE"), the Natural Resources Defense Council ("NRDC") and the Ohio Energy Group ("OEG"). The Sierra Club and Citizen Power filed joint comments.

recommendations.[4] OCC also urged the Commission to complete its task of adopting a Technical Reference Manual ("TRM") for determining EE/PDR reductions.[5]

OCC submits these reply comments in response to several issues raised by the other commenters.[6] OCC again urges the Commission to finalize the TRM, which would include a methodology for calculating a net-to-gross value for EE/PDR savings. OCC also favors consistency in how the EDUs measure savings when using similar delivery systems and consistency in measuring savings achieved by the various customer classes. In addition, OCC urges the Commission to retain the Total Resource Cost ("TRC") test for determining cost-effectiveness of EE/PDR programs and to require Evergreen to supplement its report to meet the identified scope of the evaluation. Further, OCC recommends that the Commission consider the behavioral protocols identified by NRDC.

II. DISCUSSION

A. Going Forward, the Commission Should Consider the "Free Rider" Calculation to Reduce the Level of Lost Distribution Revenues Collected from Customers by Ohio's EDUs.

"Free riders" are customers who would have undertaken the desired energy efficiency action on their own initiative, separate from the EDU's program. The savings achieved by free riders supplements the savings achieved by "free drivers," i.e., those participating or non-participating customers who undertake the desired or additional energy efficiency actions because of the EDU's program, but who do not claim financial or technical assistance for additional measure installations, causing "spillover" savings.

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[4] See OCC Comments at 2-16.

[5] Id. at 16-18.

[6] The fact that OCC does not respond to a specific position advanced by another commenter should not be construed as OCC's acquiescence to that position.

On balance, and traditionally, free rider effects are greater than spillover effects.[7] The total effect determines the net-to-gross ratio.

Evergreen noted that EDUs are required to report only the gross impacts of their EE/PDR programs (i.e., the total energy saved, regardless of the reason) for 2009, 2010 and 2011, but at some point in the future they likely will need to report their programs' gross impacts (i.e., the energy saved through the EDUs' programs and not through customers' independent efforts).[8] Evergreen stated that it began developing a "free ridership" battery of survey questions in 2010, and that it expects to finish developing the standard free ridership question battery and scoring algorithm in 2012.[9]

A number of commenters challenged Evergreen's efforts to measure net impacts. Some argued that because the Commission currently requires reporting of only gross impacts, Evergreen's venture into measuring net impacts was inappropriate,[10] or at best, premature.[11] FirstEnergy stated that a net savings estimate should only be used in determining portfolio cost-effectiveness and not for compliance purposes, since net savings was not a factor in developing the standards in S.B. 221.[12] FirstEnergy also asserted that "[i]f Evergreen insists on calculating net impacts, it must also calculate free-

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[7] See Megdal, Pertusiello and Jacobson, "All These Years Measuring Free Ridership & Now We Measure a Portion of These as Caused by Market Transformation," Megdal & Associates (1996) at 6 (available at http://www.megdalassociates.com/pubs/AESP_96M.pdf).

[8] See Report at iii.

[9] Id. at iii-iv.

[10] AEP Ohio Comments at 4-8.

[11] FirstEnergy Comments at 6.

[12] Id. at 7. See also DP&L Comments at [3].

drivers and spillover effects."[13] Others discounted the battery of questions recommended by Evergreen as not being rigorous enough or as being flawed.[14]

The Commission should require Ohio EDUs to report a net-to-gross value whose calculation would be determined in a finalized TRM. Going forward, for the next three energy efficiency portfolio years, any net-to-gross savings estimates should only be used in determining the lost distribution revenues customers are charged. The gross savings approach has led to excessive payments by customers to electric utilities for lost distribution revenues to the extent that a net-to-gross calculation has not been required.[15] This recommendation would not impact residential customers of AEP Ohio and Duke as they are currently piloting a revenue decoupling rate design.

B. Going Forward, There Should Be Consistency in the Savings Estimates Among Like Measures and Delivery Systems Among Ohio's EDUs.

As discussed in OCC's Comments,[16] Evergreen noted that the EDUs were inconsistent in calculating energy savings from compact fluorescent lighting ("CFLs").[17] Both Duke and AEP Ohio assumed that 100% of CFLs obtained by customers remained installed for the entire year. FirstEnergy used an adjustment factor of 89% and DP&L adjusted savings by 86%, but neither EDU differentiated between those purchased by customers and those installed by the EDU. In making its calculations, Evergreen relied on Ohio's draft TRM, which recommends an installation adjustment factor of 86% for

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[13] First Energy Comments at 6-7. See also Duke Comments at 3; DP&L Comments at [3].

[14] See Duke Comments at 3; DP&L Comments at [1]-[3]. NRDC also advocated for a rigorous method for determining the impacts of EE/PDR programs, but argued against using a customer survey. NRDC Comments 3-6.

[15] OCC opposed the excessive lost distribution revenues approved in FirstEnergy Case No. 12-1230-EL-SSO et al.

[16] OCC Comments at 3-4.

[17] See Report at 6, Table 1.

CFLs purchased by customers or 81% for CFLs an EDU installed at customers' premises.[18]

Only AEP Ohio, NRDC, Duke and OCC commented on this issue. AEP Ohio criticized Evergreen's use of the adjustment factors in the draft TRM. AEP Ohio stated that the Commission has determined that gross kWh savings are to be reported for compliance purposes, and the installation rate adjustment is inappropriate because it is a function of net-to-gross calculations.[19] AEP Ohio also argued that using the adjustment factor is inappropriate because a large proportion of CFLs not installed in year one will be installed in the future.[20]

NRDC opposed using the adjustment factor for three reasons.[21] First, the actual proportion of discounted bulbs installed in a given year is difficult to measure accurately, and measuring the quantity adds additional complication and cost to evaluation. Second, CFL bulbs will be installed within three years anyway and EDUs should be credited with the installations during the second and third years. Third, most customers have an inventory of stored bulbs and they should be encouraged to use their inventory. NRDC urged the Commission to not discount the savings from programs that encourage multi-pack purchases of CFL bulbs that might not be used immediately.

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[18] Id. at ii, citing State of Ohio Energy Efficiency Technical Reference Manual (August 6, 2010), prepared for the Public Utilities Commission of Ohio by Vermont Energy Investment Corporation, available at http://amppartners.org/pdf/TRM_Appendix_E_2011.pdf.

[19] AEP Ohio Comments at 10.

[20] Id.

[21] NRDC Comments at 2-3.

Duke stated that any adjustments for savings through CFL usage should be applied in future program evaluations, but not retroactively.[22] Duke recommends using an adjustment factor derived from either current evaluation research using primary data collection or the draft TRM.[23]

OCC urges the Commission to adopt a standardized adjustment factor for CFLs in order for the Commission to properly perform its statutory verification function.[24] Evergreen recommended that the CFL impacts of all the EDUs be adjusted using either the adjustment factors from the TRM or the results of evaluation research, such as customer surveys and/or on-site verification, from each individual utility.[25] OCC recommends using the CFL impacts obtained from the evaluation research method.[26]

There should be consistency in the savings estimates for similar measures and delivery systems in Ohio. It is problematic that DP&L and FirstEnergy measured the impacts of their CFL programs through an "installation install factor," while Duke and AEP Ohio did not. OCC believes the best method is the evaluation research method, and the Commission should adopt it on a going-forward basis.

C. The Commission Should Consider the "Behavioral" Protocols Recommended by NRDC.

In its comments, NRDC agreed with Evergreen that savings from energy audits should be limited to those resulting from behavior changes directly attributable to audit

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[22] Duke Comments at 3-4.

[23] Id.

[24] OCC Comments at 4.

[25] Report at 7.

[26] OCC Comments at 4.

programs.[27] But instead of using the bill regression model and customer surveys to determine attributable savings, as Evergreen suggested, NRDC recommends that the Commission require "a rigorous impact method to estimate impacts from audit and energy comparison programs…."[28] NRDC pointed to the various problems associated with customer surveys, such as customers needing to remember why they changed their behavior months before taking the survey, and the difficulties in establishing a valid control group to compare usage by customers who changed their behavior.[29]

NRDC recommends that Ohio evaluators use the "Variation in Adoption with Test of Assumptions method to evaluate opt-in audit programs."[30] According to NRDC, use of this program, along with non-program participants using a randomized control group that opts in to a program, would be less prone to incorporate bias into the savings estimate.[31] Although OCC concurred with Evergreen's recommendation,[32] the Commission should adopt NRDC's recommendation in order to improve the accuracy of audit evaluations.

D. The Total Resource Cost Test Should Not Be Supplanted by a Customer Savings to Investment Ratio Test for Determining the Cost-Effectiveness of EE/PDR Programs.

OPAE recommends that the Commission modify its rules and stop using the TRC test to evaluate cost-effectiveness of demand-side management ("DSM") portfolios.[33]

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[27] NRDC Comments at 3-4, citing Report at 7.

[28] Id. at 3.

[29] Id. at 4-5.

[30] Id. at 5.

[31] Id.

[32] See OCC Comments at 7.

[33] OPAE Comments at 5.

OPAE claims that the TRC test is a holdover from when utilities were vertically integrated and avoiding additional capacity costs was the only justification for DSM.

Instead, OPAE urges the Commission to adopt a customer Savings to Investment Ratio ("SIR") test,[34] which uses the ratio of the present value of an energy saving stream to the present value of the cost of making the energy efficiency improvements. OPAE suggests that a measure would be cost effective if the savings to investment ratio is greater than one.[35] In addition, for shared savings purposes, OPAE proposes that the Commission adopt the Utility Cost Test ("UCT") instead of the TRC.[36] OCC does not support either of these recommendations by OPAE.

OPAE offers no reasons why its proposed tests are better than the TRC. As OPAE noted, the National Home Performance Council is attempting to develop new tests, but so far none has been developed.[37] OPAE offers no comparison of the TRC to the SIR test, so there is nothing in the record for the Commission to base a decision on. And the only support OPAE offers for the UCT is that it "has been adopted in several cases through stipulations for the purposes of calculating shared savings incentives…."[38] But as the Commission is aware, stipulations are the product of parties' give-and-take negotiations related to the specific facts of a case and stipulations generally prohibit reliance on their terms elsewhere. Thus isolated provisions should not be extracted from stipulations for use in other contexts. The Commission should reject the use of OPAE's proposed alternative tests.

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[34] Id.

[35] Id.

[36] Id. at 5-6.

[37] Id. at 5.

[38] Id. at 5-6.

While the TRC is not a perfect test and discussions have been ongoing for several years to update it,[39] the TRC is still the only test that correctly takes into account all the costs and benefits to both customers and the EDU associated with DSM programs. The Commission was correct in the energy efficiency rulemakings to certify the TRC test as the litmus test for DSM programs.[40] The Commission should retain the TRC test for measuring the cost-effectiveness of DSM portfolios.

E. The Application of the "As Found" Method for All Mercantile Energy Efficiency Savings Should Be Reconsidered Going Forward.

A number of parties commented on the continuing saga of the "as found" method for calculating mercantile program savings.[41] Under the "as found" method, the baseline for energy savings is the efficiency rating of the existing equipment at the time of replacement. This has been an ongoing debate since the energy efficiency rules proceeding (Case No. 08-888-EL-ORD), and reared its head in the TRM proceeding (Case No. 09-512-EL-UNC) and in the mercantile opt-out pilot program proceeding (Case No. 10-834-EL-POR).

OCC has in the past argued that the determination of a baseline is critical in calculating the amount of energy savings that should be credited to a deployed energy

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[39] The California Standard Practice Manual and TRC test have served the EE community well, but it is too static a model and is silent on risk, uncertainty, and the strategic value of EE. Analytical Enhancements are needed to reflect a truer risk-mitigation value for EE investments. The model does not capture the complexity of valuing capacity benefits over time, understates the benefits of demand-side programs by not valuing the impact of demand response on wholesale markets (Hedge values for Peak Demand Reductions), and does not capture wholesale price reductions caused by increased energy efficiency.

[40] Ohio Adm. Code 4901:1-9-03(A)(2).

[41] AEP Ohio Comments at 11-14; FirstEnergy Comments at 5; OPAE Comments at 3; OEG Comments at 1; IEU Comments at 3-9.

efficiency measure. The Commission first agreed,[42] but then adopted the "as found" method for the purposes of the mercantile pilot program.[43]

OCC is concerned that two separate standards are being used to measure savings for residential and commercial customers (the baseline method) and for mercantile customers (the "as found" method). Going forward, the Commission should address this important measurement issue in a restarted TRM case. One overwhelming consideration for the Commission should be consistency of the method selected in Ohio with the method compliant with the PJM rules for bidding energy efficiency capacity.[44] In this way, Ohio customers will get the maximum return on their energy efficiency expenditures.

F. The Evergreen Report Should Be Supplemented with Cost-Effectiveness Information, a Comprehensive Independent Estimate of Program Savings and Transmission and Distribution Savings Information.

In their comments, The Sierra Club and Citizen Power recommended that the Evergreen Report be supplemented to meet the identified scope of the individual evaluator in the Commission's March 17, 2010 Entry in Case No. 09-512-GE-UNC.[45] According to The Sierra Club and Citizen Power, the areas to supplement are program

[42] *In the Matter of Protocols for the Measurement and Verification of Energy Efficiency and Peak Demand Reduction Measures*, Case No. 09-512-EL-UNC, Entry on Rehearing (June 15, 2010) at 4-6.

[43] *In the Matter of the Application for Approval of a Pilot Program Regarding Mercantile Applications for Special Arrangements with Electric Utilities and Exemptions from Energy Efficiency and Peak Demand Reduction Riders*, Case No. 10-834-EL-POR, Entry (September 15, 2010) at 4.

[44] The programs must comply with the Measurement & Verification ("M&V") protocols in PJM Manual 18b for energy efficiency resources.

[45] Sierra Club/Citizen Power Comments at 2-3. Sierra Club/Citizen Power erroneously refer to a March 17, 2012 Entry.

cost-effectiveness, independent estimate of program savings and transmission and distribution savings information.[46]

The transmission and distribution savings information is especially critical, as OCC has documented in filings in FirstEnergy's transmission and distribution energy efficiency cases. In those cases, FirstEnergy's purported savings were the result of actions that merely preserve the status quo of normal operations and that do not comply with the Draft Ohio TRM.[47]

OCC agrees with The Sierra Club and Citizen Power. The Commission should have Evergreen supplement its Report to meet the identified scope of the evaluation.

G. The TRM Should Be Finalized and a Process Should Be Adopted for Updating It.

Several commenters, including OCC, remarked directly that many of the problems raised in the Evergreen report stem from the lack of a finalized TRM and a process for annually updating the TRM.[48] For example, FirstEnergy referred to its recommendations in Case No. 09-512-GE-UNC supporting changes, adoption and use of the TRM.[49] FirstEnergy also stated that "the Commission has indicated that the savings values for measures should be updated prospectively based on actual evaluation results,

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[46] Id.

[47] See *In the Matter of the Energy Efficiency and Peak Demand Reduction Program Portfolio of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company*, Case No. 10-3023-EL-EEC, Motion for Hearing by OCC, NRDC and Citizen Power (June 2, 2011) at 4-7; *In the Matter of the Energy Efficiency and Peak Demand Reduction Program Portfolio of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company*, Case No. 09-951-EL-EEC, Second Motion for Hearing by OCC and NRDC (January 6, 2011) at 3-5..

[48] OCC Comments at 16-18.

[49] FirstEnergy Comments at 3.

but there is no clear process in place to enable the update of the draft Ohio TRM with such results, once the TRM is approved."[50]

In noting the pendency of the TRM review, Duke commented that "[i]mportant documentation has been submitted to the docket and there has been no final resolution of many of the issues outstanding in that docket. As a result there has been no opportunity for meaningful input."[51] And AEP Ohio noted the problems with Evergreen referencing "a document that has not yet completed its regulatory review process…."[52]

The comments filed in this case demonstrate the need for the Commission to complete its review of the TRM. In order to help bring stability and consistency to the evaluation of EE/PDR programs in Ohio, the Commission should restart the TRM case, finalize the TRM and implement a reasonable process for updating it.

III. CONCLUSION

The Commission has a statutory obligation to verify the savings achieved through the EDUs' EE/PDR programs. In order to properly perform its duty, the Commission should adopt the recommendations set forth in OCC's Comments and Reply Comments. To ensure consistency in the evaluation process, it is especially crucial for the Commission to finalize the TRM.

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[50] Id. (emphasis added).

[51] Duke Comments at 2-3.

[52] AEP Ohio Comments at 9.

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CERTIFICATE OF SERVICE

I hereby certify that a copy of these Reply Comments was served electronically upon the persons listed below this 19th day of November 2012.

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