

BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of Protocols for the)	
Measurement and Verification of Energy)	Case No. 09-512-GE-UNC
Efficiency and Peak Demand Reduction)	
Measures.)	

COMMENTS REGARDING APPENDIX A TO ENTRY DATED JUNE 24, 2009 BY THE OHIO CONSUMER AND ENVIRONMENTAL ADVOCATES

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TABLE OF CONTENTS

			rage
I.	INTR	ODUCTION	
II.			ARDING APPENDIX A TO ENTRY DATED2
	A.		Five Questions Stated in Appendix A to the
		Question 1:	Should the Commission evaluate performance of utility programs on the basis of achieved gross or net savings, or both?
		Question 2:	How should baseline efficiency and market penetration be defined for determining energy savings and demand reductions?
		Question 3:	Should reported energy savings and demand reduction use retroactive or prospective TRM values?6
		Question 4:	Should the cost-effectiveness test be applied at the measure, project program or portfolio level?
		Question 5:	What expectations should the Commission establish for energy savings and demand reduction determination certainty?
	В.	Other Issues	9
		1. Proce	ss evaluation9
		2. Conve	erting BTU's to kilowatt-hours10
3.		3. Weath	ner adjustment calculation12
		4. Satisf	action of requirements by reducing line losses12
TTT	CONO	CLUSION	13

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I. INTRODUCTION

This case involves certain implementation matters regarding S.B. 221 as well as implementation of demand-side management ("DSM") efforts in areas served by natural gas utilities that are regulated by the Commission. On July 15, 2009, members of the Ohio Consumer and Environmental Advocates ("OCEA") separately filed comments on Appendix B to the June Entry.

The undersigned members of OCEA herein file comments on Appendix A to the June Entry ("Comments"), pursuant to the procedural schedule set in the June Entry.²

Appendix A "identifies five major issues where policy guidance is needed in order to proceed with the development of an Ohio Technical Reference Manual ["TRM"]."³

These issues and additional comments are the subject of the instant Comments.

¹ Entry at 1-2 (June 24, 2009) ("June Entry").

² June Entry at 2, see also Entry at 1 (July 14, 2009).

³ June Entry, Appendix A at 1.

II. COMMENTS REGARDING APPENDIX A TO ENTRY DATED JUNE 24, 2009

A. Responses to Five Questions Stated in Appendix A to the June Entry

Question 1: Should the Commission evaluate performance of utility programs on the basis of achieved gross or net savings, or both?

Adopting a strictly gross savings approach to savings has serious financial implications for Ohio's utility customers.⁴ The main difference between a gross savings and net savings approach is that a net savings approach takes the gross savings and reduces the savings to account for DSM program "free riders" (customers who would have undertaken the desired energy efficiency action anyway without the utility program), and supplements the savings by "free drivers" (participating or non-participating customers who undertake the desired or additional energy efficiency actions because of the utility program but who do not claim financial or technical assistance for additional measure installations, causing "spillover" savings). On balance, and traditionally, free rider effects are greater than spillover effects. Since Ohio electric utilities have not utilized the provisions of Sub. S.B. 221 (Ohio's recent law on electric utility regulation, "S.B. 221") regarding revenue decoupling, ⁵ a gross savings approach will lead to excessive payments by customers to electric utilities for lost revenues since a gross savings approach does not

⁴ The PUCO's provisional recommendation supporting the gross approach, and later transitioning to a net approach after several years of utility experience, recognizes some early problems with implementation of the preferred net approach. As stated in the June Entry, special attention to program design can help mitigate the number of program free riders. June Entry, Appendix A at 2. Arriving at a net savings figure can be complex (especially when using a customer survey attribution methodology as opposed to a more revealed preference market appliance survey or report), and problems can exist in order to arrive at numbers that generate stakeholder confidence. Nonetheless, the net approach is more appropriate.

⁵ R.C. 4928.66(D).

properly adjust for "free riders." Savings, therefore, are overstated. Also, to the extent that any shared savings mechanisms are approved for electric utilities, as allowed in Section 4901:1-39-07(A) of the Commission's recently promulgated energy efficiency rules ("Green Rules"), customer incentive payments to their utility will be unreasonably increased under a gross savings approach.

Ohio electric and natural gas consumers should not have to pay for energy savings that are free. Since ratepayers will be funding these expenditures, it is improper to spend DSM program dollars to fund program activities that would have occurred anyway, i.e., the "free rider" issue. Opponents and detractors of energy efficiency can also use the adoption of a gross savings approach to criticize utility energy efficiency programs in the press and other venues.

Net-savings is the current standard for the majority of existing electric and gas DSM programs in Ohio. In fact, the Duke Energy DSM programs filed and approved by the PUCO in Case No. 06-91-EL-UNC all contain net savings calculations. Similarly, COH's and Vectren's DSM programs filed and approved by the PUCO in Case No. 08-0833-GA-UNC and Case No. 07-1080-GA-AIR respectively also operate on the basis of net savings.

⁶ This issue does not apply fully to the natural gas industry since Ohio's natural gas local distribution companies have been approved to transition to a straight fixed variable rate design. See, e.g., *In re Columbia Gas of Ohio Rate Case*, Case No. 08-0072-GA-AIR; *In re Vectren Energy Rate Case*, Case No. 07-10-8-GA-AIR; *In re Dominion East Ohio Rate Case*, Case No. 07-829-GA-AIR; and *In re Duke Energy Rate Case*, Case No. 07-589-GA-AIR.

⁷ Ohio Adm. Code 4901:1-39-07(A).

⁸ The operating assumption is that the level of free riders will exceed free drivers in the state under circumstances where all utilities will likely be running similar programs, and a certain penetration of energy efficiency already exists in Ohio.

A net savings approach coupled with the total resource cost ("TRC") test will better protect against providing customers with overly strong (i.e. inefficient) incentives to undertake DSM programs. By using a stricter measure of savings in calculating a program's TRC, incentives will tend to be smaller (everything else being equal). This approach should help compel utilities to lower administrative costs that are not directly connected with measurement and verification ("M&V"), and should lead to more efficiently run programs.

A net-savings approach maintains a level playing field with supply side resources.

Currently supply-side resources are subject to transmission and distribution line loss discounts.

Net-savings promotes prudent program design. Under a gross-savings regime, utilities have little incentive to target programs to the ratepayers that fund efficiency programs.

Both gross and net savings should be calculated for all utility DSM programs in the proposed TRM, and net savings estimates should be used by utilities to meet the Energy Efficiency Resource Standard ("EERS") benchmarks. This should be accomplished with a preference for using market data as opposed to customer attribution surveys and by adhering to a five percent of the portfolio budget M&V plan cost constraint. The adoption by the Commission of a strictly Gross Savings approach while not even attempting to estimate the free rider and spillover effects of gross savings estimates when ratepayer funds are being used is problematic.

⁹ These costs can be over 50 percent of costs for some electric utilities, as stated in electric security plan filings. See *In re AEP Electric Security Plan*, Case No. 08-917-EL-SSO, Pre-filed Testimony of Wilson Gonzalez and *In re Dayton Power & Light Electric Security Plan*, Case No. 08-1094-EL-SSO, Pre-filed Testimony of Daniel Sawmiller.

Question 2: How should baseline efficiency and market penetration be defined for determining energy savings and demand reductions?

The Commission's provisional recommendation, stating that the "baseline used for calculating savings should be set at the minimum efficiency requirements of federal standards and state codes or current market practice, whichever is higher," should be adopted. Notwithstanding statements of outrage that some parties have raised concerning this baseline standard during the "Green Rules" proceedings, the PUCO's recommendation is also the energy efficiency industry standard as articulated in the various time tested and industry accepted M&V reference manuals such as IPMVP, PJM Manual 18B, ISO New England Manual for Measurement of M&V, M&V Guidelines for Federal Energy Projects, the NAPEE reference guide, the Pennsylvania PUC Technical Reference Manual, and many others. 11

¹⁰ June Entry, Appendix A at 4. Current market practice that takes Ohio codes or federal standards as the baseline should be used, adjusted for the current sales-weighted average efficiencies based on the most recent information available (for example, information from the Association of Home Appliance Manufacturers).

^{11 &}quot;The International Performance Measurement & Verification Protocol" (IPMVP) provides standard measurement and verification ("M&V") terminology and defines four M&V options to quantify energy and water savings. The IPMVP is a savings verification device with principles that are applicable to commercial and industrial energy efficiency projects. The use of IPMVP has become standard in almost all energy efficiency projects where payments to the contractors are based on the energy savings that will result from the implementation of a variety of energy conservation measures. IPMVP has been translated into ten languages. More than 300 professionals from 100 U.S. and international organizations have contributed thousands of hours on a completely voluntary basis to update and revise IPMVP. More information can be found at http://www.ipmvp.org. "PJM Manual 18B" at http://www.pjm.com/documents/~/media/documents/manuals/m18b.ashx. "M & V Guidelines for Federal Energy Projects" at http://ateam.lbl.gov/mv/docs/mv_guidelines-3_0_wAppend.pdf. "ISO New England Manual for Measurement of M & V" at www.isone.com/.../isone.../m mvdr measurement and verification demand reduction revision 1 10 01 07.doc "Energy-Efficiency and DSM Rules for Pennsylvania's Alternative Energy Portfolio Standard, Technical Reference Manual," Docket No. M-00051865. "Model Energy Efficiency Program Impact Evaluation Guide," http://www.epa.gov/cleanenergy/documents/evaluation_guide.pdf.

Any provision lower than the PUCO's recommendation would seriously harm the integrity of the recently enacted energy efficiency resource standards (and the intent behind the standards). Moreover, adopting a weaker standard would conflict with other state, regional (RTO energy efficiency forward market capacity bidding¹²), and future federal (Clean Energy Security Act energy efficiency programs) programs and increase the confusion and costs of administering the utilities' DSM portfolio. Adopting an approach in the TRM that is consistent with industry standard protocols will serve Ohio better.

Finally, when considering baseline estimates in the case of a measure's early retirement because of utility DSM program (and therefore the need to estimate the remaining life of a particular piece of equipment), the exact age of the equipment should be obtained, verified, and recorded. This is more exact and preferable to using some default remaining life figure (e.g. such as five years) that has no relation to the particular measure in question.

Question 3: Should reported energy savings and demand reduction use retroactive or prospective TRM values?

¹² See "PJM Manual 18B: Energy Efficiency Measurement & Verification," pages 26-27 (April 2009).

¹³ June Entry, Appendix A at 5-6.

¹⁴ Id. at 6.

contrary to the PUCO's proposed direction in its discussion, *ex post* values should be used for the remaining future savings and cost estimates (including the remaining useful life of the measure) of program investments *made in the current year*.

The undersigned OCEA members do not recommend a retroactive true-up for current program cost recovery unless impact evaluations are not completed within two years of a specific program implementation. This practice would not harm utilities in the first two years for utilizing the best estimates at the time of program design, but would protect the veracity of costs and savings estimates going into the future. This is the practice of the existing Duke Energy DSM programs in Ohio that were mentioned above. The stated support, as expressed above, is on the condition that net savings are the values used (discussion in response to Question 1), that the most conservative savings estimates are used, and that the integrity of the baseline is maintained (discussion in response to Question 2).

Finally, as referenced in the OCC's Comments on Appendix B, energy efficiency measures that involve more complex or customized services generally require a project specific estimation of energy and demand savings and are not well suited to a deemed savings type approach.¹⁷

¹⁵ Strong requirements should exist for verification of installation, especially when using deemed savings. Post-installation, onsite visits should be required to verify savings for major projects, and savings from mass programs that give away energy efficiency kits should be evaluated using a random sample of customers.

¹⁶ See *In re Duke Energy DSM Proposal*, Case Nos. 06-91-EL-UNC, et al., and *In re Duke Energy DSM Cost Recovery*, Case Nos. 08-1227-EL-UNC, et al.

¹⁷ See OCC's Motion to Intervene and Comments Regarding Appendix B to Entry Dated June 24, 2009 at 5 (July 15, 2009). The Ohio Department of Development also appropriately stated that a "deemed" or engineering calculation will "typically overestimate savings." ODOD Comments Regarding the Commission's June 24, 2009 Entry, Appendix B, at 3-4 (July 15, 2009).

Question 4: Should the cost-effectiveness test be applied at the measure, project program or portfolio level?

The Commission's provisional recommendation should be adopted regarding the calculation of the cost-effectiveness testing at the portfolio level to allow for measure and program flexibility as well as to encourage utility experimentation in new programs and technologies. Measures, programs, and portfolio cost-effectiveness should be reported in the annual utility filing. Utilities should be required to provide a rationale for offering non-cost effective measures and the entry provides a list of nine areas a utility can use for such justification. In

One of the areas listed, the state policies enumerated in R.C. 4928.02, though worthy goals, are much too broad in scope and varied in purpose to provide reasonable justification for non-cost effective measures. The reason for allowing for flexibility in the cost-effectiveness test is that the overall portfolio may be made more effective by the inclusion of measures that do not initially pass the TRC test, but have qualities that supplement the portfolio, enhance marketability, or provide generally accepted public goals that are approved through the PUCO process. However, these qualities should have some relationship with promoting energy efficiency or reducing environmental impacts.

Question 5: What expectations should the Commission establish for energy savings and demand reduction determination certainty?

The undersigned OCEA members support the provisional recommendation of the Commission that "requires the utilities and Independent Program Evaluator, in order to address systematic errors, to use 'best practices', to establish quality assurance and

¹⁸ June Entry, Appendix A at 7.

¹⁹ Id. at 7.

quality control procedures that include field site inspections, and to provide full documentation of analyses..." and for "addressing random errors, that any evaluation sampling provide results at a 90 percent confidence level with 10 percent precision." The above standard is that used by PJM for energy efficiency projects bidding into their RPM capacity market. ²¹

Flexibility might be considered in the latter standard if the program in question is small relative to the overall budget and/or meeting this level of significance would increase the portfolio evaluation budget over the 5 percent of program budget threshold. Generally, evaluation precision and attention should be proportional to a program's contribution to the portfolio.

B. Other Issues

1. Process evaluation

Although the TRM is intended to focus mainly with the treatment of measure energy impact evaluation of utility and mercantile committed programs, the undersigned OCEA members urge the Commission to reaffirm the importance of utility program process evaluations. The early feedback loop aspect of process evaluations allow program administrators to fine tune and improve the overall efficiency and customer acceptance of energy efficiency programs.

²⁰ June Entry, Appendix A at 8.

²¹ PJM at pages 29 and 30.

2. Converting BTU's to kilowatt-hours

FirstEnergy's proposal to convert savings in natural gas (i.e. measured in units such as British Thermal Units, or "BTUs") to thermally equivalent kilowatt-hours should be rejected. In comments to Appendix B, the FirstEnergy-affiliated utilities state: "[I]n order to capture total energy savings, the TRM should include a standard conversion factor so that therms and BTUs can be converted to kWh." In FirstEnergy's DSM collaborative, FirstEnergy has proposed using saved BTU's from DSM programs to meet the electricity energy efficiency benchmarks stated in R.C. 4928.66. The inclusion in S.B. 221 of an Energy Efficiency Resource Standard, a Renewable Portfolio Standard, and an Advanced Energy Standard reflects the General Assembly's intent to prepare Ohio's electric utilities to cope with circumstances where carbon emissions are limited and the environmental and generation capacity costs that such circumstances will entail.

The energy efficiency provisions stated in R.C. 4928.66 were intended to require electric utilities to reduce kilowatt-hour sales and peak demand measured in kilowatts to meet the multi-year benchmarks, rather than reduce natural gas BTUs and ask electric utility customers to pay for such reduction in their electric rates. R.C. 4928.66 addresses sales and peak demand reductions in tandem, without any insertion of provisions that include the reduction of natural gas use or the use of any other energy resource. R.C. Chapter 4928 is, of course, the location for provisions that address the electric industry in Ohio and not for provisions that address the natural gas industry (the subject of R.C. Chapter 4929).

²² FirstEnergy Comments on Appendix B at 3 (July 15, 2009).

While progress in energy efficiency is important for both the electric and gas industries, FirstEnergy's BTU conversion proposal should be rejected for a number of additional reasons. From an environmental perspective, carbon emissions from coal electric generation is generally twice the amount of a natural gas power plant. Given the imminence of greenhouse gas legislation ("GHG"), Ohio should be trying to reduce its carbon footprint in the most effective way possible, saving kilowatt-hours, to reduce the future financial impact of federal GHG legislation to its residents and businesses.

From a capacity cost perspective, electric generation costs currently swamp natural gas capacity costs. This disparity will increase in a post carbon world as carbon capture and sequestration costs are added to electric power plants finances. One only needs to look at the latest projected installed overnight capacity costs ranging from \$5,000 to over \$10,000 per installed kilowatt²³ on a nuclear plant to see that Ohio should be encouraging ways to save kilowatt-hours.

OCEA members and the Commission Staff have supported the joint delivery of energy efficiency programs where appropriate as part of collaborative programs, such as in Home Performance-type programs. In these co-funded programs, natural gas utilities should fund natural gas measures and take credit for the natural gas savings, and electric utilities should fund electric measures and take credit for electric savings. For those measures such as shell improvements, the measures can be jointly funded with the gas utility taking credit for the heat BTU savings and the electric utility company taking credit for the air-conditioning kilowatt-hour savings. The prospect of the joint delivery of

²³ Mark Cooper, "The Economics of Nuclear Reactors: Renaissance or Relapse?," Institute for Energy and the Environment, Vermont Law School, June 2009, page 11.

cnergy efficiency programs further obviates the need to consider FirstEnergy's BTU to kilowatt-hour conversion proposal.

3. Weather adjustment calculation

All utilities should use the same methodology for weather adjustment regarding weather sensitive energy efficiency applications. An important purpose for the above-captioned docket is the standardization of energy efficiency measurement in Ohio for regulatory purposes. This purpose would be degraded by weather adjustment methodologies that vary across utilities.

4. Satisfaction of requirements by reducing line losses

An unusual feature of Ohio's statutory scheme regarding efficiency improvements is contained in R.C. 4928.66, which provides that "programs implemented by a utility may include . . . transmission and distribution infrastructure improvements that reduce line losses." The contents of the TRM might also be expanded, under these circumstances, to address measurement issues related to improvements to utility wires that reduce line losses. This issue has already arisen in a case involving the FirstEnergy-affiliated electric distribution utilities. The instant pleading incorporates, by reference, the discussion by OCEA members regarding measurement issues that is contained in support of a Motion to Dismiss filed on June 24, 2009.

²⁴ In re FirstEnergy Proposal to Satisfy Energy Efficiency Requirements, Case Nos. 09-384-EL-UNC, et al., Application (May 11, 2009).

²⁵ Id., OCEA Motion to Dismiss at 5-7 (June 24, 2009).

III. CONCLUSION

The Commission should adopt the recommendations by the undersigned OCEA members regarding Appendix A to the June 24 Entry.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that a copy of these *Comments* was served on the persons stated below by regular U.S. Mail, postage prepaid, on this 24th day of July 2009.

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