

20 N. Wacker Drive, Suite 1301 Chicago, Illinois 60606 312.587.8390 Main Line 312.587.8391 Fax

www.mwalliance.org

September 1, 2016

Travis Kavulla President National Association of Regulatory Utility Commissioners 1101 Vermont Ave, NW Suite 200 Washington, DC 20005

Re: NARUC Distributed Energy Resources Compensation Manual

Midwest Energy Efficiency Alliance (MEEA) Comments on the draft NARUC Distributed Energy Resources Compensation Manual

President Kavulla,

On behalf of the Midwest Energy Efficiency Alliance (MEEA), I am pleased to submit our comments on the draft NARUC Distributed Energy Resources Compensation Manual (DER Compensation Manual). MEEA is a membership organization of state and local governments, energy utilities, research institutes, manufacturers, energy service providers and advocacy organizations working to advance energy efficiency in North Dakota, South Dakota, Kansas, Nebraska, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, Ohio, and Kentucky. MEEA works collaboratively with all stakeholders to support programs, policies, education and training initiatives, and emerging technologies that have produced significant energy efficiency investment, energy and cost savings, economic growth, and enhanced environmental preservation across the Midwest.

I would like to thank you for your leadership on the topic of rate design and the treatment of distributed energy resources. MEEA does not have a position on many of the issues raised in the report such as fixed charges, demand charges, and net metering. However, we acknowledge that these discussions do have implications for energy efficiency and therefore have an interest in commenting on the treatment of energy efficiency in the DER Compensation Manual.

Our comments reflect the views of MEEA, and not the views of our organization's members or individual entities represented on our board of directors. MEEA looks forward to continuing to collaborate with NARUC on these issues and reviewing the completed product. Please do not hesitate to reach contact us at 312-784-7267 or sparadis@mwalliance.org, if we can be of further assistance. Thank you.

Respectfully submitted,

Story Parvelis

Stacey Paradis Executive Director, Midwest Energy Efficiency Alliance

Recommendation 1: Recognize Energy Efficiency as an Energy and Grid Resource while Acknowledging Its Distinct Characteristics as a Distributed Energy Resource

MEEA is generally pleased to see energy efficiency included in the definition of distributed energy resources as laid on page 17 of the DER Compensation Manual. Energy efficiency has long been used as a resource to meet energy demand – in the Midwest, Iowa's energy efficiency programs date back to the 1980s. Energy efficiency is the lowest cost resource on a levelized cost basis, as seen in Figure 1. It is particularly inexpensive in the Midwest, where the levelized program administrator cost of saved energy is \$0.014/kWh.¹

Figure 1: Levelized Costs of Electricity Resource Options. Lazard's Levelized Cost of Energy Analysis, Version 9.0.



Energy efficiency is also an energy resource that utilities across the country use to fulfill their resource obligations. Utilities in all states in MEEA's territory perform integrated resource planning (IRP) or some other long-term resource planning. Evaluating the availability of energy efficiency or energy conservation as a resource to meet energy demand is a requirement found in many of the IRP or long-term planning statutes and rulemakings. Table 1 is a sampling of the language requiring utilities to consider energy efficiency as an energy resource in their long-term resource planning process in seven of the states in MEEA's territory.

¹ Billingsley, M. et al. Ernest Orlando Lawrence Berkeley National Laboratory. The Program Administrator Cost of Saved Energy for Utility Customer-Funded Energy Efficiency Programs. March 2014.

Table 1: Sampling of State Utility Planning Requirements²

State	Authorization	Requirements	
Illinois	220 ILCS 5/16-111.5B	Effectively an IRP. IOUs have to factor energy efficiency into their procurement plans (which also include forecasts) that are submitted to the Illinois Power Agency.	
Kentucky	807 KAR 5:058	Provides detailed guidelines for the IRP including identification of demand-side management programs.	
Michigan	MCL 460.6s	The commission shall establish standards for an IRP that shall be filed by an electric utility requesting a certificate of necessity under this section. Addresses efficiency and DSM.	
Minnesota	Minnesota Statutes - 216B,2422	The resource plan is a set of resource options, including conservation, which a utility could use to meet the service needs of its customers over a forecast period.	
Missouri	Electric (4 CSR 240.22 Gas 4 CSR 240.40	Requires that demand-side resources are evaluated with a goal of achieving all cost-effective demand-side savings	
Nebraska	Nebraska Code Section 66-1060	Directs public utilities in Nebraska to practice IRP process and include least cost options when evaluating alternatives for providing energy supply and managing energy demand in Nebraska.	
Ohio	Ohio PUC Rules 4901:5-5	Effectively an IRP. Long term forecast includes a resource plan, including efficiency and DSM programs.	

However, our support for the inclusion of energy efficiency in the definition of DER is contingent upon revisions to the paper to (1) treat energy efficiency with the same care and consideration given to other DER resources throughout the document and (2) recognizing inherent differences between energy efficiency and other DER. To that end, we would like to see a description of energy efficiency – and one that acknowledges these differences - included in Section *III What is DER? Part B. Types of DER Technologies and Services*, as the authors have done for other DER. Moreover, MEEA hopes the authors will incorporate Recommendations 2 - 6 into the DER Compensation Manual. These resource with characteristics distinct from other DER addressed in the document.

MEEA would also like the authors to add language recognizing that many states have already addressed the issues of solvency raised by utility administration of energy efficiency programs through carefully crafted rate design and compensation methodologies such as cost recovery, lost revenue recovery, and utility performance incentives or other rate design mechanisms like decoupling.

² Energy Efficiency Policies, Programs, and Practices in the Midwest: A Resource Guide for Policymakers. Midwest Energy Efficiency Alliance. 2014.

http://www.mwalliance.org/sites/default/files/uploads/MEEA 2014 Energy-Efficiency-Policies-Programsand-Practices-in-the-Midwest v2-Web.pdf

Recommendation 2: Refine the Use of the Term "DER Customer"

As used throughout the DER Compensation Manual, the term "DER customer" appears to suggest that the customer is generating his/her own energy, which would not be the case if the customer is a DER customer by virtue of participating in energy efficiency programs. MEEA suggests distinguishing DER customer types by using the terms "generating DER customer" and "nongenerating DER customer" throughout the document. Alternately, the authors could employ another means to denote claims and concerns about DER that do not apply to energy efficiency in the way they do to distributed energy resources that generate electricity.

The following are select examples of instances where the statements made about DER customers *do not* apply to those DER customers who are participating in energy efficiency programs:

- Page 31: "At higher penetrations of DER, however, additional costs may be incurred to upgrade the distribution system to act as step up facilities."
- Page 33: The discussion of the lifespan of DER systems does not reflect many the lifetime savings of energy efficiency products nor does it reflect the fact that building energy codes and appliance efficiency standards evolve over time.
- Page 36: "However, DER customers supply most, if not all, of their own needs annually, but not necessarily daily, and so chronically are under compensating the utility under traditional NEM rate design for the generation, transmission, and distribution investments made on behalf of the DER customer."

Recommendation 3: Equal Treatment of Costs and Benefits

MEEA would like to see the authors expand the discussion of costs and benefits throughout the paper. The authors have included an extensive discussion of costs and risks posed by DER to utilities and non-DER customers, but there is very little consideration of cost, benefit, and risk from a societal perspective.

Energy efficiency is subjected to cost-effectiveness tests that consider both the costs and benefits of the resource. Figure 2 illustrates the cost-effectiveness tests used in each state in the Midwest. As you can see, the Total Resource Cost (TRC) test is the most prevalent, serving as the primary test in 8/13 Midwest states.

State	Primary Test	Other Tests Used			
Illinois	TRC				
Indiana	TRC	PACT, PCT, RIM			
lowa	SCT	PACT, PCT, RIM			
Kansas	TRC	PACT, PCT, SCT, RIM			
Kentucky	TRC	PACT, PCT, RIM			
Michigan	PACT	TRC, PCT, SCT, RIM			
Minnesota	SCT	PACT, PCT, RIM			
Missouri	TRC	PCT, SCT, RIM			
Nebraska	TRC	PACT, PCT			
North Dakota					
Ohio	TRC	PACT			
South Dakota	varies	TRC, RIM, PACT, SCT, PCT			
Wisconsin	TRC	PACT, SCT			

Figure 2. Summary of Cost-Effectiveness Testing in the Midwest

This test asks regulators to consider all costs and benefits to the utility and program participant (the customer), which may include non-energy benefits. It asks the question: will the total costs of energy in the utility service territory decrease due to a particular measure, program or portfolio of energy efficiency technologies and services? The Societal Cost Test (SCT), which accounts for the costs and benefits to society (also known as negative and positive externalities, respectively) is the primary test in two states within MEEA's territory. This test asks: is the utility, state or nation better off as a whole? In both of these tests, nonenergy benefits (NEBs) such as environmental, economic, and health impacts may be considered for inclusion in the cost-effectiveness calculation. Including system-wide benefits, such as energy price suppression resulting from customers participating in energy efficiency programs, addresses the concerns of costshifting and cross subsidies raised in the paper.³ A more complete discussion of the benefits and costs considered in each cost-effectiveness test is included in MEEA's Energy Efficiency Policies, Programs, and Practices in the Midwest: A Resource Guide for Policymakers.⁴

The inclusion of the societal and non-energy benefits of energy efficiency in cost-effectiveness test calculations varies in practice. In 2012, 12 states included

³ "The Value of Demand Reduction Induced Price Effects (DRIPE)." Presented by Paul Chernick and Chris Neme. March 18, 2015 <u>http://www.raponline.org/wp-content/uploads/2016/05/efg-ri-dripewebinarslidedeck-2015-mar-18-revised.pdf</u>.

⁴ Energy Efficiency Policies, Programs, and Practices in the Midwest: A Resource Guide for Policymakers. Midwest Energy Efficiency Alliance. 2014.

http://www.mwalliance.org/sites/default/files/uploads/MEEA 2014 Energy-Efficiency-Policies-Programsand-Practices-in-the-Midwest v2-Web.pdf

non-energy benefits (primarily water and other fuel savings) in their costeffectiveness tests. Only two states included NEBs like health, safety or increased productivity in their evaluation of energy efficiency programs.⁵ Some states employ non-energy benefit adders to recognize that the non-energy benefits exist and are not zero. This strategy avoids the difficulty of providing an exact quantification of non-energy benefit values while still recognizing that nonenergy benefits are real for both utilities and customers. Illinois is a state in which some utilities and program administrators use an adder while others have more specific values of non-energy benefits, specifically the value of avoided carbon dioxide emissions.⁶ Appendix A provides a list of references that document and quantify the non-energy benefits of energy efficiency as well as provide an overview to states' approaches utilizing non-energy benefit adders.

Finally, examining non-energy benefits, for both traditional generation options as well as DER, is encouraged or required in a number of states' statutes governing utility integrated resource planning.

- In Minnesota, the 2014 Minnesota Statute 216B.2422 Resource Planning; Renewable Energy directs the commission "to the extent practicable [to] quantify and establish a range of environmental costs associated with each method of electricity generation. A utility shall use the values established by the commission in conjunction with other external factors, including socioeconomic costs, when evaluating and selecting resource options in all proceedings before the commission, including resource plan and certificate of need proceedings." The statute goes on to define socioeconomic effects as meaning changes in the social and economic environments, including, for example, job creation, effects on local economies, geographical concentration of persons and structures, concentration of investment capital, and the ability of low-income and rental households to receive conservation services."
- In Arizona, Article 7 and Sections A.A.C.R14-2-701 reads, "require load-serving entities to analyze and address in their plans environmental impacts related to air emissions, solid waste, and other environmental factors and reduction of water consumption and to address the costs for compliance with current and projected environmental regulations."
 A.A.C. Title 14, Chapter 2, Article 7 ("current IRP rules") goes on to say, "The proposed IRP rules are designed to ensure that the costs and rates for electric service over the long-run are just and reasonable, that electric

⁵ Kushler, Martin and Seth Nowak and Patti Witte. "A National Survey of State Policies and Practices for the Evaluation of Ratepayer-funded Energy Efficiency Programs." February 2012. http://aceee.org/sites/default/files/publications/researchreports/u122.pdf

⁶ Johnson, Celia. Memorandum to the Illinois Energy Efficiency Stakeholder Advisory Group Total Resource Cost Subcommittee. June 16, 2015. <u>http://ilsagfiles.org/SAG_files/Subcommittees/IPA-</u> <u>TRC_Subcommittee/6-16-2015_Meeting/NEBs_Research_Memo_6-15-15.pdf</u>

service to Arizona customers is adequate and reliable, and that adverse environmental impacts from fossil-fuel generation are minimized to the extent feasible."

In Colorado, 4 Code of Colorado Regulations (CCR) 723-3; Part 3 Rules Regulating Electric Utilities reads, "the utility's plan for acquiring these resources pursuant to rule 3611, including a description of the projected emissions, in terms of pounds per MWh and short-tons per year, of sulfur dioxide, nitrogen oxides, particulate matter, mercury and carbon dioxide for any resources proposed to be owned by the utility and for any new generic resources included in the utility's modeling for its resource plan" and further that "the annual water consumption for each of the utility's existing generating system as a whole, as well as the projected water consumption for any resources proposed to be owned by the utility's modeling for its resource plan."

All of the aforementioned statutory policies and regulatory practices are included to demonstrate that commissioners have the ability to consider a much wider spectrum of costs and benefits than that which is presented in the paper, should they choose. This existing research and these policy and regulatory practices should be better represented in the DER Compensation Manual to provide a more balanced view of the costs and benefits (and to whom they accrue) of DER, traditional generation.

Recommendation 4: Recognize Customers' Varying Abilities to Respond to Price Signals

In the "Compensation Methodologies" section, the authors note that some customers are better positioned to respond to price signals than others. MEEA would like to see this discussion expanded. Low-income customers are highlighted, but MEEA would like to see the authors include a discussion of the abilities of those on fixed incomes, vulnerable and infirm populations, facilities such as hospitals and nursing homes, and multifamily renters included throughout the document.

Recommendation 5: Recognize that Energy Efficiency Are Often Designed to Avoid Cross-Subsidization Issues

The report includes significant discussion of cost shifting among customers and, specifically, customer classes. MEEA would like the authors to recognize that, in many states, ratepayer-funded energy efficiency programs are designed to minimize cost shifting. Energy efficiency surcharges – sometimes called public benefit charges or system benefit charges – are collected from one customer

class are usually spent on energy efficiency programs for that customer class. Funds collected from residential customers support residential energy efficiency programs, and likewise for commercial and industrial customers, in many states. Many states' statutes and regulatory practices mirror those in Michigan where the statute directs energy efficiency provider to "ensure, to the extent feasible, that charges collected from a particular customer rate class are spent on energy optimization programs for that rate class."⁷

Recognizing the system-wide benefits of energy efficiency, as discussed in Recommendation 3, also negates, or at least mitigates, issues of crosssubsidization between customers that do not participate in ratepayer-funded energy efficiency programs and those that do take advantage of such offerings.

Recommendation 6: Provide Citations and References for Claims Made

MEEA recognizes that the circulated document is in draft form and would recommend that future versions of this document include additional citations for many of the broad claims made throughout the paper. Below are examples (not a comprehensive list) of generalizations made without proper support and citations to substantiate the claims. Each of these statements, and others like them throughout the document, may significantly impact or skew the reader's view of energy efficiency and should therefore be properly substantiated.

- "However, some services, such as local reliability or resilience, may be more cost effectively provided by resources distributed across the system, rather than developed and procured at wholesale levels." (Page 25)
- "Those with the financial means to undertake investments in DER are likely above the average income for a service area." (Page 32)
- "It can be argued that the result of such cost-shifting will make DER more attractive. More people then invest in DER, requiring additional cost shifts ad infinitum." (Page 33)

⁷ Michigan Complied Laws. Section 460.1071 Proposed energy optimization plan; filing; time period; goal; combining with renewable energy plan; provisions; limitation on expenditures. <u>http://www.legislature.mi.gov/(S(dlcuo03lslygeqlxa3ifalhw))/mileg.aspx?page=getObject&objectName=m</u> <u>cl-460-1071</u>. Accessed August 23, 2016.

Appendix A: Reference List of Non-Energy Benefits Research

Amann, Jennifer. "Valuation of Non-Energy Benefits to Determine Cost-Effectiveness of Whole-House Retrofits Programs: A Literature Review." American Council for an Energy Efficiency Economy. May 2006. <u>http://aceee.org/sites/default/files/publications/researchreports/a061.pdf</u>

Baatz, Brendan. "Everyone Benefits: Practices and Recommendations for Utility System Benefits of Energy Efficiency. "American Council for an Energy Efficiency Economy. June 2015. <u>https://www.puc.nh.gov/Electric/15-</u> <u>137%20non%20docket%20info/Everyone%20Benefits%20from%20Energy%20Effici</u> <u>ency%20ACEEE%20u1505.pdf</u>

Baatz, Brendan. "Energy efficiency lowers costs in recent PJM capacity auction." American Council for an Energy Efficiency Economy. June 1, 2016. http://aceee.org/blog/2016/06/energy-efficiency-lowers-costs-recent

Lazar, Jim and Colburn, Ken. "Recognizing the Full Value of Energy Efficiency." Regulatory Assistance Project. September 2013. <u>http://www.raponline.org/wp-content/uploads/2016/05/rap-lazarcolburn-layercakepaper-2013-sept-9.pdf</u>

Malmgren, Ingrid and Skumatz, Lisa. "Lessons from the Field: Practical Applications for Incorporating Non-Energy Benefits into Cost-Effectiveness Screening." 2014 ACEEE Summer Study on Energy Efficiency Buildings. Accessed September 1, 2016. <u>http://aceee.org/files/proceedings/2014/data/papers/8-357.pdf</u>

Malone, Erin. "Driving Efficiency with Non-Energy Benefits." Synapse Energy Economics. Presented to the ACEEE National Symposium on Market Transformation. April 1, 2014. <u>http://www.synapse-</u> <u>energy.com/sites/default/files/SynapsePresentation.2014-04.0.Driving-</u> <u>Efficiency.S0093.pdf</u>

Mills, Evan and Rosendfeld, Art. "Consumer Non-Energy Benefits as a Motivation for Making Energy-Efficiency Improvements." Lawrence Berkeley Laboratory. http://evanmills.lbl.gov/pubs/pdf/nebs-mills-rosenfeld.pdf

Skumatz, Lisa. "Non-Energy Benefits/Non-Energy Impacts (NEBs/NEIs) and their Role & Values in Cost-Effectiveness Tests: State of Maryland." Skumatz Economic Research Associates. March 31, 2014.

http://energyefficiencyforall.org/sites/default/files/2014_%20NEBs%20report%20f or%20Maryland.pdf