"Missouri's Energy Efficiency Potential: Opportunities for Economic Growth and Energy Sustainability"

ACEEE Draft Report
Comments Provided by the Staff of the Missouri Public Service Commission
June 16, 2011

These comments are provided for informational purposes only and should in no way be construed as a policy statement by the Commission or a statement of the validity of the Report. The scope of review was limited to only the content provided in the Report itself as no additional work papers were provided. There was no independent analysis of the various models included in the report, including reviews of the methodologies, inputs, etc.

In July 2010, the Missouri Public Service Commission (Commission) initiated a contract with KEMA to "conduct a comprehensive and thorough [Missouri] demand-side management (DSM) Market Potential Study". The contract anticipates acceptance of the study by the Commission. As an initial matter, it should be noted that, to date, the Commission has not accepted the KEMA study which is referenced as one source that "provided the basis" for the ACEEE draft Report.[1] Further, the References section to the ACEEE Report indicates the March 4, 2011 version of the KEMA study was used as the basis for the ACEEE Report. On March 22 and April 28 KEMA submitted revisions to the March 4 study correcting various errors in the March 4 KEMA study. Corrections included, but were not limited to, changes to percentages, narrative and tables. Relying on an inaccurate KEMA study raises significant concerns related to the validity of the ACEEE Report.

There are several statements throughout the Report referencing the electric "utilities". As Figure 4 demonstrates, 30 percent of electricity sales are provided by cooperatives and municipal utilities, entities not regulated by the Commission. When referencing "utilities", the Report should clearly delineate whether the discussion relates to investor-owned utilities subject to Commission jurisdiction, cooperatives or municipal utilities. These distinctions play a key role in the applicability of various statements in the Report.

In the Executive Summary, the Report states, "…utilities have expanded efficiency programs in recent years."[2] This statement appears at odds with the body of the Report, which notes that some of the electric utilities have started to scale back on their energy efficiency programs.

The Executive Summary also discusses various energy efficiency policies and programs and highlights the economic impacts of energy efficiency. The Report states, "…a broader impact on job creation through re-spending of energy bill savings in other areas of the economy (induced

[1] "Missouri's Energy Efficiency Potential: Opportunities for Economic Growth and Energy Sustainability". June 2011, Report Number E11X, draft. Page 16, **Energy Efficiency Resource Potential.**
[2] Id at page iv, **Energy Efficiency in Missouri**.

jobs)."[3] Similar references to "energy bill savings" can be found throughout the Report. The Report should recognize that even if energy efficiency programs reduce consumption, the end user may not realize a reduction in monthly bills due to many other factors which may include: weather-related consumption, behavior changes, federal legislation, various cost recovery mechanisms and future rate design modifications.

In its discussion of the Missouri Energy Efficiency Investment Act (MEEIA), the Report recognizes MEEIA sets **a** goal of achieving all cost-effective savings. However, the discussion misrepresents the words of the Act. For instance, that same sentence references all cost-effective ***electricity*** savings. The Report further states that MEEIA "…delegates authority to the PSC to establish rules that achieve **the** MEEIA's all cost-effective efficiency goal."[4] (emphasis added) Section 393.1075.4 RSMo states that **a** goal of MEEIA is to achieve all cost-effective ***demand-side*** savings. In other words, achieving all cost-effective savings is not **the** goal; rather, it is **a** goal of MEEIA. All references to MEEIA in the Report should be corrected to recognize the statutory language of achieving all cost-effective ***demand-side*** savings (not energy efficiency savings and not electricity savings) as **a** goal of the Act.

The Report compares aspects of studies recently completed for Missouri and the Midwest. Included in these comparisons is Ontario.[5] There does not appear to be any justification in the Report for using data from Ontario as part of a comparison of the Midwest region of the United States.

In the discussion of energy efficiency program targets, the Report states that in the recently adopted MEEIA rules "…the PSC set guidelines for energy efficiency targets that are in line with this approach of gradually ramping up over time."[6] The term "targets" has a different meaning in the MEEIA rules. 4 CSR 240-20.094(2) establishes "goals" for demand-side savings that gradually ramp-up over time; therefore, it would be accurate to characterize the PSC-set guidelines referenced in this section of the Report as "goals". Similar references throughout the Report should also reference "goals" as the appropriate terminology. In contrast to "goals", programs approved by the Commission and used by the Commission to establish the energy savings targets and demand savings targets for the utility must be "included in the electric utility's preferred plan or have been analyzed through the integration process required by 4 CSR 240-22.060 to determine the impact of the demand-side programs and program plans on the net present value of revenue requirements of the electric utility." [4 CSR 240-20.094(3)(A)3]

As indicated above, the Report references the "recently adopted" MEEIA rules. It should be noted the rules became effective May 30, 2011.

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[3] Id at vi, **Impacts on Employment and the Economy**.
[4] Id at page 8, *Missouri Energy Efficiency Investment Act: SB 376 and PSC Rulemakings.*
[5] Id at page 17 and 19 (as example).
[6] Id at page 23. **Energy Efficiency Program Targets**.

The Report also states "annual goals would be set as a percentage of electricity ***sales***…consistent with the 'soft goals' set forth in the MEEIA rules." This section should be corrected to note the MEEIA goals in 4 CSR 240-20.094(2) are not a percentage of sales, but are ***a percentage of total annual energy and a percentage of annual peak demand***.[7]

Continuing the discussion of energy efficiency targets, the Report states, "However, after the rules were finalized the major utilities have sent signals that still more [that more] needs to be done to create certainty in the regulatory structure, establish firm utility performance incentives, and guarantee timeliness of cost recovery (St. Louis Dispatch 2011)."[8] Through its rules, the Commission established a flexible framework under which a utility may request a demand-side investment mechanism (DSIM). The Report should recognize that, to date, no utility has exercised its options under the MEEIA rules, so it is premature to draw conclusions on any uncertainties as a result of the rules.

In addition, Section 393.1075.5 contemplates a process for reviewing rate design modification proposals. On May 26, 2011, the Commission opened repository File No. EW-2011-0372 and intends to hold a workshop on June 29, 2011 to obtain stakeholder input on various issues related to implementing this section. Therefore, additional work regarding the implementation of the MEEIA statutes is currently taking place. This additional proceeding should be acknowledged throughout the Report.

The Report discusses various means for successful implementation of energy efficiency programs, stating, "The state could also examine ways the energy efficiency targets for utilities could be inclusive of other energy efficiency efforts in the state. For example, effective, state-led and local program strategies could help to meet the energy savings targets." Under MEEIA, the Commission's authority is limited to electric corporations; therefore, the annual demand and energy savings goals established in 4 CSR 240-20.094(2) apply only to Commission-approved electric corporation demand-side programs. Since the Commission does not have the statutory authority to establish energy savings targets for other energy efficiency efforts in the state, the Report should clearly delineate the applicability of goals or targets established pursuant to the Commission's MEEIA rules.

The Report also references the statewide collaborative, which is a requirement of the MEEIA rules, and suggests the statewide collaborative might serve as a starting point for a coordinating statewide entity to serve as a way to share information and marketing. While the MEEIA collaborative may provide some resources for a coordinating statewide entity, it should be remembered that the scope of the collaborative may be limited, since the rules are only applicable to electric corporations.[9]

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[7] Id.
[8] Id at page 25. *Utility Program Cost Recovery, Lost Revenues, and Performance Incentives.*
[9] Id at pages 25-26, *Other Best Practices for Utility Savings Targets* and at page 39, **CHP in a portfolio standard**.

The Report includes a discussion on policy opportunities for combined heat and power (CHP) systems. As an additional resource, ACEEE may want to review the AmerenUE DG Market Penetration Assessment Final Report prepared by Navigant Consulting, September 30, 2009.

The CHP discussion includes statements such as "For smaller applications – such as institutions or hospitals – CHP 'just doesn't stand a chance'" and "…and the economics of small projects are rarely attractive in the state." These statements appear to be unsupported. Additional information or documentation would be beneficial. For instance, a discussion of present values of gas prices, electricity, etc. versus size limit such as 10 MW heavy industrial application, hospital, college campus with steam heat.

Figure 20 presents a comparison of relative efficiencies between a traditional power plant and a combined heat and power plant. Referencing this Figure, the Report states "CHP systems can produce fuel utilization efficiencies of 65% or greater". However, the Figure is not indicative of overall life cycle costs on a per MW basis. The combined heat and power plant, also known as a combined cycle power plant, has been used in merchant power applications of several hundred MW. At the smaller scale of an industrial CHP system, the operating costs and the life cycle costs will be much greater on a per MW basis than a traditional power plant or a Combined Cycle Power Plant. This sort of analysis would be helpful to further support the discussion on CHP.[10]

The Report includes an assessment of "current" demand response activities in Missouri, but there appears to be little if any Missouri-specific data or acknowledgement of current Missouri programs.

It would be helpful if the Report would include definitions of some key terms. For instance, in the Demand Response sections, definitions for Auto-DR and Load Sheds would be beneficial. In other words, does "load shed" include load curtailment and rates?

The Report states that there are two types of DR resources – load-curtailment activities and price-based incentives. The grouping does not appear to recognize that load curtailment activities may and probably will result in an exchange of payment, as opposed to an unpaid forced curtailment.[11]

The discussion on specific DR drivers includes "ensure reliability" and "reduce supply costs". "Ensure reliability" should also acknowledge targeted load reductions, calling on just part of the system. It is suggested that "including transmission investment" be added to the "reduce supply costs" driver.[12]

[10] Id at pages 36-41, **Combined Heat and Power**.
[11] Id at page 53, **Defining Demand Response**.
[12] Id at page 53, **Rationale for Investigating Demand Response**.

In a discussion of the plan for at-scale programs, the Report notes "unique circumstances in Missouri". The Report does not define or explain these "unique circumstances".[13]

In Appendix A, ACEEE presents year-by-year estimates of energy savings and provides key assumptions for each program and policy measure included in the policy analysis. The Appendix states, "Evaluations of OPOWER's programs identify consistent energy savings of 2% per year."[14] It would be helpful to clarify whether the savings of 2% per year is solely from energy efficiency measures or if it also includes conservation which may or may not be naturally occurring.

[13] Id at page 56, **Policy Options.**
[14] Id at page 70, Behavior Program.