



## memo

To: Natelle Dietrich, Missouri PSC; Brenda Wilbers, Missouri DNR  
From: Tom Franks, KEMA  
Date: February 7, 2011  
Copy: Fred Coito, Kristina Kelly, KEMA; Gwen Mizell, GSM  
Subject: Response to stakeholder comments – submitted through January 25, 2011

---

## Overview

In the following sections we present a summary of the questions and issues raised by stakeholders subsequent to the presentation of the draft results of the Missouri Statewide DSM Potential Study and KEMA's responses. These are grouped by presenting organization, in the following order:

### Missouri Public Service Commission

- File name "PSC110120.pdf"
- File name "PSC110120A.pdf"

### Missouri Department of Natural Resources

- File name "MDNR110121.pdf"

### Ameren Missouri

- File name "Ameren110124.pdf"

### Missouri Industrial Electric Consumers

- File name "MIEC110122.pdf"

### Renew Missouri

- File name "RenewMO110121.pdf"

We have attached the full text of the comments as received in portable document format for reference purposes, with the file names shown above. Quotation marks signify a direct quote from the submission as received by KEMA.

We request that the Missouri Public Service Commission (PSC) provide responses with reference to the "Issue Identifier" assigned to each question or comment to expedite future revision.

## **Missouri Public Service Commission**

### ***General Issues***

File name "PSC110120.pdf"

#### *Issue Identifier: PSC1*

Issue: "The final report should include a detailed explanation of the baseline forecast and explain more clearly how it was developed."

KEMA response:

- KEMA will review and revise, as necessary, the sections in the draft report and sections from a previous submission on the baseline development to describe the development process, and incorporate revisions as appropriate in the final report.
- KEMA will also provide language in the final report stating that the baseline used for this study is projected from the overall penetration of efficient measures in a fixed-year and that annual loads are projected based on a fixed increment of growth in energy consuming units, households for residential, square feet for the commercial sector, and base-year usage for the industrial sector.

#### *Issue Identifier: PSC2*

Issue: "The final report should include a discussion of the Ameren study, with a comparison of approach and result. (I'm not suggesting a line item by line item comparison, but it would be helpful to have a comparison of general methodologies, approaches, and assumptions – to the extent KEMA has completed that analysis or can receive input from Ameren.)"

KEMA response:

- KEMA will provide a high-level discussion comparing the approach and results of the Missouri Statewide DSM Potential Study and the study prepared by Global Energy Partners for Ameren Missouri ("Ameren study") in the final report. Please see draft text of this review, incorporated in this document as Attachment A.

### ***Compact Fluorescent Lamps (CFL)***

File Name: "PSC110120A.pdf"

NOTE: This issue was raised by Janet Wheeler, assistant to Commissioner Jarrett, during the presentation. The file referenced contains the comments received by the PSC from Rick Voytas of Ameren in response to a PSC solicitation.

---

Issue Identifier: PSC3

Issue: With regard to the issue, Ameren asserts that due to jurisdictional differences, there are “ample opportunities to install CFLs in optimal locations” to acquire savings in Missouri.

KEMA response:

- The baseline KEMA developed for this study is consistent with this statement.

Issue Identifier: PSC4

Issue: Ameren asks for an explanation of “how KEMA developed its base case electric sales forecast in regards to future CFL market saturation” to “eliminate to the extent possible the double counting of energy savings attributable to CFLs”

KEMA response:

- In light of the impending federal lighting standards, KEMA modeled the savings from CFLs as declining to, and discontinued after, the effective date of the standards. Furthermore, KEMA’s modeling incorporated the following additional impacts from standards: 1) the phase-out of magnetic ballasts for T12 fluorescent and the phase out of T12 lamps entirely in 2012. We have excluded replace-on-burnout measures for T12 base lighting and reduced the savings from certain measures over time, e.g. high performance lighting remodel; and, 2) modeled the standards for metal halide fixtures as effectively eliminating probe-start fixtures as of 2015. We note that since LEDs did not pass the TRC test, only CFLs are modeled in the achievable analysis, eliminating the possibility of double counting due to this measure as well.
- We have thoroughly reviewed our model inputs and processes and conclusively state that savings are not “double-counted” as both our naturally occurring and program-driven savings are calculated from a fixed-efficiency baseline.

## Missouri Department of Natural Resources

Issue Identifier: MDNR1

Issue: “Do the definitions of the “one-year payback” and “three-year payback” scenarios used by KEMA differ from the definitions used by Ameren?”

KEMA response:

- The PSC directed KEMA to “configure the DSM Assyst Model inputs such that the definitions of maximum achievable potential and realistic achievable potential are analogous to the definitions used in the Ameren Missouri DSM Market Potential Study” in letter dated November 16, 2010. These potential scenarios are based on customer payback. While KEMA typically does not define a one-year payback scenario as maximum achievable potential nor a three-year payback scenario as realistic achievable potential, KEMA developed a scenario analogous to Ameren’s MAP based on a
-

one-year payback criteria and a scenario analogous to the Ameren's RAP based on a three-year payback criteria. KEMA met the PSC directive through the following approach, as noted in section 3.3 of the draft report:

- In the one-year payback scenario, base incentive levels are set to a one year payback. Program administration budgets are set at moderately aggressive amounts, roughly corresponding to program support levels. In this case, measures that had a less than one year natural (i.e. without intervention) payback were modeled without incentives.
- In the three-year payback scenario, base incentive levels are set to a three-year payback. Program administration budgets are set at modest amounts, roughly corresponding to minimum program support levels. In this case measures that had a less than three year natural payback modeled without incentives.
- The process KEMA used to meet this directive was to perform a series of calculations on the measure level outputs from the economic potential analysis such that measures that exceed the target payback period received incentives that brought them in line with the target payback, and measures that had payback periods less than the target period received no incentives. The results of these measure level calculations were summed by the model to produce the total incentive amounts, overall and by sector and market.

From our review of the Ameren report, provided in PDF format, it was not clear what modeling techniques GEP used to set the incentive levels such that the payback targets were met. We did review Ameren's approach and have calculated incentives in a manner we believe to be consistent with the description provide therein. We note that a chart provided by Ameren at the January 20 presentation and incorporated in their subsequent comments , shows the levels of achievable potential for the one- and three-year payback scenarios for both analysis as overlapping.

Issue Identifier: MDNR1a

Issue: "If so, please describe the differences, as KEMA understands them."

KEMA response:

- See response to MDNR1.

Issue Identifier: MDNR1b(i)

Issue: "If the goal of estimating the "one-year payback" and "three-year payback" scenarios was to provide comparability with the Ameren study, and if the underlying assumptions differ are KEMA's scenarios and Ameren's results fully comparable?"

KEMA response:

- The payback period for a specific measure is only one of many inputs required to model achievable potential. Equivalence in this input alone does not guarantee comparability across the full spectrum of variables used to estimate potential. For example, in its modeling effort, KEMA used avoided costs
-

selected by the PSC to represent the statewide avoided cost over the analysis horizon. Ameren presumably used its own projected avoided costs. KEMA requested these avoided costs by e-mail on October 6, 2010. The response, from Mr. Dave Costenaro on October 8, 2010, states "Avoided costs are based on market projections which we treat as competition sensitive and highly confidential."

Based on this factor alone, we cannot state that the results are fully comparable.

- Based on the information provided by Ameren, we believe that the two models differ significantly in their approaches to modeling measure adoption and the calculation of naturally occurring savings.
- See Attachment A for discussion of the KEMA and Ameren approaches. While we think the scenarios developed by each study attempt to portray similar levels of program effort, the differences in modeling approach limit the ability to do a "full comparison."

Issue Identifier: MDNR1b(ii)

Issue: "If they are not fully comparable, what refinements would have been required to develop scenarios that more fully comparable?"

KEMA response:

- In order to be "fully comparable" a wide range of inputs, including but not limited to avoided costs, baseline energy use, projections on future use, and assumptions on customer mix, awareness and behavior would need to be either identical or scaled appropriately. If these conditions could be fully met, then the outputs would be directly comparable, and differences would be an artifact of the specific modeling approaches.
- Secondly, the PSC specified a geographic scope for the KEMA model that was fundamentally different from that modeled by Ameren. Comparison across service territories is only meaningful if the Ameren service territory, and the market conditions and costs facing Ameren, are statistically representative of the state of Missouri as a whole.
- Finally, comparability cannot be achieved by creating new scenarios. Comparison must account for the following differences in model design, to name only a few:
  - How each model defines technical and economic savings;
  - How the models treat naturally occurring efficiency savings; and
  - How the two models calculate incremental measure adoption under each scenario.
- It is important to note that the "comparability" objective was not to achieve the "same answer" but to understand savings potential. In this sense the models are comparable (and relevant to the Commission's goals) in that each presents a perspective of energy potential achievable in the market given the specific inputs provided. KEMA has documented the inputs and assumptions used in our study to enable the Commission to make such comparisons.

Issue Identifier: MDNR1b(iii)

Issue: "If they are not fully comparable, what disclaimers should be included in KEMA's report?"

KEMA response:

---

- KEMA was engaged to estimate the DSM potential for the state of Missouri using its proprietary DSM Assyst model. KEMA has met this obligation and our modeling and report do not require any disclaimers. Indeed, KEMA's analyses have been conducted to the highest standards of independence and objectivity, without any economic or other incentive to achieve a particular outcome. KEMA will include a discussion of statistical limitations inherent in any such modeling in the final report. Please see Attachment A for comparative discussion of the KEMA and Ameren studies, and Attachment C for a broader overview of potential study results.

Issue Identifier: MDNR1c

Issue: Please describe the methodology used by KEMA to adjust measure incentive levels to create the "one-year payback" and "three-year payback" scenarios.

KEMA response:

- One set of output files created by DSM Assyst includes information at the measure level for the payback period absent program intervention (natural payback). KEMA utilized this information to filter out all measures that had natural paybacks below the threshold level of the scenario, and then set the incentives for those measures with paybacks greater than the threshold level such that they reach the threshold level.
- See also response to MDNR1 above

Issue Identifier: MDNR1c(i)

Issue: "Please provide a table of measures showing the incremental cost relative to the baseline measure along with the incentive level set for the "one-year payback", "three-year payback" and "KEMA 75% Achievable Potential" scenarios."

KEMA response:

- Attachment B lists the incentive level as a percent of incremental cost for each measure under each scenario. Measure costs are available in Appendix E of the draft report.

Issue Identifier: MDNR2

Issue: "Please provide a table comparing the results of the KEMA Missouri Demand Side Potential Study to other equivalent state-wide potential studies and to studies that have estimated achievable potential in other jurisdictions using a methodological approach similar to KEMA's "75% of incremental cost" approach. Please include complete references for the comparable studies."

KEMA response:

- Attachment C summarizes the results of various studies that KEMA has access to. In most cases, the various studies employ different methodologies and also employ different definitions for achievable potential scenarios, making a direct comparison of the studies difficult without a careful reading of each report.
-

Issue Identifier: MDNR3

Issue: “Please describe how codes and standards are incorporated in the KEMA ASSYST model. With respect to federal equipment standards please discuss how KEMA treats: a) standards that are in DOE regulations that are due to go into effect in the future, and b) standards which DOE is required by legislation to establish but that DOE has not yet established in specific regulations.”

KEMA response:

- As noted in the response to PSC3 above, KEMA modeled the effect of standards for CFLs, T12 fluorescent lamps and ballasts and metal halide fixtures.
- Experience has shown that as the standards shift, the prevalence of higher efficiency equipment increases and the price goes down. The net effective of federal standards and market actions is that a relatively constant differential in efficiency and cost is preserved between baseline equipment and efficient equipment.
- DOE’s schedule for updating standards is extremely uncertain. Once the standard-setting process has begun, it can take several years to reach a final ruling, and then there is typically a 3 or more year delay before the standard goes into effect. Adding to that uncertainty, DOE has the option of enacting a “no standard” standard, or retaining existing standards to comply with legislative requirements. Attempting to model yet-to-be-implemented standards would inappropriately add uncertainty without adding accuracy or precision.

Issue Identifier: MDNR4

Issue: “In his comments, Fred Coito of KEMA mentioned that KEMA agreed with Ameren’s assumption that Missouri residents are less interested in energy efficiency than residents in other states.”

KEMA response:

- We have reviewed the transcript of the January 20 presentation and have not found this comment. Please provide a page and line number from the transcript.
- However, for the purposes of this study, KEMA reviewed the direct customer research Ameren had conducted relative to Missouri customer DSM adoption rates. To maintain comparability, KEMA incorporated the Ameren study’s conclusion that their customers expressed less interest in DSM investments than the average customer nationally. The results presented by KEMA are inclusive of this Missouri-specific finding.

Issue Identifier: MDNR4a

Issue: Please explain how KEMA came to this conclusion.

KEMA response:

- KEMA made a decision to calibrate certain inputs based on the data collected for the Ameren study in the absence of more comprehensive or unchallenged data. We exercised professional experience and judgment during this calibration effort to reflect a reasonable estimate of adoption of efficiency
-

measures. This is an approach we have used in similar studies that have been performed where limited territory-specific data was available.

Issue Identifier: MDNR4bi

Issue: “Did this assumption impact the results of the study? If so, how was this assumption operationalized? Please identify any variable(s) or factor(s) in the model that reflect this assumption.”

KEMA response:

- KEMA used a standard technique of adjusting appropriate model penetration curves to reflect somewhat lower measure penetration rates for given level of measure cost effectiveness relative to penetration rates in recent studies KEMA has undertaken in other states. KEMA routinely calibrates its penetration curves in each study undertaken to increase confidence levels that the model results are statistically reflective of the circumstances found in each service territory. In states with more developed programs, this calibration makes use of recorded program accomplishments. For Missouri, with limited evaluated program data, the calibration utilized results of the Ameren study

Issue Identifier: MDNR4b(ii)

Issue: “In the absence of the AmerenUE study, what assumptions about customer participation (or similar factors) would KEMA have used in their modeling?”

KEMA response:

- In the complete absence of localized information, KEMA would have started with a standard set of model inputs based on decades of experience in efficiency program results from across the nation, with greater weight being placed on studies/results from the Midwest area generally.
- It is best practice to utilize available and relevant data points, and our professional preference. In the absence of relevant results from evaluation efforts undertaken to represent Missouri statewide, KEMA used the available data points as reported in the Ameren study.
- While it is not proven how these various input changes would have *specifically* affected the savings levels in this study, our professional judgment would lead us to opine that the alternative inputs would have resulted in a somewhat greater degree of energy efficiency savings at a given incentive level. In this sense, using the Ameren primary research allows for a more conservative assessment of energy savings potential.

Issue Identifier: MDNR4b(iii)

Issue: “Please provide a sensitivity analysis on the variable identified in 4).b.i, showing how study results would vary with changes in the assumptions about customer participation (or similar factors). Please compare Ameren's value to the values KEMA has used in other studies for other jurisdictions as the lower and upper values of these factors in any sensitivity analysis.”

KEMA response:

---



- As previously offered, it is standard practice to calibrate the model to local conditions. Had such local data not been available, KEMA would nevertheless have made adjustments to penetration curves, based on other sources, resulting in the alignment of our model with Midwestern utility customer behavior. In Attachment C we provide a comparison of various study results, including the Ameren study and our current study. We believe this comparison provides the most relevant set of values by which to judge relative impacts determined in each study. .

Issue Identifier: MDNR4b(iv)

Issue: “Please estimate the impact on the reported participation and savings level such an assumption has on the study results.”

KEMA response:

- Please see responses to MDNR 4a, 4b(ii) and 4b(iii) above.

## Ameren Missouri

File Name: “Ameren110124.pdf”

Issue Identifier: AM1

Issue: Net or gross – Ameren states that KEMA should present net numbers, that our report has “major inconsistencies” on how it develops net. They also note inconsistencies in some of our presented information and state “KEMA should provide a detailed EXCEL spreadsheet so that the stakeholders can see exactly what the KEMA methodology is” for converting gross to net savings.

KEMA response:

- Within the context of this report, KEMA consistently defines net energy savings as those savings estimated beyond that which is naturally occurring, that is, those which would occur in the absence of any program or new standards.
- KEMA will review, and revise as necessary, all data presented in the draft report to assure quantitative consistency in the final report.
- Appendix H, *Achievable Program Potential Results*, which will be created after the PSC has provided direction as to revisions to the draft report, will provide more detail on gross and net program results, along with program costs and cost effectiveness parameters.

Issue Identifier: AM2

Issue: “It is critically important to this study for KEMA to articulate in writing, supported by documentation, exactly how they estimate naturally occurring energy efficiency.”

KEMA response:

---

- Appendix A of the draft report, section A.1.3, discusses the estimation of naturally occurring and program savings potentials. Both the naturally occurring and program savings estimates are the result of variety of factors which are quantified based on evaluation results, research data, or professional experience. These include the availability of the adoption opportunity as a function of capital equipment turnover rates and changes in building stock over time, customer awareness, cost-effectiveness, and market barriers. The model utilizes a multi-stage process to calculate adoption for both program and naturally occurring efficiency measures.

Issue Identifier: AM3

Issue: Ameren asserts that KEMA's estimates of technical and economic potential should be closer to the findings of their study; notes that some of the measure level inputs KEMA used are wrong; asserts that KEMA should incorporated known and measureable standards; asserts that KEMA is double counting savings for some measures; asks for clarification on our approach to normalizing for a 20-year measure life; and, asks for verification that "renewed efficiency measures are not allocated to achievable at zero program cost."

KEMA response:

- KEMA notes that different analytic approaches and inputs are likely to produce different results. Each model is subject to a high degree of uncertainty and variability.
  - Please see the description of KEMA's approach to standards as described in response to MDNR 3
  - KEMA has reviewed the concerns raised by Ameren and agrees to make the following changes to ensure greater comparability between the modeling parameters:
    - Revise the inputs to appliance recycling to show a cost of \$125 and a measure life of 5 years
    - Revise the inputs for the OPower measure to a measure life of 1 year
    - Add an adjustment factor to lower the baseline energy use of dehumidifiers to the future standard. Since it is unlikely the specifications for the future EnergyStar dehumidifier will be determined by the completion of this study, KEMA will also lower the incremental savings from the efficient measure to 10% of base energy use as a proxy for the difference between the base equipment and the Energy Star equipment.
    - With regard to LED lamps, as previously noted they did not pass the TRC test and are not included in the achievable analysis.
  - Within the technical and economic potential analysis, DSM Assyst models competing measures, such as the two efficiency levels efficiency of room air conditioners, such that all of the savings go to the more cost effective measure. If the least efficient measure is the most cost effective measure, then the higher efficiency measure is modeled as incremental to the first measure, so savings are not double counted. These results are incorporated into the analysis of achievable potential, thus eliminating the potential for double counting of savings.
  - With regard to "double counting" please see response to PSC4,
  - With regard to normalization methodology, this is contained in Appendix A, section A.1.2.2. In short, KEMA's model utilizes a nominal discount rate to calculate the present value of both costs and benefits over twenty years. For measures with measure lives shorter than 20 years, the measures are re-installed as many times as necessary at no additional cost to the program and without generating additional savings beyond those attributed to the initial installation.
-

Issue Identifier: AM4

Issue: Asks for a description of methodology for developing program costs; comparison of those costs to those currently borne by Missouri utilities; and information on those costs, specifically “levelized cost per unit of energy saved, or a year-by-year cost per first-year-installed kWh or therms.”

KEMA response:

- KEMA developed program costs by reviewing the information provided by Missouri utilities on program costs, including marketing/education budgets, relative to base energy usage, in other service territories to set approximate marketing/education budgets for Missouri. The marketing/education budgets are used to increase customer awareness of energy efficiency, and together with incentives define the size of the program. Given the program size, administration budgets are set by looking at typical \$ per first year kWh of program savings. We will describe cost development methodology in greater detail in the final report.
- Appendix H to the final report will include information on program costs.

## Missouri Industrial Energy Consumers

Issue Identifier: MIEC1

Issue: MEIC states that the amount of time allocated to this project is “insufficient to produce a reliable product,” that the “KEMA study uses much broader inputs which do not necessarily correlate to or represent the characteristics of the customers in ... Missouri utilities,” that KEMA’s disaggregation of the industrial sector does not match their understanding, and that the “conclusions drawn from this data would be accurate only by chance.”

KEMA response:

- KEMA asserts that the data used as input for this study are consistent with best practices for this type of study and that the time frame provided was sufficient to accomplish the study objectives as originally constituted. While the original project plan approved by the PSC did not initially incorporate a component for stakeholder process, additional time was added to the study to accommodate a robust stakeholder process.
- KEMA used its professional experience in the disaggregation of the industrial sector and provided its assumptions to the PSC in a memo on baseline inputs dated October 4, 2010 which the PSC circulated to stakeholders. The PSC accepted this memo (and the assumptions contained therein) without revisions to the industrial allocation.

Issue Identifier: MEIC2

Issue: MEIC notes that the avoided costs used in the study are “MORE THAN DOUBLE” and requests that KEMA be directed to revise avoided costs.

---

KEMA response:

- KEMA analyzed three avoided cost scenarios for the estimate of economic potential. KEMA submitted a Memorandum dated December 20, 2010 that addressed this point, among others. The PSC subsequently confirmed via email dated December 22, 2010, that KEMA was to bring the “base” avoided costs forward to all scenarios for the achievable potential scenarios. KEMA has fully complied with PSC’s instructions and has therefore satisfied its obligations with respect to this issue.

## Renew Missouri

File Name: “RenewMO110121.pdf”

### Issue Identifier: RM1

Issue: “Are achievable savings for retrofit measures calculated on the basis of incremental costs or on the basis of total cost of replacing operating equipment (inclusive of labor and the total equipment cost)?”

KEMA response:

- For measures described in the question, called “retrofit measures” in our analysis, the KEMA model includes the full cost and full measure life.
- For replace-on-burnout measures, which affect most equipment replacements in our analysis, KEMA utilizes the incremental measure costs, which is the difference between total costs for installation of the energy efficient equipment minus the total cost for the standard equipment.

### Issue Identifier: RM2

Issue: Asks if the baseline is the existing equipment or the current code.

KEMA response:

- The measure level data will be shown in the appendix for achievable potential to be included in the final report. See AM3, above
- For retrofit measures, the savings are calculated from the existing baseline equipment, which is an average of the efficiency of similar equipment currently installed.
- For replace-on- burnout measures, the savings are calculated based on the existing baseline of new equipment.

### Issue Identifier: RM3

Issue: “Does your analysis capture the full value of equipment replacements in the retrofit market? Would the use of existing equipment baselines and incentive levels based on full project costs result in a higher estimate of achievable savings?”

KEMA response:

---

- Our analysis captures the full value of the energy and demand savings attributable to measure installation. It does not include non-energy benefits or costs.
- Measure costs include installation.
- KEMA uses existing equipment as the baseline and full project cost.

Issue Identifier: RM4

Issue: Asks whether projections of technological improvements over time are included in this analysis; if the assumption we made for this study is used in other studies; for examples of studies where assumptions differ, and if the PSC or others required such an exclusion.

KEMA response:

- Our analysis did not include forecasts of technological improvements, often called “emerging technologies.”
- When specifically directed by a client to do so, KEMA has estimated savings attributable to assumptions of increased efficiency from emerging or yet-to-be-discovered technologies as an external add-on to the general modeling process. At the project kick-off meeting KEMA noted that generally it takes a conservative approach and only includes proven technologies with known costs and benefits in its analysis, and we were proposing to do the same for this study. The PSC accepted this approach
- Assumptions differ across studies, depending on the regulatory environment, the geographic scope, and the client perspective and situation. This makes comparability across studies, as discussed in the responses to MDNR1b et. seq., difficult at best. With this caveat, Attachment C displays the results of a variety of studies for review.

Issue Identifier: RM5

Issue: “Does Figure 1-1 estimates of net benefits include the lifetime 20 year benefits of all measures installed through 2020?”

KEMA response:

- The net benefits are the present value of the full lifetime of the measures installed up to and including the program year for which the net benefits are presented.

Issue Identifier : RM6

Issue: Notes a discrepancy tables within the report

KEMA response:

- This will be corrected in the final report.
-

Issue Identifier: RM7

Issue: Renew Missouri created a table showing different net-to-gross ratios (NTGR) for the three scenarios, and asked for clarification net about KEMA's approach NTGR and raised questions about free-ridership.

KEMA approach/response:

- For this study KEMA assumed that 100% of naturally occurring (see response to AM2 above) efficiency receives a program incentive, for measures where incentives are assumed to be offered. While it is likely that some naturally occurring savings would occur outside the program, we believe that most customers will utilize an incentive when it is available. Assuming all naturally occurring savings receive program incentives provides a conservative approach in calculating the benefit-cost ratios of programs. To the extent that some customers adopt energy efficiency measures without program incentives, program costs would be lower than estimated and TRC ratios would be higher than estimated.

Issue Identifier: RM8

Issue: "Presumably, the higher rebate levels of the 75% scenario would produce a lower level of free-ridership. However, the NTGR ratio for this scenario suggests that free-ridership is higher. Please clarify how the NTGR would be lower for this scenario than the one year payback scenario."

KEMA response:

- The incentive levels in the 75% incentive scenario are not uniformly higher than in the one-year payback scenario. (See measure level incentives in Attachment B)

Issue Identifier: RM9

Issue: Renew Missouri asks about installations made absent program incentives, and if this represents "spillover."

KEMA response:

- Installations made absent program incentives (that are above and beyond naturally occurring savings) are assumed to be the result of education and awareness efforts, and thus technically not classified as spillover.
  - KEMA did not include a component for spillover in the estimate of achievable potential.
-