**Ameren Illinois Company**
**Response to NRDC Data Requests**
**Docket Nos. 10-0568**
**Verified Petition for Approval of Integrated Electric and Natural Gas Energy Efficiency Plan.**
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NRDC 2.01

Provide a detailed description of the activities that will be included in the following budget categories, the anticipated costs for each activity, and an explanation of how each activity will provide cost-effective energy efficiency benefits to Ameren Illinois ratepayers:

a. Ameren Illinois- Portfolio Admin costs

b. Ameren Illinois- Education

c. Ameren Illinois- Marketing

**RESPONSE**

**Prepared By: David M. Costenaro**
**Title: Sr. Planning Consultant, DSM**
**Phone Number: (314) 554-4550**

Portfolio level administrative costs are calculated as 5% of Total Program costs, as defined in Table 16 of Ameren Exhibit 1.1. These costs are associated with labor, time, materials, and other direct costs necessary to manage the overall portfolio. Without this administration and management, energy efficiency benefits would never reach the ratepayer.

Portfolio Education costs and Marketing costs are each calculated as 2.5% of the Total Program costs as defined in Table 16 of Ameren Exhibit 1.1. Marketing, education, training, and awareness-building are essential elements of the portfolio, without which the investment yields little/no permanent change. Thus the Company must continually refine and implement cross-cutting marketing, education, and training programs. Without this education and marketing, ratepayers would not be aware of the energy efficiency opportunities available in the portfolio.

The yearly dollar amounts for the entire portfolio are given in the table below, and Appendix C of Ameren Exhibit 1.1 provides an estimate of how these portfolio level costs may be distributed on a program basis.

| | PY4 | PY5 | PY6 |
|---|---|---|---|
| Ameren Illinois - Portfolio Admin costs | $ 2,200,191 | $ 2,253,252 | $ 2,294,792 |
| Ameren Illinois Total Portfolio Marketing costs | $ 1,101,821 | $ 1,128,404 | $ 1,149,227 |
| Ameren Illinois Total Portfolio Education costs | $ 1,101,821 | $ 1,128,404 | $ 1,149,227 |

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NRDC 2.02

Explain how "Ameren Illinois will coordinate with MEEA and utilities to deliver…" the state Home Performance with Energy Star program (Ex. 1.1 p.56), and "…adapt over time from an initial focus on individual technology-based solutions to a more comprehensive focus on whole-house solutions" (Ex. 1.1 p 95).

**RESPONSE**

**Prepared By: Ken Woolcutt**
**Title: Managing Supervisor Energy Efficiency**
**Phone Number: (309) 677-5001**

The Home Performance with Energy Star (HPwES) program includes features that, over time, will allow it to meet all the requirements of the national HPwES brand created by the Environmental Protection Agency and the Department of Energy. The primary program objective is to create energy savings through comprehensive retrofits of existing single-family housing. Additional objectives are to build an infrastructure of certified building professionals qualified to perform comprehensive residential retrofits; to provide a coordinated delivery structure among Illinois' utilities and state government that offers seamless service integration to residential customers; and to help customers improve building performance through non-energy measures addressing moisture control, ventilation, safety, comfort, and other features.

The HPwES program provides a range of technical and financial assistance to help residential customers identify and install comprehensive energy solutions. The program provides energy audits that identify potential retrofit projects; directly installs certain low cost measures as part of the energy audits; builds a network of trade allies qualified to install insulation and air sealing measures; coordinates installations of additional measures offered through other programs; offers a range of behavioral recommendations that further improve energy efficiency; and provides quality assurance.
The program leverages professional standards developed by the Building Performance Institute (BPI), which has developed certification standards for building professionals in a range of building science areas, as well as technical standards for installations of building science improvements (such as insulation and air sealing). Trade allies participating in the program must employ professionals certified within one or more of BPI's technical

areas, and retrofit projects must meet BPI's technical standards, including provisions for diagnostic tests and safety requirements before and after installation.

This program also leverages the national HPwES program, which is delivered through local program sponsors who agree to meet certain program requirements. The HPwES program sponsor for Illinois is the Department of Commerce and Economic Opportunity (DCEO), through its contractor the Midwest Energy Efficiency Alliance (MEEA). Ameren Illinois will deliver the program in coordination with DCEO and MEEA.

The program also coordinates with other investor-owned and publicly-owned utilities to meet the needs of customers served by multiple utilities. Through the use of coordination agreements, Ameren Illinois and its utility partners have agreed to coordinate the use of implementation contractors, rebate structures, trade ally requirements, quality assurance protocols, marketing strategies, and other program delivery requirements, therefore providing seamless program integration to joint customers.

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NRDC 2.03

Explain what "excluded due to success of current program" means in reference to Upstream Commercial Lighting (Ex 1.1 p.56). Does this mean that Ameren believes that the current program is capturing savings at least cost?

**RESPONSE**

**Prepared By: Ken Woolcutt**
**Title: Managing Supervisor Energy Efficiency**
**Phone Number: (309) 677-5001**

Ameren Illinois will continue to monitor the development, maturation, and performance of upstream commercial lighting programs and consider their applicability to the Ameren Illinois service territory. At present, Ameren Illinois' existing commercial lighting program is performing well and a change to upstream commercial lighting would impose several obstacles without necessarily delivering lower costs.

First, an upstream lighting program shifts focus away from customers and contractors making other Act On Energy programs less visible to both parties. With less interaction between customers and contractors other possible energy efficiency opportunities would be unexplored. Second, there would be a decreased ability to track by account, something which is vital to the evaluation process due to shipments direct to contractors. Third, less project information would be gleaned from the upstream method. Project details such as the type of project, operating hours, and other important information needed for evaluation would not be gathered. A final concern would be that leakage would result due to the proximity and existing relationships of non Ameren Illinois customers with distributors.

For these reasons, Ameren Illinois would not recommend that the Commission adopt the premise that an upstream lighting initiative could lead to more kWh savings at this time. Mr. Costenaro also addresses this program in his testimony.

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NRDC 2.04

Please explain Ameren's assumptions regarding the persistence of savings estimated for the Residential Behavior Modification program. Will customers continue to save energy once they no longer receive regular mailings? Also, please clarify whether the intention is to provide this program to 50,000 customers each year for a one year period for a total of 150,000 customers, or to provide it to a total of 50,000 customers for a three year period. In either case, please explain how the duration of the program is consistent with its being a "pilot".

**RESPONSE**

**Prepared By: Ken Woolcutt**
**Title: Managing Supervisor Energy Efficiency**
**Phone Number: (309) 677-5001**

No assumptions are made regarding the full "lifetime" savings of behavior-based program beyond the actual single year measure life. Ameren Illinois is assuming a single-year measure life, thereby reducing any risk associated with future performance. That said, there is strong evidence that residential behavior modification program results persist. In each deployment over six months, OPOWER's Home Energy Reporting has generated between 1.5 and 3.5% energy savings. However, if consumers stop receiving home energy reports and the associated behavioral messages, it is predicted that over time they would see their savings diminish.

Ameren Illinois' intention is that the Residential Behavior Modification program will provide reports to a total of 50,000 customers or more over the three year period. Customers would continue to receive the Home Energy Reports during the three years of the program. The term "pilot" referred to a preliminary period which preceded the program and ran from June 2010 through May 2011.

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NRDC 2.05

For the Residential Moderate Income and Residential Home Energy Performance programs how many audits are planned for each year of each program? Please explain in detail the process used to estimate the numbers of each measure that will be installed based on the total number of audits.

**RESPONSE**

**Prepared By: Ken Woolcutt**
**Title: Managing Supervisor Energy Efficiency**
**Phone Number: (309) 677-5001**

The number of Residential Home Energy Performance and Residential Moderate Income audits planned by Ameren Illinois in the next three years is displayed in the table below. Certain measures are built into the program design as being direct installed in a set quantity for every audit. Measures installed can include CFLs, pipe wrap, faucet aerators, and efficient showerheads. Other more complex follow-on measures are assumed to be installed by fewer customers.

**# Level 1 Audits / Year**

| | PY4 | PY5 | PY6 |
|---|---|---|---|
| Home Energy Performance | 2,583 | 2,661 | 2,741 |
| Moderate Income HEP | 1,331 | 1,371 | 1,412 |

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NRDC 2.06

In his direct testimony, Mr. Weaver provides a comparison of the Ameren plan performance to a range of programs from 2008 and 2009, yet in his rebuttal testimony he only provides a comparison with the 2009 portfolios, and in fact states that, among other reasons, "…because the [Navigant] analysis relied on data from 2008, the Commission should not rely on it for making policy in this docket" (lines 192-193). Please explain in detail the apparent contradiction between Mr. Weaver's inclusion of the 2008 data in his direct testimony and his dismissal of data from the same period in the Navigant study.

**RESPONSE**

**Prepared By: Edward M. Weaver**
**Title: President, First Tracks Consulting Service, Inc.**
**Phone Number: (720) 406-7643**

I do not find any contradiction. Because my analysis included data from 2009, it is more current than the Navigant study, and should be given more weight by the Commission.

However, the fact that the Navigant study relied on 2008 data is not the only reason I cite for my recommendation. The citation noted from lines 192-193 of my testimony, comes from the following paragraph, which I restate in its entirety: "Because the Navigant Analysis includes data from so many small utilities that are not comparable to Ameren Illinois, because Mr. Grevatt has provided little or no information to support the values included in the analysis, and because the analysis relied on data from 2008, the Commission should not rely on it for making policy in this docket. The benchmarking analyses I have supported in my Direct and Rebuttal Testimonies, which I have fully supported in my workpapers, and which include data from 2009 that is more current than the Navigant analysis, should be given much more weight by the Commission." That is, the fact that the Navigant study relied on 2008 data was one of three reasons that, in their entirety, support my recommendation that the Commission not rely on the Navigant study and instead place more weight on my analysis.

Finally, I note that I did not update the 2008 portion of my analysis for my rebuttal testimony due to the extremely short turnaround in the docket schedule between the time Staff and intervenor filed direct testimony and the time Ameren Illinois filed rebuttal testimony.

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NRDC 2.07

In his rebuttal testimony Mr. Weaver states that Mr. Grevatt's approach of focusing on portfolios that achieved between 0.8% and 1.2% savings "skews his results" (line 135).

a. Explain in detail why focusing on the limited data set skews the results.

b. Does Mr. Weaver agree with the premise that utilities that are achieving savings that are less than 0.8% or greater than 1.2% are doing so because of specific regulatory drivers that may have a profound influence on the savings levels and costs achieved?

c. Alternatively, does Mr. Weaver believe that the cost of saving energy is independent of the amount of energy saved and of the regulatory environment in which the programs operate?

**RESPONSE**

**Prepared By: Edward M. Weaver**
**Title: President, First Tracks Consulting Service, Inc.**
**Phone Number: (720) 406-7643**

a. Mr. Grevatt selects only a subset of the data from my analysis and ignores the remaining data. I believe that the ignored data provides important information that the Commission should use to make policy in this proceeding. For example, Mr. Grevatt selects 7 portfolios from my 2009 analysis that provided savings between 1.0% (the Act's savings requirement for PY5) and 1.2% of energy deliveries (Mr. Grevatt's arbitrary upper limit on savings). Yet his analysis ignores:

   - Another 6 portfolios that could only meet the Act's PY5 savings requirement by spending well above the Act's spending limitation; and
   - Another 7 portfolios that could not even reach the Act's PY5 savings requirement, even with spending that is well above the Act's spending limitation.

   I believe these exclusions skew Mr. Grevatt's results.

b. I believe that all of the portfolios in my analysis are operating within specific regulatory and statutory frameworks that influence their performance. However, I do not agree that the portfolios savings less than 0.8% of energy deliveries are somehow being directed by their regulatory or statutory frameworks to limit savings; nor do I agree that the portfolios providing savings exceeding 1.2% of energy deliveries could be easily transformed to meet the restrictive statutory requirements faced by Ameren Illinois.

c. I believe that the cost of savings is related to the amount of energy saved in at least two ways: portfolios saving more energy may include more higher-cost measures (or markets), driving up cost per kWh; and portfolios savings more energy leverage fixed overhead costs, driving down cost per kWh. In general, I believe that the second factor is more important; that is, I believe that portfolios in my analysis that save more energy are, in general, using program and marketing strategies that drive large volumes of participation in the core measures that make up the bulk of most electric portfolios, i.e., lighting improvements, HVAC improvements, and motor improvements. For example, Efficiency Vermont produced over 70% of its portfolio savings from lighting measures in 2009, with the majority of these savings coming from residential CFLs.

   For these reasons, I don’t believe it is appropriate to exclude from the analysis portfolios delivering savings that exceed 1.2% of energy deliveries. Six of the 7 portfolios in this group were only able to exceed the Act’s savings requirement by spending well over the Act’s spending limits (with the lone exception being Nevada Power). I don’t believe that this cost increase was driven by a prevalence of high cost measures and I don’t believe that elimination of high cost measures from these portfolios could bring their performance within the savings and cost limitations imposed by the Act.

   For these reasons, I also don’t believe it is appropriate to exclude from the analysis portfolios delivering savings below 0.8% of energy deliveries. The eight portfolios in this group include portfolios that have been in place for many years, and are among the group of best performing portfolios that I selected for my analysis. I think it is important for the Commission to understand that none of these portfolios have been able to meet the Act’s savings requirements, even though some spend even more than allowed by the Act’s spending limitation.

   Notwithstanding these observations, I also do not believe that there are enough economies of scale from large savings to offset the extremely restrictive requirements of the Act. That is, based on my benchmark analysis, I do not believe that it would be realistic to expect Ameren Illinois to capture enough economies of scale with a larger portfolio to meet the requirements of the Act. If this were a realistic goal, then I believe that many more portfolios in my benchmark analysis would have been able to accomplish it.

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NRDC 2.08

In lines 187-189 of his rebuttal testimony, Mr. Weaver states that "The marketing and infrastructure challenges facing Ameren are really not comparable to those facing the City of Chicopee and the other small utilities included in Navigant's analysis" and goes on to say that the Commission should not rely on the Navigant study because it "…includes data from so many small utilities that are not comparable to Ameren Illinois…" (190-191).

a. Is it Mr. Weaver's opinion that the economies of scale that are available to Ameren provide it with a disadvantage in comparison to a small municipal utility in terms of $/MWh saved?

b. Is it Mr. Weaver's opinion that the significant savings opportunities provided to it by its large commercial and industrial customers- customers who would not exist in a small municipal utility customer base- provide it with a disadvantage in comparison to a small municipal utility in terms of $/MWh saved?

**<u>RESPONSE</u>**

**Prepared By: Edward M. Weaver**
**Title: President, First Tracks Consulting Service, Inc.**
**Phone Number: (720) 406-7643**

a. I believe that the Ameren Illinois's customers, markets, and opportunities are very different from those facing small municipal utilities, and this is the primary reason that I recommend the Commission not rely on the Navigant study. Some of the differences would make it more difficult for Ameren Illinois to deliver the large savings required by the Act within the Act's spending limitations, and others may make it less difficult. On the whole, I believe that the opportunities for municipal utilities are different enough that it would be imprudent to include them in a benchmarking analysis used by the Commission in making policy in this proceeding.

b. I disagree with the premise that small municipal utilities would not have significant savings opportunities from large commercial and industrial customers. Many small municipal utilities have loads dominated by a small number of large commercial or industrial customers—in some cases loads are dominated by a single large manufacturer, university, or hospital. For example, based their Form 861 filings with the Federal Energy Regulatory Commission, the two municipal utilities included in the Navigant study that have the highest savings and the lowest costs (Shakopee Public Utilities Commission and City of Jackson), both have sales dominated by sales to their largest customers—65% of total sales for Shakopee and 57% of total sales for Jackson. Compared to Ameren Illinois, for which large-customer sales represent approximately 41% of total sales (see page 1 of Ameren Illinois Exhibit 1.1) both of these utilities have even larger savings opportunities from large customers.

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NRDC 2.09

The Navigant study provides discreet data for the IOU/Agency portfolios with the municipal utilities removed from the sample, showing a median savings of 0.9% at a cost of $0.18, slightly lower savings at the same median cost as when the municipals are included. Noting that Mr. Weaver presents the PY4 target of 0.8% savings to be achieved with a spending cap of $0.178 in 2008 dollars (Ameren Ex. 5.2(Rev.) p. 2), please explain in detail why these data are not relevant for demonstrating that it would be realistic for the Commission to expect that Ameren could at least achieve its PY4 savings targets within the spending cap, especially considering the unprecedented low cost per MWh saved of its proposed Behavior Modification Program.

**<u>RESPONSE</u>**

**Prepared By: Edward M. Weaver**
**Title: President, First Tracks Consulting Service, Inc.**
**Phone Number: (720) 406-7643**

The Navigant study provides separate results for IOU/Agencies and for Publicly Owned Utilities. However, the Navigant study does not provide any of the raw data used to calculate savings and spending values for individual portfolios, or used to calculate the average values referenced in this data request. This shortcoming extremely limits my ability to discuss the relevance of the Navigant study for use in this study.

Notwithstanding this limitation, I believe that the average values cited in the Data Request and in Mr. Grevatt's testimony (lines 280-281) are misleading and therefore should not be relied upon by the Commission in this proceeding. On the contrary, I believe that the Navigant study provides results that are generally in alignment with the conclusions that I drew from my benchmarking analysis. I make the following conclusions from a visual inspection of Figure 0-7 on page 30 of the Navigant study,

- Of the 20 IOU/Agency portfolios included in the Navigant study, only 2 are able to meet the Act's PY5 requirements and only 4 are able to meet the Act's PY4 requirements.
- All of these portfolios (Efficiency Maine, Minnesota Power, Xcel Minnesota, and MidAmerican) track savings using a 100% NTG ratio, and it is doubtful

that they would be able to meet the Act's requirements using the NTG policies in place in Illinois.

- Of the portfolios meeting the Act's requirements, the one with the highest savings and lowest cost per kWh saved is Minnesota Power, which, in addition to tracking savings using a 100% NTG ratio, is a small utility whose loads are dominated by a few, very large manufacturing customers. Based on Minnesota Power's Form 861 filings with the Federal Energy Regulatory Commission, excluding savings and underlying sales associated with industrial customers, the Minnesota Power portfolio in 2008 delivered savings representing 0.68% of sales at a cost of $0.295 per kWh, which are well outside of the Act's requirements for PY4 or PY5.
- Since, as described in note 3 on page 3 of the Navigant study, the costs used in the Navigant study exclude costs for evaluation, fiscal agent, and other areas, they clearly understate the costs that should be used for comparison with the requirements of the Act.

Based on these observations, I do not believe that the Navigant study demonstrates that it would be realistic for the Commission to expect Ameren Illinois to achieve the PY4 savings targets within the spending cap.

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NRDC 2.10

Mr. Weaver concludes in lines 235-236 of his rebuttal testimony that the lighting savings captured by EVT in its Business Existing Facilities program in 2009 were "primarily from T12 fluorescent upgrades".

a. Please provide and explain in detail the data used by Mr. Weaver in making this determination.

b. Please provide Mr. Weaver's definition of "primarily".

**RESPONSE**

**Prepared By: Edward M. Weaver**
**Title: President, First Tracks Consulting Service, Inc.**
**Phone Number: (720) 406-7643**

a. The report *Verification of EVT 2008 Claimed Annual MWh Savings, Coincident Summer and Winter Peak Savings And Total Resource Benefit (TRB)*, ("verification report") prepared for the Vermont Department of Public Service on June 12, 2009 indicates that, of the projects sampled in verifying lighting savings in existing commercial buildings, the most common project type included "lighting retrofits" or "occupancy sensors," both of which I assumed applied to baseline conditions of T12 fluorescent lamps, which, as indicated in the report *Business Sector Market Assessment and Baseline Study: Existing Commercial Buildings*, prepared for the Vermont Department of Public Service on July 10, 2009, are the most common lighting system used in commercial space in Vermont. Other common lighting measures sampled for the verification report included converting high-bay lighting from high-intensity discharge to fluorescent systems and converting incandescent lighting to CFL technology. Note that I would also consider both of these applications within the category of "low hanging fruit," in the context of my discussion on lines 229-240 of my direct testimony. Of the projects sampled in the verification report, only one involved upgrading T8 lighting systems to high-performance T8 systems.

b. In the context of my use of the word in line 235 of my testimony, I define primarily to mean the most common measures delivered through the program.