

COMMONWEALTH OF KENTUCKY

BEFORE THE

PUBLIC SERVICE COMMISSION OF KENTUCKY

IN THE MATTER OF

APPLICATION OF KENTUCKY POWER COMPANY FOR)
(1) RE-AUTHORIZATION OF CERTAIN OF ITS EXISTING)
PROGRAMS; (2) AUTHORITY TO DISCONTINUE THE)
COMMERCIAL AND RESIDENTIAL HVAC DIAGNOSTIC)
AND TUNE-UP PROGRAMS; (3) AUTHORITY TO AMEND)
ITS DEMAND SIDE MANAGEMENT PROGRAM TO)
IMPLEMENT RESIDENTIAL HOME PERFORMANCE AND) Case No. 2014-00271
RESIDENTIAL APPLIANCE RECYCLING PROGRAMS;)
(4) AUTHORITY TO RECOVER COSTS AND NET LOST)
REVENUES AND TO RECEIVE INCENTIVES ASSOCIATED)
WITH THE IMPLEMENTATION OF THE PROGRAMS; AND)
(5) ALL OTHER REQUIRED APPROVALS AND RELIEF)

**KENTUCKY POWER COMPANY RESPONSES
TO
SIERRA CLUB'S SUPPLEMENTAL DATA REQUESTS**

November 10, 2014

Kentucky Power Company

REQUEST

Referring to KPC's response to Sierra Club discovery request no. 1.6:

- a. Please explain why the Company responded to the request for "projected energy savings ... as a percentage of retail sales" for 2015 by providing forecast energy savings as a percentage of "2015 residential and commercial forecast retail sales."
- b. Please provide the projected energy savings for 2015 as a percentage of the combined residential, commercial and industrial retail sales.
- c. Please provide a comparison of projected energy savings for 2015 and the Company's actual and projected savings, as applicable, in 2013 and 2014, expressed in terms of:
 - (i) megawatt hours; (ii) percentage of residential and commercial retails sales; and
 - (iii) percentage of residential, commercial and industrial retails sales.

RESPONSE

- a. The Company limited its response to retail sales to reflect the effect on those customer classes eligible for DSM programs.
- b. 0.36% using net participant savings.

KPSC Case No. 2014-00271
Sierra Club's Supplemental Set of Data Request
Dated October 23, 2014
Item No. 1
Page 2 of 2

c.

DSM Energy Savings:	2013	2014	2015
Participant or Measure Status	Actual	Forecast	Forecast
Gross Savings without loss (at meter) - MWH	20,789	20,338	28,473
Residential & Commercial Retail Sales - MWH	3,661,000	3,614,000	3,623,779
Savings to Residential & Commercial Retail Sales - %	0.57%	0.56%	0.79%
Residential, Commercial, Industrial Sales - MWH	6,544,000	6,442,000	6,483,809
Savings to Residential, Commercial, & Industrial Retail Sales	0.32%	0.32%	0.44%
Net Savings without loss (at meter) - MWH	17,480	15,931	23,510
Residential & Commercial Retail Sales - MWH	3,661,000	3,614,000	3,623,779
Savings to Residential & Commercial Retail Sales - %	0.48%	0.44%	0.65%
Residential, Commercial, Industrial Retail Sales - MWH	6,544,000	6,442,000	6,483,809
Savings to Residential, Commercial, & Industrial Retail Sales	0.27%	0.25%	0.36%

WITNESS: Ranie K Wohnhas

Kentucky Power Company

REQUEST

Referring to KPC's response to Sierra Club discovery request no. 1.19:

- a. Please provide a description of the "LoadMAP Model" and explain its role in the development of the potential study and Final EE Portfolio.
- b. Please explain what the "Final EE Portfolio" represents and state whether it will form the basis of the Company's next DSM filing.
- c. Please state whether the "Final Presentation and Report" include the market potential study and Final EE Portfolio. If not, please state what it includes.

RESPONSE

- a. The LoadMAP model will be used to develop a baseline energy projection and a savings potential. A detailed description of the model is provided below. The model potential savings outputs will be used to guide the development of the Final EE Portfolio. Also, the Program Design/Cost-Effectiveness module of the model will be utilized to evaluate the cost-effectiveness of each proposed program in the Final Portfolio.

Load Management Analysis and Planning (LoadMAP) model — is used to develop a baseline projection and for determining technical potential, economic potential, and achievable potential as well as scenario planning. EnerNOC developed a detailed microeconomic model in 2007 for the National Potentials Study. This model has been updated with each potential study it conducts and will be delivered to Kentucky Power for its ongoing use at the end of the project (along with training). Built in Excel, the framework is both accessible and transparent and has the following key features:

- It embodies the basic principles of rigorous end-use models (such as EPRI's REEPS and COMMEND) but in a more simplified, accessible form.
- It includes stock-accounting algorithms that treat older, less efficient appliance/equipment stock separately from newer, more efficient equipment. Equipment is replaced according to the measure life defined by the user.

- The model can accommodate various levels of segmentation. At the highest level, users can perform analysis at the sector level. Or, customized segmentation by housing type and building type can be developed and used. The model isolates new construction from existing equipment and buildings.
 - To balance the competing desires of simplicity and robustness, it treats end uses separately to account for varying importance and availability of data resources. For example, as is necessary and appropriate, the logic for lighting equipment is distinct from refrigerators and freezers.
 - It uses a simple logic for appliance and equipment decisions. Some models embody decision models based on efficiency choice algorithms or diffusion models. While these have some merit, the model parameters are difficult to estimate or observe and sometimes produce anomalous results that require calibration or even overriding.
 - LoadMAP models end effects at the end of a measure's life by using a set of annual purchase share assumptions that account for the distribution of consumer purchases among the available equipment efficiency levels. These purchase shares indicate what purchases consumers will make absent new DSM programs, but do reflect existing codes and standards in the given year, and the effects of previous market transformation activities.
 - The model natively handles codes and standards changes, such as new ENERGY STAR or federal efficiency standards, and technology progression, such as more efficient LED lighting, as defined by the end user.
 - The model is designed to facilitate sensitivity analyses by us and our clients. Most notably, it is very easy to run alternative avoided cost scenarios to obtain updated potentials.
 - The model was recently enhanced to automatically generate supply curves.
- b. The potential study will provide measure-level (and measure bundled) estimates of energy efficiency potential under near-ideal implementation conditions. The potential analysis provides annual costs, savings (energy and non energy), and units of equipment that are purchased in each year for each measure (or measure bundle). The market potential study will be used along with other inputs, in developing the Company's next DSM filing, modeling results to develop an energy efficiency portfolio that reflects KPCO experience with existing programs and extends it into the future taking into account program budgets available at KPCO. The AEG team will design an energy efficiency portfolio for high, medium, and low funding scenarios. The energy efficiency portfolio will include the following elements:
- c. Yes, the "Final Presentation and Report" will include final results from both the market potential study and the Final EE Portfolio.

WITNESS: Ranie K Wohnhas

Kentucky Power Company

REQUEST

Please describe the methods the Company currently uses to identify potential new measures or program modifications, in addition to the AEG evaluation. Please also state whether a process exists through which program implementers can suggest new program ideas to the Company.

RESPONSE

Kentucky Power staff routinely reviews the DSM programs of affiliated AEP operating companies and other non AEP utilities to benchmark opportunities for the addition of new programs or to modify program measures. Kentucky Power also solicits new recommended programs and existing program improvements from stakeholders. These stakeholders include, but are not limited to, program implementers, customers, the Company's DSM Collaborative, and intervenors. Input is routinely received through scheduled vendor calls, customer calls and inquiries, and Company DSM Collaborative meetings. Program implementers are also invited to participate in the evaluation review process and are encouraged to offer comments and recommendations on program evaluation results.

WITNESS: Ranie K Wohnhas

Kentucky Power Company

REQUEST

In its response to Commission Staff discovery request no. 1.7, the Company states “[l]ighting products will continue to utilize an upstream incentive processing (price mark-down) methodology. Appliance products will utilize a downstream incentive processing methodology whereas the customer will receive the rebate.” Please state whether the Company has considered utilizing an upstream incentive proceeding methodology for appliance products and explain why it has opted to utilize a downstream method.

RESPONSE

The Company considered utilizing an upstream incentive processing methodology for the appliance products. While there are some design models (for upstream incentives on non-lighting products) available, the downstream incentive methodology is the only proven approach that can verify whether recipients are Kentucky Power customers. This is done through the collection of customer information and verifications through a third party vendor. Doing so greatly reduces the possibility of "leakage" or payment of incentives to rate payers outside our service territory.

WITNESS: Ranie K Wohnhas