

Technical Manual Sub-Committee (TMSC) Report on Ancillary Savings and Interactive Effects
12-03-2014

Mission:

1. Determine the number of program administrators (PA's) reporting Ancillary Savings and Interactive Effects (IE) resulting from current eligible measures in the Electric and Gas programs.
2. Quantify the proportion of ancillary savings/IE as current data reporting allows.
3. Develop a summary of findings as well as potential study points that would require further consideration to inform the E2 working group.

TMSC Categorization of Program & Ancillary Savings Types:

The TMSC categorized two distinct types of programs administered under EEPS: 1) Programs Offering Prescriptive Measures 2) Whole Building and Custom Programs

PAs offering prescriptive programs would typically identify ancillary savings as the positive savings for a fuel type generated by the installation of measure(s) of a different fuel type. In these instances, prescriptive programs can attribute ancillary savings for specific measures installed based on Tech Manual formulas. Prescriptive programs can also have measures that result in interactive effects, which the TMSC has identified as the higher usage of one fuel type due to the installation of an energy efficient measure of the other fuel type.

PAs offering whole building or custom programs typically utilize a building energy simulation model and/or engineering analysis to calculate the energy savings for a combination of measures and may not base savings estimates on the Technical Resource Manual. In the whole building approach, the program takes into account the interactive effects between measures for the building as a whole, which results in the ancillary savings.

Summary of Findings:

The TMSC identified that the reporting of ancillary savings and interactive effects varies among PA's. Some PA's track these savings and some PA's do not track them or do not track them consistently for all programs they offer.

The TMSC identified two primary examples for measures that comprise the majority of ancillary savings for prescriptive programs. These are: 1) electric savings realized from gas programs such as ECM furnace fans for a residential gas program 2) HVAC interaction offsets of gas usage due to energy efficient lighting replacements. These are reflected in the scorecards for PAs that track the savings.

Whole building programs with a wide range of measure types identify the interactive effects and ancillary savings and attribute the savings on a measure by measure basis but the savings and interactive effects will vary by project since these are whole building programs.

By using the EEPS Database, the TMSC found that 6 PA's are reporting ancillary electric savings realized from gas program measures and that 2 PA's are reporting interactive gas effects resulting from electric program measures.

Of the 6 PA's reporting ancillary electric savings from gas programs, a survey of the data content shows that the majority of the residential prescriptive gas program electric savings are due to ECM furnace fans.

- Prescriptive Program Findings: For PAs reporting ancillary electric savings in prescriptive gas programs, an ancillary 11,800 MWh electric savings on program total gas savings of 1,263,753 Dth were achieved.

- Whole Building Programs Findings: For PAs reporting ancillary electric savings in Whole Building gas programs, an ancillary 2,174 MWh electric savings on program total gas savings of 1,009,868 Dth were achieved. An example of these savings are a result of air sealing/insulation measures from whole building residential programs that were funded using gas funds for homes that have central air conditioning. This accounts for the majority of the ancillary electric savings for whole building programs for projects that track these savings. Another example of ancillary electric savings from gas measures are for a new furnace installation with an ECM motor. The program would claim the gas savings but also track the ancillary electric savings resulting from the ECM motor.

Of the 2 PA's reporting interactive gas offsets from electric programs, a survey of the data content shows that PA's reported a total gas offset from electric programs of -158,610 Dth interactive effects on program total electric savings of 1,012,658 MWhs that were achieved. An example, and the majority, of these interactive effects are a result of lighting measures which reduced the kWh usage but increased the heating load thus resulting in a negative Dth savings.

Conclusion & Key Points:

The TMSC determined that, while this high level perspective of ancillary savings can be quantified through current reporting methods, it is important to note that more detailed information could be presented to identify ancillary savings by measure category, if necessary. Prescriptive programs would be more applicable to identify one-to-one ancillary savings whereas whole building and custom programs operate on a project by project basis since it views each project as a custom application.

Below is a summary of key points that were uncovered and preliminarily discussed within the TMSC:

- Discussion of HVAC interactive effects in particular resolved that these negative gas offsets resulting from decreased heat load could be further researched; to determine the source and current accuracy of the HVAC factors in the Tech Manual.
- The source of the ECM furnace fan deemed savings now in the Tech Manual may require review for current accuracy.
- Prescriptive type measures are able to be evaluated across the PA's at a consistent level to identify the ancillary savings values but whole building programs that do not use the Tech Manual to calculate savings will continue to require site specific review to determine the ancillary savings and interactive effects.
- NYSERDA will provide several examples of whole-building projects that have been modeled with building simulation tools to the TMSC to illustrate how interactive effects between electric and gas measures are treated in energy modeling tools.
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Reporting PAs:

- ConEd
- National Fuel
- NYSEG
- O&R
- RG&E
- NYSERDA