SAG Fuel Conversion Working Group:

Comparing the Electric and Fuel Impacts of Efficiency Measures

March 9th, 2021

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Agenda

Background of Issue

Quick Review of Current Methodologies

Key Policy Question(s)

Background of Issue

- During the v4 update cycle (2015), the TAC discussed at length the appropriate methodology for dealing with:
  - Fuel-switching measures: comparing the installation of new equipment that uses one fuel over baseline equipment that uses another (e.g. installing an ASHP in place of a gas furnace)
  - Combined Heat and Power: comparing the useful electricity and thermal energy generated by a CHP unit against the fuel in consumes.

Background of Issue

- A major question discussed was whether, when comparing the relative BTUs of measures with electric and fossil fuel impacts, the calculations should consider:
  - **SITE energy** – i.e. the savings (or increased consumption) at a customer's meter

    or
  - **SOURCE energy** – i.e. the savings (or increased consumption) required to generate and distribute that energy.

- Ultimately it was agreed by the TAC that the calculations should consider the SOURCE energy.
- To calculate SOURCE energy, the Heat Rate of the Grid (i.e. the Btu's consumed per kWh generated) and any line losses during distribution are factored in.

Background of Issue

- During the v9.0 TRM update, the TAC was considering the appropriate calculation for claiming savings for Electric Vehicles (a potential new measure), and how the electricity used by the EV should be compared against the fuel saved from a combustion engine.
- As part of the discussion, the TAC reviewed language provided in the Future Energy Jobs Act Statute…

Background of Issue

FEJA Section 8-103B(b-25) (emphasis added):

For those energy efficiency measures or programs that **save both electricity and other fuels** but are not jointly offered with a gas utility under plans approved under this Section and Section 8-104 or not offered with an affiliated gas utility under paragraph (6) of subsection (f) of Section 8-104 of this Act, **the electric utility may count savings of fuels other than electricity toward the achievement of its annual savings goal, and the energy savings value associated with such other fuels shall be converted to electric energy savings on an equivalent Btu basis at the premises.**

In no event shall more than 10% of each year's applicable annual incremental goal as defined in paragraph (7) of subsection (g) of this Section be met through savings of fuels other than electricity.

Background of Issue

- Upon review of this Statute language, it was suggested that this decreed that electric impact should be assessed "at the premises" or using SITE energy, contrary to our existing methodology.
- However, during subsequent TAC discussions it became clear that there are different opinions as to the exact purpose, intent and reach of this language:
  - Members pointed to apparent discrepancies with language within other Statutes, for example the Illinois Power Agency Act (ILCS 3855) defining "Energy efficiency" as measures that *"reduce the total Btus of electricity, natural gas, and other fuels needed to meet the end use or uses"*.
  - Others suggested that the intent of FEJA was to encourage *more* fuel switching away from fossil fuel systems and that requiring site conversion would be inconsistent with that goal.
  - Questions on the reach of this language were also raised – does the Statute language only apply to measures not jointly offered, does it relate to CHP?

Background of Issue

- Due to the issue being raised late in the TAC cycle, and with the policy nature of the discussions, it was determined the SAG is the appropriate venue to try and reach a consensus decision on the appropriate path forward.
- For v9, the existing methodology was maintained within the TRM.

Quick Review of Current Methodologies

- The Heat Rate of the Grid is determined utilizing data from the "Emissions & Generation Resource Integrated Database (eGRID)", provided by the US Environmental Protection Agency. The average generation plant annual heat input from combustion (Btu) is divided by the average plant annual net generation (kWh).
  - Two eGRID subregions are used: 'RFC West' for ComEd territory and 'SERC Midwest' for Ameren.
  - A "non-baseload" heat rate is provided for systems operating less than 6,500 hours per year, and an "all fossil average" heat rate for all others.

- Note: VEIC are aware there are open questions about the appropriate calculation of this Heat Rate. The TAC will discuss these issues IF it is determined that Source calculations are appropriate.

Quick Review of Current Methodologies

- Current values, based on eGrid 2018 are:
  - Non-Baseload RFC West: 10,024 Btu/kWh * (1 + Line Losses)
  - Non-Baseload SERC Midwest: 9,871 Btu/kWh * (1 + Line Losses)
  - All Fossil Average RFC West: 9,575 Btu/kWh * (1 + Line Losses)
  - All Fossil Average SERC Midwest: 10,369 Btu/kWh * (1 + Line Losses)

- In comparison, when converting site electricity to BTU, you would use a conversion of 3,412 Btu/kWh.

Quick Review of Current Methodologies

- Fuel Switch Measures:
  - SourceEnergySavings (MMBTUs) = GasHeatReplaced – ASHPSourceHeatConsumed + ASHPSourceCoolingImpact

- Combined Heat and Power:
  - The electric and useful thermal output of the CHP system is compared with the equivalent electricity that would have been required to be generated by the grid (SOURCE) and the equivalent thermal energy that would have been required by the onsite boiler/furnace.

KEY POLICY QUESTION(s)

- **Does language in the Future Energy Jobs Act (FEJA) Statute require a change in the current TRM methodology for using Source Energy as opposed to Site Energy conversions when comparing the relative Electric and Fossil Fuel Impacts?**
- If so, does this impact all measures (Fuel Switching, Combined Heat and Power, and potentially Electric Vehicles)?
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2021 TAC Schedule

IL TRM v10.0 Schedule and Deliverables		
DUE:	**WHO:**	**TASK:**
2-Feb	TAC	2022 IL-TRM v10.0 Kick-Off Meeting: Process Overview; Issue and Data Requests
Feb 2 - Feb 26	Stakeholder Action	Submit Update Requests and program impact data for prioritization via IL-TRM Request Tracker (SharePoint) Deadline: February 26th Please try and submit issues early (particularly contentious ones to allow subcommittees to commence).
Feb 2 - Mar 5	VEIC Action	Review issues and priorities; set up additional subcommittees to kick-start complex issues
5-Mar	VEIC Deliverable	Provide draft prioritized list of issues to be worked on this year with company assigned for workpaper development. Comments through Sharepoint discussion board
Mar 5 – Mar 31	Stakeholder Action	Review issues and priorities; identify any additional critical issues
16-Mar	TAC	TAC Meeting: Touchpoint meeting - discuss priorities.
Apr 1*	VEIC Deliverable	Provide final IL-TRM Measure Update Priority - additional new substantive issues only accepted for v10.0 beyond this point if TAC agreement
20-Apr	TAC	TAC Meeting: discuss Workpapers
Apr 1 - May 15*	Stakeholder Action	Prepare and submit Stakeholder Workpapers for New and Existing Measures Deadline: May 15th
Apr - Jun 25	Stakeholder Action	Review other posted Workpapers and submit comments. Review and engage in SharePoint board discussions and review drafts posted
Apr - Jun 25	VEIC Deliverable	Review posted Workpapers, post comments, engage in SharePoint discussion board. Post draft measures for review and discussion on SharePoint.
18-May	TAC	TAC or Subgroup Call #1: discuss issues
25-May	TAC	TAC or Subgroup Call #2: discuss issues
8-Jun	TAC	TAC or Subgroup Call #3: discuss issues
15-Jun	TAC	TAC or Subgroup Call #4: discuss issues
22-Jun	TAC	TAC or Subgroup Call #5: discuss issues
25-Jun	VEIC Deliverable	Deliver 2022 IL-TRM v10.0 Vol. 1-4 Draft 1; Spreadsheet of Comments and Responses; v9.0 Errata Memo

2021 TAC Schedule

IL TRM v10.0 Schedule and Deliverables		
DUE:	**WHO:**	**TASK:**
25-Jun	VEIC Deliverable	Deliver 2022 IL-TRM v10.0 Vol. 1-4 Draft 1; Spreadsheet of Comments and Responses; v9.0 Errata Memo
2-Jul	VEIC Deliverable	Deliver summary memo of proposed TRM changes with highest impact
Jun 25 - Jul 16	Stakeholder Action	Review 2022 IL-TRM v10.0 Draft 1 and submit comments (3 weeks)
20-Jul	TAC	TAC or Subgroup Call #6: discuss comments
27-Jul	TAC	TAC or Subgroup Call #7: discuss comments
3-Aug	TAC	TAC or Subgroup Call #8: discuss comments
6-Aug	VEIC Deliverable	Deliver 2022 IL-TRM v10.0 Vol. 1-4 Draft 2 and Spreadsheet of Comments and Responses
Aug 6 - Aug 20	Stakeholder Action	Review 2022 IL-TRM v10.0 Draft 2 and submit final comments (2 weeks) Any potential non-consensus issues must be identified during this review.
24-Aug	TAC	TAC or Subgroup Call #9: discuss comments and non-consensus issues
31-Aug	TAC	TAC or Subgroup Call #10: discuss comments and non-consensus issues
7-Sep	TAC	TAC or Subgroup Call If Needed
10-Sep	VEIC Deliverable	Deliver Almost Final 2022 IL-TRM v10.0 Vol. 1-4 and Spreadsheet of Comments and VEIC Responses and Deadline for Draft Comparison Exhibit of Non-Consensus TRM Update Issues if applicable
Sep 10 - Sept 17	Stakeholder Action	Review and submit final Stakeholder Nits/Errors/Oversights - no new issues
21-Sep	TAC	TAC or Subgroup Call #11: discuss comments and comparison exhibit if applicable
24-Sep	VEIC Deliverable	Deliver Final 2022 IL-TRM v10.0 Vol. 1-4
Oct 1*	TAC	ICC Staff submits 2022 IL-TRM v10.0 to ICC

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