**Memorandum**

|  |  |
| --- | --- |
| To: | Sam Dent -VEIC |
|  |  |
| CC: | Elizabeth Horne, David Brightwell, ICC |
|  |  |
| From: | Kumar Chittory, Verdant Associates and Nishant Mehta, Guidehouse |
|  |  |
| Date: | May 26, 2023 |
|  |  |
| Re: | CHP Guidance Memo, updated |

# Introduction

The IL TRM v11.0 (TRM) does not provide guidance on how electricity exported to the grid from Combined Heat and Power (CHP) projects should be handled in estimating savings. The evaluation team, with input from TAC-TRM stakeholders, has drafted this memo to provide guidance and clarify issues related to the treatment of CHP projects.

When estimating savings from a conventional or Topping Cycle CHP systems, the energy savings are calculated using the following equation as recommended by the TRM:

A picture containing text, font, screenshot, line

Description automatically generated

The TRM references “to replace purchased electricity” but does not address “electricity exported to the grid”, which is over and above the amount needed “to meet the requirements of the facility”.

# Recommendation

The evaluation team recommends that the net grid-exported electricity from behind the meter customer generation, should not be counted as energy savings reported from the CHP system. This is because the grid-exported electricity is not used by the facility (satisfying the “to meet the requirements…” clause in the TRM[[1]](#footnote-2)) and the facility is already receiving credit for the energy exported to the utility, and therefore it should not be counted as energy savings.

If the facility has an existing CHP system, in addition to the new program-incentivized system (regardless of whether it received program incentives in the past) and the customer is only able to export the excess energy to the grid because of the new CHP system, the entire net exported energy should be removed from the new engine savings. Without the new engine, the facility would not have been able to export power to the grid and therefore regardless of the system that produces the energy exported to the grid it should not be considered savings generated by the new CHP system.

### Example

Engine A (existing system) generates 1000 kWh in a year and none of it is exported to the grid. The new rebated Engine B generates another 1000 kWh in the same year. If the facility exported 500 kWh to the grid for the year, the entire exported energy (500 kWh) should be subtracted from the total 2000 kWh that was generated. The facility would not be exporting any energy to the grid in the absence of Engine B’s operation.

## Treatment of Parasitic Loads

The evaluation team would also like to provide some guidance on the treatment of parasitic loads for the CHP projects.

1. To estimate the parasitic loads, we recommend using either nameplate or operator manual specification of parasitic load or, in the case of some large CHP generators, short-term metering to calculate the parasitic loads. The implementer should then develop a regression model that correlates CHP power output to parasitic loads for the entire year. The short-term metering plan should be designed to represent typical operation, and if possible include ramp-up and ramp-down periods to ensure an accurate representation of the range of system performance.
2. Parasitic loads for periods of atypical operation (such as periods of unscheduled downtime or other excluded periods) should be removed from the parasitic load regression as well.
3. Parasitic loads should be assigned proportionately to the energy output used on site and exported to the grid.

Only the parasitic loads associated with the CHP system should be included in the energy savings estimate.

1. <https://www.ilsag.info/wp-content/uploads/IL-TRM_Effective_010123_v11.0_Vol_2_C_and_I_092222_FINAL.pdf>

   Page 409 of the TRM defines ECHP as the electric energy output that replaces purchased electricity required to meet the requirements of the facility. [↑](#footnote-ref-2)