

## MEMORANDUM

**To:** EDCs and EDC Evaluation Contractors

**From:** The Pennsylvania Statewide Evaluation (SWE) Team

**Cc:** TUS Staff of the Pennsylvania PUC

**Date:** June 03, 2020

**Re:** PY11 EM&V and the Coronavirus Outbreak

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This memo is meant to serve as an addendum to the Evaluation Framework and provide guidance to the EDCs and their evaluators for evaluation activities and verification requirements, particularly pertaining to on-site verification activities, in the wake of the coronavirus outbreak, for PY11 through PY12, as may be appropriate. The SWE has received several memos from the EDCs and EDC evaluation contractors proposing a range of approaches to the outbreak, and this memo is meant to provide consistent guidance to the EDCs.

The annual EM&V report deadline has been extended by ninety days to February 15, 2021 to accommodate disruptions in evaluation activities due to the COVID-19 pandemic. However, we acknowledge that the pandemic presents a number of on-going challenges that may further impact evaluation activities, particularly for conducting on-site activities in accordance with the 2016 TRM<sup>1</sup> and the Act 129 Evaluation Framework.<sup>2</sup> This is particularly the case for sites that exceed the metering thresholds for various end-use categories, as defined in Section 1.2.3 of the 2016 TRM. For above threshold projects, the EDCs are required to collect site-specific information for open variables used in the calculation of energy and demand savings, and end-use metering is defined as the preferred method of data collection. The EM&V challenges include but are not limited to the following:

- Inability to gain access to sites to conduct site visits and end-use metering
- Modified hours of operation and production, resulting in atypical usage
- Inability to clearly identify pre-post installation periods due to modified operations

While the focus of the Evaluation Framework and this memo is EM&V and the calculation of gross verified energy and demand savings, the current pandemic also creates significant disruptions for implementation CSPs. Often the collection of site-specific parameters and metering/trend data is done by the implementation CSP and reviewed by the evaluation

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<sup>1</sup> [http://www.puc.state.pa.us/Electric/docs/Act129/TRM-2016\\_Errata\\_Feb2017.docx](http://www.puc.state.pa.us/Electric/docs/Act129/TRM-2016_Errata_Feb2017.docx)

<sup>2</sup> [http://www.puc.pa.gov/Electric/pdf/Act129/SWE\\_PhaseIII-Evaluation\\_Framework050818.pdf](http://www.puc.pa.gov/Electric/pdf/Act129/SWE_PhaseIII-Evaluation_Framework050818.pdf)

contractor. It will be important for EDC evaluation contractors to work with implementation CSPs to modify existing protocols and practices based on this Evaluation Framework addendum.

## 1.1 EM&V GUIDANCE

Our EM&V guidance is divided into above- and below-threshold projects and projects using International Performance Measurement and Verification Protocol (IPMVP) Option C (billing regression analysis). For PY11 annual reports, EDCs and their evaluation contractors may elect to characterize savings as unverified and conduct verification activities once conditions safely allow. If evaluators choose this option for an initiative that relies on sampling, savings should be characterized as unverified at the initiative level. For an initiative where a census approach is used, such as CHP or large custom, the decision to characterize savings as unverified can be made at the project level. Mechanically speaking, this would entail including the reported kWh and kW savings for the initiative/program/project in the PYRTD and RTD totals, but not the PYVTD or VTD totals. For transparency, and to avoid the perception of a low realization rate when reported and verified totals are compared, we recommend including “PY Unverified” and “Unverified” columns in report tables.<sup>3</sup>

### 1.1.1 Below TRM metering threshold

For projects with ex ante savings anticipated to fall below the threshold for required metering as outlined in the 2016 TRM Section 1.2.3 (including residential and low-income projects), we recommend EDC evaluators adopt the following procedures for projects sampled in strata where planned evaluation activities include verification site visits.

- Conduct a verification site visit if the visit can be conducted in accordance with relevant regulations and mandates and with the participant’s operational policies related to COVID-19. Any site visits must include adherence to social distancing practices as recommended or required by governing bodies relevant to the participating business. EDCs evaluators can determine their own cutoff dates for site visits in order to meet the February 15, 2021 due date for the annual reports.
- If a verification site visit cannot be completed within the required evaluation timeframe, EDC evaluators can convert on-site verifications to include virtual verification techniques. These could include but are not limited to virtual tours and interviews conducted using videoconferencing (e.g. Zoom, FaceTime, etc.), or submission of more detailed images, video, and spot measurements, taken by the facility and/or contractor following social distancing practices.
  - Evaluators should document virtual verification activities by ‘downloading’ and ‘saving’ videos when possible, collecting screenshots, etc.
- TRM default values can be used for projects in businesses that have not yet returned to normal pre-pandemic operations.

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<sup>3</sup> For example, see Table 2-9 of PPL’s PY10 Annual Report. <http://www.puc.pa.gov/pdocs/1645614.pdf>. Page 18

- For custom projects or other projects where TRM default values are not available, EDC evaluators can apply parameters derived from pre-pandemic operations. All assumptions should be thoroughly documented.

### 1.1.2 Above TRM metering threshold

For projects with ex ante savings exceeding the threshold for required metering as outlined in the 2016 TRM Section 1.2.3, we recommend EDC evaluators apply the following ranked order of procedures to minimize deviations from evaluations plans.

1. Conduct the required metering and site visit if the visit can be conducted in accordance with relevant regulations and mandates and with the participant’s operational policies related to COVID-19. Any site visits must include adherence to social distancing practices as recommended or required by governing bodies relevant to the participating business. EDCs evaluators can determine their own cutoff dates for site visits in order to meet the February 15, 2021 due date for the annual reports. Analyses of the metering data can exclude specific time periods of abnormal operation or include normalization based on pre-pandemic operations using a production, occupancy or other independent variable.
2. If sufficient trend data or billing data can be provided remotely by the participating facility and/or contractor, then EDC evaluators can base their evaluation off this data in alignment with the 2016 TRM.
  - Billing data or trend data analysis should be adjusted to remove any temporary impacts of the COVID-19 pandemic, whether negative or positive. Analyses can exclude specific time periods of abnormal operation or include normalization based on pre-pandemic operations using a production, occupancy or other independent variable.
3. If required metering cannot be completed within the required evaluation timeframe, because of access barriers or because the participating facility has not returned to normal pre-pandemic operations, EDC evaluators can use TRM default or customer reported values coupled with virtual verification techniques. Customer reported values should be based on pre-pandemic conditions and vetted by EDC evaluators with adequate rigor as specified in the evaluation framework. Remote interviews with customers or contractors via phone or virtual conferencing can be used to verify TRM value applicability and otherwise gather information regarding the site and installation and operation of the rebated equipment. Virtual techniques could include but are not limited to virtual tours and interviews conducted using videoconferencing (e.g. Zoom, FaceTime, etc.), telephone conferences, or submission of more detailed images, video, and spot measurements, taken by the facility and/or contractor following social distancing practices.
  - Evaluators should document virtual verification activities by ‘downloading’ and ‘saving’ videos when possible, collecting screenshots, etc.
4. If required metering cannot be completed and TRM default or self-reported parameters are not relevant or appropriate, then EDC evaluators should reach out to the SWE to determine a project-specific evaluation strategy. We anticipate evaluations of large and complex projects, especially CHP and other custom projects, may require further project-specific guidance. The SWE will be available to provide uniform guidance in scenarios not covered by this memo.

### 1.1.3 IPMVP Option C, Billing Regression Analysis

Evaluation analyses conducted using billing or AMI data should be adjusted to account for temporary effects of the COVID-19 pandemic, so that project savings are normalized to pre-pandemic business-as-usual operating levels and projects are neither penalized nor credited for the impacts of the pandemic. If sufficient data are available, evaluators can conduct the analysis without using data from affected periods (before and/or after the pandemic). Alternatively, evaluators may also choose to normalize the data using production or occupancy variables that appropriately describe the facility's energy consumption (e.g. patient loads for hospitals).

Home Energy Report programs are likely the largest application of billing analysis for each EDC. Fortunately, the randomized control trial (RCT) design is robust to external factors like the current pandemic because it affects the treatment and control group equally. While the measured impacts of HERs could be affected by the pandemic as more residential customers "stay at home", the measurement approach should not be modified. The PY11 and PY12 verified savings estimates should be based on the impact evaluation approach detailed in Section 6.1 of the Evaluation Framework with no adjustment for pandemic conditions. All seven EDCs utilize a one-year HER measure life in Phase III so evaluation contractors should make no attempt to modify or normalize the savings measured at the meter. The pandemic effects on HER savings should be handled the same as weather conditions – while mild or extreme weather may have implications for the measured savings, the verified compliance savings are what is measured under the observed conditions.