

ETAC-CI Program Sample Performance Validation Plan Template

The Performance Validation Plan (PVP) will be prepared by NYSERDA's TC and will generally cover the following elements. However, each PVP will be customized for the individual project.

- 1. Project Description:** Description of technology or approach, including how it will save energy and/or demand, and a comparison to current incumbent technologies. Technical aspects such as operating characteristics, interactive effects with other equipment, etc. Description of any variables that affect energy consumption or demand, including but not limited to: outside temperature, humidity, facility occupancy/ operations, etc. Description of M&V method that will be followed.
- 2. Assumptions:** Substantive assumptions for the pre- and post- installation energy consumption for the Project (e.g., the fan's load varies with temperature, the estimated baseline annual hours of operation are 4,000, etc.). Differences, if any, from energy and non-energy assumptions made by Applicant.
- 3. M&V Activities:** Activities for measuring and verifying the energy consumption both before and after installation, including equipment surveys, baseline and pre/post-installation metering (including whether measurements and metering are spot or continuous).

Where appropriate, description of commissioning activities that will occur upon installation to verify that the equipment has been installed properly, is functioning properly, and with proper maintenance and operation has the potential to generate energy efficiency savings.
- 4. Calculations and Adjustments:** How the energy savings for the Project will be calculated, including calculations for the baseline and post installation energy consumption. Includes any necessary adjustments to meet required NYS code, regulatory and/or policy standards and all relevant equations.
- 5. Metering Plan:** Description of metering activities, including any sampling that will be employed to reduce the number of metering devices, the type of metering that will be employed (power, flow, etc.), the equipment that will be used, how the equipment will be calibrated, the specific equipment which will be metered and the length of time metering will be conducted.
- 6. Accuracy and Quality Assurance:** Accuracy requirements that will be met and activities to assure that all necessary QA procedures are followed and accurate to the extent necessary for the particular technology or approach over the length of the Project.
- 7. Non-Energy Considerations:** Non-energy related considerations of the technology or approach compared to business as usual, including, where appropriate:
 - Installation considerations (e.g., level of customer disruption, ease of installation),
 - Documentation of appropriate project costs and payback criteria (e.g., simple payback, lifecycle cost and/or ROI),
 - Target applications or best practices,
 - Warranty issues associated with equipment retrofits,
 - Considerations for successful market uptake including acceptance by operators and building occupants, availability of distribution channels and service providers, opportunities for replication, regulatory or permitting issues, etc.,
 - Considerations for including the technology or approach in performance-based or pre-qualified incentive programs,
 - Applicability to specific building sectors or sub-sectors,
 - Any other relevant factors.
- 8. Advisory Role:** The TC may, in addition to verification role, act in an advisory role to the Participant Team to support project success and help to amplify replication opportunities. This could include support for Participant Team's mitigation and resolution of project issues/obstacles, sharing lessons learned to the extent applicable from TC's experience, assisting Participant Team in cases where an obstacle and/or opportunity may be broader than this single project (e.g. regulatory or utility concerns), and/or serve as an impartial sounding board for Participant Team and NYSERDA.
- 9. Reports to be Prepared:** Description of reports that will be prepared and the format of all data that will be submitted to show energy and non-energy-related performance on the Project.
- 10. Schedule:** Schedule for performing all metering, analysis and reporting on the Project.