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What is a TRM?

The Technical Reference Manual, a compilation of energy efficiency measure savings protocols, saves time and money by providing accurate, transparent, consistent technical information for energy efficiency utilities and program administrators.

Challenge:

In 1999, VEIC won a three-year contract with the Vermont Public Service Board (PSB) to administer the first statewide energy efficiency utility in the country under the name Efficiency Vermont. As an Energy Efficiency Utility (EEU), Efficiency Vermont produces energy savings much like an electric utility company produces electricity. Initially, Efficiency Vermont relied on custom engineering analysis for each project. As services multiplied and demand for energy efficiency services grew, Efficiency Vermont was challenged to develop an authoritative prescriptive analysis tool that would decrease the administrative and engineering resources required by each project while providing accurate and up-to-date data for efficiency measures.

Solution:

The first Technical Reference Manual (TRM) in the United States was created by VEIC in 2000 to generate consistent and transparent documentation of energy-efficient measures. The TRM could be used by program administrators to plan for, quantify, report, and document savings.

The TRM approach has been adopted by other states to provide detailed state-specific information including algorithms for kW, kWh, net-to-gross calculations, interactive effects, fossil fuel impacts, and water savings; hours of use assumptions; install service rates; lifetimes; and incremental costs. Information is organized by program (commercial, multifamily, low-income, etc.) and measure (direct install, retrofit, time of sale, etc.).

Over the last decade VEIC has assisted numerous States and Utilities in developing and managing TRMs, including Maine, Massachusetts, Rhode Island, Ohio, Illinois, Mid-Atlantic, District of Columbia, and others.

Process:

Each measure characterization used by VEIC/Efficiency Vermont is documented and included in the Vermont TRM after passing through four stages of development. The four stages include:

- Planning by program managers and technology experts;
- Development of measure characterizations and quality assurance activities by evaluation, measurement, and verification (EM&V) staff of technical analysts, engineers, consulting resources, and marketing;
- Regulatory oversight and review by state regulators, third party independent evaluation teams and EM&V services group;
- Implementation by marketing staff, customer service staff, information technology staff, and EM&V service staff,

As market transformation occurs rapidly in the energy efficiency industry the TRM is continually being updated to support existing technologies and savings assumptions, and to develop new measure characterizations for emerging technologies and prescriptive programs. An annual version of the Savings Verification TRM, documenting all measure characterization assumptions used in a given program year, is published annually and submitted to the state regulators and EEU stakeholders.

Results:

- A Higher volume of measures can be implemented with low variability in results.
- Fewer resources are required for delivery of energy efficiency services.
- Fewer administrative costs are required for project completion.
- Greater transparency and consistency in energy efficiency service delivery.
- The annually updated TRM provides accurate and up-to-date market data and technology information.