



REGIONAL EVALUATION,
MEASUREMENT & VERIFICATION FORUM

Overview

Regional EM&V Forum 2009 Projects and Activities

The Regional EM&V Forum focuses on three main areas of activity: Protocol Development, Research & Evaluation, and Education and Information Access. Protocol Development and Research & Evaluation projects are conducted by 3rd party contractors, which NEEP manages with project subcommittee guidance. Education and Information Access projects are conducted by NEEP staff.

FORUM BASE ACTIVITIES: The Forum's administrative, operational and management activities and costs (Base Costs) for 2009 cover the following NEEP activities/tasks:

- Convene, support and facilitate Steering Committee, Project Committees and Subcommittee meetings/teleconferences
- Develop project RFPs and manage 3rd party contractors
- Update Forum agenda, budget and revenue plan for 2010, and secure revenues
- Track EM&V activities in states, the region and nationally, and coordinate with Forum projects

NEEP staff will also conduct, over the course of 2009, the following **Education & Information Access** projects guided by a Forum committee:

1. **EM&V Forum Website.** NEEP will develop and maintain a dedicated website for Forum projects, communications, and information.
2. **EM&V Library.** NEEP will develop and maintain a library of research and evaluation studies, TRMs, and state, regional and national EM&V related policies and developments and activities.
3. **Annual Forum Public Meeting:** NEEP will plan and hold an annual meeting open to all interested parties to discuss and share information on EM&V Forum and emerging EM&V issues
4. **Forum Communications.** NEEP will conduct outreach to build visibility and knowledge of Forum results, recommendations and products, respond to information to inquiries, and develop and implement the Forum's data and information confidentiality policy.

The 2009 Base Costs total \$496,300, which is shared by all participating states, with a 7% minimum funding level on Base Costs.

FORUM PROJECTS: The project descriptions below are works in progress. Estimated budgets were developed in 2008 prior to full scope development, and project timetables and scope reflect most current discussions and are subject to change based on guidance and input from Forum project committees and subcommittees.

A. Protocol Development Projects

[#A1. Glossary of EM&V Terms & Definitions Project](#)

Purpose: The Glossary is intended to provide a common base of understanding of terms pertaining to electric and gas efficiency evaluation, along with some related terms used by air regulators and some common acronyms. It is viewed as the first step in building common EM&V protocols and in building awareness of the benefits of establishing protocols.

Scope/Approach: Development of the Glossary was guided by a subcommittee of Forum members, and based on the glossary prepared in the *Model Energy Efficiency Program Impact Evaluation Guide: A*

Resource of the National Action Plan for Energy Efficiency, November 2007 as well as a broad range of other existing resources.

Timeline/Status: The draft was delivered in early February 2009. The final product was brought to the Forum Steering Committee for Forum adoption in March 2009, and recommended for Forum adoption. Periodic (annual) updates will be made in conjunction with the subcommittee.

Budget: The project is funded by grant support for EM&V Forum start-up activities, and leverages in-kind donations from Massachusetts Department of Energy Resources.

#A2. Develop EM&V Methods Guidelines and Survey Savings Assumptions/Algorithms

Purpose: This project embodies the overarching purpose of the Regional EM&V Forum: to develop and/or identify common protocols for calculating electric and gas energy efficiency savings across the region, and to identify important differences that may be warranted due to variations in factors such as program design, climates, and policies/purposes that underlie program goals.

Scope/Approach: The project will consist of two parts: Part A will develop or identify common EM&V *methods* to serve as guidelines/best practices for EM&V Forum participants in order to create greater consistency in, and understanding and application of the types of methods used to calculate energy and demand savings to meet differing policy/market goals. This effort will focus on recommending common procedures/methods to estimate preliminary and calculate gross evaluated savings; method(s) to determine baseline conditions; method(s) to determine measure life and persistence; and levels of precision/accuracy of savings.

Part B of the project will review and compare existing savings assumptions (e.g., deemed values and input assumptions) and algorithms across the region for a priority set of measures in order to compile comparative tables to identify commonalities and explain differences in assumptions and algorithms. The findings from such a comparative analysis will inform any recommendations regarding where and how to improve consistency in savings assumptions and algorithms.

The project will address existing state and regional protocols and those under development, as well as inform and coordinate with any national projects/efforts to address national EM&V protocols, including the North American Energy Standards Board M&V standards efforts, and more recent efforts by the US EPA and DOE to address national protocol development as part of its 2009 National Action Plan on Energy Efficiency project priorities.

Timeline: The RFP was issued on June 2, with bids due June 22 and contractor selection July. Work is scheduled to begin July 17, and project to be completed in November 2009. The RFP can be viewed at http://www.neep.org/EMV_Forum/RFP.html

Estimated Budget: The Forum estimate for this project is roughly \$350,000.

#A3: Develop Common Reporting Guidelines

Purpose: This project is intended to address a growing need and interest in consistent reporting of electric and natural gas energy efficiency savings, costs and emission impacts across states in the region to help inform multiple energy and environmental policies, including impact of energy efficiency programs from RGGI allowance proceeds allocated to programs, meeting National Ambient Air Quality Standards (NAAQS) and associated planning, state procurement policies, and state and regional energy planning and forecasting purposes. The goal of the Project is to develop common reporting guidelines for energy efficiency savings, costs, and emission impacts to support a range of state and regional energy and environmental policies in the Northeast and Mid-Atlantic.

Scope/Approach: The approach to the project is to conduct a “gap analysis” that compares what energy efficiency data is currently reported by program administrators, compared to what data is needed to meet multiple state and regional policy needs. Expected outcomes of the Project include:

- a. A comparison of existing energy efficiency reporting requirements used across the region, focusing on energy/demand savings, emission impacts, costs, and job impacts.
- b. A clear understanding of data needs to support impact of energy efficiency impacts with regard to: meeting National Ambient Air Quality Standards attainment; tracking against state/regional climate change goals; tracking against state energy and economic goals; and informing energy system planning.

- c. Recommendations for how exchange/reporting of data and/or data analyses of energy efficiency savings can be improved between program administrators, air/environmental regulators and system planners.
- d. Recommended guidelines regarding key reporting and data elements needed to enable policymakers and planners to readily compare, aggregate, and inform energy efficiency savings and other impacts relative to state/regional energy, economic and environmental goals.

Timeline/Status: The intention is for the work to in August and be completed by the end of December 2009, with preliminary/draft findings available in November. This schedule is set in order to inform energy efficiency program reporting by Forum participants for 2009 program impacts in early 2010.

Estimated Budget: The Forum estimate for this project is roughly \$130,000, of which part may be funded by US EPA - currently under consideration by US EPA.

[#A4: EM&V Protocol Development/Modifications in Wholesale Capacity Markets](#)

Purpose: To inform the development of M&V protocols in the context of the ISO New England and PJM Interconnection wholesale capacity markets to ensure that protocols/standards are sufficiently rigorous, based on best practice in the evaluation industry, and are reasonable. To the extent possible, the Forum will work with stakeholders to develop consistent standards across the region's ISOs/RTOs, where appropriate.

Scope/Approach: On an as-needed basis, the Forum will coordinate stakeholder input on protocol development/amendments through facilitated discussions with stakeholders, and will retain and manage 3rd party expert contractors to support development of recommendations.

Timeline/Status: On-going, as needed. 2009 focus is on PJM M&V manual development and possible proposals to amend ISO New England's M&V Manual. PJM adopted an energy efficiency M&V Manual in April 2009 for its Reliability Pricing Model (capacity market), which incorporated all recommendations submitted by the EM&V Forum.

Estimated Budget: The Forum estimated budget is \$66,000.

[#A5: Develop Common Savings Assumptions and Algorithms -Mid-Atlantic project](#)

Purpose: To develop a technical reference manual (TRM) for the mid-Atlantic states with common savings assumptions, input parameters, and algorithms for priority end-use measures, to support calculations of gross evaluated and net savings for the purpose of planning and tracking against state goals, supporting PJM M&V Plans, and supporting environmental regulations.

Scope/Approach: The Scope of Work will involve 1) identifying what energy efficiency measures to include, 2) collecting and reviewing materials to be used to establish and or benchmark against existing protocols, and 3) recommending a process for updating assumptions over a multi-year period and possible next steps. The project will build from existing available data from within region, and other data as applicable.

Timeline/Status: The Forum aims to issue an RFP in June 2009, with project completion in Fall 2009.

Estimated Budget: Forum initial estimated budget is \$110,000.

B. Research and Evaluation Projects

[#B1: Loadshape Study Project](#)

Purpose: This project is intended to identify applicable existing electric loadshape data in Phase 1 of the project, and develop new loadshape data that fills gaps in our knowledge in Phase 2 of the project. The project will help inform the impact of electric energy efficiency programs in reducing energy use, and associated emissions, during identified hours of the year. This data typically informs the impact of electric energy efficiency programs in reducing energy, demand, and emissions, during identified periods of time (hours and seasons) e.g., for calculation of coincidence factors.

Scope/Approach: Planned as a multi-phase, multi-year effort, Phase 1 is underway. It is being completed in conjunction with the Northwest Power Conservation Council, to leverage resources. Advantages of this approach also include streamlining and increasing the comprehensiveness of the search process and potentially greater consistency across multiple regions Results are due in the

second quarter of 2009. The project is on as aggressive schedule as possible, in order to facilitate implementation of Phase 2 during summer season if at all possible. A separate RFP will be prepared for the Phase 2 project, which will involve primary research e.g., end-use sampling in the Northeast and mid-Atlantic regions, in a manner that informs multiple policy/market data/reporting needs.

Participating States: New England states, Long Island Power Authority, New York Power Authority, New Jersey and Delaware are funding Phase 1. A subcommittee of EM&V Forum members participates in project management on behalf of all project sponsors. For Phase 2, all Forum participating states plan to participate.

Timeline/Status: Completion of Phase 1 (by KEMA Consulting) is scheduled for June 2009. The goal is to begin Phase 2 (primary data collection) during summer 2009. Given the high cost to collect primary data, it is expected that this project will span several years and will proceed incrementally based on meeting priority data needs first.

Estimated Budget: The EMV Forum portion of the Phase 1 project budget is \$121,000. The estimated budget for Phase 2 work for 2009 is \$485,000.

#B2: C&I Lighting Measure Life and Persistence Project

Purpose: This project is intended to provide estimates of multi-year measure persistence based on regional on-site and surveys of a sample of lighting measures installed by commercial and industrial lighting programs in the region. It will also update estimates of equipment life, using secondary sources, e.g. manufacturer rated life. This study addresses commercial lighting, one of the largest sources of efficiency and demand savings in the region. Measure life has been defined as equipment life and measure persistence, but relatively few empirical studies have been done that provide timely estimates based on multi-year information due to the expense and complicated nature of the studies.

Scope/Approach: A subcommittee of EMV Forum members is involved in developing the scope of work for the RFP. As noted above, results of this project will be based on a combination of primary field-based research, surveys, and secondary research. The strategy of obtaining estimates of measure persistence and equipment life allows program administrators to update each element separately and it provides more understanding of measures performance than a study that would empirically estimate a single parameter that measures equipment life and measure persistence combined.

Timeline: RFP issued in mid-June, with project start date in July.

Estimated Budget: The estimated project budget is \$385,000.

#B3: Scoping projects: Net Savings Methods, and Impact of Energy Efficiency Programs on Advancing Codes and Standards

These projects will be scoping studies in 2009, which will identify any possible next steps/phases for 2010. The purpose of studying Net Savings Methods is to assess current practices in estimating net savings (including free-ridership and spillover and Net to Gross ratios), and to explore the implications of using net versus gross calculated savings to inform different policies. The results of this scoping study may inform the development of protocols related to net savings evaluation methods.

The purpose of studying Impacts of Energy Efficiency Programs on Advancing Codes and Standards is to develop a common understanding of the strategies and approaches available for evaluating savings associated with improved codes and standards.

More detailed scopes, timelines, and project budgets are expected to be developed in conjunction with EM&V Forum subcommittees in Summer 2009.

For more information on the 2009 projects, go to:

http://www.neep.org/EMV_Forum/ProjectCommittees.html