

## **2009-2010 New Hampshire Energy Efficiency Program Evaluation Plan**

### **ENERGY STAR® Lighting Program Lighting Impact Evaluation**

An impact and process evaluation of this program was completed in 2003. An impact evaluation of the 2008 program implementation year will be conducted by an independent contractor. The objectives of the impact evaluation are:

- Measurement and verification of annual and lifetime program savings by measure type
- Estimation of program savings realization rates and measure installation rates
- Estimation of annual operating hours by measure type
- Assessment of participating end user satisfaction
- Assessment of participating retailer satisfaction
- Market assessment of customer awareness and acceptance of the ENERGY STAR brand

The impact evaluation will include interviews with program staff and implementation contractors, on-site surveys of participating end users, surveys of participating retailers and telephone surveys of non-participants. Lighting operation will be monitored in a sample of participating end users. Recommend that requests for proposals to be issued in the Fall of 2009.

### **Small Business Energy Solutions Program Impact Evaluation**

An impact evaluation of this program was completed in 2004. An impact evaluation of the 2009 program implementation year will be conducted by an independent contractor. The objectives of the impact evaluation are:

- Measurement and verification of annual and lifetime program savings by measure type
- Estimation of program savings realization rates and measure installation rates
- Estimation of annual operating hours by lighting measure type
- Assessment of participating end user satisfaction

The impact evaluation will include interviews with program staff and on-site surveys of participating end users. Lighting operation will be monitored in a sample of participating end users. Recommend that requests for proposals will be issued in late 2009.

### **Commercial & Industrial New Equipment and Construction Program Impact Evaluation**

A commercial and industrial new construction baseline evaluation was completed in 2003. On May 8, 2009 the New Hampshire Building Code Review Board adopted the 2009 International Energy Conservation Code (IECC) in its entirety effective October 1, 2009. An impact evaluation of the 2008 (and 2009?) program implementation years will be conducted by an independent contractor. The objectives of the impact evaluation are:

- Measurement and verification of annual and lifetime program savings by measure type
- Estimation of program savings realization rates and measure installation rates
- Review of current baseline assumptions and recommendations regarding revisions of baseline assumptions for application to future program implementation years
- Assessment of participating end user satisfaction
- Assessment of participating architect and engineer satisfaction
- Assessment of Green Building certification opportunities

The impact evaluation will include interviews with program staff and on-site surveys of participating end users. Lighting operation will be monitored in a sample of participating end users. Recommend that requests for proposals will be issued in Fall 2009 or early 2010.

### **Home Energy Solutions Fuel-Neutral Pilot Program Evaluation**

An evaluation of the HES Pilot will be conducted in 2010 after the end of the heating season. The purpose of the evaluation will be to review the effectiveness of program delivery and to verify energy savings achieved by the energy efficiency measures installed during the 2009 implementation year. The specific evaluation objectives are:

1. Review program processes and procedures in order to assess the effectiveness of program marketing, administration and delivery of program services.
2. Assess customer satisfaction with program service delivery and customer perceptions of energy cost savings and payback.
3. Assess implementation contractor satisfaction with program participation.
4. Identify potential barriers to participation and assess the effectiveness of the customer co-pay.
5. Identify potential energy savings opportunities that are not being captured.
6. Verify fossil fuel and electric energy savings achieved by energy efficiency measure installation.
7. Verify summer and winter peak demand savings achieved by energy efficiency measure installation.
8. Provide recommendations regarding program design, marketing and delivery for full-scale implementation in future years.
9. Review the effectiveness of collaboration with gas utility programs.

An independent evaluation contractor will be hired to conduct site surveys of program participants and interviews with utility staff and implementation contractors. The evaluation contractor will review the energy savings calculation methodology and perform an independent verification of energy and demand savings by fuel type and measure type, including weatherization, heating system replacement, domestic hot water, appliance replacement and efficient lighting. The contractor will also analyze the effectiveness of the screening criteria employed to qualify customers for HES Pilot program services and, based on the findings, make recommendations concerning any revisions that would improve overall program effectiveness.

The evaluation will be initiated during the second quarter of 2010 and be completed by September 1, 2010.

### **Regional Projects**

The following projects are being jointly sponsored either by utilities in the New England states or by utilities in the Northeastern states, including New England, New York and Mid-Atlantic states.

#### **2009 Avoided Energy Supply Costs in New England**

New England electric and gas utilities have hired a consultant to update the avoided energy and capacity supply cost projections that are used to analyze the cost-effectiveness of energy efficiency programs in the region. The research will produce a long-run forecast of avoided electric energy and capacity costs in New Hampshire, including internalized avoided emission costs, as well as a long-run forecast of fossil fuel costs.

The study was recently completed in September 2009. The New Hampshire allocated share of the project budget is \$33,300.

### **Regional EM&V Forum**

The Evaluation, Measurement and Verification Forum (EM&V Forum) is a project facilitated and administered by Northeast Energy Efficiency Partnerships (NEEP) to develop common/consistent EM&V protocols for energy efficiency and other demand-side resources in the Northeast and mid-Atlantic region to support energy and environmental policies in the region. The EM&V Forum was launched in July 2008, with implementation activities being undertaken during the balance of 2008, and funded by the U.S. Department of Energy, the U.S. Environmental Protection Agency, and the Energy Foundation.

NEEP Forum activities in 2009 to date have focused on 1) completing the start up of the Forum, 2) undertaking (and completing) several Forum projects, 3) developing draft RFPs for several projects, and 4) planning Information Access activities.

NEEP has facilitated and managed the Forum Project Committees and Steering Committee, for which NEEP held quarterly meetings in February and March, respectively. In addition, NEEP staff convened and facilitated many teleconference calls with project subcommittees during the quarter, focusing on a range of Forum projects (see Table 1). The New Hampshire allocated share of the project budgets is presented in Table 2.

**1) Completing Forum Start-up:** Outreach efforts this year including confirming Forum funding for specific projects in New York and Maryland, where commission processes were established to address Forum participation and funding. In New York, the commission ultimately issued a decision in late April to fund the Forum for up to \$700,000 per year (not including NYPA and LIPA shares) for the period 2009-2011, with NYSERDA and the Evaluation Advisory Group advising on specific project participation. In Maryland, program administrators (MEA and utilities) have publicly supported participation in the Forum and sharing of the costs, but the commission recently requested that MEA fully fund the Forum. NEEP is currently in discussion with MEA to identify a workable and timely contractual arrangement that can be finalized before RFPs are issued.

Other start up efforts include NEEP retaining a Forum Associate in February, a role critical to supporting the EM&V Forum Director and Research & Evaluation Manager in the day to day operations of the Forum. With this additional resource, NEEP has made significant progress toward establishing systems necessary to ensure effective operation of the Forum, primarily in terms in its communication capabilities and fiscal management role.

**2) Forum Projects Completed or Underway:**

Project A1: Glossary of Terms & Acronyms. Completed in February, the Glossary was recommended for adoption by the Steering Committee in March, where the Steering Committee agreed that by recommending this (and future) products for Forum adoption, the Committee encourages the product be used or implemented by and in the participating Forum states.

Project A4: ISO-NE Forward Capacity Market. Ongoing activities 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. The Forum works with stakeholders to develop consistent standards across the region's ISOs/RTOs, where appropriate. The Forum coordinates stakeholder input on protocol development/amendments through facilitated discussions with stakeholders, and employs 3rd party expert contractors to support development of recommendations. The 2009 focus is on PJM M&V manual development and possible proposals to amend ISO New England's M&V Manual.

Project B1: Loadshape Study Phase 1. A fast-tracked project launched in December 2008, this project is taking inventory of existing, secondary loadshape data and analyzing it for its “usability” by program administrators for multiply policy purposes. Results will inform research priorities for Phase 2 – primarily research, scheduled to begin the third quarter of 2009.

**3) RFP Development:**

Project A2: Common EM&V Methods and Survey Savings Assumptions: An RFP has been issued. The project was expected to begin in July 2009 and be completed by November 2009. This project is being carefully coordinated with national EM&V discussions/efforts, in particular the NAPEE EM&V Project.

Project A3: Common Reporting Guidelines. Scope of work currently being drafted.

Project B2: Commercial Lighting Persistence Study. An RFP has been issued.

**4) Information Access Activities:** Information Access activities this year include convening an Information Access Committee and planning for the following projects:

- a. *EM&V Forum Website Development*
- b. *Planning for Annual Public Meeting*
- c. *EM&V Library*
- d. *Communications and Confidentiality Policy*

**Table 1. 2009 EM&V Forum Agenda**

**Protocol Development Projects:**

- #A1. Glossary of EM&V Terms & Definitions Project
- #A2. Develop Common EM&V Methods Guidelines and Survey Savings Assumptions.
- #A3: Survey Existing EE Savings Reporting Requirements and Develop Common Reporting Guidelines.
- #A4: EM&V Protocol Development/Modifications in Wholesale Capacity Markets (for ISO-New England and PJM wholesale markets).
- #A5: Develop Common Savings Assumptions/Algorithms Database. Sub-region Mid-Atlantic project

**Research & Evaluation Projects:**

- #B1: Loadshape Project - Survey Available Data Sources (Phase 1), and Conduct Primary Research (Phase 2).
- #B2: C&I Lighting Measure Life and Persistence Project.
- #B3: Scoping Projects: Survey Net Savings Methods, Impact of EE on Advancing Codes and Standards.

**Education & Information Access Activities:**

- #C1: Develop EM&V Forum website
- #C2: Hold Annual Forum Public Meeting
- #C3: Develop EM&V Forum library
- #C4: Develop communications plan, information sharing and confidentiality policy

On April 30, 2009, NEEP submitted an invoice as follows to PSNH for the following work. Statewide, this effort is estimated to cost \$68,014.

Description	Amount
Billing for EM&V Forum 2009 Base and Project costs, as follows:	
EM&V Forum - Base Costs	\$ 12,240.00
A2: Common EM&V Methods	\$ 6,746.00
A3: Common Reporting Guidelines	\$ 2,530.00
A4.1: Wholesale Electric Markets	\$ 1,876.00
B1.2: Loadshape Study - Phase II	\$ 9,276.00
B2: C&I Lighting Measure Life	\$ 11,995.00
B3.1: Net Savings	\$ 843.00
B3.2: Codes and Standards	\$ 843.00
<p data-bbox="467 926 873 972">Contact Jim Godkins at (781) 880-9177 ext. 17 with any questions on this invoice.</p> <p data-bbox="558 993 849 1016">FEDERAL TAX ID # 04-3323189</p>	
<b>TOTAL</b>	<b>\$ 46,349.00</b>

### Tracking System Development and Reporting

Each utilities' project and program tracking systems are being modified to accommodate the reporting requirements of the NHPUC, the ISO-NE Forward Capacity Market and the Regional Greenhouse Gas Initiative. In addition, the software used for home weatherization is a leased product. It is estimated that 2009 costs for Tracking System Development will be approximately \$150,000.

### Multi-Year Evaluation Plan

A multi-year evaluation plan will be completed in 2009. The plan will describe the measurement and verification projects and activities that will be required to demonstrate the effectiveness and quantify the savings achieved by energy efficiency programs that are funded by New Hampshire ratepayers via the System Benefits Charge. The evaluation plan will also address the requirements that have been established by ISO New England to measure and verify the demand reduction value of qualified demand resources offered into the ISO-NE Forward Capacity Market.

## **PUC Audit**

The New Hampshire Public Utilities Commission has undertaken an audit the CORE Energy Efficiency Programs in 2008 and has been working with each utility to review their data. The results of this audit will be available in the Fall of 2009.

## **2009 Budget**

The NH utilities estimate that the budget for these evaluations are approximately equal to the annual evaluation budget.

