



The EEB Program Evaluation Plan, 2011

October 2010

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The EEB Evaluation Committee is pleased to present its Evaluation plan for the Department's consideration in Docket No. 08-10-02 and Docket No. 09-10-03. Also contained within its pages is the Evaluation Roadmap as ordered in the Department's decision for Docket 08-10-03.

The Evaluation plan is designed to provide cost effective studies of all the CL&M programs. Programs offering the most savings are expected to be evaluated most frequently. The plan integrates gas and electric programs and takes advantage of opportunities to cooperate with others in the Northeast that offer the same types of measures as does CT.

Most importantly, the plan provides for an independent evaluation process. It is critical that the programs be evaluated, measured, and verified in a way that provides confidence to the public at large that the savings are real and in a way that enables the Companies to use those savings estimates and other results with full confidence. There is a need to ensure both the reality and the perception of the independence and objectivity of EM&V activities.

Offered by the EEB Evaluation Committee;

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Table of Contents

| | |
|---|----|
| Introduction | 1 |
| Guiding Principles | 2 |
| The EEB Evaluation Roadmap | 3 |
| Evaluation Process | 4 |
| Evaluation Planning..... | 4 |
| Study Development | 4 |
| Contractor Selection Process | 5 |
| Project Initiation: | 7 |
| Kick-off Meeting..... | 7 |
| Development of the Final Work Plan..... | 7 |
| Project Management and Completion..... | 7 |
| Regional Studies..... | 9 |
| Evaluation Studies 2010..... | 11 |
| Evaluation Studies 2011..... | 12 |
| EM&V Forum Evaluation 2011..... | 14 |
| Conclusion..... | 14 |

The EEB Program Evaluation Plan, 2011

Introduction

The Companies have a long history of providing efficiency programs to Connecticut energy consumers. An integral part of creating, delivering and maintaining quality programs is performing independent evaluations of programs and the markets they serve.

In 1998 the Energy Conservation Management Board (now the Energy Efficiency Board or EEB) was formed by Legislative Act PA 98-28 and charged under Section 33 (d) (1) with these responsibilities. *The Energy Conservation Management Board shall advise and assist the electric distribution companies in the development and implementation of a comprehensive plan, which plan shall be approved by the Department of Public Utility Control, to implement cost-effective energy conservation programs and market transformation initiatives. Each program contained in the plan shall be reviewed by the electric distribution company and either accepted or rejected by the Energy Conservation Management Board prior to submission to the department for approval.*

Since 1998, the EEB has worked closely with the Companies to ensure energy efficiency programs are comprehensive and cost-effective. Evaluations are expected to be relevant, independent, cost-effective and meet the needs of program administrators and planners. In 2005, The EEB formed an Evaluation Committee to work directly with an EEB Evaluation Consultant in overseeing evaluation planning and completion. In 2009, the Department's decision in Docket No. 08-10-03 ordered the EEB's Evaluation Committee and their consultant must be independent from and totally responsible for all aspects of the evaluation process.

The EEB and the Electric and Natural Gas Companies recognize the importance of conducting thorough, timely, and independent evaluations. The various types of evaluation studies exist to support continuous improvement in program offerings and to measure the results of those programs. The audiences for evaluation are many - regulatory bodies, the regional electric system operator (ISO-New England), utility management, and program planners and administrators all need the information gained through evaluation in order to make decisions about program efficacy. Evaluations can be used to increase participation and savings, reduce program costs, and fine-tune procedures. Appropriate evaluation can provide the information that program administrators need to enhance existing cost-effective programs or to take a non-cost-effective program and reconstitute it as a successful one.

Early in the program planning process and periodically thereafter, market assessments evaluate pre-existing market conditions and ascertain the extent to which efficiency programs are likely to influence customer adoption of measures and practices. Careful market assessments are conducted to identify effective ways to influence key market players to take efficiency actions and to increase the breadth and depth of the actions taken. Baseline studies and market assessments examine overall market conditions related to energy efficiency products and services, including current standard practices, average efficiency of equipment, consumer purchasing practices, and identification of market barriers.

After the program is fielded, process evaluations are used to determine the efficacy of program procedures and measures. Process evaluations assess the interactions between program services and procedures and the customers, contractors, and businesses that participate in them. Process evaluation is essential to provide for improved program delivery, increased cost effectiveness and customer satisfaction.

Impact evaluations verify the magnitude of energy savings and identify sources for differences between projected and realized savings; reporting the results and value of energy efficiency programs to regulatory bodies, ISO-New England, utility management, and program planners and administrators. Cost effectiveness assessment is part of impact evaluation, pointing the way to improve, expand, or reassess program offerings. These evaluations are conducted under the supervision of the EEB to provide credible, unbiased and transparent results.

The evaluation process is a critical tool to measure energy savings, as well as other key attributes of each program, to allow optimum program design and careful management of consumer conservation funds.

Guiding Principles

All members of the EEB recognize the importance of evaluation. Program evaluation provides a vital function in assessing program results and supporting continuous improvement in program performance. Evaluation should be used provide information to support decisions regarding the proper course of action for a program. The Department, EEB, Companies and other interested parties assess results and, when possible, point to areas where improvement would strengthen the program to achieve success.

It is critical that the programs be evaluated, measured, and verified in a way that satisfies regional jurisdictional requirements, provides confidence to the public at large that the savings are real, and enables the Companies¹ to use those savings estimates and other results with full confidence. There is a need to ensure both the reality and the perception of the independence and objectivity of Evaluation, Measurement and Verification (EM&V) activities.

Program evaluations, market assessments and other studies should be performed on a statewide basis to the maximum extent possible, while enabling, to the extent necessary, results at the Company level. It is recognized that circumstances could occur where a service territory specific or non-statewide evaluation or study would be appropriate. Electric and natural gas program evaluation efforts should be fully integrated to the maximum extent possible. Because of the statewide focus of program evaluation in Connecticut, it is important to continue to coordinate program procedures, measures and data collection processes.

¹ Whenever the terms “Company” or “Companies” are used, they should be understood to include only those Electric and Natural Gas Companies that offer the program being evaluated.

The EEB Evaluation Roadmap

The Energy Efficiency Board (EEB) Evaluation Committee, which consists of non-utility EEB members, represents the EEB in the efficiency program evaluation process. The EEB Evaluation Committee and the EEB Evaluation Consultant are independent from the EEB program planning consultants and the Companies. The EEB Evaluation Consultant reports directly to the EEB Evaluation Committee. Absent payment through the CEEF, the Department requires that the EEB Evaluation Consultant have no financial or business ties to CL&P, UI, Yankee, SCG, CNG, any EEB members, or any other EEB consultants who plan the efficiency programs.

As directed in the Department's decision in Docket No. 09-10-02, the EEB Evaluation Committee, and specifically the EEB Evaluation Consultant, will provide leadership and execute the following responsibilities: evaluation planning, study development, contractor selection, project initiation, project management and completion, and finalizing the evaluation report. All RFPs will be issued by the EEB Evaluation Consultant and responses will also be sent to the EEB Evaluation Consultant. The EEB members and the Companies will comment on the scope of work, proposals that have been submitted, preferences for contractor selection. The Companies review the final work products conducted by third party evaluators and interim work products as needed during the course of execution of the evaluation study (see Page 7).

The Evaluation Committee may add to, reduce or alter the roles of the Evaluation Consultant and/or the Companies at its discretion at any time.

The EEB Evaluation Consultant will communicate and coordinate with the EEB Evaluation Committee, interested EEB members, and the Companies, at all stages of planning, scoping and budgeting of evaluations. The EEB Evaluation Consultant will schedule and coordinate all relevant stages of the evaluation process to address, as appropriate, the research design concerns of EEB Evaluation Committee and the Companies to assure the highest quality of studies and the best allocation of ratepayer dollars among the studies.

The EEB revised program evaluation road map is open and inclusive with the EE Evaluation Consultant communicating the process in the scheduled events of the EEB Evaluation Committee offers all EEB members, including the Companies, the ability to comment on every relevant step of the evaluation process. The EEB Evaluation Consultant posts and notifies all EEB Evaluation Committee meeting dates and conference calls in a way to allow all interested ECMB members and members of the public to attend events, participate in calls, and provide input as appropriate.

The EEB Evaluation Committee will present the proposed evaluation plan in the annual plan to the Department after appropriate approvals. All members of the EEB have a vote in evaluation budget matters. The evaluation budget is a line item in C&LM programs and a budget item managed by the Companies, therefore the EEB, including the Companies shall have a direct vote in setting the evaluation budget.

Evaluation Process

The EEB Evaluation Committee and the EEB Evaluation Consultant lead the conduct and performance of the evaluation process. While the Companies no longer hold a primary role in evaluation, nonetheless their role is vital to the success of the programs. Program administrators are in a strong position to identify aspects of their programs (savings, market, process) that would benefit from evaluation activities. The Program administrators have intimate knowledge of program procedures and program data collection that are necessary to evaluation. Moreover, the Program Administrators have a strong interest in ensuring program improvements.

Evaluation Planning

With consultation and input from the Companies, the EEB Evaluation Consultant determines which evaluations might be done, sets priorities, and establishes the evaluation budget in line with those priorities. These plans and budget are approved by the EEB Evaluation Committee. The final evaluation budget will be approved by vote of the EEB as part of overall EEF program budgeting.

The Evaluation Consultant:

- Provides Evaluation Committee with a package of programs evaluations, priorities and costs;
- When the evaluation is approved by the EEB Evaluation Committee, establishes resulting budget and submit to the full EEB for vote;
- Writes Evaluation Report to be filed at the time of the Companies' Annual Plan;
- Revises the plan periodically to reflect changes in opportunity, circumstances, remaining budget or other considerations.

The Companies, separately and together, provide important information that helps ensure that needed information is collected in a timely manner.

For evaluation planning, the Companies provide the EEB Evaluation Consultant with:

- Lists of studies each Company would like to be included in the evaluation plan;
- Suggested priorities for those studies that consider both the need for the information and availability of funds;
- Budgets that are sufficient to support the final plan as determined by the EEB Evaluation Committee and approved by the EEB;

Study Development

In the study development phase, the EEB Evaluation Consultant, the EEB Technical Consultants and the Companies together develop the Scope of Work for the particular study to be undertaken. The Companies and Consultants provide the EEB Evaluation Consultant with suggested issues to be included in the scope and focus of the RFP. The Evaluation Consultant finalizes the RFP after review and written comment by the Companies and Technical Consultants. After the initial scoping process, the Evaluation Consultant requests suggestions for bidders to be included in the issuance as well as those who should

not be included. The RFPs explicitly identify the EEB as the entity requesting proposals and the EEB evaluation consultant, who works on behalf of the EEB, as the contact for additional information and for receipt of the proposals.

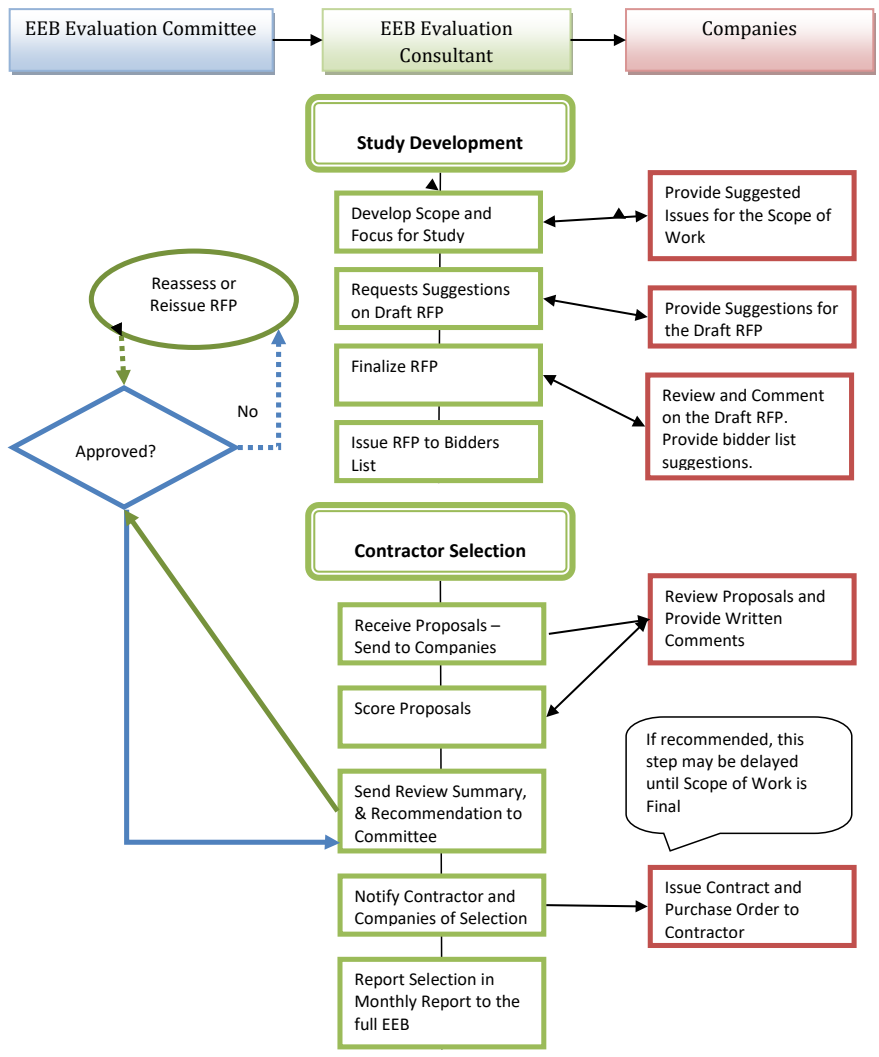
Contractor Selection Process

It is especially important the selection of 3rd party contractors be transparent. The EEB process for selection of an evaluation contractor is:

- The EEB Evaluation Consultant develops the scope of work with input and assistance from appropriate Company staff and EEB Program Consultants. The EEB evaluation Consultant develops the RFP and includes information for and instructions to contractors on procedures for conducting the evaluation. The Companies incorporate their Terms and Conditions
- The EEB Evaluation Committee releases the RFP.
- Contractor proposals are submitted directly to the EEB Evaluation Consultant.
- The EEB Evaluation Consultant, EEB Consultants and a staff person or persons from each appropriate Company review the proposals. Any reviews will be provided to the EEB Evaluation Consultant in writing. The EEB Evaluation Consultant then scores the proposals based primarily on the proposed work plan and approach, the contractors' experience and qualifications, and the proposed price. The top 2 or 3 finalist proposals are identified.
- The EEB Evaluation Consultant sends a summary of the finalist proposals, proposal analysis, and the EEB Consultant recommendations to the EEB Evaluation Committee members.
- The EEB Evaluation Committee reviews the summary of the finalist proposals, the proposal summary, and the EEB consultant recommendations, focusing on the top 2 or 3 finalist proposals, and selects the evaluation contractor.
- A public summary of the basis for selecting the winning contractor is drafted by the EEB Evaluation Consultant and approved by the EEB Evaluation Committee. Each company's purchasing agents retain this summary as the basis for the bid award in conjunction with the final contractor RFP scoring matrix.
- The EEB Evaluation Committee notifies the winning contractor and the other proposers.
- The Companies then issue the contract and execute Purchase Orders.

EEB Evaluation Committee reports to the full EEB at the regularly scheduled EEB meetings. The report shall include information on the evaluation contractors selected since the prior EEB meeting. Figure 1 provides a schematic describing the

Figure 1: Study Development and Contractor Selection Process



Project Initiation:

Kick-off Meeting

The EEB Evaluation Consultant begins the project initiation process by organizing the kick-off meeting. The EEB Evaluation Consultant organizes date, time, location and needed personnel for the meeting, apprising the Companies of the final schedule. Representatives of the Companies may attend kick-off meetings, typically by phone, since meetings will be held either in the presence of the Evaluation Consultant or by telephone. This requirement is set in order to ensure the selected Contractor understands the project management structure. The Companies may raise issues relative to the scope of work and will describe data availability and format to the Contractor. These discussions may be held during or subsequent to the kick-off meeting. The Evaluation Consultant will supply the EEB Evaluation Committee and the Companies with notes summarizing the meeting as provided by the Contractor.

Development of the Final Work Plan

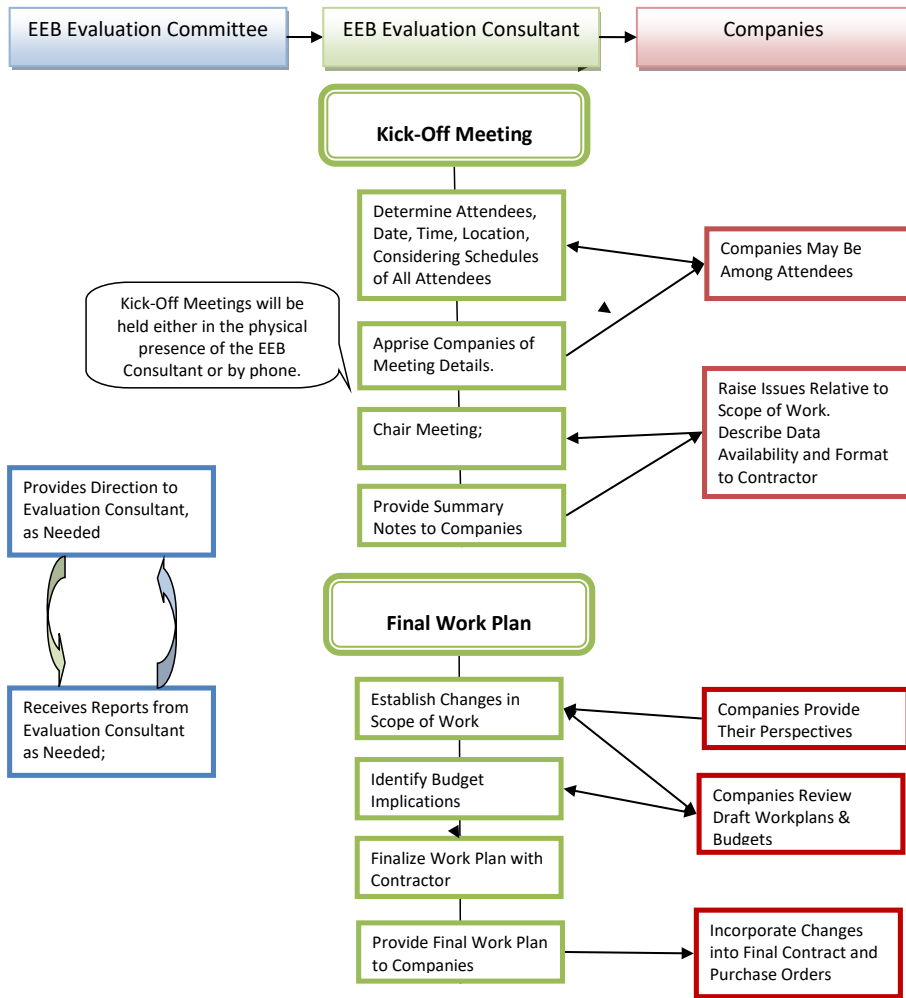
The kick-off meeting may identify scope changes to improve accuracy, align with data availability, or reduce costs. These scope changes may impact the budget as well as changing the workplan. The Companies will review potential changes to the workplan and provide comments in writing. The Evaluation Consultant will consider these comments and then finalize the workplan with the selected evaluation Contractor. The final workplan and budget will be provided to the Companies for incorporation into the project Purchase Orders. See Figure 2.

Project Management and Completion

The EEB Evaluation Consultant leads the project management process (Figure 3) and is responsible for determining what information needs to be developed with the Companies. In particular the Consultant will:

- Work with the Contractor to resolve issues and expedite solutions.
- Review and approve all deliverables and milestones.
- Review all interim work products and any issues of importance that may impact the results or cost of the evaluation. Provide initial draft report to the Companies for comment.
- Collect all communications from the Contractor and Company representatives and route between them, as needed.
- Review and Approve invoices for payment by the Companies from the CEEF.
- Provide the full EEB evaluation schedules and internal project deadlines through monthly reports to the Board.

Figure 2: Project Initiation Process



The Companies act as CEEF contract administrators and conduits for program information. Specifically, the Companies:

- Institute administrative actions necessary to support contract maintenance and payment.
- Issue payments to the independent evaluation contractors on approval of the EEB Evaluation Consultant.

- Provide required program, billing, customer data and any other information needed for the completion of the study.
- Provide materials, including stationary, envelopes, incentive checks and more as needed.

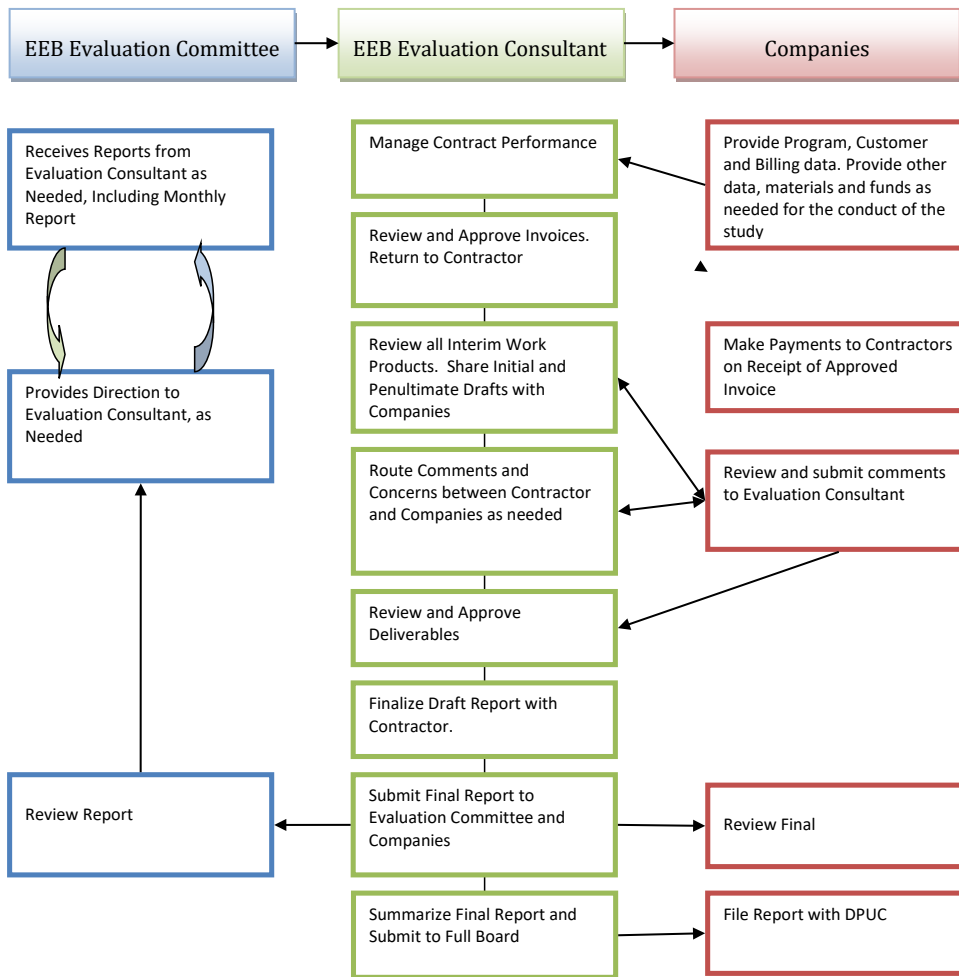
As the project reaches its conclusion, The Companies review and provide written comment on the initial and penultimate drafts. They may also review other interim drafts as needed. The Evaluation Consultant will consider the Company comments and work with the Contractor to finalize the evaluation report. The Evaluation consultant will then summarize the final report and submit that summary with the final report to the EEB Evaluation Committee.

The Committee will then issue the reports to the Companies, EEB members and the Program Technical Consultants for written comment that shall become part of EEB's public record. The EEB Evaluation Committee is responsible for all evaluation products, both interim and final. Neither the third party contractor nor the Companies may release preliminary or final data without prior approval from the EEB Evaluation Committee or its designee.

Regional Studies

The EEB evaluation consultant shall represent the CT EEB in all regional evaluation studies, either with the EM&V Forum or with individual states and groups of states. To the extent applicable, the EEB evaluation consultant and the Companies shall exercise responsibilities in an equivalent fashion as those identified in this document in all regional studies. For evaluations where CT is the minority participant in the study, the EEB evaluation consultant will represent the EEB's interests and contribute to all processes (including scoring and selection) as appropriate based on the level of participation and any processes governing the study outlined by the participating parties. The EEB Evaluation consultant will assume the leadership role for the EEB in all discussions and negotiations involving the regional parties and bring any substantial issues before the Evaluation Committee.

Figure 3: Project Management and Completion Process



Evaluation Studies 2010

In planning which and how many evaluations to conduct each year, the EEB Evaluation Committee considers many factors, including but not limited to: the magnitude of cost and energy savings associated with the program, how recently comparable studies were done, needs expressed by program administrators, requirements of outside organizations, market conditions, recent or planned program changes, and any gaps identified. The EEB also works in a broad regional manner when planning evaluation activities for the up-coming program years. Through collaboration with regional agencies and utilities with similar interests, the EEB takes full advantage of opportunities to gather information in the most cost-effective manner.

Occasionally, opportunities to participate in evaluation studies are unforeseen and, therefore, are not included in the planning process. If an unplanned opportunity proves to be in the best interest of Connecticut customers, the EEB Evaluation Committee will commit resources to those efforts as well. There are also occasions when a planned evaluation study no longer offers the value expected. The EEB Evaluation Committee assesses those conditions with the assistance of the Evaluation Consultant and determines whether changes should be made to the Program Evaluation plan throughout the year. Table 1 indicates evaluation studies either completed or underway in 2010.

Table 1: Evaluation Studies During 2010

| Residential | Commercial & Industrial |
|--|---|
| CFL Saturation and NTG | Business Sustainability Challenge Impact |
| Residential Central A/C Replacement Impact | Energy Opportunities Impact |
| Home Energy Solutions | Energy Conscious Blueprint Impact and Process |
| Limited Income (WRAP / Helps) Impact | Survey of Studies on C&I Load Shapes * |
| Incremental Cost Study* | C&I Load Shape Unitary HVAC* |
| Residential Behavior Pilot | C&I Loadshape Lighting* |
| Non Sector-Specific Studies | |
| Market Awareness of the Connecticut Energy Efficiency Fund | Common Methods for Assumptions & Algorithms* |
| M&V Protocol Modification for ISOs* | M&V Terms & Definitions* |

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* EM&V Forum

A New England Regional Avoided Cost study was conducted in 2009 to update the avoided costs used for program planning, cost-effectiveness analysis, and reporting. The regional avoided cost study is conducted jointly every two years. While the avoided cost study is not an evaluation project, the Connecticut share of the cost for this important regional study is typically included in the evaluation budget. Because estimates are not yet available, funds for this study will need to be allocated to this study from other sources.

Evaluation Studies 2011

Table 2 indicates evaluation studies being considered for 2011. For 2011, the EEB Evaluation plans increase evaluation activities and budgets. Many of the proposed studies are needed to provide statistically accurate demand and energy savings to support the Companies' bids in ISO-NE's Forward Capacity Market. Some will support development of programs that extend the depth and breadth of savings. As is true every year, the 2011 evaluation budget is targeted to the highest-priority studies, in order to maximize value per evaluation dollar spent. This evaluation listing is tentative; the final studies undertaken will depend – among other factors - on opportunities to participate in evaluation studies through regional cooperation, time and budget issues, new studies required and changes in program design.

Prices provided are estimates and may differ substantially from actual bids. The overall budget will not be increased without a vote from the Board.

Table 2: Tentative Study Selection for 2011

| Residential | | Commercial & Industrial | | TOTAL \$ |
|---|------------|-----------------------------------|------------|------------|
| REQUIRED | | | | |
| Res Behavior Pilot | \$ 150,000 | Business Sustainability Challenge | \$ 150,000 | |
| Res Lighting Saturation - price includes repeat at year end | \$ 275,000 | | | |
| | | | | \$ 575,000 |

| HIGHER PRIORITY | | | | |
|---|------------|--|------------|--------------|
| Ground Source Heat Pumps | \$ 300,000 | PSD Review | \$ 150,000 | |
| Res Measure Life and Persistence | \$ 250,000 | Behavior w/ Small Bus | \$ 100,000 | |
| Res New Construction | \$ 200,000 | Multifamily Opportunities | \$ 225,000 | |
| Gas Water Heater Early Replacement/ On-demand units | \$ 225,000 | C&I Lighting Assessment | \$ 220,000 | |
| | | Retrocommissioning | \$ 150,000 | |
| | | Small B Impact Cooling and Refrigeration | \$ 225,000 | |
| | | Chiller Market Assessment | \$ 200,000 | |
| | | | | \$ 2,245,000 |
| LOWER PRIORITY | | | | |
| Specialty Lighting Net to Gross | \$ 300,000 | C&I Measure Life | \$ 250,000 | |
| AC Early Replacement | \$ 250,000 | | | |
| | | | | \$ 800,000 |
| TOTALS | | | | |
| Required | | | | \$ 575,000 |
| Higher Priority | | | | \$ 2,245,000 |
| Lower Priority | | | | \$ 800,000 |
| EM&V Forum | | | | \$ 163,000 |
| GRAND TOTAL | | | | \$3,783,000 |

Table 3: Approximate Cost Share Breakdown for Evaluation Studies

| Studies and/or Tasks | CL&P | UI | CMEEC | Yankee | SCG | CNG |
|----------------------|------|-----|-------|--------|-----|-----|
| Electric Only | 73% | 21% | 6% | | | |
| Gas Only | | | | 38% | 33% | 29% |
| Electric and Gas | 55.5 | 16% | 4.5% | 9% | 8% | 7% |

EM&V Forum Evaluation 2011

Projects initiated within the Regional EM&V Forum also affect evaluation activities in 2011 and beyond. The Forum allocates costs and determines what projects to conduct in consultation with its membership. Nine states and the District of Columbia participate in the Forum, but not all subscribe to every study commissioned by the Forum. Likewise, Connecticut participates in most of the Forum studies but may not participate in studies that do not provide relevant or useful information for Connecticut purposes. The EM&V Forum project list for 2011 has not yet been developed.

Conclusion

The EEB Evaluation Committee takes its responsibility for program evaluation very seriously. It is critical that the programs be evaluated, measured, and verified in a way that provides confidence to the public at large that the savings are real and in a way that enables the Companies to use those savings estimates and other results with full confidence. There is a need to ensure both the reality and the perception of the independence and objectivity of EM&V activities. We are convinced that the plan outlined in this document will provide these critical studies with objectivity, with excellence, and with the best interests of Connecticut rate payers in the forefront.