

# Memo

To: **EEAC**  
From: **Eric Belliveau and the EEAC Consultant Team**  
Date: **September 16, 2016**  
Subject: **January-August Summary Report**

The Consultant Team is pleased to provide a summary to the Council of our activities.

This report serves as a summary of key activities, accomplishments, and deliverables completed by the Consultant Team during the January-August 2016 contract period. Some August-specific activities are also included. Going forward, the Consultant Team will move to a quarterly report of activities.

## EVALUATION, MEASUREMENT & VERIFICATION

This EM&V report for the January-August 2016 contract period is organized based on the following key activity categories: overseeing EM&V planning, implementation, and reporting; EM&V policy issues; and miscellaneous activities.

### Oversee EM&V Planning

Much of the EM&V Group's attention to planning in the contract period was focused on advancing the roughly 40 new studies laid out in the Strategic Evaluation Plan (SEP) to the implementation stage. Before they reach the implementation stage, studies must go through a three-stage planning process to make sure all stakeholder comments and concerns have been addressed. By mid-2016, most of the studies discussed in the SEP had reached the implementation stage. The Group also worked with the PAs throughout the contract period to field a number of additional studies beyond those specifically called out in the SEP. A few examples include a new C&I compliance study, a small business impact evaluation, and a residential lighting consumer decision-making study.

A second key planning activity in this contract period was incorporating the evaluation of Demand Response (DR) programs into the EM&V portfolio. Because DR programs had largely been administered separately from the energy efficiency programs, this function had not previously been included in the scope of work for any of the current EM&V contractor teams. In February, the PAs and the EM&V Group agreed on both a short-term and a longer-term approach to ensuring the availability of appropriate EM&V contractor skills in the demand response area. Under the short-term approach, a streamlined RFQ was used to add DR to the scope of work for two existing contractor teams. Under the longer-term approach, demand response will be called out as a key function in the overall cross-cutting EM&V RFP that is slated for release in late 2016. The selected short-term contractor teams have since begun work on two initial evaluations of direct load control pilots.

A third important planning-related activity during the contract period was recruiting and selecting new EM&V contractor teams covering the Residential Retrofit and Residential Products research areas.

### Oversee EM&V Study Implementation

All told, the Group oversaw implementation efforts for roughly 60 studies during the most recent contract period. Because it is still relatively early in the process of implementing the current SEP, the majority of these projects are currently in the implementation stage.

## Oversee EM&V Reporting

Approximately 20 study reports were finalized and posted to the Council's website during the most recent contract period. The following are a few highlights:

- The latest in a series of annual Non-Residential Customer Profile studies, synthesizing non-residential databases and using the results to analyze a wide range of issues of interest to various stakeholders.
- The Low-Income Non-Energy Impacts study, which is leading to substantial increases in the household NEIs being credited to LI programs.
- In the residential lighting area, studies of incremental costs, interactive effects, and per-bulb wattage reductions.
- Early deliverables from the Minisplit Field Monitoring study, perhaps the largest field study of residential minisplit performance that has yet been performed.

## EM&V Policy Issues

The Group worked on a range of policy issues during the contract period, including:

- Assisting DOER in providing comments on draft EM&V guidance released by the EPA in support of the Clean Power Plan (CPP).
- Participating in the development of two team-wide initiatives, a Council presentation on key trends in energy efficiency and a set of recommendations for improvements to the quarterly reports produced by the PAs.
- Assisting the C&I team in developing a white paper on C&I ex-ante baseline assumptions.
- Collaborating with the PAs on developing the EM&V components of the Term Year Report.
- Working with the PAs on the development of an approach to handling of baseline assumptions for non-residential new construction projects under the latest code iteration, IECC 2015.

## Council and Stakeholder Engagement

During this contract period, the Group provided or participated in three presentations at Council meetings: a comprehensive overall EM&V update in May; a presentation on the results of the 2013 Residential Customer Profile in February; and a presentation on the 2014 C&I customer profile study in March. The Group also provided support for several presentations by other members of the Consultant Team.

In April, the PAs and the Group completed work on an expanded format for the Gantt chart and spreadsheet that forms the primary detailed status report on EM&V activities, and began updating this report on a monthly basis. The most recent version can be found at <http://ma-eeac.org/studies/>.

Lastly, throughout the contract period, the Group worked with DOER and the PAs to coordinate DOER involvement in a number of studies of particular interest to the Department.

## PLANNING AND ANALYSIS

During the January-August contract period, the Planning and Analysis (P&A) Advisory Group focused on the primary tasks described below to assist the Council. The Group provided technical support for the Demand Savings Group and coordinated with the PAs on demand issues (including providing input to and review of the PA-developed Demand Savings Group report and reviewing and commenting on the revised draft AESC study addendum on four-hour peak ("super peak") energy costing periods and demand response values. The Group also supported strategic planning efforts, provided input on a revised PA quarterly report template, provided feedback for presentations at various meetings, and analyzed results of the PAs' 2013-2015 Term Report.

## Participate in EEAC Meetings; Brief and Support the Council

The P&A Advisory Group prepared for, attended, and provided technical support during the meetings of the EEAC and coordinated through Executive Committee each month. The Group coordinated with DOER as chair of the Council on a weekly basis, and briefed individual Councilors in advance of the EEAC meeting and during the month. Also, the P&A Advisory Group assisted with the development, planning, and coordination of potential

topics for future EEAC meetings. EEAC Meeting and Council support was an on-going and regular monthly task area.

### **Support the Council on Regulatory Issues and DPU Proceedings**

The P&A Advisory Group reviewed the DPU's Order regarding the template to be used for the 2013-2015 Three-Year Term Performance Report, which the PAs completed and file in August. The Group also raised one issue with the PAs regarding the reporting of actual revenues collected from customers and other sources ("funding sources"), which are used to support the programs.

### **Provide Technical Analysis and Review/Assess Reports**

The P&A Advisory Group did an initial review of the DPU Order on the 2016-2018 Plan (received January 28th) and began to compile highlights for a summary presentation to the Council in February. The P&A Advisory Group reviewed the revised final draft 2015 AESC study addendum/supplement on four-hour peak (formerly labeled "super peak") energy costing periods and demand response values, and provided comments on the revised final draft addendum. The Group also provided feedback to the PAs on efforts to develop a revised quarterly report template. The Group spent its time in August reviewing the 2013-2015 Term Reports and presented to the Council on this topic at the August meeting.

### **Planning and Analysis Support for Implementation of the 2016-2018 Plan**

The P&A Advisory Group provided the Council with information and analysis to explore and advance future opportunities for energy efficiency and demand reduction programs through the implementation of the 2016-2018 Plan. The Group provided support for Consultant Team presentations for EEAC meeting each month.

The P&A Advisory Group provided technical support for the Demand Savings Group and the Council discussion of peak demand issues. The Group coordinated with the PAs on some technical aspects of demand issues, including the drivers of costs/prices and strategies to reduce the costs/prices, as input to the Demand Savings Group discussions. The Group participated in various discussions and conference calls with the PAs, including an informational briefing provided by several demand response experts. The P&A Group attended and participated in an in-person meeting with ISO-NE, the PAs, DOER and the AG on demand issues. The P&A Group provided input to, and reviewed and commented on, the draft report of the Demand Savings Group, which the PAs prepared during March. We also coordinated with DOER regarding the planning and scheduling of demand presentations for Council meetings.

The P&A Advisory Group continued work on developing descriptions of some strategic planning issues for future consideration and discussion, and met with DOER to discuss the several future strategic planning topics.

## **RESIDENTIAL AND LOW INCOME SECTORS**

### **Technical Support for Programs and Effective Practices**

During the contract period, the Residential Advisory Group worked to advance the priorities in the Term Sheet for the 2016-2018 Plan. This included reviewing the residential demand reduction strategies that National Grid, Cape Light Compact, and Eversource included in their 2016-2018 Plans as well as reviewing outputs of the Demand Savings Group and Demand Reduction Subcommittee. The Group also attended meetings of the Contractor Engagement Working Group as well as DOER's contractor listening session on June 16.

The Group reviewed the PAs' quarterly reports and followed up with the PAs to get additional details about several items. It also provided input on suggested enhancements to the quarterly report to support the discussion at the February 17 Council meeting and information provided to the Council in advance of the meeting.

The Group conducted several analyses related to possible impacts on residential savings and costs. This included reviewing the final revised ENERGY STAR® lamp specification and preliminarily summarizing expected market and program impacts, reviewing proposed federal LED and CFL efficiency standards to assess implications for future electric savings in Massachusetts, conducting a preliminary analysis of the impacts on

residential and low income whole house program cost-effectiveness when lighting savings can no longer be claimed, reviewing and analyzing monthly lighting and consumer products invoice data, and conducting an initial assessment of the impact of updated Low Income non-energy impacts on cost-effectiveness.

Over the course of the summer, the Group has been preparing an overview of the PAs' various multi-family programs, including initiative overviews and a summary of multi-family program data. We have been working with the PAs to gather relevant information and update them on the direction of the work. This work will be wrapped up this fall, and the results will be discussed at the November Council meeting.

The Residential Advisory Group conducted scenario analysis and prepared residential discussion topics for a strategic planning meeting with DOER staff. It then developed a more detailed description of planned work in several areas.

## **Participate in RMC and Council Meetings**

The Residential Advisory Group prepared, supported, and/or contributed to several Consultant Team presentations to the Council since the beginning of 2016. This included developing content on lighting and performance-based approaches for the "Trends in Electric Energy and Energy Efficiency" presentation to the Council at the January 20 meeting; preparing and presenting a residential outlook presentation for the informal portion of the Council's February 17 meeting highlighting the Group's 2016 work plan priorities; assisting the EM&V Group on the Residential Customer Profile Study presentation at the February meeting; preparing content on 1) innovative use of data, highlighting work the Tennessee Valley Authority is doing, and 2) a pay for performance pilot that Pacific Gas & Electric Company has developed for their home performance program for a presentation to the Council on innovations on April 20; and reviewing, analyzing, and summarizing preliminary findings regarding Residential and Low Income Sector performance and other content in the PAs' Term Year Reports for the Team's August 17 presentation to the Council. The Group also reviewed and commented on drafts of the PAs' presentations to the Council regarding the Residential and Low Income sectors and supported agenda and content development for the July Council meeting with its focus on low income topics. The Group also supported Council member preparations for several meetings by participating in Councilor briefings and answering follow up questions.

Between January and August the Group typically met with the Residential Management Committee twice per month for approximately one hour. The Group posed a variety of discussion topics over this period. A main focus was collaborative development of performance indicators for the new renter and moderate income customer initiatives to support PA assessment of their efforts and more detailed reporting to the Council. This work was concluded by the end of the summer, although the PAs and Consultant Team were not able to agree on how interim savings should be reported pending evaluation. The Group and RMC also discussed PA efforts to address business failures by two main vendor partners: Next Step Living for HES and Jaco Environmental for refrigerator recycling. In April, the discussion topic was lighting, with a specific focus on near term (2016-2017) implications of the new ENERGY STAR® lamp specification. The eventual phaseout of claimable lighting savings was noted as a topic for future discussion. Several RMC meetings included discussions of HES-related topics, including updates from the PAs on work to streamline the materials presented to recipients of home energy assessments, wireless communicating thermostats offered as direct install measures through the Home Energy Services Initiative, the status of the use of key performance indicators by National Grid and Eversource to improve Home Performance Contractor performance, and an update on new measure assessment of duct sealing and foam insulation.

## **Coordinate with EM&V Efforts and Incorporate Feedback from EM&V Studies into the Programs**

Members of the Residential and EM&V Advisory Groups participated in monthly coordinating calls to exchange updates on work and developments of shared responsibility. In addition, the Group reviewed draft evaluation reports with residential and low income implementation implications and provided comments for the EM&V Group's and larger EM&V Team's (including PAs) consideration. Between January and August, this included work on the following research efforts: a memorandum summarizing the draft ductless mini-split heat pump cooling season research results, a revised research proposal for the HES Audit Optimization Study, the lighting Market Adoption Model, HVAC manufacturer interviews and resulting summary report, an evaluation report on Cape Light Compact's behavioral pilot, lighting interactive effects methodology and results memorandum, low income non-energy Impacts, stage 2 and 3 HES and multi-family evaluation plans, a lighting stakeholder interview guide, draft

residential new construction baseline and code compliance studies. Several of these studies prompted discussions with the RMC. On May 4, members of the Residential Group attended an evaluation workshop with PA evaluation and implementation staff and lead vendor staff on the residential HES and multifamily retrofit initiatives and provided input on future research efforts. The Group also reviewed the summary of evaluations in the Term Year Reports.

## **COMMERCIAL AND INDUSTRIAL**

### **Technical Support for Programs and Effective Practices**

Most of the C&I Advisory Group activities fall under the category of supporting the programs. This support can take many forms. Some of this support is direct education of the Council on important issues, technologies, markets, and implementation strategies. In order to make informed decisions, the Council must have information and a good understanding of the issues. The Group provide context to make information more useful to the Council. For example, the C&I lighting plays an important part of the programs. This market is always evolving with new technologies and control options, new opportunities such as retrofitting streetlights and other exterior lighting, and changes to codes and standards. In this area the consultants have reviewed applicable codes and standards, performed market research, and interpreted this data to understand the impacts and opportunities of all the changes. The consultants reconcile this knowledge with the current structure of the programs, and evaluate how it will affect the programs and future savings. The final step is to make recommendations for changes and tweaks to the programs in order to improve them. Improvements can include better customer service, increased cost effectiveness, more comprehensive savings, or increased savings.

### **Technical Support for New Technologies and Innovation**

Over the contract period, the C&I Advisory Group researched a number of new technologies at the request of Council members, and discussed their viability and potential impact with the Program Administrators. The Group also investigated new technologies and implementation approaches in collaboration with the PAs, with the intent of improving the programs.

One example is the work the Group has taken to understand Strategic Energy Management (SEM), and how it may be better incorporated into the Massachusetts programs and result in appreciable savings. The Group will continue to collaborate with the PAs as they evaluate how to proceed with SEM.

### **Participate in CIMC and Council Meetings**

The C&I Advisory Group regularly attended the portions of the C&I Management Committee meetings that were open to the public in order to ask questions about the implementation of the programs, and to share best practices from other states. Examples of topics on which the Group shared information with the PAs include Vermont's zero net energy pilot program, Strategic Energy Management, and the screw-in and linear lighting market.

The C&I consultants also attended a number of EEAC stakeholder feedback meetings and Council meetings as part of the work in 2016. Attendance was important both to present various topics to the Council and to hear what was happening first hand.

### **Incorporate Feedback from EM&V and Studies into the Programs**

The Massachusetts EM&V program is nation-leading, and produces a large volume of information. This information is not helpful unless it is considered, understood, and applied to improve the programs. Over the contract period, the Group reviewed the many reports produced through the E&MV process to understand the findings and recommendations contained in these documents. The role of the Consultants is to highlight opportunities for positive change and suggest ways to implement the recommendations. This feedback is achieved through participation in the C&I Management Committee Meetings as well as through presentations and memos.

The Consultants also worked with Associated Industries of Massachusetts to enable a group of large, managed customers to provide some feedback. This group provided valuable perspective and a direct conduit from the

customer to the Council's consultants.

The C&I consultant team works in other jurisdictions and shared lessons learned in these areas with the Massachusetts PAs.

## TECHNICAL SERVICES

### **Produce Minutes from all EEAC Meetings**

The Consultant Team is charged with producing draft and final meeting minutes for each EEAC monthly meeting. The Team produced draft minutes for EEAC meetings on a monthly basis and forwarded them to the EEAC Chair. The EEAC Chair reviewed and distributed the minutes directly to the EEAC prior to the next EEAC meeting. Once the minutes were approved, they were posted to the EEAC website.

### **EEAC Website Upgrades, Revisions & Maintenance**

From January to August, Consultant Team staff continued to manage the updated website on a day-to-day basis. This included posting materials for EEAC meetings and other meetings that occurred during the year, updating the EEAC meeting calendar, posting new EM&V and other research reports, and posting documents related to the PAs' 2013-2015 Term Reports. The Team also created a new page on the website to post public comments.

From January to August, the EEAC website had:

- 11,078 total sessions
- 5,233 users: 55% new visitors and 45% returning visitors
- 31,432 total page views with an average of 2.8 pages viewed per session

### **Produce the Annual Report to the DPU and Legislature**

The Team completed a final draft of the 2014 Annual Report to the Legislature in February. The report completed the DOER approval process in August. In March, the Team began working on a three-year 2013-2015 summary report to the Legislature and is working on a rough draft.