

Memo

To: **Energy Efficiency Advisory Council**
From: **Eric Belliveau and the Consultant Team**
Date: **January 13, 2016**
Subject: **EEAC Consultant Team Proposed 2016 Work Plan and Budget Request**

SUMMARY

Strategy for this Work Plan

As in the past, our work is divided into several advisory groups, representing the major areas of effort across the entire range of Consultant responsibilities and portfolio of PA programs. Within each, several work areas further clarify the tasks and topics that we plan to address over the coming year. Each advisory leader worked with representatives from DOER and others to define and present the information included in this workplan. In each section below, the consultants worked to make sure EEAC priorities, Councilor input, and experience from previous workplans were incorporated.

PLANNING & ANALYSIS

Context

In 2016, our work in the area of planning and analysis is primarily focused on several important outcomes.

- Supporting the Council in its efforts to develop a strategic vision for the future, in order to identify potential adjustments to the execution of energy efficiency and demand reduction in Massachusetts.
- Supporting the Council in its efforts to ensure effective program and portfolio performance and to achieve the high goals in the 2016-2018 Three-Year Plan, including technical analysis and assisting with data and reporting systems.
- Supporting the Council in reviewing and assessing the results of the 2013-2015 Three-Year Plan, including analyzing successes and missed opportunities.

To work towards and facilitate these outcomes, we will group our efforts into the four major planning and analysis areas described below.

Work Area: Participate in EEAC Meetings; Brief and Support the Council

The Consultant Team will provide the Council with up-to-date information, analysis, and recommendations that help Councilors understand issues and facilitate decision making. The monthly Council meeting is the one place where all Councilors meet and consider new ideas, review Plan progress, and plan for the future. It is an effective and efficient way of communicating and generating a feedback loop that conveys the Consultants' activities and

provides Councilors the opportunity to provide direction, responses to questions, and comment on findings. Communicating during the monthly Council meeting is also a practical reality considering the size of the Council and the requirements of open meeting law. In order for the Council and its meetings to be effective, the meetings are planned and supported by the Executive Committee, and informal briefings in advance are offered.

SUPPORTING TASKS

- Prepare for and attend eight Council meetings (and eight Executive Committee meetings) to report to the Council on key activities and progress towards achieving the Council's priorities and to receive direction and feedback on Consultant Team tasks and work products.
- Provide input on the areas of focus and topics for upcoming meetings in advance.
- Provide independent technical support in advance of and during Council and Executive Committee meetings on all areas of energy efficiency and demand reduction planning, policy development, technical and economic analysis (cost-effectiveness), program design and implementation, reporting and analysis of results from 2013-2015, and tracking and monitoring of progress towards achieving the 2016 and 2016-2018 Three-Year Plan goals.
- Support, prepare, and provide (when assigned) informal pre-meeting informational sessions or webinars on priority topics identified in the Council in its meeting/topics schedule.
- Provide individual briefings to Councilors on a rotating basis with a goal of talking to each Councilor at least three times.
- Provide regular monthly reports to the Council on all activities in which the Consultants engage.
- Assist with providing orientation for new councilors.

DELIVERABLES

This task's deliverables include Council and Executive Committee meeting attendance and presentations, informal pre-meeting information sessions and webinars, monthly reports, and individual councilor briefings.

Work Area: Planning and Analysis Support for Implementation of the 2016-2018 Plan

THE TEAM WILL provide the Council with the requisite information and analysis to explore and understand future opportunities for energy efficiency and demand reduction programs. Planning years, like 2015, are not the most opportune time to consider significant changes in implementation models, performance mechanisms, tracking and recording tools, or innovation in EM&V, but the Council has specified these issues as priorities in its draft 2016 priorities. This section of our workplan is dedicated to helping the Council be prepared, through early study, to assess potential changes in the EE marketplace, program development, delivery and evaluation. This includes providing technical analysis to support the implementation of the 2016-2018 Plan, as well as considering and analyzing "blue sky" concepts and opportunities for future Plans. During 2016, the Council will develop and review longer term objectives. The topics schedule that the Council established in December 2015 for 2016 requires the team provide information on a variety of subjects outlined below.

SUPPORTING TASKS

- In the Council priorities document it states that "...the Council will call upon its consultants to develop a research plan covering timely and appropriate areas for the Council to address, such as:
 - Efficiency in relation to other customer-side resources, and their relative challenges and opportunities for the evolution of our energy system
 - The value of the timing of energy use
 - Geographically targeted deployment of efficiency and other customer-side resources and how this can address local needs, produce systemic benefits and avoided costs
 - Optimizing Massachusetts' grid and energy system (e.g. increasing electrification) given changing resources and priorities
 - New uses for electricity that benefits customers and society but may increase electric

use.”

The following tasks are in response or in addition to the priorities request. For this task we will use this document as the foundation for our efforts in completing the Council request to provide timely coverage of the appropriate areas for the Council to address.

- Compile councilor input/responses and prepare/present on “Lessons learned in 2015 planning.”. Presentation for the Council with 6 page memo.
- Develop information about, and present a “New trends in energy efficiency and demand reduction” presentation to the Council in January with a 10 page report to follow the Council meeting.
- Consider potential changes and improvements in implementation models, including by reviewing and summarizing the models and experience from other states and around the world where applicable. This includes a 12 page report and presentation to the Council in July.
- Participate in and provide technical support for the Demand Savings Group. Also coordinate with the PAs on technical aspects of demand issues, to feed into the Demand Savings Group. Provide analysis, review, summation, assessment of outcomes, etc. One clear memo and presentation to the Council will be on demand reduction per Council priority number five—Identify opportunities for the Council to advance a grid that supports distributed resource investment, active demand response and planning in a manner that decreases costs, increases resilience and reliability, supports innovation, and improves both the environment and the economy.. Under this task on demand and grid advancement there could be many aspects and permutations of the analysis:
 - Understand the issue and challenges (when people say “demand” they may be talking about different things) – therefore this topic needs some scoping and organization of thinking and the issues Include a review of available studies plus a summary of past and current PA demand reduction offerings, coordinating with the PAs.
 - Focus potential solutions on the aspects of the issues clarified above. Coordinating with the PAs, identify potential solutions for review and discussion.
 - Design the solutions for implementation.
 - Monitor and assess how well the solutions work.
 - As an example, explore opportunities for demand response for the summer of 2016. MA could have some potential risk avoidance solutions ready by early summer 2016.
- Participation in and coordinate with the PAs through the Planning and Analysis Group. This group does not meet as regularly as the Management Committees but performs similar work to get ahead of planning, policy, and reporting issues.

DELIVERABLES

Deliverables include analyses, additional memos as needed, and presentations to the Council.

Work Area: Provide Technical Analysis and Review/Assess

THE TEAM WILL provide the Council with technical support on analysis and studies that directly affect the development and success of the Three-Year Plans, including verifying accomplishments and identifying PA trends; establishing and analyzing forecasts, avoided costs, cost-effectiveness, and economics; maintaining an up-to-date Technical Reference Library (TRL); and reviewing and analyzing all PA-submitted reports and data. Two major new tasks in 2015 will be the review of the 2013-2015 preliminary year-end results in February-March, and the review of the 2013-2015 Performance Term Report (the first three-year performance report) in late summer.

Several areas of technical effort contribute to the planning, analysis, design, and implementation of energy efficiency and demand reduction programs in Massachusetts. The Council has called out a number of specific priority areas for the 2016-2018 Three-Year Plans in its October 26, 2015 resolution, which are further reflected in the meeting topics chosen for 2016, including cross-sector topics. In addition, there are many relevant external

factors and contexts that require information and analysis for the Council, such as the broader energy policy landscape in the Commonwealth and within the ISO-NE region, the federal Clean Power Plan, and related trends across the U.S. As a result, the Council requires concise, meaningful, targeted technical analysis and information on these topics and reports to support their deliberations and decision-making.

SUPPORTING TASKS

- Review and assess the 2013-2015 preliminary results in February-March. This will be a significant review of the 2015 preliminary year-end results plus the preliminary three-year results for the 2013-2015 Plan. This task included analysis spreadsheets on results and a memo on salient information for Council decision making.
- Review and analyze the 2013-2015 Performance Term Report (the first three-year performance report ever completed) in late summer 2016. This will be a significant review of the results and performance of the 2013-2015 Plan, based on the final data and EM&V results that are available in 2016. A key task per the Council topics schedule is to identify opportunities that become visible from past performance review. This task included analysis spreadsheets on results and a memo on salient information for Council decision making.
- Review, analyze, and assess the PAs' reports and reporting, including the monthly dashboards and quarterly reports. Review trends and multi-year comparisons, and provide Consultant findings and recommendations to the Council. This task includes presentations to the Council throughout the year.
- Use the PA reporting to assess and report to the Council on the status of program achievement towards the 2016 and 2016-2018 Three-Year Plan goals and related topics. Identify and assess any data or programmatic trends which portend successes or challenges in program delivery and savings.
- Work with the PAs and the Council to design and implement further improvements to the PA reports, quarterly and otherwise, in response to Councilor feedback, including forward-looking projections and enhanced trend comparisons in the reports. For example, review and suggest changes to the PA Quarterly Report based on Council requests and for Council review. This task includes plan template suggestions and data presentation ideas.
- Review Mass Save Data and recent revisions, and provide feedback to the PAs. Provide input on future revisions and additions. Task includes ongoing discussions and written suggestions on potential changes.
- Provide technical input to and review of draft work products for the 2015 "Super Peak" addition to the Regional Avoided Energy Supply Component (AESC) avoided costs study, and participate in the study group meetings with representatives from the participating states. (Note: MA may also need to look more closely at capacity costs at times of peak; the AESC "Super Peak" work is focused on energy costs only, and therefore capacity avoided costs are not currently in the AESC expanded scope.) Task includes review of past studies, participation in study group and written and analysis output as needed.
- Review and analyze options for geotargeting efforts and the valuation and cost-effectiveness of geotargeting. Task includes a literature review and short memo on evaluations geotargeting programs and efforts.
- Analyze cost-effectiveness screening, assessment of benefits and costs, and application of EM&V results and field experience; propose appropriate improvements for cost-effectiveness analysis and common screening tools. Task includes a memo reviewing current tools and suggestions for synthesis among MA PA tools.
- Contribute to and review ISO-NE efficiency forecasting efforts, ensure the consistent and appropriate treatment of efficiency in the forecast, and review and provide comments on the work of the ISO-NE Energy Efficiency Forecast Working Group. Task includes participation in the working group.
- Provide technical assistance for reporting and tracking of the Three-Year Goals and energy

- efficiency impacts for the Clean Energy and Climate Plan (CECP), including impacts of efficiency programs and other efficiency strategies on the 2020 CECP goals. Task includes presentations to the Council as needed.
- Analyze utility bill impacts and the relationship between program costs and efficiency savings experienced by customers through utility bills. Task includes a presentation to the Council on bill impacts versus sector savings achieved in Massachusetts.
 - Review, comment on, and contribute to the Technical Reference Library (TRL). Task includes review and comment as needed. This will be the first time we will see the digital TRL. We are not sure what will be needed.

DELIVERABLES

The consultants will work with the Council to outline work areas and determine the schedule and level of detail of work products not driven by statutory deadlines.

Work Area: Support the Council on Regulatory Issues and DPU Proceedings

The Team will provide Councilors with information on the wide range of DPU proceedings and regulatory issues relevant to ratepayer-funded energy efficiency and demand reduction programs in the Commonwealth. DPU proceedings progress on a related but somewhat independent schedule from the Council’s internal workings and interactions with the PAs, yet can have significant repercussions on how the goals of the enabling legislation and the Three-Year Plans are pursued, and on the reporting of Plan results and achievement of those goals.

SUPPORTING TASKS

Track, monitor, review, summarize, and present to the Council information on all relevant DPU proceedings affecting energy efficiency and demand reduction programs, as assigned, including but not limited to the following:

- DPU 11-120 Phase I or subsequent proceeding, continuing the exploration of how best to determine energy and demand savings to account for multi-year time horizons and market effects, including the application of EM&V market effects studies and following up on the earlier DPU Order.
- DPU 14-05, for the application of the avoided cost values from the 2013 AESC study to the 2013-2015 Plan, including how the application of the 2013 AESC values affect the reporting of benefits in the 2013-2015 Performance Term Report.
- DPU 14-86, related to the application of values resulting from the ongoing DPU proceeding to establish values for environmental compliance costs.
- DPU 14-141, related to the implementation of the DPU Order on the Energy Efficiency Database.
- DPU 16-XX (forthcoming), regarding specific DPU proceedings to review the PAs’ 2013-2015 Performance Term Reports (this regulatory proceedings task is in addition to the development of the Performance Term Reports and the technical review and assessment of the Reports, which are covered in the prior work area above).
- DPU 15-(160-169), related to implications of DPU Orders on the 2016-2018 EE Plans, and the associated support of the Council in the Plan approval process.
- Review and analyze any potential revisions to the DPU EE Guidelines coming out of Plan review or Performance Term Report review.

DELIVERABLES

Specific deliverables will vary depending on the level of involvement and Council needs, but may include analysis, participation and/or support for a technical session or hearing, memos or technical papers, and presentations to the Council.

RESIDENTIAL AND LOW INCOME

Context

Residential and Low Income savings for both electric and gas exceeded goals by a significant amount in 2013-2015. Continuing achievements at this high level for 2016-2018 with the highest savings goals in the nation will require the Program Administrators to pursue all cost-effective opportunities through a range of measures, approaches, initiatives, and programs. The programs are currently benefitting from innovation in the form of LED technologies and associated bumps in electric savings, but as LEDs become increasingly commonplace due to falling costs and greater availability, free ridership will increase and the number of available sockets to fill with efficient lamps will decrease. The residential lighting market is rapidly transforming and the days of easy lighting savings are numbered. Additional sources of savings must be identified as a result.

The Residential Consultants plan to work collaboratively with the PAs to continue to refine existing program strategies through implementation of continuous improvements, identify additional cost efficiencies, effectively shape and apply EM&V research and findings, and assess new technologies and program approaches, including through identification of effective practices and demonstration opportunities. The Consultants will particularly focus on Council priorities from the October 26 resolution and the 2016-2018 Plan Term Sheet, including monitoring PA progress and advising the Council regarding new initiatives for renters, moderate income customers, multi-family refinance events, demand reduction, and contractor engagement. This will be supported by robust lines of communication—including continuous feedback loops—with the PAs, and with the Council including its chair and DOER staff.

Work Area: Technical Support for Programs and Effective Practices

Achieving the 2016-2018 goals will be a challenging task. The Residential Consultants' work priorities for 2016 will be two-fold: 1) tracking goal achievement and implementation of commitments in the 2016-2018 Plan and term sheet, supported by developing an understanding of the underlying factors supporting the successes and challenges that are encountered and apprising the Council as appropriate, and 2) identifying and incorporating new and innovative technologies and approaches into the Massachusetts programs.

The Residential Consultants will also continue their focus on strengthening performance-based approaches in the Whole House Program, including possible pay-for-performance approaches for the Multi-Family Retrofit and Home Energy Services Initiatives. The Residential team will also provide support to the larger Consultant Team's work on the Council's priority of identifying new strategies for demand savings and peak demand reduction and new technology integration. Additional dedicated work efforts related to innovation will be undertaken as Council priorities and interest dictate and/or as developments and opportunities present themselves.

The Council and DOER have indicated that the following are priorities within existing programs:

- Implementing a renter-specific initiative
- Implementing a moderate income initiative
- Developing and implementing enhanced approaches to leveraging multi-family refinance events in collaboration with the Commonwealth's housing finance agencies and LEAN, with specific consideration of performance-based retrofit products
- Executing Term Sheet commitments regarding new demand reduction/peak reduction efforts, innovation and technology, and contractor engagement

SUPPORTING TASKS

- Review, analyze, and report on 2016-18 Plan results and progress, with a particular focus on achievement of lighting and new initiatives goals highlighted in the Council's final resolution
 - Coordinate with EM&V Consultants to develop a presentation for the March EEAC meeting focused on Residential themes – Customer Profile Study and new residential initiatives

- Review 2013-2015 Plan results and identify lessons learned that can help inform the delivery of programs in the next three years
 - Contribute residential content to a Consultant Team memorandum for the June EEAC meeting
- Support development of continuous improvements, improved cost efficiencies, and other effective practices for the Residential and Low Income Sectors in consultation with the PAs, including identifying effective practices from other jurisdictions
 - Support assessment and refinement of new initiatives for renters and moderate income customers and enhanced approaches to leverage multi-family refinancing events to maximize retrofit potential; present findings on these by no later than fall 2016
 - Examine opportunities to increase cost efficiency of QA/QC process within the Home Energy Services Initiative; present findings with above
 - Assess performance-based models for the Residential Whole House program and applicability to Massachusetts in demonstration form, with a specific focus on pay for performance for multi-family retrofit; deliver multi-family retrofit findings by June 2016 and HES findings by no later than fall 2016
- Provide technical support to term sheet commitments regarding new demand reduction/peak reduction efforts, innovation and technology, and contractor engagement
- Track, interpret, and consult on new reporting metrics
- Advise on new technologies and approaches and the potential for savings and integration into the programs

Work Area: Participate in RMC and Council Meetings

The Residential Consultants regularly participate in meetings of the Residential Management Committee (RMC), working groups (such as the Low Income Best Practices Working Group), and the Council in order to monitor progress of the PAs' implementation plans, to share information, offer analysis and context, and to be active participants in the design and delivery of the programs.

SUPPORTING TASKS

- Review agendas and associated materials and/or coordinate with PAs to determine agenda content for RMC meetings
- Prepare and deliver materials (e.g., presentations) for the RMC and Council
- Produce other applicable output as needed with the goal of providing actionable advice for the Council and the PAs
- Report on relevant content of RMC discussions to the Council

Work Area: Coordinate with EM&V Efforts and Incorporate Feedback from EM&V and Studies into the Programs

The Residential Consultants actively engage in the EM&V process at all stages. The Team will review and provide input on draft evaluation plans to ensure that issues of highest priority from an implementation perspective are addressed in the scope of work. As the evaluation work is conducted, the Residential Consultants are in regular contact with our EM&V colleagues to review and comment on interim work products. Once a study is complete our team often discusses the findings with the RMC to determine how the findings will be addressed.

SUPPORTING TASKS

- Provide direction and guidance in study planning to ensure necessary data are collected, and useful data are reported
- Review studies and reports, perform additional analysis to interpret results, and present findings through memos, webinars, and presentations

- Review the results of the 2013-2015 Three Year Plan and document lessons learned to ensure Residential and Low Income goals are met in 2016-18
- Produce applicable output as needed with the goal of providing actionable advice for the Council and the PAs

COMMERCIAL AND INDUSTRIAL

Context

Despite past challenges meeting C&I goals, the Massachusetts C&I goals for 2016-18 are the highest in the nation. Meeting those goals will require the Program Administrators (PAs) to pursue cost effective opportunities through a range of programs, initiatives, and segmentation strategies. There has been a steady shift away from C&I savings towards residential savings over the last five years. This has coincided with the C&I programs falling short of goals. During this time, the residential sector has increased as a percentage of the total portfolio of savings, and these above-goal achievements have allowed the PAs to meet statewide goals. It is important to maintain robust levels of savings in the C&I sector because C&I savings are *the most cost-effective savings* available to the Commonwealth and because C&I customers must have equitable service by the PAs programs. Execution of the 2016-2018 Plan should achieve both objectives.

The Consultants plan to work collaboratively with the C&I Program Administrators to help meet the 2016-2018 C&I goals. This work will include both a review of the past three years and an ongoing monitoring of the next Three Year Plan to ensure lessons learned from the past are applied to the future. The goal is to ensure that the programs are being delivered as effectively as possible, and to advise on innovative new approaches or best practices that may enhance implementation. In addition, there are new technologies coming to the market, and existing technologies that may not be contributing at their full potential. The C&I Consultants will analyze, understand, organize and interpret the vast amounts of data produced by the programs and the EM&V efforts as well as incorporate trends from other EE programs and industry to highlight opportunities. The Consultants will continue to play a key role in providing technical support and advice to the Energy Efficiency Advisory Council.

Work Area: Technical Support for Programs and Effective Practices

The programs are the delivery mechanism for incentives and technical support to utility customers. How the programs are designed and delivered has a direct impact on the amount of savings and where those savings are realized. Massachusetts has a well-established portfolio of programs that are delivering results. One significant task in 2016 will be to review the results of the 2013-15 Plan. An ongoing task will be to monitor and support the implementation of the 2016-18 Plan by incorporating the lessons learned from the previous three years. Some of the planned changes and enhancements to the programs for 2016-18 include new upstream measures, further segmentation approaches,¹ increased focus on demand savings, and an expansion of energy management strategies.²

The Council has indicated the following 2016 C&I priorities:

- Grid Advancement³ – creating a more responsive and flexible electric distribution infrastructure and how the energy efficiency programs can support and benefit from this advancement
- Demand savings and demand response and control
- CHP
- Segment specific approaches : e.g., Mid-sized and Small Business
- Strategic Energy Management (SEM)

¹ <http://ma-eeac.org/wordpress/wp-content/uploads/Exhibit-1-Gas-and-Electric-PAs-Plan-2016-2018-with-App-except-App-U.pdf> page 146

² <http://ma-eeac.org/wordpress/wp-content/uploads/Exhibit-1-Gas-and-Electric-PAs-Plan-2016-2018-with-App-except-App-U.pdf> page 152

³ Grid enhancement is discussed in more detail in the Cross Cutting section of the work plan.

- LED Streetlight conversion

In addition, the Consultants suggest two important areas that should be monitored:

- Industrial Process savings/Leidos Industrial Initiative⁴
- C&I Lighting with respect to : Upstream, Transition from Fluorescent to LED, Small Business installations, Changes to Codes and Standards

SUPPORTING TASKS

- Prepare presentations for March EEAC meeting focused on C&I themes:
 - C&I Profile Study Analysis to share key findings or trends
 - C&I segment specific approaches such as Strategic Energy Management for large customers, how to work with municipalities and streetlights, or customized approaches for mid-sized customers
- Review 2013-2015 Plan and produce a memo for the June EEAC meeting detailing findings or trends that can help inform the delivery of programs in the next three years
- Prepare a memo for April on C&I lighting to document coming code, market and technology changes.
- Collaborate with the PAs to ensure best practices deployment of new approaches and initiatives for 2016-18
- Track progress on the CHP best practices study planned by the PAs
- Advise the PAs on implementation strategies for 2016-18
- Produce memos or presentations as requested by the Council

Work Area: Technical Support for New Technologies and Innovation

In order to increase savings, new technologies and ways to integrate these new technologies into the programs are necessary. Codes and standards continuously erode the opportunities for savings by raising baselines, but new technologies are constantly being developed and improved. Once introduced into the market, new products typically decline in price as they become more common, but this process takes time. To accelerate their adoption by the market, new technologies usually need program support to overcome the normal market barriers to anything new, unknown, and more expensive. Program support can take many forms, such as the promotion of the technology, verification that there are benefits such as savings and reduced maintenance, and incentives that reduce the incremental cost.

The Council has indicated that the following are priorities.

- New Technology Integration/MTAC process

SUPPORTING TASKS

- Identify new or underperforming technologies/measures
- Advise on new technologies and the potential for savings and integration into the programs
- Track trends in measure adoption to identify opportunities for changes and improvements to the programs
- Advise on implementation strategies to help adoption of underperforming technologies
- Produce a memo or presentation in July concerning the MTAC process and/or new measures. This could be a review of promising new measures, a review of the process by which they are

⁴ National Grid has hired Leidos as an implementer to work with manufacturers to identify and promote industrial process projects.

- tested, or a comparison of the MTAC approach with other programs.
- Produce memos or presentations as requested by the Council

Work Area: Reporting Updates and Best Practices

The Council has resolved to be better informed by the PAs on a number of subjects. The Council resolution requests updates on MTAC, CHP, Small Hospitals, Midsized and Small businesses, Non-profits, Multifamily, LED costs, and innovations such as Strategic Energy Management.⁵

SUPPORTING TASKS

- Review, analyze, and report on plan results and progress (including final results for the 2013-2015 Plan)
- Track, interpret, and consult on new reporting metrics
- Provide insight and context regarding reporting metrics
- Produce memos or presentations as requested by the Council

Work Area: Participate in CIMC and Council Meetings

The C&I Consultants attend all CIMC and some Council meetings in order to share information, offer analysis and context, and to be active participants in the design and delivery of the programs. The CIMC meetings provide an opportunity for collaboration and a free exchange of ideas between the PAs and the Consultants to improve the design and delivery of the programs.

SUPPORTING TASKS

- Prepare and deliver presentations for the Council and CIMC
- Produce memos or presentations as requested by the Council
- Report on the impact of CIMC discussions to the Council

Work Area: Incorporate Feedback from EM&V and Studies into the Programs

Massachusetts has a comprehensive evaluation, measurement and verification process in place. However, it is critical for the lessons learned from the studies to be properly understood and applied to make changes in order to improve the programs and be most beneficial for the ratepayers of Massachusetts. Sometimes additional analysis and interpretation is necessary to apply the conclusions reached in the studies. The Consultants may also provide context to better put findings into perspective, which allows for better prioritization of PA effort.

SUPPORTING TASKS

- Provide direction and guidance in the planning of studies to ensure necessary data is collected, and useful data is reported
- Review studies and reports, and follow up with the PAs to determine if recommendations from evaluations are being incorporated into the programs
- Produce memos or presentations as requested by the council

EVALUATION, MEASUREMENT, AND VERIFICATION

Context

EM&V is a critical engine both for the EEAC Consultant Team and for the Commonwealth as a whole, providing objective and fact-driven results that help to ensure the reliability of savings claims, improve existing programs and support the development of new ones, and lay a solid foundation for the development of the next Three-Year Plan.

⁵ Council's Resolution of October 30, 2015 Exhibit 1, Appendix I Page 4 of 4

The 2009 Council resolution that established the Commonwealth's current EM&V framework assigns substantial responsibilities to the Council's Consultant. Working on the Council's behalf, the Consultant is charged with overseeing every phase of the EM&V process, including evaluation planning, contractor procurement, study implementation, reporting and outreach, and application of study results. While the Consultant must work closely and collaboratively with the PAs, the resolution specifies that if consensus cannot be reached between the PAs and the Council Consultant, decision-making authority (subject to a system of appeals) rests with the Consultant as the Council's agent.

Since the establishment of the current EM&V framework in 2009, the Commonwealth's EM&V program has developed. The overall scope of the EM&V program increased roughly four-fold from 2009-2014, before stabilizing in 2015. Significant efforts were made in 2013-2014 to systematize the EM&V planning, reporting, and outreach process in order to strengthen the feedback loop and enhance the ultimate usefulness of study results. The year 2015 saw the completion and filing of an overall Strategic Evaluation Plan (SEP) for the 2016-2018 period, and the completion of approximately 50 studies.

Objective

The preceding context helps to explain why all of our Team's tasks for the current workplan period are driven by a single overarching objective: to enhance and ensure the objectivity, accuracy, timeliness, and usefulness of PA-administered EM&V activities on behalf of the Council, as specified in the 2009 EEAC EM&V Resolution.

Our specific priorities in pursuing this objective in 2016 include the following:

- Continuing to strengthen the feedback loop between EM&V and the policy, planning, and program administration functions, by further enhancing the EM&V planning process, communication with stakeholders, and the dissemination of study results.
- Moving the studies laid out in the 2016-2018 EM&V plan through the detailed planning, implementation and reporting stages.
- Providing a solid foundation of factual results to support the development of the next Three-Year Plan.
- Ensuring that savings claims remain reliable in the face of ever-increasing pressures on the PAs to meet savings goals.
- Continuing to build on several key over-arching research initiatives, including: (1) the annual Residential and Non-Residential Customer Profile studies that synthesize the tracking and billing databases of all of the individual PAs and analyze the results to provide useful insights into program outcomes, customer bases, and supply-side populations; (2) top-down econometric research into overall net program impacts; and (3) market effects studies to assess the overall effects of programs on the structure and functioning of target markets.
- Advising the EEAC on SEP development and updates as well as EM&V best practices and potential ways the Commonwealth's EM&V program could be improved to be more impactful and more cost-effective.

Overall Discussion of Timeline

Most EM&V functions are ongoing throughout the year. As discussed in the 2016-2018 SEP, in order to make the most effective use of resources, new studies are to be deliberately staggered to start and end throughout the three-year program cycle. In addition, a number of studies initiated before the completion of the 2016-2018 SEP are still in progress, with most of these scheduled for completion by May of 2016. As a result, the overall EM&V study portfolio remains in a roughly steady state. This means the EM&V team's involvement in most core functions is expected to be ongoing throughout the workplan period.

Overall Discussion of Deliverables

Because the 2009 EM&V Resolution specifies that EM&V in Massachusetts is to be a fully collaborative effort between the PAs and the Council's agents, many work products are developed jointly by the PAs and the EEAC

Consultants. Work products can therefore be divided into two primary categories: those for which the EEAC Consultants have sole responsibility, and those that are the joint responsibility of the PAs and the EEAC Consultants. Joint work products generally include final reports, webinars, strategic evaluation plans, project-specific evaluation plans, and detailed quarterly status reports showing progress on all in-progress studies. EEAC Consultant-only deliverables generally include presentations to the Council (roughly bi-annual in recent years); monthly activity reports; and briefings of individual Councilors by phone, in person or by e-mail.

Work Area: Oversee EM&V Planning

This task encompasses the development of both overall strategic EM&V plans and detailed plans for individual EM&V projects. With the 2016-2018 SEP complete, planning efforts in the current workplan period are expected to focus largely on moving the roughly 40 individual EM&V projects laid out in the SEP into the implementation stage, as well as initiating plans for new projects as needed. Planning for individual EM&V projects focuses on establishing research objectives, determining data collection and analysis activities, setting budgets, assigning contractor staff, and laying out project schedules.

TIMELINE

Due to the strategic staggering of studies, oversight of project-specific planning is expected to occur throughout the workplan period. An incremental update to the 2016-2018 SEP may begin around the 3rd quarter of 2016.

DELIVERABLES

EEAC Consultant-only deliverables include Council presentations, monthly activity reports, and briefings. Joint EEAC Consultant/PA work products include project-specific evaluation plans, overall strategic evaluation plans, and monthly status reports.

Work Area: Oversee EM&V Study Implementation

This task involves overseeing the implementation of individual EM&V studies once they have completed the planning stage. EM&V study implementation can include a wide range of data collection and analysis activities, the specific nature of which varies by type of study. At any one time there are typically 40-60 EM&V studies in progress, divided between the three primary research areas of Residential, Non-Residential and Cross-Cutting. Each study can have as many as eight stages from draft scope to survey instruments to draft and final reports.

TIMELINE

Due to the strategic staggering of studies, oversight of study implementation is expected to occur throughout the workplan period.

DELIVERABLES

EEAC Consultant-only deliverables include Council presentations, monthly activity reports and briefings. Joint EEAC Consultant/PA work products include interim reports, maintaining a schedule of studies—planning, launch and completion, webinars, and monthly status reports.

Work Area: Oversee EM&V Reporting

This task involves overseeing the development and dissemination of interim and final reports on EM&V studies. Final EM&V reports in Massachusetts generally need to go through multiple drafts, as various stakeholders provide comments that must be processed collaboratively. This task also encompasses overseeing the incorporation of impact evaluation results into the TRM/TRL.

TIMELINE

Due to the strategic staggering of studies, oversight of EM&V reporting is expected to occur throughout the workplan period.

DELIVERABLES

EEAC Consultant-only deliverables include Council presentations, monthly activity reports and briefings. Joint EEAC Consultant/PA work products include final reports, webinars, monthly status reports, and posting summaries and studies to the EEAC website.

Work Area: Council and Stakeholder Engagement

This task includes working with the Council, individual Councilors, and stakeholders, both to incorporate their input into EM&V plans and reports and to brief them on study results through presentations and other forms of outreach.

TIMELINE

Due to the strategic staggering of studies, and because Councilor and stakeholder engagement may be needed throughout the study planning, implementation and reporting process, this function is expected to occur at some level throughout 2015. In past years, EM&V team leader Ralph Prah has generally given an in-person overall EM&V update to the Council approximately twice annually. For the current eight-month workplan period, we have assumed one such presentation. In addition, we have planned for EM&V team involvement in presentations to the Council on the most recent Residential and Non-Residential Customer Profile studies.

DELIVERABLES

Council and stakeholder engagement will take the form of three in-person presentations—CI, Residential profile reports, and General EMV update, one webinar, or one-on-one briefings by phone or e-mail, as needed.

Work Area: EM&V Policy Issues

This task involves advising the Council, individual Councilors and state agencies on EM&V aspects of policy issues. Some examples of EM&V policy issues we anticipate needing to work on in the workplan period include the following.

- Reviewing and commenting on draft EM&V guidance provided by the federal government in support of the Clean Power Plan.
- Advising the Council and DOER on responses to any EM&V-related orders stemming from the DPU's review of the 2016-2018 Three-Year Plan filing.
- Reviewing and commenting on final reports for projects initiated by the Northeast EM&V Forum in 2015 and scheduled for completion in the first half of 2016.
- Add a memo/discussion about best practices in EM&V and opportunities for improvement?

TIMELINE

The timing of EM&V policy issues in the Commonwealth tends to be driven by external factors, ranging from the timing of DPU decisions and PA responses to them, to directions from the Council. As a result, while work on this task is expected to be intermittent, we anticipate that it is likely to occur throughout the workplan period.

DELIVERABLES

Monthly activity reports, Council presentations and briefings.

TECHNICAL SERVICES

The Technical Services team is responsible for a variety of administrative tasks that support the Council's information sharing through the website including production of the Annual Report to the Legislature. These tasks are described in more detail below.

Work Area: Produce Minutes from all EEAC Meetings

The Team will ensure that minutes are collected from all meetings subject to the open meeting law and that these minutes are circulated for comment, corrected, and issued in final form for posting to the EEAC website. In 2016, the Consultant Team will also take minutes at EEAC Executive Committee meetings.

Work Area: Website Updates, Revisions, and Maintenance

Much of the work on the EEAC website will be focused on regular and timely updates of the website, with respect to both content and any changes or expansion in structure or organization identified by the Council. One particular update the Team will work on includes a public comments page where to post input from stakeholders on various

topics. Other changes may be made based on Councilor feedback. The team will look into and bring back suggestions on providing a search engine for the mobile application of the website.

Work Area: Consultant Team Monthly Report

The Team will continue to provide DOER and Councilors with a timely and meaningful monthly report of Consultant Team activities.

Work Area: Produce the Annual Report to Legislature

In coordination and cooperation with DOER, the Team will develop a 2013-2015 Term Report for the DPU and Legislature. This report will replace the Plan Year report the Team has produce in previous years and will provide a look at the outcomes and accomplishments of the entire 2013-2015 program cycle. We will coordinate the contributions of the PAs, DOER, and other stakeholders to ensure that the Report reflects the collaborative nature of energy efficiency accomplishments in Massachusetts. The Team will develop a timeline and begin collecting information from the PAs and DOER in March concurrent with the review the PAs' 2013-2015 preliminary results. A complete draft report will be submitted to DOER no later than 30 days after the PAs submit their final 2013-2015 final results, subject to receiving requested input on 2015 project highlights from the PAs in a timely manner. A final draft of the report will be completed by August 31, also subject to the timely input from DOER, the PAs, and other stakeholders as appropriate.

PROPOSED BUDGET

The table below presents our high-level proposed budget by work area within each of the major Consultant Team advisory groups. This budget was developed based on our current understanding of likely Council priorities and projected activities, issues, and work products for 2016. We are prepared to refine this budget proposal in response to more specific guidance from the Council.

The tables below provide a summary and then each area in detail. Not included here is a request to provide a public announcement system for the Council meetings. We are researching this and will provide a quote when we have firm pricing.

EEAC Consultant Team Proposed Year 2016 Budget Detail by Staff and Task

	By Task	Amt.	Hours
Planning & Analysis	Brief and Support the Council, attend meetings	\$139,150	746
	Support the Council on Regulatory Issues & DPU Proceedings	\$54,750	300
	Provide Technical Analysis	\$80,850	470
	Support Three-Year Plan Implementation	\$74,956	375
	Sub-Total	\$349,706	1,891
Residential	Technical Support and Effective Practices	\$92,860	561
	RMC and Council Meetings Participation	\$59,145	363
	Coordinate and incorporate EMV Feedback	\$23,660	141
	Sub-Total	\$175,665	1,065
C&I	Technical Support for Programs and Effective Practice	\$53,300	280
	Technical Support for New Tech and Innovation	\$43,400	230
	Reporting Updates and Best Practices	\$62,975	335
	CIMC and Council Meeting Participation	\$39,395	256
	Incorporate EMV Feedback.	\$50,690	271
	Sub-Total	\$249,760	1,372
EM&V	EM&V Planning	\$58,288	314
	EM&V Study Implementation	\$55,581	305
	EM&V Reporting	\$55,988	312
	Council and Stakeholder Engagement	\$39,450	217
	EM&V Policy Issues	\$25,129	142
	Sub-Total	\$234,435	1,289
Technical Services	EEAC Meeting Minutes	\$15,525	160
	Website Updates, Revisions & Maintenance	\$25,120	207
	Monthly Consultant Team Report	\$6,800	40
	2013-2015 Three Year Report	\$42,450	323
	Sub-Total	\$89,895	730
TOTAL		\$1,099,461	6,347

Staff	Role	Hourly Rate	Planning & Analysis				Residential			
			Brief and Support the Council, attend meetings	Support the Council on Regulatory Issues & DPU Proceedings	Provide Technical Analysis	Support Three-Year Plan Implementation	Technical Support and Effective Practices	RMC and Council Meetings Participation	Coordinate and Incorporate EMV Feedback	
Eric Belliveau	Project Manager	\$200	260	100	100	200				
Eric Belliveau	Travel Time	\$100	96							
Phillip Mosenthal	C&I Core Member	\$200				50				
George Lawrence	C&I Group Coordinator	\$185								
George Lawrence	Travel Time	\$93								
Mike Guerrard	Residential Subject Matter Expert	\$185					25			10
April Clodgo	Technical Services Core Member	\$85								
Craig Johnson	Technical Services Core Member	\$105								
Craig Johnson	Travel Time	\$53								
Jeffrey Lotler	Technical Services/C&I Subject Matter Expert	\$185	20		20	20		6		6
Gretchen Calcagni	Planning and Implementation Core Member	\$155	120	40	100	60		20		10
Clifford McDonald/ Matt Socks	Planning and Implementation/C&I Core Members	\$165			40			15		10
Ralph Prah	EM&V Group Coordinator	\$175								
Ralph Prah	Travel Time	\$88								
Jeff Schlegel	Planning and Implementation Group Coordinator	\$170	200	150	200	35				
Robert Wirtschaftler	EM&V Core Member	\$180	40							
Elen Zuckeman	Planning and Implementation Core Member	\$105	10	10	10	10				
Lori Lewis	EM&V Core Member	\$195								
Carol Lasky	Technical Services Subject Matter Expert	\$100								
Anya Vedmid	Technical Services Subject Matter Expert	\$95								
Margaret Lynch	Residential Group Coordinator	\$160					160		160	50
Margaret Lynch	Travel Time	\$80					15		15	5
Jennifer Chiodo	C&I Core Member/EM&V Subject Matter Expert	\$190								
Jennifer Chiodo	Travel Time	\$95								
Glenn Reed	Residential Core Member	\$180					155		90	40
Glenn Reed	Travel Time	\$90							10	
TBD	Demand Response Application Expert	\$175								
Courtney Moriarta	Residential Core Member	\$170					145		60	10
Courtney Moriarta	Travel Time	\$85					20			
	LABOR TOTALS		746	300	470	375	564	363	141	
	Hours		\$126,190	\$52,750	\$90,850	\$70,000	\$92,380	\$58,740	\$23,480	
	Amount		\$13,000	\$2,000		\$4,956	\$500	\$405	\$200	
	Travel									
	TOTALS		\$139,150	\$54,750	\$90,850	\$74,956	\$92,860	\$59,145	\$23,660	

C&I							
Staff	Role	Hourly Rate	Technical Support for Programs and Effective Practice	Technical Support for New Tech and Innovation	Reporting Updates and Best Practices	CIMC and Council Meeting Participation	Incorporate EMV Feedback
Eric Belliveau	Project Manager	\$200			40		40
Eric Belliveau	Travel Time	\$100					
Phillip Mosenhal	C&I Core Member	\$200		20			20
George Lawrence	C&I Group Coordinator	\$185	150	110	120	100	70
George Lawrence	Travel Time	\$93				70	
Mike Guerard	Residential Subject Matter Expert	\$185					
April Clodgo	Technical Services Core Member	\$85					
Craig Johnson	Technical Services Core Member	\$105					
Craig Johnson	Travel Time	\$53					
Jeffrey Lotier	Technical Services/C&I Subject Matter Expert	\$185	10	10	10		10
Gretchen Calcagni	Planning and Implementation Core Member	\$155	35	35	35	20	
Clifford McDonald/ Matt Socks	Planning and Implementation/C&I Core Members	\$165	20	20	20		75
Ralph Pahl	EM&V Group Coordinator	\$175					
Ralph Pahl	Travel Time	\$88					
Jeff Schlegel	Planning and Implementation Group Coordinator	\$170					
Robert Wirtschafter	EM&V Core Member	\$180					
Eilon Zuckerman	Planning and Implementation Core Member	\$105					
Lori Lewis	EM&V Core Member	\$195					
Carol Laszy	Technical Services Subject Matter Expert	\$100					
Anya Vedmid	Technical Services Subject Matter Expert	\$85					
Margaret Lynch	Residential Group Coordinator	\$160					
Margaret Lynch	Travel Time	\$80					
Jennifer Chiodo	C&I Core Member/EM&V Subject Matter Expert	\$190	40	10	50	30	50
Jennifer Chiodo	Travel Time	\$95				36	6
Glenn Reed	Residential Core Member	\$180					
Glenn Reed	Travel Time	\$90					
TBD	Demand Response Application Expert	\$175	25	25	60		
Courtney Moriarta	Residential Core Member	\$170					
Courtney Moriarta	Travel Time	\$85					
LABOR TOTALS			280	230	335	256	271
			\$50,300	\$41,200	\$60,775	\$37,195	\$49,245
			Travel	\$2,200	\$2,200	\$2,200	\$1,445
TOTALS			\$53,300	\$43,400	\$62,975	\$39,395	\$50,690

Staff		Role	Hourly Rate	EM&V Planning	EM&V Study Implementation	EM&V Reporting	Council and Stakeholder Engagement	EM&V Policy Issues	EEAC Meeting Minutes	Website Updates, Revisions & Maintenance	Monthly Consultant Team Report	2013-2015 Three Year Report
Eric Belliveau	Project Manager		\$200								8	8
Eric Belliveau	Travel Time		\$100									
Philip Mosenithal	C&I Core Member		\$200									
George Lawrence	C&I Group Coordinator		\$195									
George Lawrence	Travel Time		\$93									
Mike Gerard	Residential Subject Matter Expert		\$195									
April Clogdo	Technical Services Core Member		\$95						120	48		
Craig Johnson	Technical Services Core Member		\$105						40			
Craig Johnson	Travel Time		\$53									
Jeffrey Lotter	Technical Services/C&I Subject Matter Expert		\$185								8	80
Gretchen Calcagni	Planning and Implementation Core Member		\$155			35				100	24	95
Clifford McDonald/ Matt Socks	Planning and Implementation/C&I Core Members		\$165									
Ralph Prah	EM&V Group Coordinator		\$175	158	199	158	138	138				
Ralph Prah	Travel Time		\$88	6	6	4	4	4				
Jeff Schlegel	Planning and Implementation Group Coordinator		\$170									
Robert Wirschafer	EM&V Core Member		\$180	55	40	40	35					
Eileen Zuckerman	Planning and Implementation Core Member		\$105									
Lori Lewis	EM&V Core Member		\$195	50	45	40	10					
Carol Lasky	Technical Services Subject Matter Expert		\$100							35		95
Anya Vedmid	Technical Services Subject Matter Expert		\$95							24		65
Margaret Lynch	Residential Group Coordinator		\$160									
Margaret Lynch	Travel Time		\$90									
Jennifer Chiodo	C&I Core Member/EM&V Subject Matter Expert		\$190	45	45	35	30					
Jennifer Chiodo	Travel Time		\$95									
Glenn Reed	Residential Core Member		\$180									
Glenn Reed	Travel Time		\$90									
TBD	Demand Response Application Expert		\$175									
Courtesy Moriarta	Residential Core Member		\$170									
Courtesy Moriarta	Travel Time		\$95									
LABOR TOTALS				314	305	312	217	142	160	207	40	323
				Hours	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount
				\$56,288	\$54,581	\$54,988	\$38,450	\$24,500	\$14,700	\$25,120	\$8,800	\$42,450
				Travel	\$2,000	\$1,000	\$1,000	\$1,000	\$925	\$925		
TOTALS				\$58,288	\$55,581	\$55,988	\$39,450	\$25,129	\$15,525	\$25,120	\$6,800	\$42,450