



## Project Descriptions - Protocol Development

### A. 2014 PROTOCOL DEVELOPMENT PROJECTS

#### PD14-1: Regional Energy Efficiency Database (REED) - Revised

The **purpose** of this project is to maintain/update the Regional Energy Efficiency Database (REED) to assure its continued value and use. The **deliverables** are an updated version of the REED website that includes program year 2013 data and potentially new report features and additional pieces of data, and an Annual REED Report. Tasks would include collecting program year 2013 data from the 9 participating Forum states, continuing to work with other EE data collection efforts (by CEE, LBNL, ACEEE and others) to use consistent definitions for key terms (such as program types), continuing to coordinate data collection with ISO-NE and exploring similar coordination with NYISO and PJM, ~~supporting air-regulators' data needs~~, and producing an Annual REED report based on the two years of available data (2011 and 2012). We would also continue to work with the REED subcommittee to identify and implement improvements to REED, including enhanced report features and collection of additional pieces of data (such as measure-level data). Given Base Costs budget shortfall, some of the REED budget is reallocated to Base Costs and scope reduced to address air regulator data needs but NEEP is actively pursuing funding for this from other new sources.

#### PD14-2: EM&V Methods

This **purpose** of this project is to address the Forum's on-going efforts to develop transparency and consistency in EM&V protocols, as they efforts continue evolve within the Forum and at the national level. This project was not explicitly included in the project survey as it was unclear at the time the survey was developed how the Forum might proceed on its efforts to develop greater transparency and consistency in state EM&V practices. Upon further consideration at NEEP and with input from Forum stakeholders and the Forum Steering Committee on a general strategy for the Forum in this area, this project will cover 2 discrete components/efforts: 1) Continue to provide input to national EMV protocol efforts, focusing on the US DOE Uniform Methods Project Phase 2 measures, and the American National Standards Board (ANSI) project to develop a roadmap for EE EM&V to identify existing standards/protocols and gaps (via the ANSI EE Standards Coordination Council); and 2) Continue with the development, and support implementation, of a Model State Standardized EM&V Reporting Form/Practices (in progress). The **deliverables** for these two efforts include: 1) periodic updates on national protocol efforts with written comments and input from NEEP with assistance/input from technical advisors and EMV methods subcommittee input; and 2) a draft and final model state standardized EM&V reporting form. A third area of interest is to develop guidance on approaches to reconciling Engineering and Billing Analysis results where differences exist (this project was proposed by CT and where other states indicated interest during a Forum planning advisory call in July 2013). Given budget shortfalls due to reduced participation by some states, this project will be considered for 2015.

#### PD14-3: Forum Support on ISO/RTO M&V Related Activities

The **purpose** of this project is to keep relevant Forum sponsors updated on ISO/RTO activities that have bearing on EE programs and to facilitate coordinated input from forum sponsors and tech advisors when public input is invited and appropriate. Examples of deliverables from past Forum work include comments on the FERC NOPR re: NAESB Wholesale M&V Standards, monitoring of changes to FCM or RPM capacity market rules/structures and impact on EE and data needs, and coordinating input to regional system EE forecasting assumptions. Due to the active growth of EE in the region, we anticipate a need for these types of Forum support going forward.

#### PD14-4: Mid-Atlantic TRM

The **purpose** of this project is to maintain/update the mid-Atlantic TRM to assure its continued value and use. The **deliverable** is an updated version - with measures added, deleted or modified as recommended according to the update procedure that has been developed. Tasks would include a systematic review of old measures and prioritization of changes needed. In addition, depending on subcommittee interest, the current spreadsheet calculator could also be updated, and/or development of an online TRM could be planned or initiated. Past update efforts have been funded at the \$50,000 level and have only been able to address 15 - 20 measures at a time. For 2014, we propose an increase in the budget to allow a more comprehensive and cost-effective review of measures and larger number of updates or additions, and to allow for a task that would develop a multiyear plan for identifying measures and research to fill gaps and other TRM related activities going forward. While research and analysis do consume over 50% of the current project budget, the balance of activities are relatively fixed, meaning that additional funding could be dedicated almost entirely to updates and characterizations. If the project budget were increased by 50% to 100%, double or triple the amount of measures could be addressed in a given update cycle. Looking ahead, this strategy would allow the subcommittee to build out a very complete TRM document in a year or two, possibly reverting to a maintenance mode at lower level of investment in 2016. The team has identified 18 residential measures and 74 commercial measures that could be added to the TRM with sufficient effort. These measures are fairly commonplace in well developed efficiency program territories.

#### PD14-5: Emerging Ductless Heat Pump Meta Study

The **purpose** of this project is to update Forum members on this rapidly evolving technology. The **deliverable** is a report updating any impact assumptions from previous studies with more updated information. Research on ductless HPs is being undertaken now and more is expected. New products (e.g. multi-head cold climate systems and integrated controls) are coming onto the market within a year. A report later in 2013 will include data from all the current research other than Vermont's (which is just getting started) and so there will be value to capturing info on new product evolutions, a meta-study would probably be best in 2015 or 2016 so that it can synthesize new, additional work.

#### PD14-6: Geotargeting Project

Geotargeting refers to energy efficiency programs designed explicitly to reduce generation, transmission and/or distribution capacity requirements in specific areas where congestion or resource constraints elevate energy costs overall in a state or region. The deliverable will be a paper that covers 3 areas of interest around geo-targeting programs:

- 1) The paper will first provide an update to a Regulatory Assistance Project (RAP) paper titled US Experience with Efficiency as a Transmission and Distribution System Resource (Feb 2012) by providing information about any new programs and/or lessons learned from existing geo-targeting programs in the US. (Note this project originally envisioned conducting the research largely covered in the RAP paper - the scope will be reduced to focus on updating the report with any new information since its publication).
- 2) Second, the paper will also document the EM&V practices around geo-targeting programs in terms of the flow of program benefits and costs (inter and intra-state/regional), and will provide guidance on EM&V practices in this regard.
- 3) Lastly, the paper will identify and discuss the limitations of geo-targeting in the absence of adequate regional planning or cost allocation infrastructure that would enable energy efficiency to respond to RFPs pertaining to T&D. The deliverable will provide high level recommendations and guidance. The purpose of this project is to begin to develop a foundation for policy makers and stakeholders to engage in further discussion and further advocacy around the value of geo-targeting in the context of T&D planning. Given the first part of this paper (inventory of geo-targeting practices) will be an update to the existing RAP report, the revised budget for this project (from \$85,000 to \$40,700 due to no NYSERDA funding) will likely be adequate to cover the scope. However, should there be interest in delving more deeply into the key issues, NEEP will explore additional funding (e.g., FERC, NESCOE).

## Project Descriptions - Research & Evaluation

### B. 2014 RESEARCH & EVALUATION PROJECTS

#### RE14-1: Loadshape Data Inventory and Catalog (Propose to Defer to 2015)

The purpose of this project is to leverage available loadshape data and identify priorities for future primary research. To accommodate the reduced budget, in 2014 this project will begin with a survey of Forum members to update the 2009 Catalog of load shape studies by identifying studies since 2009 that conducted metering. In addition, the project will identify data requirements and parameters (peak coincidence factors, equivalent full load hours, etc.), required by Forum members, and it will identify measures for which new primary loadshape research is appropriate in future studies (including 8760 savings loadshape profiles). The deliverable will be a report with findings and recommendations. Also, in accommodation of the budget, subcommittee members will prioritize the regions, end uses, and parameters that are of highest importance, and the prioritization what elements of the follow on tasks can be accomplished within the 2014 budget. The Forum will seek to address elements that are lower in priority either in a 2015 extension or by pursuing additional funding sources to supplement the 2014 cost allocation. The follow-on tasks to be undertaken in 2015 include: Providing links to the source data from studies that are included in the catalog for analysis and direct access by other potential users of the data; Review of existing loadshape data for applicability to meet Forum members' needs; an analysis of the source data will be conducted to produce the required parameters. Analysis may include compilation of multiple data sources and/or extrapolation of partial year data to 8760 profiles. The spreadsheet data and links would be updated (the EM&V Forum recommends doing this on an annual basis), as studies become available within the region. An assessment will be conducted to determine whether the spreadsheet format or some other database format is recommended going forward.

#### RE14-2: Measure Life Research (REVISED)

The purpose of this project is to improve measure life estimation in the region. The 2014 project is an extension (part b) of a 2013 project that was supported by MD, DC, CT, MA, RI, VT. The deliverable is a report with estimates of measure life for equipment replacement projects for one or at least two measure categories. Based on the results of the 2013 Project which has a limited budget and will begin in late summer (scope of this is described below), the 2014 project will be initiated to conduct in-depth surveys of program participants who qualified for early replacement incentives. The surveys will include samples of customers who elected to replace existing equipment and those who did not, in order to gain a better understanding of the factors that influence equipment replacement decisions. One or two major measure/end use categories will be investigated. (Note that this builds on the results of the 2013 results of a detailed survey of Forum Program Administrators to identify and characterize current programs or program elements that are designed to promote early replacement of existing equipment with more efficient equipment). The focus of the 2014 survey will be to describe the baseline assumptions and procedures employed to qualify measures for early replacement incentives and to determine energy savings, including assumptions or site-specific data pertaining to existing equipment life, new equipment life, and other information used to estimate remaining useful life or to qualify measures, such as the efficiency of the existing equipment. Baseline assumptions pertaining to future efficiency standards or other factors that determine the timing and efficiency of "normal replacement" will also be documented. The survey results will be used to provide an overview of current program design and baseline assumptions, identify specific research objectives and program participant populations that can be surveyed to advance those objectives. In 2015, an assessment will be conducted to review uses of measure life data in the region (FCM/RPM reporting, cost-effectiveness screening, etc) and to establish what empirical research on measure life is needed in the region.

#### RE14-3: Incremental Cost Research (REVISED)

As with previous Forum Incremental Cost studies, the purpose is to develop incremental cost estimates and cost curves (costs at varying efficiency levels) for measures and/or program types (gas and/or electric) beyond those previously studied. The deliverable will be cost curves and worksheets and a summary report for between 8-10 measures (an increased # of measures given proposed additional funding allocation to this project). The project will study incremental costs of common prescriptive measures, and of new/emerging measures, and update costs periodically as markets change. Unlike some other aspects of efficiency measures, data on costs of baseline and efficient measures can be difficult to obtain and are likely to be similar within sub-regional markets rather than obeying state boundaries. Development of cost curves rather than measure by measure estimates is more economical and flexible. The Forum is well-suited to apply a consistent analytical method across jurisdictions. Beyond 2014, changes in federal standards and codes and market penetration of technologies lead to changes in incremental cost, necessitating periodic review and update of incremental cost estimates. This project would update and/or add to the list of measures for which incremental cost estimates are available for the region, as appropriate.

#### RE14-4: Lighting Interactive Effects Research (Propose to defer to 2015)

The purpose of this project is to research, quantify and develop a prescriptive approach to the HVAC interactive effects of reduced wattage of common residential light measures using the methodologies used to develop commercial HVAC interactive effects related to commercial lighting measures. The project will not conduct any measurement; the deliverable will be a common set of interactive factors for demand and energy savings based on typical HVAC systems, the most update to date efficiencies and run times for common residential lighting measures using accepted engineering methods. The research will focus on market penetrations of various HVAC technologies, building shell characteristics and runs times for both the lighting and HVAC measures impacted.



## Forum Base Costs Services - Summary

FORUM BASE COSTS: OPERATIONS, PROJECT MANAGEMENT, AND EDUC & INFO ACCESS	
<u>Forum Operations</u> <ol style="list-style-type: none"><li>1. Plan and facilitate quarterly Steering Committee, Project Committees meetings</li><li>2. Plan and develop Forum multi-year agenda and budget</li><li>3. Secure Forum revenues from states/grants</li><li>4. Serve as fiscal agent / Forum accounting/invoicing</li><li>5. Maintain Forum operational policies, protection of confidential information</li></ol>	Brings state EE stakeholders together on regular basis - from commissioner to staff level - to exchange data, experience, and build transparent and common best practices for EM&V
<u>Forum Project Management</u> <p>NEEP management of third-party contracts and projects; Forum technical advisors</p>	Provide project management and expert technical input to development of RFPs and SOWs, review of draft and final project materials, manage and facilitate project subcommittees
<u>Education &amp; Information Access</u> <ol style="list-style-type: none"><li>1. EM&amp;V library of studies/research and other EM&amp;V resources</li><li>2. EM&amp;V Forum website</li><li>3. Forum 2014 Annual Public Meeting</li><li>4. Forum communications (monthly updates, quarterly newsletters, social media)</li><li>5. Outreach/interface with key Forum stakeholders (ISOs, RGGI, EPA/DOE, NGOs)</li><li>6. Outreach to states to support state use of Forum products</li></ol>	Provides information to range of interested stakeholders about Forum's purpose and work; provides access and updates to relevant and useful EM&V studies and resources; provides opportunities for Forum members to connect and exchange information and data with Forum members