



**EM&V Forum Project Committees Meeting
February 11, 2009 Meeting Minutes
Teleconference/Webcast**

Participants:

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* Denotes Project Committee co-chair

Meeting Action Items:

1. NEEP to propose formal process for review and comment of EM&V Forum draft materials e.g., post materials for review at a minimum one week prior to committee discussion
2. Glossary of Terms and Definitions Project. Final comments from Project Committee members are due February 13, the project subcommittee will review comments and make final changes to the document, and send to the Steering Committee with recommendation to adopt prior to March 18 Steering Committee meeting.
3. EM&V Methods Project follow up:
 - Project subcommittee to ensure that bias, in addition to precision/accuracy for sampling, is adequately addressed in SOW.

- Project subcommittee to explore purposes/criteria to identify priority measures for surveying savings assumptions and algorithms, and determine whether this should be addressed by contractor and/or guided by Forum Steering Committee
 - Project subcommittee to review project budget.
 - Project subcommittee to address in more detail how states will use project outputs/recommendations. Ralph Prah (consultant to MA DOER) and Larry Pakenas (NYSERDA) to participate in project subcommittee to help inform above issues
4. M&V Protocols in Wholesale Capacity Markets. The Forum will continue to coordinate stakeholder input into respective PJM and ISO-NE M&V discussions as well as coordinate input across the ISO-RTO regions where appropriate, importantly on precision/accuracy and measurement equipment specifications.
 5. NAESB wholesale demand response protocols. NEEP to post NAESB wholesale demand response best practices framework on Forum website.
 6. Common Reporting Guidelines Project follow-up.
 - NEEP to discuss project with co-chairs and interested stakeholders regarding statement of value and opportunities prior to discussing with Steering Committee in March.
 - Pam Stonier (VT DPS) and Mike Sherman (MA DOER) volunteered to serve on subcommittee for this project. Julie Michals to recruit others (air regulatory representatives) as well and convene subcommittee call in early March.
 7. Mid-Atlantic Common Savings Assumption Project. NEEP to convene mid-Atlantic stakeholder discussion to scope project and next steps.
 8. Information Access Committee. With departure of Don Flynn at CL&P as co-chair, NEEP to find a replacement to co-chair with Mike Sherman (current co-chair). NEEP will begin addressing Information Access projects in the Spring 2009.
 9. NEEP to share updated Forum cost allocation that includes District of Columbia.
 10. NEEP will update the GotoMeeting (Webcast) license to allow more users to participate.
 11. Next Quarterly Project Committees meetings: May 21, 2009, September 17, 2009 and December 10, 2009. These will likely be in-person with teleconference/webcast option. Locations TBD.

2. Meeting Introduction and Updates

Julie Michals opened the meeting at 10:00 am and welcomed participants. Participants who weren't able to log into the Webcast side were asked to state their names, and to view documents directly posted to the EMV Forum website. Ms. Michals began the meeting with an introduction to the new NEEP EM&V Forum Associate, Vivian Myers.

An update of the commitments to the Forum participation and funding was provided. Ms. Michals welcomed a new Forum member, the District of Columbia. The Forum cost allocations will be updated as a result of this new member. Taresa Lawrence and Lance Loncke represented DC at today's meeting.

3. EM&V Forum Glossary of Terms and Definitions (Project #A1)

Ms. Michals began the discussion in preparation for the Steering Committee meeting on March 18, the formal process for feedback on the EM&V Glossary of Terms and other products was discussed.

Gail Azulay (subcommittee co-chair) reviewed the process used to develop the glossary. The project was completed with leveraged funding and was developed by a contractor and the subcommittee. The glossary is based on the NAPEE action Plan's glossary and other documents. The draft was distributed to all EM&V Forum members for review on February 3, 2009 and the entire draft including acronyms was posted on the EM&V Forum website (http://www.neep.org/policy_and_outreach/EMV.html) on February 6, 2009. Comments received prior to Feb 10 were also posted.

The strategy for developing the glossary focused on energy efficiency EM&V terminology but includes other terms considered potentially relevant, e.g. air regulatory terms. The definitions are high level, intended to convey the general concept. They do not address how the general concepts are implemented. As the Forum develops agreement on methods, algorithms, etc., the definitions may be expanded to reflect Forum decisions.

The next steps for the glossary include submitting a request to the EM&V Forum Steering Committee to approve the final document after which it will be posted on the Forum website and also published as a hard copy as needed.

A glossary updating process will be established and implemented. The process will include instructions on how the subcommittee collects new terms and suggests revisions. A minimum annual periodic meeting is suggested to update the glossary. Updated versions would be appropriately labeled and posted. The updates may include additional terms as well as expanded definitions. Gene Fry asked to add 4 to 5 terms to the glossary. Gail Azulay stated that the deadline for submitting comments on the glossary is February 13. The glossary subcommittee is meeting on February 19 to finalize the glossary. Bill Saxonis stated that an annual update seems reasonable, but suggested that if something is clearly not right in terms of errors etc, an opportunity for corrections should be made available. Jeremy Newberger asked that a date be associated with the update process e.g. all updates must be received by "X" date for inclusion the revision for the "X" year so the Steering Committee members and other Forum members know when to submit comments. Pam Stonier suggested that typos be corrected sooner and that the glossary be identified by a revision number.

4. Common EM&V Methods and Savings Assumptions (Project #A2)

Julie Michals introduced the project discussion focusing on the draft Scope of Work (SOW) outline that was circulated for review, and next steps to develop a full SOW and Request for Proposal (RFP). David Jacobson (subcommittee co-chair) presented the project overview and SOW outline (see ppt presentation at http://www.neep.org/EMV_Forum/ProjectCommittees.html#committee).

Discussion: Chris Neme inquired how persistence is defined in the case of developing common methods to determine measure life/persistence. He noted that for Vermont, persistence and installation rate are lumped in together. Dave Jacobson acknowledged that PAs define persistence differently. Carol White confirmed that it may not be possible to separate persistence and installation rates in all cases.

Carol White also noted that we are thinking about "E", "M" and "V" separately in this project – measure initially, verify out there and evaluate savings – so that we get information on all three of these pieces, but in practice it can be difficult for all cases. It is likely the recommendations will allow for alternative approaches and differences between programs to allow new improved practices as they evolve.

Ralph Prahll asked if precision and accuracy include bias or only sampling. He suggested that the analysis include looking at broader reference precision and bias as bias is important and should not be overlooked. Julie Michals responded that the expectation is that bias will be addressed. Julie Michals asked Ralph Prahll to participate in the next subcommittee call to help inform this element of the SOW.

Ralph Prahll further asked if the Forum is going to look at all program administrators in its review of savings assumptions and algorithms, and whether we need to pin down priority measures up front or include them as a phase of the project. Is criterion only to focus on measures that make up larger % of savings, or should project address measures where values are lacking? Criteria for selecting priority measures will define emphasis of project. Dave Jacobson noted that subcommittee can ask the project contractor to identify priority measures but this will add time to the project.

Other comments on priority measures included that HVAC should include small C&I; whether residential A/C should be included (even though it doesn't represent large % of savings); and when considering fossil fuel heating, need to think about water heating separate from other heating. Regarding whether only prescriptive measures will be addressed, or custom as well (at least in terms of algorithms), Dave Jacobson noted that if an algorithm has been developed for a measure, then it essentially is prescriptive. (This requires some clarity/definition for custom vs prescriptive).

Chris Neme suggested that the project look at assumptions, hours of use, differences from retail sales, direct installs, installs from builders and programs design. He further stated that it should not look at the measures from all the markets as it could be misinterpreted. Also, the issue of incremental costs is important, and Chris Neme hopes to add this issue to the Forum future agenda. Elizabeth Titus stated that we are aware that incremental cost is of interest and that this will be included in future EM&V agenda.

Mary Straub asked if one of the outputs be energy savings estimate for use in the forward capacity market. Julie Michals responded that this project was not aiming to develop common assumptions (there is a separate Forum project focused on this for Mid-Atlantic states) but that the contractor would be asked to determine if common

savings assumptions are needed in certain areas that make sense. David Jacobson stated that the output may be used for forward capacity market for those utilities that haven't developed their own M&V.

Dimple Gandhi asked about how the budget for Parts A&B was arrived at, to which Julie Michals responded it was a best estimate developed by NEEP last year, although there were some concerns expressed back in September by Project Committee members that it may be too low (at least for Part B).

Larry Pakenas asked if the budget could be discussed at the next subcommittee meeting.

A Forum participant requested that the Project output, and how states will use them, should be discussed by the subcommittee in more detail.

Action items:

- Project subcommittee to ensure that bias, in addition to precision/accuracy for sampling, is adequately addressed in SOW.
- Project subcommittee to explore purposes/criteria to identify priority measures for surveying savings assumptions and algorithms, and determine whether this should be addressed by contractor and/or guided by Forum Steering Committee
- Project subcommittee to review project budget.
- Project subcommittee to address in more detail how states will use project outputs/recommendations.
- Ralph Prah (consultant to MA DOER) and Larry Pakenas (NYSERDA) to participate in project subcommittee to help inform above issues.

5. M&V Protocols in Wholesale Capacity Markets (Project #A4)

PJM Interconnection M&V Manual Development

Julie Michals provided an update on the mid-Atlantic stakeholder comments to PJM on the draft M&V manual, including coordination with New England states and outreach to ISO-NE on proposed changes to Measurement Equipment Specifications. PJM is in the process of developing an M&V manual for EE resources participating in the wholesale capacity market, to be completed by May 2009. The EM&V Forum submitted comments on PJM's draft M&V manual on January 23, 2009 and supplemental comments were submitted on February 11, 2009. The comments to PJM have focused primarily on: baseline conditions, statistical significance, and measurement equipment specifications. In the case of statistical significance PJM has proposed a 90/10 confidence and precision level. The EM&V Forum stakeholders have recommended an 80/10 level based on the rational used in ISO-NE discussions and adoption of such standard. The Forum sent recommended measurement equipment requirements language changes to PJM and also to ISO-NE. These recommendations are to be discussed with PJM at a February 12, 2009 meeting. It is unclear as to how or when this will get addressed with ISO-NE.

Elizabeth Titus stated that Measurement Equipment Requirements recommendations made to both PJM and to ISO-NE included 4 changes to proxy variables plus or minus 2% sources; remove this requirement as precision and accuracy are covered elsewhere in the manual. Proposed modifications to the other three areas, asked for everything that was considered to be improved upon. Elizabeth noted that changes the ISO-NE manual must go through a formal ISO amendment process.

Julie Michals asked for input on how best to align these two manuals and what would be the implications of having two statistical significance levels: 80/10 and 90/10. Colleen Orsburn stated that she is more concerned about whether it is 1 or 2 tailed. 90/10 may be OK if 1 tailed. Mike Sherman stated that he could see ISO-NE adopting PJM's approach but suggested that the Forum try to maintain a strong position in support of an 80/10 level. Ralph Prah stated that a collaborative studies suggest that meeting 80/10 can be challenging even at a regional level. Carol White stated that we need to think about the reality that adopting this standard holds EE to a higher standard than traditional supply options and this may not be appropriate.

North American Energy Standards Board M&V Project. A vote was taken on December 2, 2008 by NAESB members to adopt Best Business Practices for a Framework for Measurement and Verification of Wholesale Electricity Demand Response. NAESB is now focusing on retail Demand Response M&V best practices. NAESB will possibly then turn to EE EM&V protocols (at least for wholesale markets) in the spring of 2009. It is unclear which agency (NAESB or NAPEE) will take the lead on such an effort.

Action Items:

- The Forum will continue to coordinate stakeholder input into respective PJM and ISO-NE M&V discussions as well as coordinate input across the ISO-RTO regions where appropriate, importantly on precision/accuracy and measurement equipment specifications.
- NEEP will post NAESB's Best Business Practices for a Framework for Measurement and Verification of Wholesale Electricity Demand Response on the EM&V Forum website.

6. Common Reporting Guidelines Project (Project #A3)

Julie Michals lead the discussion starting with the purpose of the project is to develop consistent reporting of electric and natural gas EE savings, costs, and emission impacts in the region to inform multiple energy and environmental policies. The approach will be to survey existing reporting requirements used in the region and coordinate with current developments in states (e.g., NY, MA & MD) to identify key common reporting elements and definitions. A subcommittee is to be formed to develop the scope by the summer of 2009. The initial budget estimate for this project is \$132,000.

Carol White asked Mike Sherman (MA) and Bill Saxonis (NY) to comment on this project given efforts underway in those states on reporting protocols. Mike Sherman stated MA would not be able to comment for some time because this issue is before the PUC now. Bill Saxonis said he would be willing to help out on this effort. New York is working on Phase 1 of developing reporting protocols and is meeting with an advisory group. Its reporting process will ultimately be web based (Phase 2), and they are looking at the California model. Bill stated that interest in reporting GHG reductions provides more opportunities for coordination.

Carol White indicated concern that reporting requirements will be different in NY vs MA which is not ideal. Julie noted that the purpose of the Forum project is specifically to identify common reporting elements, and that such guidelines would not be in addition to state reporting requirements. Julie also noted that in addition to PUC and PA needs, common reporting guidelines are important to air regulators in the region for GHG and NO_x reporting purposes. In the context of RGGI, for example, stakeholders are interested in developing common reporting for EE savings that result from EE investments paid by RGGI allowance proceeds. Julie agreed to contact RGGI stakeholders to learn more about this.

Julie asked who would be interested in participating in a subcommittee. Pam Stonier (VT DPS) and Mike Sherman (MA DOER) volunteered. Julie will recruit others as well and convene subcommittee call in March.

Jeremy Newberger asked if there are different reporting formats for each state, is it important to pool the data? Also, many states are proceeding with developing reporting requirements, and they won't make changes after these are defined. He suggested that we don't insert the EM&V Forum in the process. Julie Michals stated that she will go back to the co-chairs to discuss this priority project before taking it to the Steering committee. She stated she might not be making the value of the project clear to this group and she would discuss this with the co-chairs. We may need a more concrete statement of value, proposition and opportunities.

Action Items:

- NEEP to discuss project with co-chairs and interested stakeholders regarding statement of value and opportunities prior to discussing with Steering Committee in March.
- Pam Stonier (VT DPS) and Mike Sherman (MA DOER) volunteered to serve on subcommittee for this project. Julie Michals to recruit others (air regulatory representatives) as well and convene subcommittee call in early March.

7. Common Savings Assumptions and Algorithms (Project #A5: Mid-Atlantic states)

Julie Michals stated the purpose of the project is to develop a Technical Resource Manual (TRM) for mid-Atlantic states to include savings assumptions, input parameters and algorithms for priority end-use measures to support calculations of gross evaluated (and net?) savings for the purpose of planning and tracking against state goals, supporting PJM M&V Plans, and supporting environmental regulations. The overall approach would be to develop an initial TRM building on existing available data within the region and other available data as applicable. This is a fast-track project, identified with an immediate priority. The subcommittee had an initial high level discussion in

2008 and will resume discussion on the project scope and timing ASAP. The Forum could issue an RFP in early Spring 2009 if stakeholders agree to pursue this project. The Forum's initial 2009 budget for this effort is \$110,000.

Action Items:

- NEEP to convene mid-Atlantic stakeholder discussion to scope project and next steps.

8. Loadshape Study Phase 1

Elizabeth Titus provided a project status report. An RFP was issued and KEMA was selected as the contractor, the project kicked off in January 2009. Niko Dietsch is the committee's chair person; we are seeking one or two other volunteers to chair this committee. A teleconference with interim results is planned for March 2009. The final report is due in May 2009. There are two coordinated subcommittees, one for the Northwest Planning Council and one for the EM&V Forum. The funders for this project include the New England states, LIPA, NYPA, New Jersey and Delaware.

The project has developed a review list of measures and end uses. The contractor's next steps will be to look for load shape data, and interviewing key informants for usability indicators. The purpose of the project is to find and catalog available datasets, which will be assessed to determine what purposes they can serve, identify gaps of knowledge and usability for EE providers, air regulators, and wholesale capacity markets. A summary of the project was distributed to the project subcommittee on February 11, 2009.

Mary Straub asked if we are going to use existing data or get more metering data by putting more meters out there, and whether this data will be accessible. Elizabeth Titus responded that results from Phase 1 will be accessible, and will identify existing data, while Phase 2 will try to get data to fill gaps identified by Phase 1 of the project.

9. Commercial Lighting Measure Life and Persistence Study

Elizabeth Titus provided an update on this project. The subcommittee includes participants from New England and NYPA, and they have had several conversations. The purpose of the project is to develop up-to-date impact parameters that describe lighting measure persistence, i.e. in place and operating over multiple (5+) years based on field and survey samples. The project will also develop equipment life estimates from secondary sources (manufacturer reports). The scope of work and RFP will be finalized in the Spring of 2009 once the EM&V Forum participation for 2009 has been confirmed. The Forum is still pursuing decisions from a few large states and organizations (NY, MD) regarding participation. The value of this project to sponsors is that commercial lighting is the largest source of savings for most EE providers in the region. Multi-year persistence lends itself to regional study because the research is difficult, expensive, and measures are consistent across locations. Persistence results will likely be presented at the ISO, New York and PJM region level. This is a large project and being able to determine the sample population will have a large bearing on the scope.

10. NAPEE National EM&V project

Jeremy Newberger of National Grid provided an update on this project. The NAPEE Leadership Group met on January 5, 2009 and identified EM&V as a priority issue for 2009. An EM&V Work Group was convened and held a teleconference at the end of January 2009. EPA's project objectives include identifying near-term steps to ensure current EM&V protocols are understood and used by state commissions, utilities and local governments. They plan to explore a bottom up approach to EM&V but have to determine if this is workable in a new environment of ramped up EE funding. EPA plans to guide exploration and development of improved EM&V approaches in the next year, and to lay the groundwork for developing national EM&V protocols. Their next steps are to convene an expert working group, develop a draft work plan to identify priorities, discuss cost/rigor and alternative options.

Jeremy Newberger, Niko Dietsch, and Mike Sherman attended the January 2009 NAPEE Leadership Group meeting, and all participated in the January Working Group teleconference (with Julie Michals). Jeremy indicated that California Commissioner Dian Grueneich is largely driving the national protocols concept, on the basis that the EE paradigm has changed and there is a need for national protocols. Jeremy recommended to EPA that this effort needs to understand what is going on regionally and by state M&V practices and protocols. This is a good role for the EM&V Forum. There should be some research on how each state regulatory framework is set up. To a great extent M&V is influenced by regulatory framework, and there may be value to identifying the gaps in both regulatory frameworks and where M&V protocols could be improved. Attribution is an issue in California, but not

necessarily the same issues are relevant elsewhere. Jeremy suggested that there might not be any national EMV protocols from this effort. Julie Michals stated there is a benefit to know what is going on in all states. She suggested that the Forum could speak to what the Northeast/mid-Atlantic is doing.

Niko Dietsch (US EPA) stated that he agrees with Jeremy's observation, this effort may be farther down the road, and national protocols are not a foregone conclusion. The EPA is interested in meeting longer term needs of regulators. The EPA perspective includes consideration of efficiency resource standards and the possibility that building codes can play a larger role in portfolios and the need for more states to come on board. Denise Mulholland of the EPA is leading this effort.

10. Action Items and Next Steps

Julie Michals reviewed the action items from today's meeting.

The following quarterly Project Committees meeting dates were noted: May 21, 2009, September 17, 2009 and December 10, 2009. These will likely be in person meetings with teleconference/webcast option. Locations TBD.

The meeting adjourned at 3:30 pm.