

**Massachusetts Department of Public Utilities:
Electric Grid Modernization Steering Committee Meeting #1
Monday December 17, 2012
Foley Hoag, 155 Seaport Blvd., Boston (13th Floor)**

DRAFT Meeting Summary

65 people comprised of Steering Committee representatives, alternates, and other interested stakeholders attended the meeting which began at 9 and ended shortly after 5.

Please see the [website](#) for the meeting agenda and all the PowerPoint presentations used during the meeting.

Below is a high-level summary of the meeting. Appendix A contains running notes from the meeting (unedited), and Appendix B contains the meeting attendance.

9:00 Welcome—MA DPU Commissioners

Chair Berwick and Commissioner Cash welcomed the attendees and thanked them for their participation. They stressed a need to make time for Grid Modernization, and to address cross-cutting issues in order to lay a foundation for paths we will be able to go down in the future.

9:10 Introductions, Overview of Working Group Process, Groundrules for Steering Committee, and Agenda Review—Dr. Jonathan Raab

Dr. Raab, as the facilitator, welcomed attendees and reviewed the day's agenda. Dr. Raab also discussed the working group process overall and the ground rules for the Steering Committee. After Dr. Raab spoke, the Committee discussed the groundrules and agreed to adopt all the groundrules as written, with the following additional caveats and understandings:

- Differences of opinion on recommendations, if any, will be included in final report with explanations and indication of who supports which options
- Members will be given ample opportunity to review and approve language in final report before its submitted to the DPU
- Several parties expressed an interest in being able to provide the DPU with comments on the final report, after it is filed with the DPU.
- DPU has not identified all steps after report is filed, so group can help provide recommendations of process-related next steps as part of its final report
- A new groundrule needs to be added that specifies whether or not and how members can submit additional comments to the DPU once the Report is filed. (Dr. Raab took input on this point and agreed to draft an additional groundrule for consideration by the members at the next Committee meeting)

9:50 Opportunities / Challenges from Grid Modernization

- Present results from the Kick-Off Workshop

- Discuss: What are the top priorities and goals of the different stakeholders for electric grid modernization?

Dr. Raab presented the results from the November Kick-Off Workshop, describing the top 3 opportunities/benefits and challenges/barriers related to Grid Modernization across the 12 facilitated break-out groups. Steering Committee members then introduced themselves and presented their thoughts on Grid Modernization, and explained why their organization was participating. Areas of interest and topics of discussion included:

- Increasing resilience and reliability of the electric grid
- Deployment of clean energy technologies, renewables, and DG
- Improvements in grid capacity and storage
- Integration of electronic vehicles
- Potential for CHP
- Address customer needs and incorporating social costs into regulatory framework
- Increase options for customers, utilities, and system operators
- Opportunities to reduce costs for customers
- Creating opportunities through new technologies

The Committee members then agreed that it was worth some time at the next meeting to develop a goal statement for grid modernization, and to better define the problems in need of fixing and opportunities that could be better captured (today or in the future) through grid modernization. This would include fleshing out the concepts of enhancing reliability and customer opportunity. For the latter, one Member offered some starting text generally supported by the Committee as follows: “*Increased opportunity for enhanced information to support supply and demand based products and services to enable greater customer control of their electricity.*” (See additional discussion on this topic under the 3:30 discussion below.) The facilitation/consulting team agreed to draft some text based on the Member comments, for discussion at the next Steering Committee.

10:30 **Break**

10:45 **Appropriate Cost-Effectiveness Framework for Analyzing Grid Modernization**

- DOE/FERC DR Framework—Tim Woolf
- DOE Smart Grid Cost/Benefit Framework—Bernie Neenan, EPRI
- Other C/E Applications— Phil Hanser & Sanem Sergici, Brattle Group; and Melissa Chan, Navigant
- Discussion among Steering Committee members

Tim Woolf from Synapse Energy Economics provided an overview of cost-effectiveness issues and discussed recent studies for DOE/FERC of cost-effectiveness for demand response and energy efficiency. He noted that the way you test for cost-effectiveness depends on the perspective you take. Various cost tests, such as the RIM, PAC, TRC, and Societal Cost test may be used.

Bernie Neenan from EPRI discussed cost and benefit analysis, noting design principles such as counting all benefits, but only once. He also touched upon ways that CBA for a Smart Grid project is different, and stressed that one must prove the impacts of a technology before we can begin talking about the associated benefits. Mr. Neenan described the “process flow” that EPRI and DOE use to assess benefits, including the concept of separately identifying (1) assets; (2) functions; (3) impacts; and (4) benefits. He also presented the key categories that EPRI uses to characterize the many benefits of smart grid (see slide 10).

Melissa Chan from Navigant discussed the DOE-EPRI smart grid benefits framework and provided an overview of the DOE Smart Grid Investment Grant Program. She noted primary focus areas of analysis, which include customer response to time-based rates, O&M savings from advanced metering, O&M savings from distribution automation, distribution system reliability, and energy efficiency in distribution systems.

Phil Hanser and Sanem Sergici, both from Brattle Group, presented the *iGrid* model for quantifying costs and benefits of AMI. The *iGrid* framework looks at four utility prototypes and four customer segments in assessment of impacts and costs/benefits. Mr. Hanser and Ms. Sergici also discussed the issue of avoided capacity, and how to appropriately value it given that the market price might not be the true marginal cost. They also noted the importance of perspective when setting a discount rate, pointing out that the ATWACC may not be appropriate from a societal prospective.

Following the presentations were questions and discussion among Committee members and with speakers. Topics included:

- Challenges of quantifying avoided capacity benefits
- Accounting for changes in operations due to new technologies
- How to cost-justify hardening the system
- How or whether to apply benefit-cost analysis for grid-facing issues
- Issue of short technology lives making analysis difficult (e.g., one method only assumes 3 year lifetime)
- How do we model risk?

12:30 **Lunch**

1:45 **Aligning Utility Rate Making w/Grid Modernization Goals**

- Rate Making Options –Paul Centolella, Analysis Group
- Great Britain’s RIIO Framework—Peter Zschokke, National Grid
- Discussion among Steering Committee members

Paul Centolella from Analysis Group discussed various rate making options and encouraged attendees to think in terms of strategies and goals rather than a specific technology. He discussed encouraging investment and efficiency gains together, and making sure that benefits flow back to customers. He stressed the role of innovation, and the need to incent it going forward.

Peter Zschokke then presented Great Britain’s RIIO Framework for capital investments, and the role of Ofgem and the utility. He indicated a need to focus on the long term for utilities, and to encourage longer term thinking about investments and de-carbonizing the electric sector. Mr. Zschokke also noted that the EE paradigm in MA is somewhat similar to RIIO.

Tim Woolf of Synapse reminded the Steering Committee that the MA EE regulatory framework, developed over many years, and including performance incentive, cost recovery, and even decoupling may have some applicability to a broader grid modernization regulatory paradigm.

Following the presentations there were questions and discussions among Committee members, touching on topics such as:

- Regulatory models that can “make things happen”
- Studies on the impact of dynamic pricing on less sophisticated customers and low income customers
- What elements of RIIO are appropriate for MA?
- The use of FM bandwidth to broadcast information (e.g. prices)
- Identifying goals and taking baby steps, while avoiding sweeping regulatory changes
- Identify what is important/valuable to customers and how to engage them
- Additional clarification of the regulatory process in Great Britain and its potential transferability to the U.S. regulatory system

3:50 **Break**

4:00 **Stakeholder Discussion: Regulatory Policy & Electric Grid Modernization**

- How do existing DPU policies support and/or hinder grid modernization?
- What DPU policies need to be adopted or modified to support grid

Steering Committee members engaged in open discussion regarding goals of grid modernization. Questions and comments touched upon the topics of reducing usage at peak, responses to storms/outages, the ability of the grid to self-heal, and reducing the cost of DG. Some members expressed a desire for a cleaner and lower cost energy system, and for new technologies to be able to compete with existing technology. There was also discussion regarding the prioritization and optimization of investments. Other issues addressed were:

- Identify what the grid is not doing that we’d like it to do
- Giving customers more direct, real-time information of how they use energy
- The issue of lost opportunities rather than addressing “something broken”

As mentioned above, the Committee agreed to return at this topic at the next Steering Committee in the form of trying to draft a goal and opportunity statement.

4:30 **Review Workplans/Agendas for Subcommittees**

Dr. Raab discussed the upcoming customer-facing and grid-facing subcommittee meetings, and opened the floor to suggestions in terms of content and potential speakers.

Regarding the customer-facing, some members questioned why there was so much focus on AMI at this stage, without clearer understanding of long-term goals . Other members stressed that interoperability should be discussed. Another topic suggested was time-varying rates, and the issue of competitive rate setting versus regulatory rate setting. Potential speakers mentioned were Tendril, Itron, Sentinal Works and Ambient on metering/data communication issues, and IREC on state pricing and metering issues. There was also some interest in discussing the smart grid pilots at some point. On the grid-facing side, there were suggestions to discuss the value of improved reliability, as well as having utility companies discuss the process of their planning and investment decisions. Regarding whether it would be better to have outside experts or steering committee members discuss long-term (10-20 year vision) of the grid, members were interested in getting outside experts if they could be identified and secured, but indicated a slight preference for having groups of steering committee members present their views (e.g., utilities and clean energy groups).

4:45 Next Meeting Agenda and To Do List

Dr. Raab sought input from members on the next Steering Committee meeting. There was mention of looking at utility company “wish lists,” and examining what they would do in a different regulatory environment. Other suggestions included maintaining a focus on the goals and opportunities and addressing cost issues. Some members also noted a need to start having a discussion about options and where agreements exist as our time is limited.

5:00 Adjourn

To Do List:

- 1) Draft Meeting Summary—Raab with DPU Staff
- 2) Prepare agendas for initial Subcommittee meetings, and next Steering Committee meeting—Raab/Synapse
- 3) Line up speakers for next meetings—Raab/Synapse
- 4) Post Steering Committee documents including background documents—Raab/Synapse
- 5) Draft new groundrule on filling comments for Steering Committee Review—Raab/Synapse
- 6) Draft goal, barrier, & opportunity statement for Steering Committee Review—Raab/Synapse

Appendix A: Running Meeting Notes (unedited)

9:00 Welcome—MA DPU Commissioners

- Ann says thank you: Grid mod is in category of not urgent but important – hard to make time for, but if we don't we won't move the commonwealth forward in the direction we want to move in
- Aggregate knowledge and wisdom to deal with cross cutting issues that will be important to address
- David also says thanks: impressive group; breadth of expertise is exciting as our problem is complicated set of integrated issues that can only be solved by varied expertise and experience represented here – interwoven issues we need to make wise decisions on
- Lay foundation for paths we will be able to go down in future – can't overstate importance of what we're doing

9:10 Introductions, Overview of Working Group Process, Groundrules for Steering Committee, and Agenda Review—Dr. Jonathan Raab

- see slides
- Q/comment: Very complicated and technical issues, and all have different understanding...important to stay on schedule, but education piece should go up until end
- Q/comment: post materials a few days before meetings to absorb...also, perhaps drill down more into grid versus customer facing to get better understanding
- Q/comment: are subcommittees seeking consensus to bring to steering, and what do we mean by consensus? A: see how much support ideas have, noting where there is divergence and what options are.
- Discussed makeup of steering committee and subcommittees
- Q/comment: how will discussions of cost effectiveness make it into subcommittees? A: subs will not work a lot on cost effectiveness, try to minimize repetition, but may apply framework later on
- Ground rules discussed
- Q/comment: to what extent do we bind ourselves to not commenting on our own reports? A: if there is difference of opinion, it will be in report with explanation...then next steps will be determined by DPU
- Q/comment: there should be opportunity for steering committee members to comment, even if its an endorsement of details of the report or different framing perspective – wouldn't be appropriate to not allow comments A: this has flavor of settlement process where comments wouldn't happen
- Q/comment: AG agrees about ability to comment, important to voice any concerns and offer alternative proposals, but assuming DPU will allow comments on final report A: perhaps way to solve is wait until DPU asks for comments, and then comments should be consistent with views that individual presented for report
- Q/comment: given nature of inquiry and number of proceedings, it seems difficult to limit comments generically A: DPU hasn't yet identified what it will do after

report is filed, so group can help provide view and ideas of what should happen after

- Q/comment: if members say they support something, they are making important commitment, something that deserves good amount of consideration – for purposes of report, make sure you support a recommendation you are making A: write another groundrule perhaps
- Q/comment: concern that there is strong community outside of the table that will be restricted to a sound bite or two that we can add to discussion – will there be formal way of injecting thoughts on process from outside members? Why do we need a regulated activity? A: non-formal members can comment, and DPU will have proceeding afterwards that will allow for outside comments
- Q/comment: discuss more about review of report and getting to sign-off, as it will be a huge undertaking A: thought is that report will be a roll up of what we're doing together for last 6 months...shouldn't be a surprise, and meeting summaries will capture what has been happening so meeting summaries will look like report draft language – we won't submit a report that members haven't signed off on
- Q: how can members from November meeting be heard and be involved? A: kept informed via list-serve and website

9:30 Opportunities / Challenges from Grid Modernization

- Present results from the Kick-Off Workshop
- Discuss: What are the top priorities and goals of the different stakeholders for electric grid modernization?
- introductions and thoughts on GridMod, info on why each group is here
- enhanced reliability, increased opportunity for DG, and better regulatory framework to foster grid mod planning and investment (benefits)
- potential costs, cost-effectiveness, and incentives/cost recovery for utilities (concerns/barriers)
- interest in customer side, developing best practices
- advance grid mod to lead to energy efficiency, renewables, etc
- interest in facilitating deployment of clean energy technologies to benefit of customers
- interests in DG and utility scale solar, renewable integration,
- figure out next steps to approach in best way possible
- concern/interest focused on customer empowerment, dynamic pricing, changes in behavior, etc
- interest in improvement of grid capacity, finding cost effective ways of evaluating improvements to grid
- interest in defining objectives of what we're trying to achieve – we need to all be on the same page of what outcomes we want, and how to measure objectives
- concern/interest is reliable and least cost service for customers
- interest in grid management services to integrate electronic vehicles
- getting most benefit from investments, and making smart energy decisions
- resiliency of infrastructure and potential for CHP, and creating reg environment where social costs are incorporated
- data network aspect of smart grid

- interest in grid facing – concern that as smart grid process evolves that it addresses both interest of individual consumers as well as societal ability to approach customers that have load that could potentially make a difference, reach out to customers in a smart way
- increasing resiliency or grid through DG
- more value to customers and more efficient usage of grid, lower costs, move market into individual homes, etc
- benefits/opps for DG, and interest in behavioral programs where customers can take active role in saving energy
- provide services to customers like we've never provided before, through new technologies and opportunities, in a way that is fair to individuals and all customers
- comment: we need to drill down on goals, and interactive affects
- comment: where does removing barriers fit into this?
- comment: is there difference between reliability and resiliency? Desire to hash out and drill down more
- comment: one thing that might be missing is opportunity to reduce costs for customers, both individual and system wide basis
- comment: broadening second benefit might be important – recognize that costs matter and think broadly
- comment: we should increase options for both customers and utilities and operators of system – creating options for deployment of technologies
- comment: need to look at rate design, DP, etc, that lets customers take advantage
- comment: enhance customer utility relationships

10:30 Break

10:45 Appropriate Cost-Effectiveness Framework for Analyzing Grid Modernization

- DOE/FERC DR Framework—Tim Woolf
- DOE Smart Grid Cost/Benefit Framework—Bernie Neenan, EPRI
- Other C/E Applications— Phil Hanser & Sanem Sergici, Brattle Group; and Melissa Chan, Navigant
- Discussion among Steering Committee members
- cost/benefit analysis/framework looks at 3 years...should we look at longer time frame?
- Comment: Here we have capacity prices that are stated explicitly, so perhaps simplifies quantifying avoided capacity benefits a bit (vs California which doesn't have capacity market?)
- EPRI: important to define impacts, then monetize benefits, rather than work backwards
- Q: is there any way of valuing not doing something? A: build a baseline, and describe what you would do with consequences, and compare with debated action
- Navigant: need good experimental design, establish performance baseline
- Certain impacts/things that aren't quantifiable, you should try to capture in qualitative discussions

- Q: do cost analyses take into account changes in operations? Sometimes there is added maintenance that didn't exist before with new technologies A: this has not been accounted for entirely yet
- Q: how to account for emerging tech that hasn't been fully implemented but we know is out there A: smart grid impact on customer response (DOE)
- Brattle: discussion of iGrid model, allows evaluation of AMI costs/benefits
- Value of outage avoidance different in instance of something like Sandy vs. regular outages
- Look at capacity costs differently – not just market costs
- How to value marginal distribution costs
- Willingness to pay to avoid carbon can be seen as difference between cheapest generation and cost of renewables – should this be included in MA analysis?
- There are cost overruns, risks, delays, etc associated – project related risks that are unavoidable – how to take into account
- Discount rate – near AT WACC? Depends on which perspective we take on...more societal perspective has different discount rate

GROUP DISCUSSION

- Notion of how prices might not be reflective of marginal cost of the system is important – question for analyses purposes is what do we use for avoided capacity? Price as negotiated that reflects what we pay, or the true marginal cost which could be lower? Our calculation depends on the perspective we choose to take
- Some utilities currently modernizing system (grid) as things become obsolete –
- Choosing which C/E test to use is the task to take on – EPRI sees this as a revenue requirement issue – you can't separate that from implication of customers
- Right now utilities have responsibility of balancing reliability with costs
- Maximizing reliability is where a lot of investments are made
- Line losses?
- Need to keep sight that there is existing regulatory framework, and need to look at what is our goal, what do we want to improve? Right now investments are made, then governmental bodies look and see if they were appropriate/prudent
- If you're thinking of large investments and not certain about the technology or costs, then postponing decisions has large value – need to think carefully that if you rush into them you are giving up options that won't exist once you go ahead
- Option value of postponing investment, but also lost opportunities – this all needs to be factored in
- We have to think about whether we want to encourage investments or not encouraging... incentives matter – identify where there are benefits to customers or do we try to ensure that no risks are taken
- Hard question is when do you invest to avoid issues? Like a transformer going out, etc. – incremental cost question
- Notion of risk: how do you model the risk that you may not have made or may not have impacted peak – in terms of CBA, how do we measure risk of not meeting performance we claim we're going to get with these technologies
- Perhaps models should include probabilistic component (monte carlo?) regarding benefits not materializing, etc

- Separate impacts from monetization – look at overall risk, but also individual elements
- Are there gaps in our current policies? How well are we covering our bases for the things we want
- CBA done by utilities for all investments, but in a regulatory construct – sometimes a bit circular – do we change the construct to make the CBA work in a different way to incentivise different things?

12:30 Lunch

1:45 Aligning Utility Rate Making w/Grid Modernization Goals

- Rate Making Options –Paul Centolella, Analysis Group
- Great Britain’s RIIO Framework—Peter Zschokke, National Grid
- Discussion among Steering Committee members
- AnalysisGroup: strategy that combines tech and public policy in a way that makes good economic sense
- Role of innovation and how to incent
- Q/comment: emphasis on investments in RD
- Q/comment: value/cost of outage – is there any example of quantifying? A: EPRI developed standard method to do this (cost of outage studies) – in residential, willingness to pay surveys, in C&I, calculate cost of actual outage in terms of production lost and materials wasted
- NGrid/RIIO: Revs, Incentives, Innovation, Outputs
- Balance needs of present and future customers – intertemporal concerns
- Focus on long term for utilities, encourage longer term thinking about investments and de-carbonizing electric sector
- Q/comment: what happens if Company rejects regulators proposal in UK? A: has to file with competition commission to get approval to amend proposal based on arguments
- Q/comment: what is the allowable return for NGrid in UK? A: return on equity is a real post tax return on equity, something along 5 to 7%, real, and asset values are inflated over period of time – many differences in how capital structure is viewed/computed that gives utilities more flexibility
- Q/comment: are incentives for efficiency and output similar to SQ metrics and reliability metrics? A: there are others, such as engagement metrics (how well you engage with customers), information quality metrics, etc.
- Tim with EE framework in MA: paradigm in place with lots of parallels to RIIO – how much of the paradigm should be applied to smart grid as well?
- DISCUSSION and THOUGHTS
- Q: How do we start to talk about reg models that can make things happen? – concerning DP and demand optimization; concern about impact on customers, especially those less sophisticated or low income...is there any study or info on the impact for these customers? A: looking at data in Ohio, low income had less peak oriented load shapes than non-low-income, so natural winners for the most part...other point is that you want people to have a choice re: extent to which they’re exposed to variability in prices – for less sophisticated, you want to

combine DP signal with an insurance policy (call option...insurance policy pre-pays for anticipated peak demand of that customer) – way of moderating bill impacts

- Q/comment: do you think RIIO encourages grid mod? A: it will enable grid mod and all of its elements – large scale investments over seas
- Q/comment: are there parts of RIIO we should think about for MA? A: some interesting places to explore are capex trackers if you can couple them with some output based incentives, also maybe a version of “RIIO lite” – we can look at incentives as an important element, but also small steps like looking at forward looking plans so utility knows what it’s supposed to do, there is agreement on future action, etc....essentially principal agent problem
- Q/comment: is RIIO PBR on steroids? Longer time frame, larger \$, but similar concept
- Q/comment: are we looking to minimize costs? De-carbonize?
- Qcomment: open question of whether we need to come to grips with overall regulatory architecture in order to report on gridmod...can we focus on grid mod by itself, or focus on regulatory structure – not much agreement on DP, which we need otherwise it’s a non-start A: widespread acceptance can’t happen until there are tools that are easy for customers to use and ways to communicate signals effectively
- Q/comment: how do we value giving people information that they can make decisions on? Whether for consumption or planning (res v c&i)
- Q/comment: think hard about what we’re trying to accomplish with any change to our ratemaking structure...small steps?
- Q/comment: still not clear what we’re trying to accomplish...doesn’t see customers saying they want to control their load, or to pay varying rates...first we have to figure out what we’re trying to do, maybe not changing the whole ratemaking process
- Q/comment: many EV service providers use zigbee wireless system as a tool and working to enable submetering and submetering protocols in equipment in order to give specific EV rates to companies
- Q/comment: there are industry surveys about whats important to customers...reliability is usually on top, but customers haven’t asked for smart hi-tech appliances
- There is going to have to be patience because adoption takes time...customers used to pay by the light...we may have to look beyond kwh’s

3:15 Break

3:30 Stakeholder Discussion: Regulatory Policy & Electric Grid Modernization

- How do existing DPU policies support and/or hinder grid modernization?
- What DPU policies need to be adopted or modified to support grid modernization?
- What is the grid not doing that we want it to do?
- Postpone until next meeting so we can think about it more?

- One that that isn't being done is giving customers more direct real time information of how they use their energy – without that, it's hard for utility or customer themselves or provider to justify different things (new equip, new DG, costs of EV, etc)
- Reducing usage at peak, addressing resilience, self healing components, and to what degree can we change the way we accommodate DG
- What's missing or what needs to happen is get to a cleaner and lower cost energy system – goal here is to investigate what needs to be modified so clean and lower cost alternatives are able to compete on a level playing field
- Integration of all these things – system could work better if customers could respond, utilities could integrate and add new DG...pulling all pieces together requires thought, infrastructure, etc.
- Intermittency is a challenge at the moment from solar perspective – if idea is more solar and more wind and more EV, then at some point the grid will need to introduce more intelligence to accommodate all that stuff at a great scale
- Real time feedback, reduce usage on peak, more intelligence, customers can get financial benefit from savings available – more choice and lower costs for consumers
- Lost opportunities rather than “something broken”, and issue that the way we're heading could lead to more stresses and more vulnerabilities...could be broken later
- Things are still very global – we all want cleaner environment, but what's wrong with the grid – some of the questions are also about who pays?

4:20 Review Workplans/Agendas for Subcommittees.

- Customer facing
 - o Not sure why so much focus on AMI if one of main benefits is reliability and DG
 - o Potential speakers: Itron, Centonel, IREC, Ambient, etc.
 - o Perhaps someone who is tech-agnostic who can recommend how to avoid obsolescence and deal with those issues
 - o Important to include info that is available from pilots in our discussions
 - o Acknowledge that TVR is not the objective, but a means to reach some of our objectives
 - o Look at phase 2 decision on EV for California and use cases
 - o Suggested talking about competitive rate setting vs regulatory rate setting
 - o We need to all start from the same place – so maybe develop a matrix regarding time varying rates so that we're all talking about the same thing
- Grid facing
 - o Need discussion of how you determine value of improved reliability, duration of outages – might be more of a cost effectiveness issue for steering committee
 - o Hear from utilities about what their doing, maybe some self critique?
 - o How do utilities do grid facing planning, cost effectiveness analysis, etc
 - o How to balance reliability with increased costs
 - o Discussion of micro-grids – from utility perspective, what does that mean? What are they designed to achieve

- What is the utilities vision – how would they do their planning under a different regulatory regime?
- What are views on making decision making process a more regulated process...put to regulators before spending (is this something we would welcome or not) – more for steering committee
- Are we talking transmission or distribution level for grid mod? Mostly distribution because DPU doesn't regulate trans
- Speakers: DG, storage/EV, reliability, utilities, RMI, etc

4:45 Next Meeting Agenda and To Do List

- input on next meeting
 - make our xmas lists and see where we are in alignment
 - education about health effects, cybersecurity, and other issues that are seeing some legal traction
 - make sure we are able to have a good discussion of goals and issues...look at wish list of utilities, what they would do in different regulatory environment
 - start having discussion about where our agreements are since we don't have much time before we have to issue a report
 - talk about regulatory process through which...if we talk about CBA, how is it going to be used to then move forward
 -

5:00 Adjourn

Appendix B: Attendance

Steering Committee Only - (Alphabetical by Organization)			Alternates- not seated at table
Organization	Member Name	<u>12.17.12 Mtg</u>	<u>12.17.12 Mtg</u>
Allied Innovators	Kristen Brief (Ambri, Inc.)		
Allied Innovators	Mike Jacobs	X	
Bloom Energy & UTC	Charlie Fox		
Bloom Energy & UTC	Lisa Ward	X	
Cape Light Compact	Briana Kane	X	
Cape Light Compact	Joe Soares	X	
ChargePoint America	Colleen Quinn	X	
ChargePoint America	Scott Miller		
CLF	Seth Kaplan		
CLF	Shanna Cleveland		
Constellation	Daniel Allegretti	X	
Constellation	Jeanne Dworetzky		
CSG	Joe Fiori		X
CSG	Pat Stanton	X	
Direct Energy	Chris Kallaher		
Direct Energy	Marc Hanks	X	
ENERNOC	Greg Geller		
ENERNOC	Herb Healy		
Environment Northeast	Abigail Anthony	X	
Environment Northeast	Mike Henry		
ISO New England	Henry Yoshimura	X	
Low Income Network	Jerry Oppenheim		
Low Income Network	Nancy Brockway		
MA AG	Jamie Tosches	X	
MA AG	Sandra Merrick		
MA Clean Energy Center	Galen Nelson		
MA Clean Energy Center	Martha Broad	X	
MA DOER	Carmen Liron-Espana		
MA DOER	Gerry Bingham	X	
MA DPU (ex officio)	Ben Davis	X	
MA DPU (ex officio)	Julie Westwater	X	
MA DTC	Paul Abbott	X	
MA DTC	Ben Dobbs		
MA EOEEA (ex officio)	Steven Clarke		
MA EOEEA (ex officio)	Barbara Kates-Garnick		
National Grid	Amy Rabinowitz		X

National Grid	Peter Zschokke	X	
NE Clean Energy Council	Charity Pennock		X
NE Clean Energy Council	Janet Besser	X	
NECHPI	Bill Pentland		
NECHPI	Jonathan Schrag	X	
NEEP	Josh Craft		
NEEP	Natalie Hildt		
NSTAR	Doug Horton	X	
NSTAR	Larry Gelbien	X	
SEBANE/SEIA	Carrie Cullen- Hitt (SEIA)	X	
SEBANE/SEIA	Fran Cummings (SEBANE)		
Unitil	Gary Epler		X
Unitil	Tom Meissner	X	
WMECO	Camilo Serna		X
WMECO	Jennifer Schilling	X	
		24	5
Others (not on Steering Committee)			
Organization	Name	<u>12.17.12 Mtg</u>	
Ambient	Anna Croop	X	
Analysis Group	Paul Centolella	X	
Boston-Denmark	Arne Hessenbuch	X	
Constellation	Brett Feldman	X	
EPRI	Bernie Neenan	X	
Foley Hoag	Zachary Gerson	X	
General Electric	David Malkin	X	
IREC	Erica Schroeder	X	
MA AGO	Tim Hewhard	X	
MA AGO	Anna Grace	X	
MA AGO	Nathan Forster	X	
MA DOER	Mike Altieri	X	
MA DPU	Sharon Ballard	X	
MA DPU	Jeff Hall	X	
MA DPU	Rebecca Tepper	X	
MA DPU	Jonathan Pinto	X	
MA DPU	Jennifer Nelson	X	
MA DPU	Justin Fong	X	
MA DPU	Justin Brant	X	
My Generation Energy	Michael Stone	X	
National Grid	Edward White	X	
Navigant Consulting	Melissa Chan	X	
Navigant Consulting	Mike Sherman	X	
NECEC (Ambient)	Michael McCarthy	X	
NSTAR	William McDonough	X	

NSTAR	Amin Jessa	X	
NSTAR	Kerry Britland	X	
NSTAR/WMECO	Danielle Winter	X	
Opower	Ricky Gratz	X	
PJARSA	Pentti Aalto	X	
Raab Associates	Jonathan Raab	X	
Synapse Energy Econ.	Tim Woolf	X	
The Brattle Group	Philip Hanser	X	
The Brattle Group	Sanem Sergici	X	
Veolia	Larry Plitch	X	
WMECO	David Wrona	X	
		36	
		Total Attendance	
		65	