TRMAC Advisory Committee Meeting Notes
March 20, 2015
Golden Rule Building LL35

In-person attendees: Jessica Burdette, Mary Sue Lobenstein, Mark Garofano, Alex Cecchini, Joe Plummer (Commerce); Jeff Haase (GRE); Audrey Partridge, Eric Johansen (CPE); Howard Hoffman (Xcel); Jeremy Fischer (GPNG); Dean Laube (Franklin Energy); Christopher Plum (CEE); Allison Lindberg (Fresh Energy); Michael Hoy (Dakota Electric)

GoTo Meeting attendees:

Notes

Jessica Intro: Update of TRM, RFP for TRM, Kickoff of Project and Introduction of Project Team

- Agenda
    - Review TRMAC Mission
    - Update on recent work
    - Membership
    - 2017-2019 TRM evaluation and update
    - New measure ideas
    - Q/A
- Review TRMAC Mission
    - See slide
- Update on Recent Work
    - See slides (2)
    - RFP for 2017-2019 TRM
        - Franklin Energy Chosen
        - Project Launch February 2, 2015
- Membership
    - See slide
    - Keep current membership through 2015 as familiar with work and able to support 2017 update
        - Michael Hoy accepted CEO position at coop in Montana, leaving group
        - Mary Sue Lobenstein – Could consider sliding membership, rotating in and out with overlapping terms
    - Joe Plummer – If you want to participate in 2017 update but are not on committee, let Joe know.
- 2017-2019 TRM Evaluation & Update
    - See slides
    - Have reached out to members for ideas for new measures. Send ideas by May 15.
    - Background
        - Major updates every 3 years
        - Last one launched in 2011
        - Minor updates annually to add/drop measures
        - Need process to add new measures suggested by members/third parties (Joe put forth some initial ideas last year)
    - Three Major Tasks
        - Evaluation/Update

        - Generate Load Profiles
        - Build Smart Measures
        - Jeff Haase– Smart Measure Build Out – will there be a working group who interfaces with that? It would be helpful with how measures are structured
            - Joe Plummer – We had not thought of a specific working group on ESP. We could form a group or have meeting around design of the Smart Measures
            - Joe Plummer – One task in RFP was to update measures to match those used by Minnesota utilities. Prime example is residential lighting. Need a measure design that works with upstream/midstream programs.
    - Major Deliverables
        - January 30, 2015 – Kick-off Meeting
        - June 1, 2015 – List of codes and standards changes
        - November 13, 2015 – Draft TRM delivered
        - December 11, 2015 – Final TRM delivered, Smart Measure library complete, Electric and gas load profiles delivered
    - Staffing
        - See slide
        - Franklin
            - Dean – Rick Berry utilized on individual client projects, other 3 Franklin have helped on individual projects, Tom will help on interview projects
        - Itron (subcontractor) will help on the EM&V side plus expertise on load profiles
            - Bob is Itron PM, Marc is in Canada and has helped on Canada TRMs, Bob in California and Jennifer in the Midwest. Marc is load profile, Bob is TRM and Jennifer is EM&V
        - Commerce Team
            - Joe & Mark
    - Task 1 – TRM Evaluation & Update
        - See slides
        - Load profiles and peak demand
            - Joe Plummer – What would electric utilities to see with peak electrical demand? Summer and winter? MISO peak demand definitions?
                - Howard Hoffman – we are summer peaking
            - Dean Laube – Dynamics between MISO and utilities, focus on monthly peak but for focus on planning, don't see it not gravitating toward MISO and summer peak. With Minnesota's later peaking, favor more residential measures than MISO's planning. It will mean different things for resource planning vs measure effectiveness.
            - Jeff Haase - Gravitating towards load profiles is a big positive step. Will allow flexibility since peak demand periods vary.
            - Jason Grenier – We break it into segments, generation is a summer peak, transmission is year round, and distribution is year round. Would prefer to see summer and winter peaks in the TRM at least for transmission and distribution.
        - Send thoughts on new measures by May 15th using template
            - Dean Laube – if you know of some EM&V that is available, please present it with measures that you suggest.

- Primary criteria for deciding what new measures to add are impact, cost-effectiveness and market share
    - Jeff Haase – how are you planning on identifying what the particular market share is?
    - Joe Plummer – We'll do the best we can based on information that is publicly available plus any information utilities are willing to share
- Technical working meetings will be held with utilities and interested parties to discuss measures as they are developed instead of after they are released. This is a major change from the last TRM update.
- Franklin will identify gaps in good local EM&V and recommend future studies
- Joe: open to suggestions on format of new TRM. Planning on similar format but adding program requirements up front where needed (primarily quality installation and tune-up measures).
- Jeff Haase – General practice for TRMs has been to use average figures. Is it possible to include some sense of what the variability/range of values is?
    - George Roemer – Trying to think how best to incorporate that. Cannot think of any other TRMs that are doing that. Put more details with sources of where values come from. Will try to determine way to include it.
    - Audrey Partridge – How would this be used?
    - Jeff Haase – Thinking of how to better integrate these efforts into long range planning, it becomes a component of what you are illustrating. We believe that a range of savings can be instructive to the planning (IRP) process.
    - Jessica Burdette – Recommend prioritizing for certain measures, those with a higher savings variability
    - Joe: please send a list of suggested measures to do this with. Others can send input on this.

- TRM Characteristics
    - See slide
    - Jeremy Fischer – re: storing data sources, where are they going to be stored? Could they be made accessible to utilities? Would be helpful for custom projects.
    - Joe Plummer – like the idea. Multistate Technical Reference Library for MA, RI, and CT did this.
    - Jeremy Fischer – shouldn't be hard, but need to make sure the links are correct.
    - Jessica Burdette – Department is updating its website, we are going to champion using our new website in a user friendly way. We are open to suggestions.
    - Dean Laube – A page of PDF links is simple, but is it user friendly? May need more organization as list grows over time, and old sources may need to be removed.
    - Eric Johansen– Of the TRMs in cyberspace, there are not many that in depth. This would be a great value add.
    - Joe Plummer – short term we could leave it as simple list of PDF links, but look at something more structured as list grows. We will look into it.
- Task 2 – General Load Profiles

        - See slide
        - Utilities – please send Joe best contact for load profile/peak demand research interviews
    - Task 3 – Smart Measure Library
        - See slide
        - Phased approach will be used so that Smart Measure design can proceed with groups of measures, rather than waiting until all TRM measures finalized to begin SM design
        - Will set up meeting to obtain utility input on user interfaces
    - Task 4-5 – Ongoing Technical Support
        - See slide
    - Timeline
        - See slide
        - Eric Johansen – aggressive timeline
        - Jeff Haase – Concerns with timing with draft TRM and final TRM. Assuming we are engaged before that, it should be okay
        - Chris Plum – Do you see any impact if the energy code is not adapted on schedule?
        - Jessica Burdette – We have no position on building code bill, we are proceeding as if energy codes will happen. If it doesn't we'll address it when we come to that bridge.
        - Allison Lindberg – Lawsuit filed that code adaption process was not kosher. My opinion is that everything was done by the book and it will be very hard to prove that it cannot be adapted. Commercial should still be adopted, could be in effect in the next month.
        - Joe Plummer – Worst comes to worst, we have the current baselines that can be kept in place
        - Allison Lindberg – My opinion is that it is not likely that new codes will not be adopted because State is required by law under ARRA to adopt code meeting or exceeding 2009 IECC for residential and ASHRAE 90.1-2007 for commercial, and old MN codes are not at those levels.
    - TRMAC/Utility Input Areas
        - See slide
        - Will be looking for utilities for actual cost data that we can use. Also, we are open to specific requests to update incremental costs for certain measures.
        - Load Profiles Interviews – Send contact information to Joe, estimate about an hour for phone call
            - Xcel
            - MP
            - OTP
            - GRE
            - SMMPA
            - MRES
            - Minnkota
            - MMPA
        - Audrey Partridge – Please provide schedule of technical work groups and order of meetings ASAP. It would be very helpful.

- New Measure Ideas
    - See Spreadsheet
        - Building Operator Certification
        - Agricultural Measures
        - Aeroseal duct sealing
        - Residential boiler tune up
        - Advanced Power Strips
        - VRF
            - CARD Grant completed
        - Thermostatic shut-off valve for showers
        - ECM motors residential
        - Mini split ductless HP
        - GSHP
        - Lighting Controls Residential
        - WiFi Thermostats
        - LED Troffers
        - RTU upgrade measures
        - Commercial AC cycling
        - Residential Smart Thermostats
        - Commercial programmable thermostats
        - Heat pump water heaters
        - Commercial ECMs
        - ERVs
        - RTU controls
        - ECM <1 hp
        - IR Heating
    - Allison Lindberg – Re: duct sealing, through our compliance work we found that a lot of older homes in Minneapolis have ducts outside of the thermal envelope, contradicting common belief in MN. Good to consider. Will share notes on findings.
    - Chris Plum – Have worked with Evolve on shower shut-off, will share information. There were some functional issues but product was redesigned.
    - Michael Hoy – Expanding on advanced power strips, computer monitor hibernation products.
        - Jeff Haase - Jump drive used to set up computer for appropriate Energy Star settings. Greater assurance that savings are obtained.
    - Jessica Burdette – MP did some research on their R&D portfolio.
    - Chris Plum – Performing CARD plug load profile that will not help in time for TRM, but can be used in the future.
    - Jeff Haase – Variable Speed Pool Pumps – Add Measure, New Products on Market that are Energy Star rating, could eventually lead into spas
    - Tim Gallagher – ECM Motors – Boiler Circulation Pumps
    - Mary Sue Lobenstein – Permanent Magnet Motors, any knowledge? Use magnets instead of windings, gain efficiencies during low power and low torque
        - Michael Hoy – Cooperative Research Network might have tech surveillance on that
        - Dean Laube – Thought that they might be 20% more efficient than ECMs.
    - Allison Lindberg – Do ERVs include HRVs?

        - Jason Grenier – Didn't know if it would go that far. Have not come across an HRV in past two years, thought ERVs would be more applicable here. Was thinking on the residential side (already have ERVs on commercial side).
        - Allison Lindberg – New residential energy code requires balanced ventilation, but not ERV/HRV. Those can address the code requirements
    - George Roemer - Add Market Segments and Applications for each measure on the spreadsheet
    - Jeremy Fischer – QI/QM for residential furnaces based on CARD Grant meeting next Tuesday. Lay out criteria and if it is cost effective.
    - Mary Sue Lobenstein – RcX task tuning controls from CARD Grant, is it worth considering?
        - Jeff Haase – New Construction they are considered as part of a design assistance program, would be helpful as a retrofit. Would this qualify as a QI item?
    - Minnesota Power
        - ECM Motor Residential –ECMs for boiler circulation pumps (already have furnace ECM)
        - Mini Split Ductless – lots of contractors discussed at Energy Design Conference
        - GSHP – Potential measure some day for residential (have commercial)
        - Lighting Controls – Occupancy Sensors (residential, have commercial)
        - WiFi Thermostats – Primary Heat and Cooling Side (OTP agrees with this)
        - LED Troffers – General Parameters drawn around these, have added the DER's tables
        - RTU upgrade measures – controls, make it more prescriptive, custom is difficult to do with B/C ratio, look at heating and cooling savings
            - Michael Hoy - Dakota Electric is researching a project on this with CEE, hopefully completed this summer
        - Outdoor Commercial Lighting – DER's tables have a variety of exterior lighting, MP will provide more specifics at a later date
    - Otter Tail Power
        - Commercial AC Cycling – similar to residential, larger units. Add hours per year and savings per ton for larger units
        - Residential Smart Thermostat – watching Xcel's pilot program
        - Commercial Programmable Thermostats – get more information later, MERC is currently running a small business program with CEE on these thermostats
        - Heat Pump Water Heaters – Replacement of electric heater measure; CARD Study will be available soon that is a white paper on this measure, there will be two calculators included with this study – one for resident cost effective, one for utilities' peak load; they did not consider a control program; GRE has done a small control study that they can share the data
        - Commercial ECMs – Have identified savings in agricultural programs, exhaust fans, motors at a fractional horsepower size
        - RTU Controls – very similar to what MP was considering. CARD Grant report was posted this past week, though some of the controls are no longer available.
    - Any additional ideas to Joe by May 15th

Action Items

1. TRMAC members to send Joe new measure ideas (preferably using template) by May 15
2. Xcel, MP, OTP, GRE, SMMPA, MRES, Minnkota, MMPA to send contact info to Joe for load profile/peak demand interviews
3. Jeff Haase, others to send list of measures where a range of savings values should be provided
4. Joe to work with Helpdesk to create a webpage where reference documents can be stored
5. Joe to work with Franklin to plan and schedule meeting(s) for utility feedback on Smart Measures interface design
6. Joe to work with Franklin on schedule for technical working meetings, send invites to members
7. Alison Lindburg to share information on ductwork outside thermal envelope
8. Chris Plum to share information on shower shut-off valve (done)