Advisory Committee
March 20, 2015 Meeting
Agenda

• Review TRMAC mission
• Update on recent work
• Membership
• 2017-2019 evaluation and update
• New measure ideas
• Q/A
TRMAC Mission

• In a nutshell...
  – Advisory body to Commerce
  – Recommend new measures or changes to existing measures
  – Recommend field studies, evaluations, research
  – Recommend policies, protocols, and guidelines related to evaluation and TRM

• Stay out of weeds
Update on Recent Work

- TRM 2.0 (2016) in progress
- New C/I lighting table completed
  - New: LED troffers, LED troffer kits, LED streetlights, LED area/pole lighting
  - Smart Measure integration in progress
- RFP for 2017-2019 TRM
  - Franklin Energy team chosen
  - Project launch Feb 2, 2015
Update on Recent Work

• Technical workgroup meeting on res/comm heating measures held Nov 2014
  – EFLH vs HDD with correction factor
  – Steam trap operating vs energized hours
  – Other parameters
TRMAC Membership

- Propose keeping current membership through 2015:

<table>
<thead>
<tr>
<th>Organization</th>
<th>Who</th>
<th>Category</th>
<th>Sub-Category</th>
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TRM Evaluation & Update

• Background
  – Major updates every three years with annual updates to add/drop measures
    • Last one launched in 2011
    • Each major update will cover 3 years
  – Objective: ensure TRM remains a quality product reflecting current codes and standards, technologies, and markets
TRM Evaluation & Update

• Three major tasks:
  – Evaluation and update for 2017-2019
  – Generate load profiles
  – Build Smart Measures
TRM Evaluation & Update

• Major deliverables

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<th>Date</th>
<th>Deliverable</th>
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<td>January 30, 2015</td>
<td>Kick-off meeting with the Department and TRMAC</td>
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<tr>
<td>June 1, 2015</td>
<td>List of codes and standards changes</td>
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<td>November 13, 2015</td>
<td>Draft TRM delivered</td>
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<tr>
<td>December 11, 2015</td>
<td>Final TRM delivered</td>
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<tr>
<td>December 11, 2015</td>
<td>Smart Measure library complete</td>
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<tr>
<td>December 11, 2015</td>
<td>Electric and gas load profiles delivered</td>
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TRM Evaluation & Update

• Franklin team
  – Sr. Program Manager: Dean Laube
  – Technical Manager: George Roemer
  – Sr. Engineer: Rick Berry
  – Engineering Mgr: Jim Stebnicki
  – Principal Engineer: Leo Schaub
  – Sr. Research Analyst: Tom Syring

• Itron team
  – Principal Engineer: Bob Ramirez
  – Sr. Principal Energy Consultant: Marc Collins
  – Sr. Principal Energy Consultant: Jennifer Fagan
TRM Evaluation & Update

• Commerce team
  – Project Manager: Joe Plummer
  – Engineer: Mark Garofano
Task 1: TRM Evaluation & Update

• Existing measures updates
  – Best practices including other TRMs, Uniform Methods Project (UMP)
  – Changes to Federal and State codes and standards
  – Lighting hours and effective full load hours
  – Incremental costs. Detailed review of up to 40 measures. Open to member requests.
  – Lifetimes
  – Compatibility with current programs
  – Peak electrical demand. Develop definition.
Task 1: TRM Evaluation & Update

- Research new measures
  - TRM review
  - TRMAC member outreach
- New measure selection
  - Member feedback
  - Screening process. Factors:
    - Impact
    - Cost-effectiveness
    - Market share
Task 1: TRM Evaluation & Update

• Measure documentation
• Technical working meetings to present measures, gather feedback
• Recommend future EM&V
• Produce TRM
  – Some consolidation and splitting
  – Similar format but open to suggestions
TRM Characteristics

• Preference for use of MN data
• Tables of unitary savings values where feasible
• Careful documentation of assumptions and data sources
  – All data sources used will be captured & stored
• Expected code and standard changes after 2019 documented
• Use plain language to extent possible
Task 2: Generate Load Profiles

• Load profile research
  – Interview up to 8 MN utilities/agencies to understand current use of load profiles
  – Review existing load profiles (EPRI, Itron, etc.)

• Generate load profiles for up to 40 end-uses
Task 3: 
Smart Measure Library

• Update existing SMs and generate new SMs as needed
• Test and verify
• Department PM will review/approve user interface and final design
Tasks 4-5: Ongoing Technical Support

• Support for TRMs, load profiles, and Smart Measure library through 2019
  – Field questions
  – Attend/call into meetings
  – Review comments
  – Provide documentation and recommendations
Timeline

3/1/15
Existing measure updates

5/1/15
Member feedback - existing measures
Research coincident peak demand savings

7/1/15
Research new measures
Member feedback - new measure selection
New Measure screening

8/31/15
Technical working meetings

10/31/15
Documentation of updated and new measures
Load profile research
Generate load profiles

12/31/15
Smart measure library
TRMAC/Utility Input Areas

• Incremental costs
• Use of load profiles for DSM evaluation, IRP, and load forecasting; peak demand
  – Interview Xcel, MP, OTP, GRE, SMMPA, MRES, Minnkota, MMPA
  – Send contact info to Joe
• New measure ideas
  – Submit form through May 15
• Feedback on new measures
• Technical working meetings
  – April 15 – November 13
New Measure Ideas

• See spreadsheet
Wrap-up

• Questions/comments?

Thank you!

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