Provisional Deemed Savings

Presentation to Energy Optimization Collaborative

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Agenda

1. Background
2. Michigan Provisional Deemed Savings Framework Steps of Development
3. Next Steps

Why is DTE Energy and Consumers Energy introducing the concept of a Provisional Deemed Savings (PDS) Framework for consideration by the Energy Optimization Collaborative?

- The current Michigan Energy Measures Database (MEMD) update process can follow only two paths: (1) reject the new measure, or (2) accept the new measure as *proven.*
  - For measures with considerable uncertainty, but also considerable potential, a third option may be beneficial.
  - The Provisional Deemed Savings Framework introduces a middle option where the new measure is accepted on a *provisional* basis, allowing utilities to move ahead while necessary research can be funded and performed.

- The Provisional Deemed Savings Framework would give the EO collaborative greater flexibility and more options for assessing new measures with medium/high savings uncertainty for inclusion in the MEMD.

- While the MEMD update process has many strengths, the Provisional Deemed Savings Framework would further enhance the update process to be more consistent, transparent, and reliable.

Definition: "*Provisional*" is a term used to describe something that is arranged or implemented to fulfill a short-term need, possibly to be modified at a later time when a more suitable solution can be identified

The Energy Optimization Collaborative has identified concerns about measures not meeting the quality standards of the MEMD. The Provisional Deemed Savings Framework would formalize the process for flagging these measures.

The following two examples could have benefitted from having a Provisional Deemed Savings Framework in place:

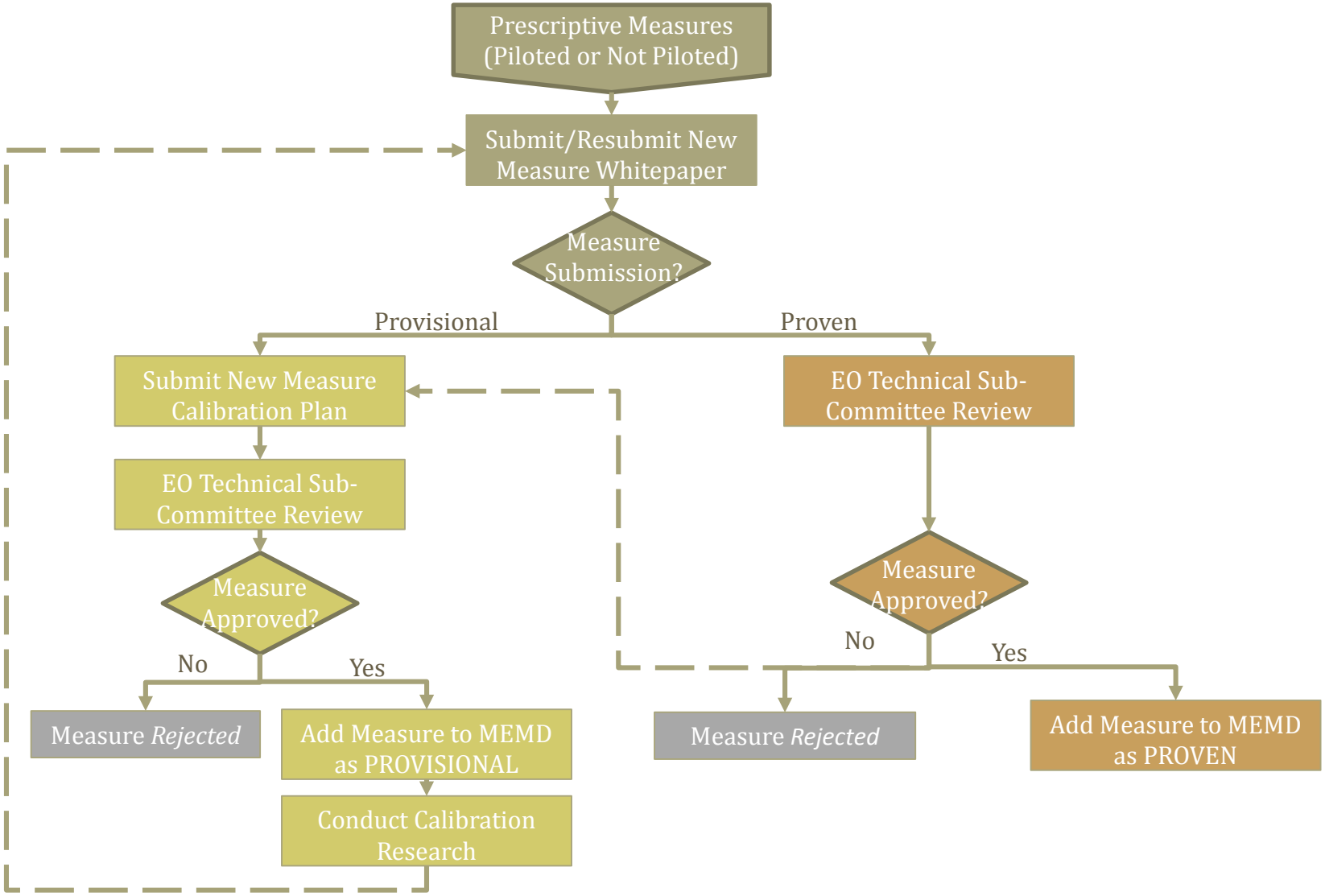
1. Residential Smart (Tier III) Thermostats
   - The EO Collaborative indicated proxy savings from other states was not sufficient to meet the quality standards of the MEMD. However, the measure was included in the 2016 MEMD regardless.
   - The EO Collaborative called for a near-term calibration plan to validate savings for these measures, however, calibration has not yet occurred.

2. Smartphone Behavior App
   - The EO Collaborative expressed concern over savings based on billing analysis of less than 12 months of participant billing data. However, the measure was added to the 2016 MEMD anyway.
   - The EO Collaborative called for near-term calibration using participants with at least 12 months of data. This measure was calibrated and updated in the 2017 MEMD.

→ The Provisional Deemed Savings Framework would allow the EO Collaborative to accept these measures in the MEMD on a *provisional* basis while clearly defining the necessary funded calibration research with a specific deadline for updating the deemed savings.

The MEMD technical sub-committee will review technical whitepapers to determine if new measures should be assigned a *provisional* or *proven* status.

FIGURE 1: PROPOSED NEW MEASURE CLASSIFICATION PROCESS



How are *provisional* measures different from *custom* measures?

- The *Provisional* designation refers to measures that, if supporting research is completed, would be included in the MEMD.
- The *Custom* designation refers to measures that are non-standard technologies or projects. Due to their unique nature and/or small scale deployment, custom measures are not included the MEMD.
- *Provisional* and *Custom* measure categories serve distinctly different purposes, described below:

CATEGORY	DESCRIPTION
Provisional	The *Provisional* measure category would apply to measures whose unitized savings, e.g., savings per lamp, is stable (mean and variance) and can (with additional data) be reliably estimated across multiple sites. *Provisional* measures will be deployed on a large enough scale to support standard savings estimates.
Custom	The *Custom* measure category is more appropriate to estimate savings which would be difficult to standardize across multiple sites due to their unique nature, small scale deployment and variability in savings across sites.

DTE Energy and Consumers Energy have identified several steps that are critical to the development and adoption of the PDS Framework.

1. Establish clear definitions and standards for assigning *provisional* or *proven* status.

2. Update the whitepaper template for new measures to include a status category. Established definitions of the *provisional* and *proven* status categories will be included as guidance.

3. Establish standards for approving/rejecting a measure with *provisional* status and corresponding calibration plan.

4. Develop a template for calibration plans, required of new measures submitted with the provisional status.

5. Update the MEMD to include designation of measure category and sunset date, if applicable.

6. Revisit the existing MEMD Update Process to accommodate adoption of the PDS framework.

7. Establish a maximum savings threshold that measures with a *provisional* status may contribute to utility portfolios.

PDS Development Step 1: Establish clear definitions and standards for assigning *provisional* or *proven* status.

Clear measure category definitions and standards will help minimize the risk of assigning a large majority of new measures the *provisional* status.

CATEGORY	PROPOSED DEFINITION
Provisional	The *Provisional* status is for measures with medium/high uncertainty in savings estimates and supported by preliminary evaluation results and/or engineering estimates. A new measure whitepaper and funded calibration study is required with a specific date for updating the deemed savings value. A limitation on the savings contribution to the utility portfolio must be specified.
Proven	The *Proven* status is for measures with low uncertainty in savings estimates and supported by sufficient best practice evaluation results and/or engineering estimates. A new measure whitepaper is required. No calibration research plan is required, as research must be complete prior to approval.

PDS Development Step 2: Update the whitepaper template for new measures to include a status category.

- The MEMD Whitepaper template currently includes the following key components:
  - Purpose and Measure Background
  - Measure Description
  - Measure Specification & Savings Summary
  - Baseline and Proposed Improvement Description
  - Methodology and Assumptions
  - Estimated Energy Savings Over Baseline
  - Coincidence Factor
  - Measure Life
  - Measure Cost
  - Relevant Codes and Standards
  - Sources of Information

- This template should be updated to include a status category, as well as allow for a Calibration Plan attachment should the *provisional* status be selected.

PDS Development Step 3: Establish standards for approving/rejecting a measure with *provisional* status and corresponding calibration plan.

- Standards for approval/rejection will provide transparency and objectivity during the technical sub-committee's review of new measures.
- EO Collaborative could design checklist criteria specifically to mitigate risk and provide a level of comfort with the measure, and be consistent with the calibration plan.
- For example:
  - Preliminary evaluation results or engineering estimates reviewed and vetted by qualified analysts
  - Funding for necessary calibration research identified and allocated
  - Calibration plan includes all required information
  - Calibration research specifies sufficient rigor (data collection, sampling, etc.) to ensure verifiable results and can be completed, reviewed, verified within identified timeline

PDS Development Step 4: Develop a template for calibration plans, required of new measures submitted with the provisional status.

- Measure sponsors submitting a new measure whitepaper with the *provisional* status would be required to submit a Calibration Plan, adhering to the template.
- The template should include, for example:

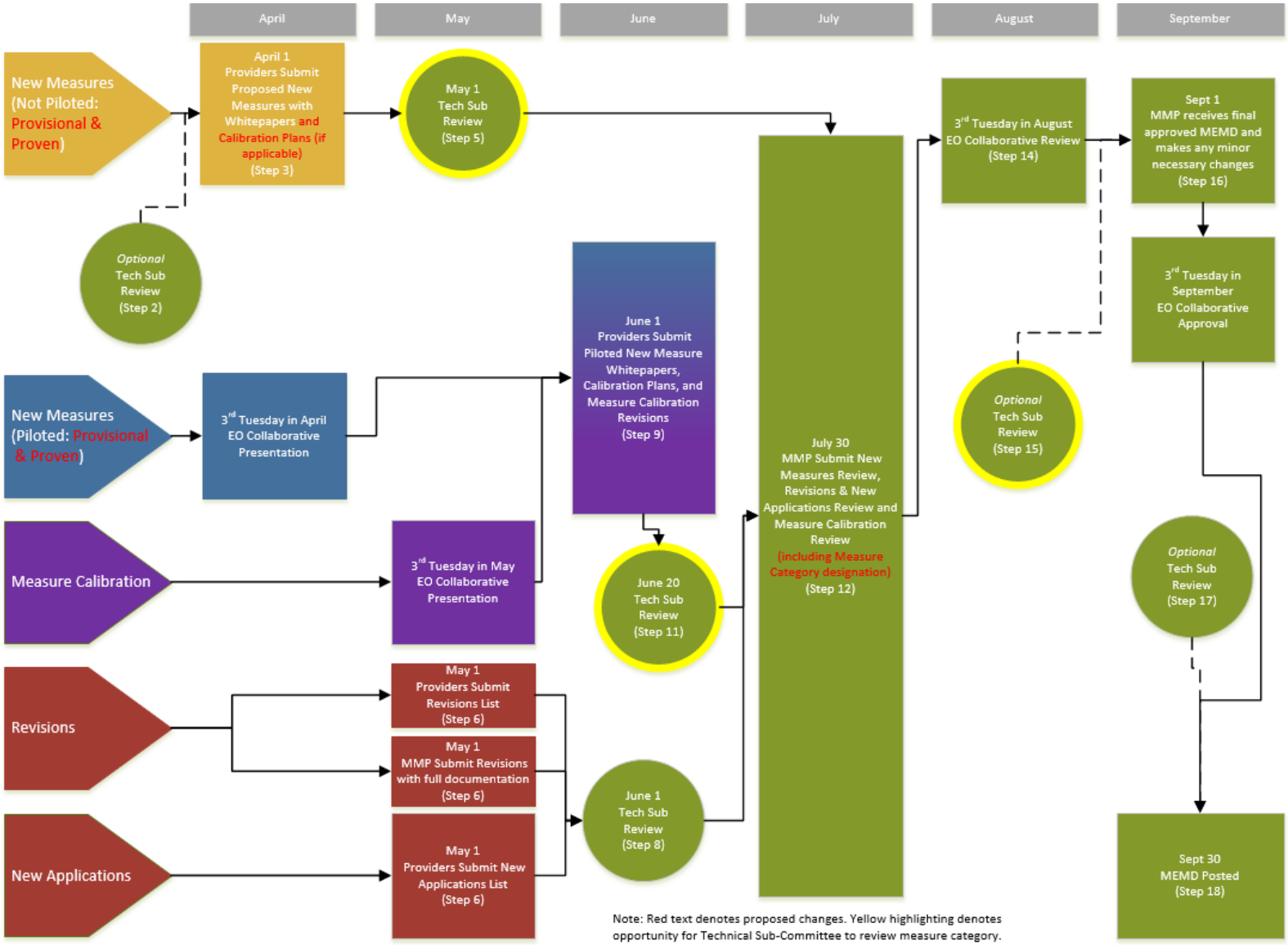
PROPOSED CRITERIA	DESCRIPTION
New Data Required	Data/information needed to move from *provisional* to *proven* status. A description of how new and existing data will be used to develop reliable savings estimate.
Data Collection Methods	Primary (and/or secondary) data collection methods must be identified.
Sample Design	Sample design including, sampling frame, domains of study, stratification, quotas, selection method, replacement procedure and expected sampling precision to be used for any new data collection efforts should be included.
Sunset Date	A date in which the measure would be removed from the MEMD if the measure sponsor does not complete calibration research or meet a significant research milestone.

PDS Development Step 5: Update the MEMD to include designation of measure category and sunset date, if applicable.

- Morgan Marketing Partners should update the MEMD to include a column for the a measure category designation.
- All measures in the MEMD will be assigned either the *proven* or *provisional* status.
- If the measure has a *provisional* status, the MEMD must clearly denote the measure sunset date.

PDS Development Step 6: Revisit the existing MEMD Update Process to accommodate adoption of the PDS framework.

FIGURE 2: PROPOSED MEMD UPDATE PROCESS



Note: Red text denotes proposed changes. Yellow highlighting denotes opportunity for Technical Sub-Committee to review measure category.

PDS Development Step 7: Establish a maximum savings threshold that measures with a *provisional* status may contribute to utility portfolios.

- Limitations on savings contribution to portfolio will minimize risk associated with provisional measures.
- EO Collaborative could recommend a maximum percent contribution of Provisional measures to sector and fuel-specific portfolio savings (e.g., Residential Gas, Commercial Electric).
- EO Collaborative could also establish a maximum threshold tailored to each *provisional* measure. This would provide an opportunity to account for differences in potential market penetration and technology status.
- EO Collaborative should also consider how best to operationalize threshold requirements, including a mechanism to ensure thresholds are not exceed.

DTE Energy and Consumers Energy recommend the EO Collaborative adopt a PDS framework based on feedback from the EO Collaborative.

Next Steps

- EO Collaborative Technical sub-committee to establish working group sessions to review and complete the steps critical to the development of the PDS framework for incorporation in the 2018 MEMD Update Process. [Target start: February 21 Technical Sub-Committee Meeting]

- EO Collaborative Technical sub-committee to present PDS framework to the EO Collaborative for approval. [Target deadline: November 21 EO Collaborative Meeting]

→ The Technical sub-committee will provide status updates to the EO Collaborative throughout the PDS framework development process. Stakeholders will be encouraged to provide feedback during EO Collaborative meetings and anytime throughout the process.