

Cal TF Meeting July 2019

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TECHNICAL FORUM

CAL TF STAFF
JULY 25, 2019

Meeting Agenda

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- Opening & Updates (Tim Melloch)
 - 2021 Draft DEER Resolution
- Modeling Charrette (Roger Baker)
- eTRM Launch Plan (Jennifer Barnes)
- New Measure Updates (Tim Melloch)
- Recap & Close (Tim Melloch)

2021 Draft DEER Resolution Update

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TIM MELLOCH

JULY 25, 2019

2021 DRAFT DEER Resolution

Cal TF Accomplishments



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- **Statewide workpapers for PY2020 & beyond**

The PY2020 workpapers will be the **first effective application** of this statewide measure directive, and are the culmination of an extensive multi-year effort **led by the California Technical Forum in collaboration with the Program Administrators.** (p. 14)

The **consolidated statewide workpapers** that will become effective 1/1/2020 for PY2020 are using the updated DEER2020 values and **will replace previous individual PA workpapers.** (p. 3)

After a two-year effort these workpapers are **ready for adoption** for PY2020, with **an effective date of 1/1/2020.**" (p. 8)

- **Terminology Clarification** – clear distinction between **measures** and **workpapers**

DEER will expire old **measures** that are now consolidated into statewide workpapers, so moving forward program administrators and third-party implementers will have to rely on the **consolidated measures** [FN 12] for their program offering. (p. 7)

FN 12 Reads: Energy efficiency measures represent a technology/ process driving energy efficiency savings based on the technical analysis, inputs, and savings estimates which are documented in workpapers.

- **Consolidate savings by climate zone (no longer PA-specific)** (p. 8)

- **CPUC Staff Interest in Modeling Work**

CPUC Staff will continue to monitor Cal TF developments and meetings on this topic (A p. 16)

2021 DRAFT DEER Resolution

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- **eTRM – More work to be done**

However, unless and until a Commission decision directs the replacement of the current workpaper WPA system or the DEER database, energy savings claims must continue to be submitted via the existing WPA system and meet the existing DEER system requirements (A p. 17)

Cal TF Staff comments:

- ❑ Familiarize new CPUC team with eTRM
- ❑ CPUC team/ex ante consultants must test out “features and functionalities” to understand what eTRM could replace and how functionality compares to current system
- ❑ Assess how useful [eTRM] will be for the stakeholders.

2021 DEER Resolution

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- Smart controllable thermostats
 - *“not modifying heating and cooling load data in this update for PY2020 and PY2021, because the underlying study data will not be complete until early next year, and revisions should be based on new updated information.”*
 - Updated RASS scheduled for completion March 2020
- Suspend accelerated replacement (AR) below code NTG adjustment factor
- Update and correct water heater calculator including heat pumps
- Revisit duct sealing measure EUL
- Add residential refrigerant charge adjustment measures missing from DEER2020
- Measures expired by DEER2020 but still offered
 - Some older DEER measures inadvertently left out of DEER2020
 - Older commercial refrigeration measures and HVAC measures that require a reassessment and update of baseline and market conditions.

Cal TF Modeling Charrette Update



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ROGER BAKER
JULY 25, 2019

Modeling Charrette

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- One day event
 - Held at PEC
 - May 30, 2019
 - ~50 attendees in person
 - Additional 23 attendees via webinar
- Morning session focused on modeling history and level-setting
- Afternoon sessions addressed future opportunities

Session Summary

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- Morning Sessions Focused on History and Level-Setting
 - Discussed history of building energy modeling in California
 - Reviewed current use cases
 - Also reviewed expectations from regulators (CEC and CPUC Staff)
 - Discussed challenges with status quo
- Afternoon Sessions Focused on Case Study and Team Exercises
 - LADWP, SCG and NREL presented case study of large-scale modeling

Group Exercise #1

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- **Goal: Harmonizing Use Cases**

- ✦ Task: Group participants identified a central use case (one that most participants are involved with) and discussed how other use cases aligned with the central use case(s)

- **Results: Some Key Observations/Recommendations**

- Group #1: Custom Measure Analysis and Code Compliance
 - Harmonize rulesets (to extent possible)
 - Develop common format for ruleset development and maintenance
- Group #2: Deemed Measure and Custom Measure Use Cases
 - Need more calibration of building prototypes to real data (AMI data should be useful for this).
 - Allow building models can live with the building and be reused for other use cases.
- Group #3: Deemed Measure Use Case Versus Code Development
 - ✦ Work with CPUC and CEC to harmonize ruleset formats and rulesets themselves.
 - ✦ Work with CPUC and CEC to establish and track common inputs.
- Group #4: Code Compliance as Central Use Case, with Building Design, New Construction Programs, Custom Programs and Deemed Measures
 - ✦ Deemed measures versus code compliance rulesets have considerable overlap.
 - ✦ Some use cases (e.g., custom) may be better served with tools other than building simulation; however, outputs from other tools could be fed back into custom models

Group Exercise #2

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- **Process**

Three topical “stations” were located in auditorium, participants were free to visit and provide input, ideas, concerns. After lists developed, group ranking was performed on each list to establish priorities for focus; *top ranked* items shown:

- **Goals/Metrics** – 12 items identified

- ✦ More Tool Interoperability: Seamless integration of tools, use cases, rulesets; roadmap developed
- ✦ Develop Interoperable Rulesets (and common data format)
 - General feedback during charrette is that rulesets may be 80% common
- ✦ Clear Roles and Responsibilities: Establish clear responsibilities, “who does what”
 - CEC and CPUC
 - IOUs/POUs
 - CalTF
 - Industry
- ✦ Create Building Prototype Reference Library: Useful for multiple use cases
 - Must have documented inputs
- ✦ Identify and Eliminate Duplicative Efforts

Group Exercise #2

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Exercise #2 (continued)

□ **Desired Future State** – 16 items identified

- ✦ Open Source Tools
 - Well-documented
 - Publicly funded
- ✦ Coordinated with National Entities
 - IECC
 - ASHRAE
 - Others
- ✦ Standardized Model Outputs, Reports
- ✦ Outputs have uncertainty attached
 - Allows for value ranges rather than point estimates

Group Exercise #2

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Exercise #2 (continued)

□ **Emerging Uses for Modeling** – 6 items identified

✦ Zero Net Energy Buildings

- Can model local generation
- Energy storage
- Emerging technologies

✦ Non-Energy Benefits (NEBS)

- Incorporate mechanism for monetizing NEBS
 - Health impacts
 - Greenhouse Gases
 - Productivity
- These can impact cost-effectiveness

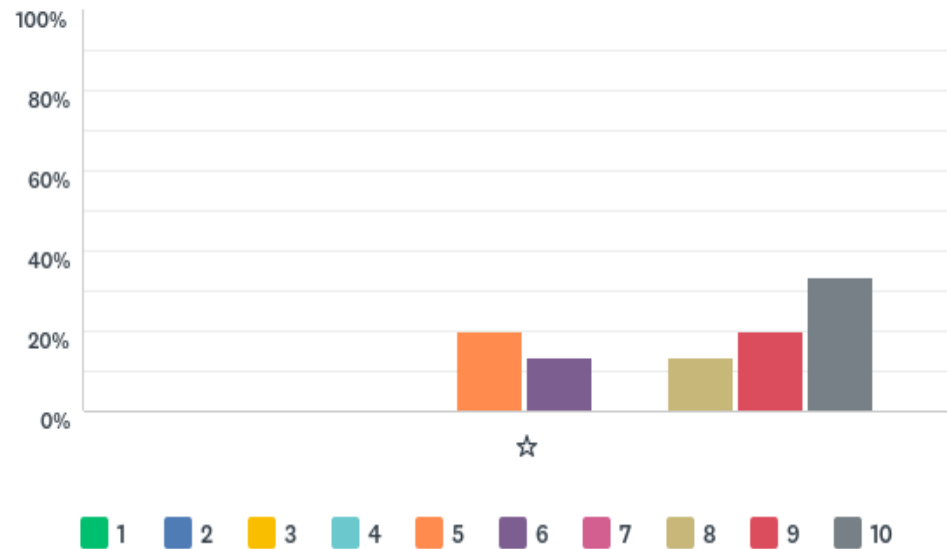
✦ Model to follow life of building

- Standardized inputs and outputs
- Model to be updated based on retrofits, future remodels
- Can be used to calibrate/track usage, identify drift
 - Tie this to building automation, continuous commissioning
 - User dashboard to monitor over time

Survey Results

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Q1 How would you rate the quality of the Modeling Charrette overall?



Mean score = 8.0

Notable Survey Comments: Process

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- **Regulatory Participation:** *I thought that it was a great stride because CEC & CPUC staff and Ex-Ante consultants were a) present and b) engaged. I think this marked a turning point in actually making progress in CA.*
- **Meaningful Opportunity for Individual Input:** *I like the format of having a presentation(s) for a given subject followed by breakout sessions, so everyone has a opportunity to provide comments.*
- **Coordinate with SCE Symposia:** *Please combine efforts with SCE for future charrettes/symposiums*
- **Ensure Actionable Outcomes:** *Develop a list of actionable items and assign responsibilities to various organizations to report to the team*

Next Steps

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- Meeting minutes/group exercise summaries drafted, under review
 - Expected release early August
 - Will be posted on CalTF website
- Technical Position Paper (TPP 10) in process
 - A workshop was originally planned for October 2-3; Will be canceled to avoid duplication with SCE Modeling Symposium scheduled in November.
 - Instead, Cal TF Staff will organize a series of teleconferences during Q4 2019
 - ✦ Purpose is to finalize TPP 10
 - Charrette participants will be invited to participate
 - Recommendations will be refined, prioritized and categorized (near-term, mid-term and long-term actions)
 - One of the sessions may be conducted at the SCE Software Symposium in November

eTRM Launch Plan



JENNIFER BARNES
JULY 25, 2019

eTRM Launch Plan Overview

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- Developed at the request of CPUC staff
- Will lay out all the activities required to transition from DEER to the eTRM for each of the affected parties:
 - Cal TF staff
 - CPUC Staff and their consultants
 - IOUs and POUs; other PAs
 - Implementers
 - EM&V
- Identifies the players and their responsibilities
- Lay out timeline and key milestones
- Identify dependencies between key activities

Critical Tasks (Staff Input)

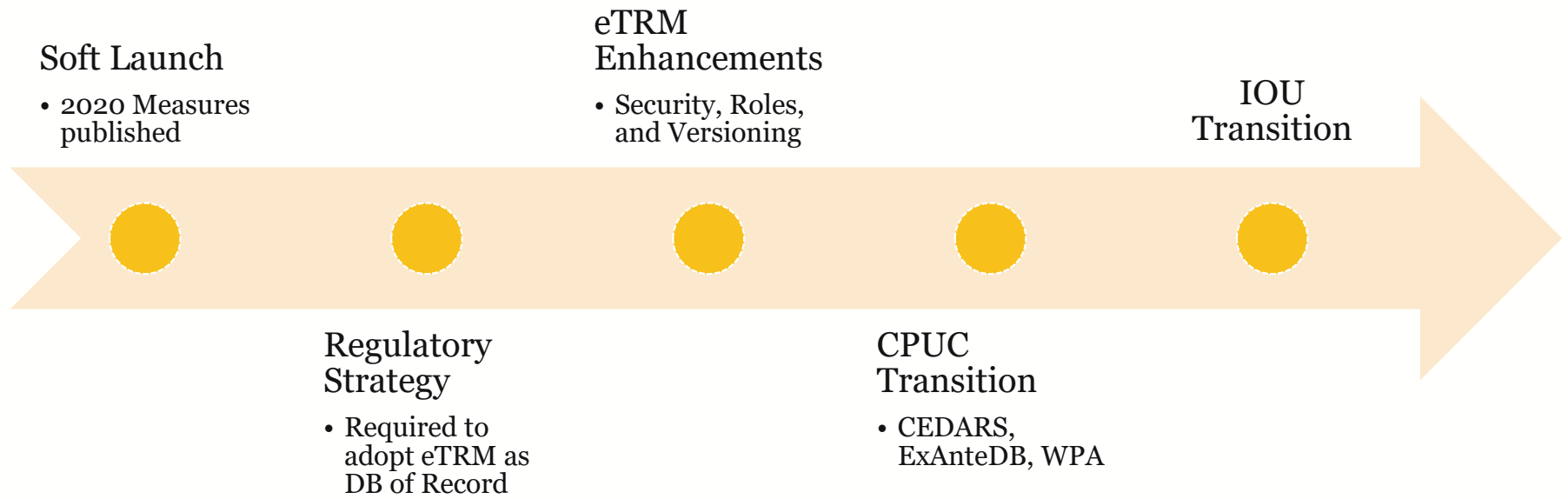
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- Educate new CPUC team
- Identify what eTRM can replace in DEER ecosystem
- Identify whether eTRM “features and functionalities” are effective replacements for DEER equivalent
- Allow CPUC/EAR Team to test key “features and functionalities.”
- Solicit broad stakeholder feedback and input

eTRM Launch Plan Overview

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- We propose that the eTRM transition will be a phased approach starting at the end of 2019 through to January 2021.
- The key phases are shown below, though they will all overlap considerably.



Soft Launch

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Objective: To make a fully populated version of the eTRM available for industry use

- Active 2020 measures will be published in the eTRM by October 1, 2019
- ~97 measures approved by the EAR team by September 1, 2019 will be published as “CPUC-approved”
 - These measures will be available for use in programs beginning on January 1, 2020.
- Remaining measures (~ 33) “may or may not get approval in time for 1/1/2020 PY2020 start date and will be dealt with on a case by case basis.” (Draft 2021 DEER Resolution)
 - These will be published as “Cal TF-affirmed”
- Beginning with the Soft Launch, new measures will be input into and maintained in the eTRM
 - eTRM workflow will guide measure QA/QC
 - Data spec and measure characterization downloaded from eTRM for submission to CPUC/EAR team through WPA

Regulatory Strategy

Objective: To secure Commission direction to use the eTRM as the database of record

- 2021 DEER Resolution indicated that Commission action is required to replace DEER:

“...unless and until a Commission decision directs the replacement of the current workpaper WPA system or the DEER database, energy savings claims must continue to be submitted via the existing WPA system and meet the existing DEER system requirements. In the meantime, Staff will continue to work with the PAs and the Cal TF to evaluate the viability and role of the eTRM during the normal course of workpaper review cycles, and the eTRM should be a useful PA tool for efficiently organizing and submitting statewide workpapers and associated data to the CPUC.” (Page A-17)

- Cal TF staff will work with CPUC staff to identify the best regulatory path and timing
 - Respond to Staff ruling?
 - Multi-party motion?

Objective: Institute functionality to meet the CPUC's requirements

- CPUC Staff/consultants have provided feedback that some enhancements are necessary to ensure that the eTRM will meet the CPUC's requirements and to transition the current ExAnteDB and related functions:
 - ❑ Configurable Security Roles
 - ❑ Change Shared Data Library Versioning Process
 - ❑ Enhanced Reporting Capabilities
 - ❑ Automated Workflow Management
- Cal TF Staff hopes enhancements will begin in 2019 and extend into Q1 2020

Objective: Transition DEER functionality to the eTRM

- CPUC Transition will require several elements/projects:
 - ❑ CEDARS - the reporting tool used by the IOUs to submit their required monthly & quarterly reports & ABALS to the CPUC.
 - ❑ WPA – IOUs submit their new workpapers and workpaper revisions to the CPUC/EAR team through WPA.
 - ❑ ExAnteDB – Contains the official ex ante data that is available for claims processing.
 - ❑ PEAR – contains support tables that are used by eTRM; updated regularly.
- Transition dates TBD but targeting January 1, 2021
 - ❑ May be a phased transition.

IOU and POU Transition

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Objective: Transition IOU and POU systems from DEER to the eTRM

- Individual transition plans will be developed for each IOU and POU
 - Describe each IOU's interface with and databases that use DEER
 - The options for linking to eTRM and changes required
 - Key activities, timing, and responsible parties
 - Cal TF staff will develop the plans with IOU input and review
- Will also describe transition needs for other stakeholders – 3P, EM&V, etc.

Next Steps (Proposed)

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- Finalize draft launch plan
- Circulate to IOUs/POUs for review
- Submit to CPUC Staff
- Circulate to broader audience for comment

New Measures for 2020



AYAD AL-SHAIKH
JULY 25, 2019

New Measures – Planned for 1/1/2020

IOU	Statewide ID	Measure Name
SCE	SWAP013-01	Induction Cooktop, Residential
SCE	SWWB006-01	Conditioned Crawlspace, Residential
SCE	SWHC042-01	RTU Evaporative Pre-Cooling, Commercial
SCE	SWHC041-01	Software Controlled Switch Reluctance Motors, Commercial
SCE	SWCR022-01	Refrigeration Evaporative Pre-Cooler
PG&E	SWWP0XX-01	Process Fan VFD, Agriculture
PG&E	SWHC0XX-01	PTAC Controller
SCG	SWWH0XX-01	Water Heater Pipe Wrap, Residential
SCG	SWWH0XX-01	Steam Boiler Economizer, Process
SCG	SWBE006-01	Ceiling Insulation, Residential
SCG	SWBE007-01	Wall insulation, Residential

Recap & Close

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