Agenda & Notes

California Technical Forum (Cal TF)

Meeting #43: Technical Forum (TF)

October 25, 2018

9:30 am – 3:30 pm

Pacific Energy Center
851 Howard Street, San Francisco, CA

Time	Agenda Item	Discussion Leader(s)
9:30 – 10:15	**Opening & Updates** • HVAC • eTRM • Workpaper Workshop • Measure Submission & Approval • 2019 Business Plan	Jennifer Barnes, Ayad Al-Shaikh, Roger Baker, Cal TF Staff
10:15 – 10:30	**Overview of TPP 9** • Stage 2 Topic Breakdown • Meeting Strategy • Desired Outcomes	Tim Melloch, Jennifer Barnes
10:30 – 11:45	**Use Category Working Groups** • Agriculture (Yeshpal Gupta) • Appliance & Plug Load (Jia Huang) • Commercial Refrigeration + CR Modeling (Chris Rogers) • Food Service (David Zabrowski) • Lighting (Alina Zohrabian - *tentative*) • Misc/Home Energy Check Up (Martin Vu) • Pools (Gary Fernstrom) • Process (Spencer Lipp) • Water Heating (Rebecca Jenkins/Chan Paek)	Cal TF Members & Staff
11:45 – 12:15	**Lunch**	All
12:15 – 1:00	**Cost-Related Stage 2 Issues**	Tim Melloch
1:00 – 1:45	**Stage 2 Issues that are Broader Policy Issues:**	Ayad Al-Shaikh

	• Load Shapes/Peak Demand	
1:45 – 2:00	**Break**	All
2:00 – 2:30	**Stage 2 Issues that are Broader Policy Issues:** • Interactive Effects	Ayad Al-Shaikh
2:30 – 3:10	**Stage 2 Issues that are Broader Policy Issues:** • Data Requirements • Parameter Support • Use of Impact Evaluation Results	Jennifer Holmes, Cal TF Staff

3:10 – 3:20	**Plan for Stage 2 Issues that can go to the ED/EAR team for guidance:**
	• Early retirement data requirements
	• RUL ID – 1/3 of 20 years
	• EUL for REA measures
	• eTRM building prototypes
	• Residential appliances:
	  ○ 7.01 Energy Star Refrigerator
	  ○ 7.04 Energy Star Clothes Dryer
	  ○ 7.05 Energy Star Clothes Washer
	  ○ 7.12 Residential Energy Star Dishwasher
		Jennifer Barnes

3:20 – 3:30	**Close** • Recap agreements & action items	Jennifer Barnes

Meeting Materials

- Spreadsheet: Stage 2 Issues List v 4.3
- Slide Deck: Cal TF Meeting October 2018

I. Attendees

	In-Person	*Via Telephone*
Cal TF Staff	Jennifer Barnes Jennifer Holmes Ayad Al-Shaikh Roger Baker Tim Melloch	
Cal TF Members	Doug Mahone retired HMG/TRC Steven Long Lockheed Martin Larry Kotewa Elevate Energy Spencer Lipp Lockheed Martin Sepi Shahindard Cadmus Gary Fernstrom retired PG&E George Beeler AIM Ed Reynoso SDG&E Lisa Gartland Proctor Engineering Mary Matteson Bryan Martin Vu RMS Energy Consulting Chris Rogers CleaRESULT Tom Eckhart UCONS Mike Casey Onsite Energy Yeshpal Gupta, Lincus Alina Zohrabian, PG&E	Pierre Landry Landry & Associates Stephano Galiasson Greg Barker Energy Solutions David Springer Davis Energy Group Chan Paek So Cal Gas Larry Brackney, NREL
Non-TF Attendees	Jay Madden SCE Jia Huang PG&E Jim Hanna, Energy Solutions David Zabrowski, Frontier Energy Rebecca Jenkins, So Cal Gas Grace Vu, RMS Energy Consulting Mohit Chhabra, NRDC	Keith Valenzuela SDG&E Henry Lui, PG&E

CALIFORNIA
TECHNICAL FORUM

I. Key Decisions and Action Items

Cost-Related Stage 2 Issues
Action Items:

- Jay Madden to look if 4.48 (refrigeration walk in) has been resolved.
- Cal TF staff to investigate updating costs in 2019.
- Jennifer Barnes to call Steve Kromer about the Monte Carlo simulation results from ~15 years ago.
- In 2019, develop a white paper or other recommendation on what the best framework for cost data for the different end uses.

Load Shapes
Action Items:

- Create 8760 profile to include in eTRM.
- Only use savings profiles; not base/measure profiles.
- Summarize most impactful measures to priorities what is most valuable.
- Find out more info on RTF and CEC to see if there's anything we can draw on four eTRM load shapes.
- Understand from previous PUC working group what was done.

Data Requirements, Parameter Support & Use of Impact Evaluation Results
Action Items:

- Cal TF staff to look into the process for providing comments on the evaluation plans and results.

II. Meeting Notes

Cost-Related Stage 2 Issues
Presenter: Tim Melloch

Chris Rogers: 1.18 (Add medium temp case doors) CLEAResult is updating this measure and has new cost data. All of these commercial refrigeration measures can be updated with current data from contractors (they run a program).

Alina Zohrabian: Current adjustments factors to adjust labor and materials were from 2005. Probably not the same now as they were 10 years ago.

Ed Reynoso: With respect to high bays, I think we're aligned with 2018 cost updates. Don't see regional costs now. Previous EAR team wanted IOUs to be uniform (in 2018 dispositions).

Alina Zohrabian: The cost values, yes, but here we're talking about adjustment factors applied to material and labor in DEER. PG&E feels they are old and doesn't use them. Don't know if EAR team told them to use them.

ACT: Jay Madden to look if 4.48 (Refrigeration walk in) has been resolved.

Ayad Al-Shaikh: Thoughts on costs not being broken out? ROB relies on incremental costs to feed into calculation. If were' trying to get to a world where we use exiting conditions we're going to need it but it's more work up front.

Jay Madden: There are some cases where normal replacement in NC the labor costs are different. For instance, fuel switching. Under NC there is not incremental cost to bring in an extra circuit but for retrofit it would be.

Steven Long: Can't you put in the numbers you have? Programmatic cost data (actual costs, especially for DI programs) costs are applied.

Rebecca Jenkins: Relevancy of the cost. Cost may stay same over the years. Example – tankless gas water heater – used data from previous WP because invoices matched the previous data. Frequent "sanity" check if costs should be updated.

Doug Mahone: Issues have been difficult for 30 years. A lot of effort. He concludes that most measures you can't determine the real cost. We need cost data because wedded to TRC. The PAC test does not require measure costs. Recommends we lobby CPUC

to use program administrator cost test. Weakness of TRC is IMC and it doesn't calc NEBs. → ADD as POLICY topic

Martin Vu: For the HER and HEC, those are behavioral and no cost to the customer, so what is the cost? Should that be captured? Zero cost at the measure level but program cost. What is the guidance on how to document cost?

Yeshpal Gupta: Can we come up with a mechanism to update ISP and incremental costs?

Tim Melloch: Is this something Cal TF should be taking on in 2019? Should we come up with a proposed plan?

Steven Long: I would vote for doing it. You spend a lot of time on little changes on energy side but the cost is a big driver.

ACT: Cal TF staff to investigate updating costs in 2019.

Doug Mahone: It would be useful to calculate how much it costs to generate the cost data and the accuracy bounds are.

Jennifer Barnes: There was a project by the CPUC or IOUs about 15 years ago to run sensitivity analysis on various aspects/variables to EE cost effectiveness calculations.

ACT: Jennifer Barnes to call Steve Kromer about the Monte Carlo simulation results from ~15 years ago.

Alina Zohrabian: Historically DEER included costs WO17. If cost is in DEER you have to use it. And there was a ranking from there to guide the use.

Tim Melloch: Is this guidance in writing?

Yespal Gupta: I've seen it documented somewhere.

Jennifer Holmes: So the problem statement is: there needs to be clear guidance on the use of WO17. Also, if Cal TF should take this on next year, perhaps we should develop a white paper or other recommendation on what the best framework for cost data for the different end uses. For lighting, is there agreement on web scrape data and why. Just a systematic approach.

ACT: In 2019, develop a white paper or other recommendation on what the best framework for cost data for the different end uses.

Load Shapes
Presenter: Ayad Al-Shaikh

Gary Fernstrom: Every measure in the eTRM should have a load shape.

Steven Long: There's a lot of problems. There's a shape for the base and measure case. They are driven by a small subset of measure types.

Gary Fernstrom: For so many measures we're using a proxy that may not be appropriate.

Steven Long: Yes, and it's very impactful on the TRC.

Mohit Chhabra: There's DEER savings load shapes and CEC might be doing load shapes.

Doug Mahone: Not sure if the CEC load shapes are going to help us.

Mohit Chhabra: Do we want our load shapes to be 8760 or just savings?

Roger Baker: eTRM is measure based with savings based on the delta.

Gary Fernstrom: In terms of program design, I'd like to use the eTRM to understand the current base case, think about how I'm going to change that, then come up with the measure case load shape. Would want eTRM to at least have the first – make that common and available to everybody.

Steven Long: The CPUC convened a WG on this but it didn't get very far. About 5 years ago but got disbanded.

Martin Vu: 2006 KEMA did a study and did a load shape viewer. Only had end use profiles. It hasn't been updated. If eTRM is going to be a repository, old data may not be appropriate. Should be brought up at the policy level.

Mohit Chhabra: If you are going to use the data, map to source and disclose the deficiency. Categorize anomalous load shapes. I can find out the status of the RTF work. It's a year-long process.

Spencer Lipp: Are we overlapping the eTRM with the CET? If the CET has built in load shapes that we are required to use category, where do these measure specific ones come in?

Ayad Al-Shaikh: Hearing that 8760 shape should reside in the eTRM.

Ayad Al-Shaikh: The ADM project tried to calibrate it.

Steven Long: What is in DEER for schedule are artificial. If that's what's driving profiles in DEER then how realistic are they?

Mohit Chhabra: The DEER team is developing an action plan. Maybe check with them?

Jay Madden: When we are talking about going to the DEER team, remember that they are still coming up to speed. These issues, do we want to prioritize? Hit them with the most important one?

Gary Fernstrom: Who is going to pay for it?

Jay Madden: Where do we put the money, in HVAC modeling or load shapes?

Gary Fernstrom: We should fund the measures that have the biggest impact or value. HVAC has the biggest demand impact. But we probably understand that load shape well.

Steven Long: Maybe do it by types of measures. Refrigeration has continuous use. Maybe boil it down to top 50.

Gary Fernstrom: Electric clothes drying shape is important too. It's not running all the time but it has a big draw.

Ayad Al-Shaikh: To summarize the discussion: Create 8760 profile to include in eTRM. Only use savings profiles; not base/measure profiles – summarize most impactful measures to priorities what is most valuable. Find out more info on RTF and CEC to see if there's anything we can draw on four eTRM load shapes; understand from previous PUC working group what was done.

<u>Data Requirements, Parameter Support & Use of Impact Evaluation Results</u>
Presenter: Jennifer Holmes

Gary Fernstrom: You may want to coordinate with codes and standards.

Steven Long: On the EUL, a lot of them were applied to similar measures. Some may not ever had an EUL for that measure.

Gary Fernstrom: We should do an EUL study on the effective lives of EUL studies.

Steven Long: Is the problem the mechanism is in place but no one knows about it. Or it's a black box and no one knows where the number came from?

Steven Long: Updates used to be somewhat subjective driven by the EAR consultant with feedback from the IOUs. Transparency would be good.

Doug Mahone: Is this just a text field where you can put notes? Could you put in data field expiration dates? It seems like you have to dig for the dates now.

Martin Vu: Have you gotten any feedback on measures that don't have a lot of sample points?

Jennifer Holmes: Part of our work has been reviewing the actual reference that is cited.

Martin Vu: Could see an implementer who was successful on the East Coast bringing their program data to CA to support a measure.

Jennifer Holmes: Should we advocate for a regular update schedule? Every two years? Or business as usual, which is more reactionary.

Steven Long: Historically, the CPUC does updates every year.

Doug Mahone: 1) if there could be an expiration date for each data value and 2) You can use it to do what if analysis so when values get old, you can flag them and include bounds for the impact.

Steven Long: That would be great to inform but some of the data is cross cutting. An EUL might hit 20 different measures.

Pierre Landry: That sounds like a phase 3 enhancement. Agree we should add expiration dates, but sensitivity analysis is a next phase enhancement.

Ed Reynoso: There is a trigger and an individual that distributes the impact evaluations to all the utilities. Caroline Chin.

ACT: Cal TF staff to look into the process for providing comments on the evaluation plans and results.

Steven Long: It makes sense especially on a broader scope. To have a view into what's really important. To get comments on the work plan is important.

Doug Mahone: They look at last year's filings and the HIM and scrutinize those. It's reactive and not based on an understanding of the actual parameters.