



Agenda & Notes

California Technical Forum (Cal TF) Meeting #44: Technical Forum (TF)

November 15, 2018

9:30 am – 3:30 pm

Pacific Energy Center
851 Howard Street, San Francisco, CA

Time	Agenda Item	Discussion Leader(s)
9:30 – 10:00	Opening & Updates <ul style="list-style-type: none"> • Workpaper Workshop • Measure Submission & Approval • Stage 2 Issues 	Ayad Al-Shaikh & Jennifer Barnes, Cal TF Staff
10:00 – 11:00	2019 Business Plan <ul style="list-style-type: none"> • Review draft 2019 Business Plan ACT: Cal TF feedback on 2019 Business Plan	Annette Beitel
11:00 – 12:00	eTRM Demo <ul style="list-style-type: none"> • Stage 2 enhancements • Next steps for roll out & training ACT: Cal TF feedback & ideas for Phase 3 enhancements	Roger Baker, Cal TF Staff
12:00 – 12:30	Working Lunch	
12:30 – 1:15	Low Income <ul style="list-style-type: none"> • CPUC directive on low income & Cal TF • Current state of low income deemed measures & EM&V ACT: Identify members for a low-income subcommittee starting in 2019	Jennifer Barnes, Cal TF Staff
1:15 – 3:15	Breakout Groups on remaining Stage 2 Issues <ul style="list-style-type: none"> • GHG • Water Energy Nexus • Fuel Switching 	All
3:15 – 3:30	Close <ul style="list-style-type: none"> • Recap agreements & action items 	Annette Beitel



Meeting Materials

- Draft 2019 Business Plan
- Slide Deck: eTRM Demo
- Slide Deck: Low Income
- Slide Deck: Stage 2 Breakout Sessions



I. Attendees

	<i>In-Person</i>	<i>Via Telephone</i>
<i>Cal TF Staff</i>	Jennifer Barnes Ayad Al-Shaikh Roger Baker	Tim Melloch
<i>Cal TF Members</i>	Doug Mahone retired HMG/TRC Larry Kotewa Elevate Energy Sepi Shahindard Cadmus George Beeler AIM Ed Reynoso SDG&E Mary Matteson Bryan Chris Rogers CleaRESULT Bing Tso, SBW Armen Saiyen, LADWP Greg Barker Energy Solutions	Pierre Landry Landry & Associates Stephano Galiasson David Springer Davis Energy Group Chan Paek So Cal Gas Larry Brackney, NREL Martin Vu RMS Energy Consulting Mike Casey Onsite Energy Tom Eckhart UCONS Lisa Gartland Proctor Engineering Steven Long Lockheed Martin
<i>Non-TF Attendees</i>	Jay Madden SCE Jia Huang PG&E Henry Lui, PG&E	Keith Valenzuela SDG&E Kelvin Valenzuela, SDG&E Jim Hanna, Energy Solutions For Low Income Item: Brenda Gettig, SDG&E Caroline Chen Shahana Samiulla, SCE Carol Edwards, SCE



I. Key Decisions and Action Items

2019 Business Plan

ACTION ITEMS:

- Cal TF members to review the draft 2019 Business Plan and let Cal TF staff know if they have comments.

Low Income

ACTION ITEMS:

- Include a forensic assessment of how the evaluation has evolved as part of this project. Go back 4-5 evaluation cycles.
- Let Jennifer Barnes know if you'd like to be in the Low Income Subcommittee.
- Cal TF staff to prepare a LI subcommittee plan and circulate it to the Cal TF and the IOU EM&V project managers.

Water Energy

ACTION ITEMS:

- Stage 2 work around Water Energy Nexus should include simplifying the WEN calculator.

GHG and Fuel Switching

ACTION ITEMS:

- Jay Madden to look into the current state of the ALJ activity on the 3-prong test.
- Investigate sources of GHG estimates as a first step to understanding the best way to incorporate GHG reductions into the eTRM.



II. Meeting Notes

2019 Business Plan

Presenter: Annette Beitel

Pierre Landry: Regarding eTRM feedback. The obvious audience is 3P implementers. Have you been tracking their attendance?

Annette Beitel: Yes, they were at two demos in July timeframe, but we did not send out feedback survey.

Jay Madden: Was the existing stuff being used ever validated?

Doug Mahone: Difference between code compliance analysis and CPUC estimates. CPUC made it clear years ago that code compliance modeling did not apply to CPUC deemed estimates because they wanted them to be real world.

Annette Beitel: Have been hearing that there is not enough documentation, not enough guidance for when a model can be used. What is the documentation that needs to be produced? That guidance doesn't exist right now. No standards for documentation.

Greg Barker: How does this timing work with getting new measures by 2020?

Ayad Al-Shaikh: Have a slide on where the measures lay. Gap between measures consolidated made affirmed. These are HVAC measures. When we bring to the TF team, you'll see the stage 1 issues and stage 2 issues that need to be part of those further discussions. Going to tackle harmonization issues.

Annette Beitel: For several HVAC measures it's going to be a black box affirmation because we don't have information on what went into the models. We don't know what the assumptions were.

Greg Barker: Won't be possible for 2020 programs?

Annette Beitel: If TF agrees, we can make these a priority for 2019. Jim [Hanna] can come to January meeting and make an argument.

Armen Saiyen: We are looking to leverage 8760 load shapes for peak.

Annette Beitel: We've talked about this with the TF. There are like 400 load shapes – it needs some work.



Doug Mahone: What has the PAC focused on?

Annette Beitel: Getting to the point where we're getting positive feedback from EAR and ED team. They are supportive of the eTRM but they want to make sure we do it in a way that is consistent with the ED plans and policies and doesn't put their program/savings claims at risk. And want to make sure that we have a plan for getting it used. But mostly around CPUC regulatory approval.

eTRM Demonstration

Presenter: Roger Baker

Low Income

Presenter: Jennifer Barnes and Brenda Getting

Annette Beitel: What are the program income requirements?

Brenda Gettig: It's based on income and number of people in the household. Pegged at 200% of the Federal levels. If they are eligible for Federal program then they are automatically eligible. Savings are measured from existing system not code.

Brenda Getting: Billing analysis to get to savings per household. Sometimes they are also able to get to savings per measure. Commission asks to tease out from household level. Evaluation results are used to inform savings.

Shahana Samiulla: Can't use AMI data to inform measure savings; disconnected. Used monthly data in Phase 1. Hoped to use Phase 2, hourly, but not available. Hoped to do multi-cycle, multi-IOU analysis regression. Due to time elapse, etc. did not get to this.

Jennifer Barnes: Isn't the current evaluator supposed to compare between DEER and LI results?

Brenda Gettig: This is not planned for the current evaluation.

Carol Edwards: In the last evaluation, for electric the estimate was lower than DEER and for gas higher compared to DEER. No trend of consistently higher or lower was observed.

Annette Beitel: Evaluator should compare their savings to DEER values.

Tom Eckard: The statement "High rate of transiency in LI population" isn't true for manufactured homes. This population has nowhere else to go.



Jennifer Barnes: The next steps are to create a LI subcommittee. We'll wait until we see measure level savings

Annette Beitel: We'll prepare a subcommittee plan first to get common understanding of deliverable and questions. We'll circulate it to the IOUs for their review.

Sepi Shahindard: You should separate gas/electric. Easy for electric because there is AMI data. At least lighting versus HVAC. Hard for gas to establish measure level savings.

Brenda Gettig: AMI data is available - but have time and budget limitations.

Carol Edwards: Every year tried to do slightly different. You should do a forensic assessment on how evaluation has evolved. How many cycles go back to? We have evaluations since 2001/2000, 2005, ... Should go back about the last 4-5 cycles.

- ACT: include a forensic assessment of how the evaluation has evolved as part of this project. Go back 4-5 evaluation cycles.

Annette Beitel: Does commission comment on previous results?

Brenda Gettig: IOUs and commission collaborate on evaluations and results. Consistently some concern that approach / procedure is not nailed down. Want to resolve the best technical approach with compliance needs.

Doug Mahone: Observation: For mainstream programs we're trying to get at what is the most reasonable way to calculate with best available data. Now we need to look into: how should evaluation feed into deemed savings and how should deemed savings feed into future evaluations. Need to be careful that issues may be large policy issue.

Annette Beitel: Need to be realistic even if not technically responsive.

Carol Edwards: Commission wants measure-level savings. For example, evaporative coolers and central A/C, and room A/C. Some are always installed with others. It's negative for room AC, small for central, and large for evaporative cooling and there's significant multicollinearity.

Pierre Landry: Lots driven by regulatory compliance, that won't give measure level savings. Understand what is possible within budget.



Jennifer Barnes: Please let me know if you'd like to be on the low income subcommittee. So far, we have David Springer and Tom Eckhart. I request that we have representation from the IOU EM&V managers: Brenda, Shahana, Carol, or Sabrina.

Larry Kotewa: I'd like to participate.

Doug Mahone: I'd like to participate.

Pierre Landry: I'd like to be on the subcommittee.

Annette Beitel: We should consult the EAR Consultant to ask about harmonizing approaches for things like realization rates and NTG.

Jennifer Barnes: The low income program does not use NTG

Water Energy

Presenter: Martin Vu

Armen Saiyen: LADWP is also the water agency so they claim both.

Ed Reynoso: SDG&E partnering with water agency.

Annette Beitel: Path to simplifying and correcting calculator.

Agreement with the CPUC staff that everyone should be able to claim – both 3Ps and IOUs

Henry Liu: 3Ps would claim towards the IOU goals not their own goals.

Greg Barker: Add a water bonus to the 3Ps

Annette Beitel: The potential study needs to include the water energy potential in order to justify adding them to measure energy savings.

Laurie Park: Recommendation for water energy? Simplify. It got unduly complicated. When you strip out the complexity you get to the right answer. There are copies of their simplified spreadsheet. Give the flexibility. The place this is hurting is on the custom side. That's where the huge opportunities are. After they analyzed in detail, there are many places where it says it's a temporary measure. They've done about 100 WW agencies already. They've calculated the energy savings. On deemed side it's a policy call. Go conservatively go with hydro regions, just apply correctly.



- ACT: Stage 2 work around Water Energy Nexus should include simplifying the WEN calculator.

Annette Beitel: The CET is controlled by the CPUC staff. If they can't integrate the WEN as they recommend, can we incorporate through the eTRM?

Laurie Park: Yes, just add the embedded energy for any measure that has a water benefit. It's available and quick to verify.

Annette Beitel: Seems like it's a fairly easy stage 2 issue.

Jay Madden: Electrical savings associated with water reduction. Within every electrical there's an associated water savings since you don't have to pump water/evaporate water to generate electricity. Mark Modera did a bunch of studies on how much savings that is. Maybe a good presentation to have. Minor thing: a few measures where there's a penalty: any evaporative cooling uses water to reduce electrical savings.

Annette Beitel: Water energy calculator does not include universe of measures.

GHG and Fuel Switching

Presenter: Jennifer Barnes

George Beeler: Sonoma clean power ~40% (response to statement about CCA's underperforming IOUs)

Jennifer Barnes: CPUC revisiting 3-prong test based on motion from NRDC, Sierra Club and CECMC

Jay Madden: ACT: Will look into current status of this issue

Jay Madden: Heat pump water heaters have lower carbon footprint than most efficient tankless gas water heater

Henry Liu: GHG is being addressed in CET by being incorporated in avoided costs.

Jay Madden: More carbon-intensive energy used at night

Henry Liu: What is the end-game here?



George Beeler: NREL is doing research on carbon impacts as function of power plant type and geography.

Jennifer Barnes: A few years ago utilities looked at bonuses for saving energy at certain peak times. Are we looking at parallel approach for carbon?

Mary Matteson Bryan: We need to better understand existing efforts to track/monetize carbon

Jennifer Barnes: Perhaps get someone from E3 to present on carbon impacts in cost-effectiveness?

Pierre Landry: Agree w/Doug, lots of sources out there (load forecasting groups, etc.)

- ACT: Investigate sources of GHG estimates as a first step to understanding the best way to incorporate GHG reductions into the eTRM.

Henry Liu: Cost-effectiveness is huge issue, utilities trying to better understand all aspects of calculation including carbon adders. Perhaps Jenny can present something.

Armen Saiyen: At minimum, eTRM can be repository for load shapes once developed. Then reporting tools and CET can use data to churn out impacts.

Jennifer Barnes: Fuel-switching - is 3-prong test really the only inhibitor? Are there other things we should be doing?

Doug Mahone: It may be premature, as whole issue is really policy-driven. Perhaps we wait until the dust settles on this before taking it on.

Jennifer Barnes: To recap, Jay will give an update on the status of the CPUC review of the 3 prong test in the December TF Meeting.

We'll also be doing visioning around new measures or measure that should be in the portfolio but aren't.

Ed Reynoso: Should we look at measure ideas that are not agnostic? Consider measures that are just made by one manufacturer?

Jay Madden: As long as it's not a black box technology a competitor could create the same technology. I don't think we're concerned that it's just one manufacturer.

Armen Saiyen: Program requirements aren't manufacturer specific.



George Beeler: Maybe state what we think are the barriers. What needs to be addressed to having robust EE programs.

Armen Saiyen: Are you suggesting that as a topic? A subcommittee on market barriers?

George Beeler: Or CPUC barriers.

Armen Saiyen: How the feedback loop works between EM&V and ex ante claims. Right now we're using proxies like RR and in service rates. Getting into more detail. We never fully close the loop.

Doug Mahone: We keep saying "we get the data and update it" but we don't.

Roger Baker: Building a continuous improvement loop.

Armen Saiyen: How can we development that in the framework.

Jennifer Barnes: To summarize, please review the draft business plan and eTRM phase 3 list when Roger sends it out.