



NOTES

California Technical Forum (Cal TF) Meeting #33: Technical Forum (TF)

October 26, 2017

9:30 am – 3:30 pm

Pacific Energy Center
851 Howard Street
San Francisco, California

Please join my meeting from your computer, tablet or smartphone.

Time	Agenda Item	Discussion Leader(s)
9:30 – 9:45 am	Opening	Annette Beitel, Cal TF Facilitator
9:45 – 11:30 am	Ag/Pump Measures <ul style="list-style-type: none"> “Tier 1” Subcommittee Report-Out ACT: Cal TF Questions; Identify Issues for Subcommittee to address prior to “Tier 2” Affirmation	Ayad Al-Shaikh Cal TF Staff
11:30 am – 12:15 pm	New Measure Review Process – Updated Based on Cal TF Input	Annette Beitel, Cal TF Facilitator
12:15 – 1:30 pm	Lunch – Facilitated break-out sessions to provide small group feedback on New Measure Review Process	Facilitation Leaders: Jennifer Barnes; Jennifer Holmes
1:30 – 1:45 pm	Summary of Key Recommended Changes Based on Break Out	Jennifer Barnes; Jennifer Holmes
1:45 – 2:45 pm	Pools and Miscellaneous <ul style="list-style-type: none"> “Tier 1” Subcommittee Report-Out ACT: Cal TF Questions; Identify Issues for Subcommittee to address prior to “Tier 2” Affirmation	Ayad Al-Shaikh, Cal TF Staff
2:45 – 3:15 pm	Preview of “Tier 2 Affirmation” of Food Service in November Cal TF Meeting <ul style="list-style-type: none"> New information since last meeting 	Annette Beitel; Ayad Al-Shaikh



Time	Agenda Item	Discussion Leader(s)
	<ul style="list-style-type: none">• Recommended Cal TF preparation for measure affirmation• Review specific request that will be made of Cal TF in November	
3:15 – 3:30 pm	Close	Annette Beitel, Cal TF Facilitator

Meeting Materials

- Presentation: Agriculture/Pump Measures
- Presentation: Pool and Miscellaneous “Tier 1” Report-Out
- Presentation: Food Service: Updated Information (forthcoming)
- Slides: Subcommittee Schedule (forthcoming)
- Food Service Affirmation Slide
- New Measure Review Process
 - Draft TPP 8: Proposed Statewide Measure Development and Update Process
 - Cal TF Comments from July Meeting/Staff Responses

I. Attendees

In-Person Attendees

Lisa Gartland
Martin Vu
Tom Eckhart
Armen Saiyen
Stephen Long
David Springer
George Beeler
Pierre Landry
Ron Ishii
Mark Modera
Doug Mahone
Gary Fernstrom
Shanna Dee
Mary Matteson Bryant



Ed Reynoso
Alina Zohrabian
Roger Baker
Jennifer Holmes
Jennifer Barnes
Annette Beitel
Ayad Al-Shaikh
Bob Ramirez
Chan Paek
Al Lutz
Sepi Shahinfard
Henry Liu
Alina Zohrabian
Spencer Lipp

By Phone

Larry Kotewa
Mike Casey
Ryan Hoest
Charlene Spoor
Chris Rogers
Greg Barker
Bing Tso
Larry Brackney
Bryan Ward
Chris Rogers
Owen Howlett

II. Key Decisions and Action Items

1. Aq/Pump Measures

- a. Look at data to see how long EUL of pump is.
- b. Survey installers and find out if VFD is standard practice during pump overhaul (for “Stage 2” – submit to EM&V)
- c. “Bucket” REA as policy issue to flag and identify specific instances where it does not make sense for follow-up (“Stage 2”)
- d. Determine if adding VFD during pump overhaul is in Federal UFC guidelines. If yes:
 - i. Are the guidelines binding or just best practice?
 - ii. Are guidelines actually impacting practice?



2. Greenhouse Measures

- a. Does upcoming opportunity to grow cannabis in CA change potential and importance of this measure? Or will new warehouse growing operations meet this need rather than existing greenhouse operations?
- b. How will opportunities to grow cannabis impact existing greenhouse measures?

3. Agricultural Pump System Overhaul Measure

- a. No action items.

4. New Measure Review Process

- a. Incorporate and have subcommittee; streamline write-up.

5. Pool Cover Measure

- a. Issue to follow-up with Staff – GSIA and NTG are double counting. One or the other should be used.

III. Notes

Ag/Pump Measures

Alina Zohrabian: Minimum of RUL or 1/3 EUL for REA life. Not minimum EUL or 1/3 EUL.

David Springer, Gary Fernstrom: Focus should be on customer behavior and use of VFD. VFD could be put on new measure. When pump is replaced, customer likely not to “throw away” VFD. Thus, focus should be on life of VFD, not life of pump.

Spencer Lipp: When they do overhauls, do they install VFD?

Ayad Al-Shaikh: No.

Spencer Lipp: Don’t just install VFD, also need to make changes to distribution lines.

Steven Long: SCE might have data on other improvements for pump improvements (distribution lines).

Henry Liu: Rules should be created to ensure pump overhaul requires VFD installation to establish VFD life of 10 years.

Gary Fernstrom: We are looking at the motor; the pump is somewhat irrelevant. What you do with the motor may not relate to do with what you do with the VFD.



Ayad Al-Shaikh: You think host equipment is motor so if motor changes you change the VFD.

Gary Fernstrom: Yes. You can do pump tests to see if impeller needs to be fixed. The two things that are working here are motor and VFD.

Spencer Lipp: Whatever you call the host equipment, do they upgrade controls? I don't think they do.

Steven Long: This is like HVAC; I don't think you would routinely rip out the VFD if you are replacing motor.

Martin Vu: To change policy, you need data. What does the data show?

Ayad Al-Shaikh: We have not looked into the specific question of whether VFD life is independent of pump life. Subcommittee wants to look at question of what is actual life of pump (35 years vs. 10 years).

Martin Vu: You should also look at whether life of VFD is related to life of pump.

Summary: Four areas to consider –

1. What is actual life of pump?
2. Is life of VFD independent from life of motor?
3. Do people move VFD from one pump to another pump?
4. Can program rules be structured to require VFD installation during pump overhaul?

Mark Modera: This seems like a generic issue. Do we have an argument on the generic side?

Mark Modera: Since you know the "n" you can calculate standard error of the mean and the error will be a lot smaller.

Martin Vu: 3,000 pumps; only 50 VFDs for pump overhauls. Subcommittee needs to look more closely at EUL of 35 years.

Spencer Lipp: You have 10,000 records, 5,500 pumps. There are overlaps.

Pierre Landry: Survey providers to see if adding VFDs is ISP for pump overhauls (ask 12 providers).



Ed Reynoso: Is there a federal UFC “best practices” requirement that recommends VFDs during pump overhauls? Has it been adopted in CA or is it just best practice? (ACT).

ACT:

1. Look at data to see how long EUL of pump is.
2. Survey installers and find out if VFD is standard practice during pump overhaul (for “Stage 2” – submit to EM&V)
3. “Bucket” REA as policy issue to flag and identify specific instances where it does not make sense for follow-up (“Stage 2”)
4. Determine if adding VFD during pump overhaul is in Federal UFC guidelines. If yes:
 - Are the guidelines binding or just best practice?
 - Are guidelines actually impacting practice?

Greenhouse Measures

Mark Modera: What does it mean that it is in DEER but disposition prevents PG&E from using its WP?

Ayad Al-Shaikh: PG&E has chosen not to use measure in light of disposition. However, the measure is still in DEER so other utilities can offer the measure and use the DEER value.

ACT: Does upcoming opportunity to grow cannabis in CA change potential and importance of this measure?

ACT: How will opportunities to grow cannabis impact existing greenhouse measures?

Agricultural Pump System Overhaul Measure

Mark Modera: Use Standard Error in the Mean, not Standard deviation (ACT)

Spencer Lipp: I believe there was disposition or CPUC memo that said you really should the mid-point of the average improvement because pump will degrade over lifecycle.

Ayad Al-Shaikh: It is true that there is degradation. But you would have had continued degradation on pump as well.



New Measure Review Process

Key comments from large group discussion:

1. Swim lanes
2. CPUC Staff should be part of “Cal TF” circle – they must be part of deliberations.
3. Why can’t one IOU oversee WP development?
4. Isn’t current process moving towards proposed process? (Example: NEST thermostat)

Key comments from Breakout Discussions:

1. Mark Modera/Doug Mahone: Flipped charts
2. Comments from Jennifer Barnes: summarized below.
3. Comments from Jennifer Holmes: summarized below.

Jennifer Barnes Breakout Group Notes:

1. Everyone is talking about manufacturers but some 3Ps don’t have the funds or expertise to develop a measure/WP.
 - a. In Oregon, the utilities aren’t allowed to participate in the measure development/ex ante value process. The Energy Trust takes the funding and responsibility.
 - b. We shouldn’t allow manufacturers (or others) to submit their own work papers to the Commission directly. In the screening process, those folks that get rejected out should go through the dispute resolution process.
2. The Cal TF should look to the Emerging Technologies process for ideas:
 - a. Will we supplant the emerging technologies technology screening process? They are doing a screening and prioritization process for their technologies now. One criteria in the ET process is that there has to be a program plan for that measure. The technology still has to go to a utility to be offered through a program.
 - b. The ET folks have a mechanism to screen measures. In their process, they get a gage of the magnitude of the technology as part of the screening. I’ve heard them say that they give it 3 minutes and if I can’t understand it, then they throw it out. If it passed, then they go through a rigorous screening process: Is it market ready, will IOUs pick it up? Things like that. Only about 10% pass through the ET process. And fewer that that get adopted by programs.
 - c. However, we need to make sure we don’t get process paralysis like the ET process.



- d. Some of the questions that need to be answered in the ET process:
Technical feasibility? Market feasibility? Political feasibility? Economic feasibility? These are the same things considered in CASE reports.
 - e. ET measures may not be cost effective at first.
 - f. The CEC equivalent of ET is code readiness.
- 3. When a new measure is developed, isn't the process that: Someone has an idea, they do or find some research on the technology, then a work paper is developed, and the measure gets piloted, then it becomes a full measure?
 - a. Or it starts as a custom measure.
 - b. There are some measures/programs that are already proven (or discarded) in other jurisdictions.
 - c. Someone needs to make the decision about how mature the technology is.
- 4. There needs to be a clearing house for new measures. Is that the Cal TF?
- 5. Some measures succeed because they have a strong champion at the IOU and other good measures aren't as successful because they don't have a strong champion. Putting the Cal TF in charge of this process levels the playing field and puts the 3Ps on equal footing with the IOUs.
 - a. Instead of having a champion at the IOU, with this model, the 3P could be the champion.
- 6. The biggest danger is that you'll develop a bunch of measures that just sit there. A funder to offer the measure should be part of the screening process. Or at least the info submitted is a path to implementation.
- 7. The IOUs' motivation in picking measures is to get credit for the measure. My motivation is to have things mainstreamed and get better technologies.
- 8. How does EM&V fit into this?
 - a. It doesn't directly.
- 9. May have some funding to do research – stage gating. Spend funds to develop the measure to a point where you have better information, then reassess.
- 10. Need to think about how many times a measure would get reviewed? Do we limit it?
- 11. Pulling together the data and information to conduct a thorough and effective screening: who does it? It's not a trivial exercise.
- 12. Maybe the criteria should be defined as savings +/- some % and cost +/- some %.
- 13. The first step is does the data pencil out? The next step is does the data make sense?
- 14. There should be a step in the process to employ a pilot project to implement to provide further data.
 - a. Isn't this the interim work paper process?



- b. Wish we had the discretion to have funds for pilots.

Jennifer Holmes Breakout Group Notes:

1. Utilities want to be involved in measure selection and measure development (not necessarily oversee it), they know the programs, know the customers. One consideration is to have a utility staff involved in an advisory capacity to the measure developer.
2. *Measure selection* was identified as a critical node in the process, and selection criteria will be very important.
 - a. ... to ensure there is a market and delivery channel for deemed measures
 - b. ... to ensure resources are allocated to measures that are actually needed
 - c. ... to ensure resources to develop statewide measures are not used for “small” measures or measures that will likely only be used by a “small” utility/implementer
3. Will the process accommodate “orphan” measures that have not been “picked up” for a particular program yet? Should there be a “preliminary measure development” stage that will serve to identify a program/market for such measure?
 - a. Innovative/brand new measures that might not have a delivery strategy yet should automatically go through custom.
4. The group discussed if a shift to P4P programs will create a shift away from deemed measures. Perhaps, but results of P4P programs are a long way off, so not likely in the short term. Additionally, not all measures are appropriate for P4P.
5. Dynamic between IOUs and 3Ps:
 - a. The majority of the process proposed in TPP8 is already happening and working well; the IOUs work with 3Ps now to develop WPs, and measures are getting approved. Improving the current measure development process will need to occur through the RFP process. Implementers must propose ideas for programs and measures that are cost effective. Solid program proposals by 3Ps will circumvent issues experienced currently.
 - b. At least one IOU commented that they feel they would be competing with non-utilities for measure development \$.
6. CalTF Capacity Concerns:
 - a. If CalTF takes on the role to oversee measure development, will it have the capacity when 3Ps are requesting measures? Measure selection criteria and measure development funding decisions again are critical.
 - b. Most WPs will be affected by the change in the peak period, which will require a huge effort to revise measures.



7. If 3Ps will have equal footing as the utilities, 3Ps should also bear more of the risk. Currently, if a value for a measure changes, the IOUs take the hit. In the future state, if a value for a measure changes, 3Ps should take the hit if they are responsible for the program design and delivery.
8. It is not clear how parties will move through the dispute resolution stages and who will decide if a dispute can be elevated to the next stage. If the losing party is allowed to keep the dispute going, (keeps disputing) the issue will always end up at the last stage (goes to full Commission)

ACT: Next Steps – Incorporate these comments into the draft TPP and have the Governance subcommittee review. Will also streamline the write-up.

Pool Cover Measure

Comments from several members (Mark Modera, Gary Fernstrom): GSIA and NTG are double counting same issue. One or the other should be used.

ACT: Flag issue for follow-up with Staff.

Gary Fernstrom: We should use measure life for pool covers, not BRO default. Use the “RO” measure life; “B” is only 2 years.

Several TF Members: What is the source of data for life of pool covers that suggests the BRO default is inaccurate?