

AGENDA



California Technical Forum (Cal TF) Meeting

Thursday, January 26, 2023

10:00 a.m. – 4:00 p.m.

LACI Building (525 S. Hewitt St., Los Angeles, CA, 90013)

GoToMeeting Details

<https://meet.goto.com/249810437>

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United States: +1 (571) 317-3122

Access Code: 249-810-437

Time (PST)	Agenda Item	Discussion Lead(s)
10:00 – 10:15	Introduction and Agenda Review	Annette Beitel
10:15 – 10:45 (30 min)	BP Metric 4A: Develop/Implement Measure Identification Strategy <ul style="list-style-type: none">• Status update on new measures• Proposed strategy for measure identification and rapid screening ACT: <ul style="list-style-type: none">• Feedback on proposed strategy	Ayad Al-Shaikh
10:45 – 12:00 (75 min)	Measure Reviews <ul style="list-style-type: none">• Direct Evaporative Cooler, Residential (LADWP / AESC)• Portable Air Conditioner and Heat Pump, Residential (LADWP / TRC)• Solar Attic Fan, Residential (LADWP / TRC) ACT: <ul style="list-style-type: none">• Feedback on measures and CPUC Policy	Ayad Al-Shaikh Lake Casco
12:00 – 12:45	Lunch (lunch provided for in-person attendees)	n/a

12:45 – 1:00 (15 mins)	Metric 8C, workplan procedure and template ACT: <ul style="list-style-type: none"> Affirmation of workplan procedure/template 	Arlis Reynolds
1:00 – 1:30 (30 mins)	Custom Update <ul style="list-style-type: none"> Q1 and Custom Subcommittee activities eTRM “Phase 1” development 	Arlis Reynolds
1:30 – 2:30 (60 mins)	eTRM / Existing measures <ul style="list-style-type: none"> 130+ measures updated Demo: Using the eTRM data to see/understand the updated measures BP Metric 3C: Stakeholder Communication Plan ACT: <ul style="list-style-type: none"> Input on Communication Plan strategies 	Ayad Al-Shaikh and Tomas Torres-Garcia
2:30 – 2:45	Break	n/a
2:45 – 3:15 (30 mins)	BP Metric 6D: Provide relevant regulatory updates to support Cal TF membership in staying informed with regulatory requirements ACT: <ul style="list-style-type: none"> Input for draft workplan 	Annette Beitel Arlis Reynolds
3:15 – 3:45 (30 mins)	Measure Property Data White Paper <ul style="list-style-type: none"> Subcommittee and Progress Update Next steps 	Ayad Al-Shaikh
3:45 – 4:00	Closing and Next Steps	Annette Beitel

Meeting Materials: <http://www.caltf.org/tf-meeting-materials>

- [1] Cal TF Meeting Presentation
- [2] Metric 4A - New Measure Review Process
- [3] New Measures Update - LADWP
- [4] Metric 8C - DRAFT Workplan Procedure
- [5] Metric 3C - Communication Plan
- [6] Measure Property Data Update

Next TF meeting: Thursday, February 23 at PG&E HQ (300 Lakeside Drive, Oakland, CA)

Meeting Attendees

	<i>In-Person</i>	<i>Via Telephone</i>
<i>Cal TF Staff</i>		Annette Beitel Arlis Reynolds Ayad Al-Shaikh Chau Nguyen Randy Kwok Spencer Sator Tomas Torres-Garcia
<i>Cal TF Members</i>		Abhijeet Pande Adan Rosillo Alfredo Gutierrez Anders Danryd Andres Fergadiotti Arash Kialashaki Armen Saiyan Briana Rogers Charles Ehrlich Christopher Rogers Denis Livchak Eduardo Reynoso Gary Fernstrom George Beeler Greg Barker King Lee Kristin Heinemeier Lake Casco Martin Vu Mike Casey Myrna Dayan Roger Baker Steven Long Tom Eckhart

	<i>In-Person</i>	<i>Via Telephone</i>
		Vrushali Mendon
<i>Non-Cal TF Members</i>		CPUC Peter Biermayer / CPUC IOU/POU Andres Marquez / SCG Henry Liu / PG&E James Choi / SCG Jorge Centeno / LADWP Merry Sweeney / SDG&E Mike Walters / SCG Sean Lim / LADWP Implementer / 3P / Consultant / Other Angela Crowley / RMS Antonio Aliberti / Cascade Energy Bob Ramirez / Opinion Dynamics Frederick Chung / SoCalREN Jim Hanna / Energy Solutions Keith Valenzuela / AESC Lauren Seymour / CEDMC Mohammad Dabbagh / NORESCO Paul Kuck / Energy Solutions

Meeting Notes

I. Introduction and Agenda Review

Presenter: Annette Beitel

Materials: [1]

II. BP Metric 4A: Develop/Implement Measure Identification Strategy

Presenter: Ayad Al-Shaikh

Materials: [2]

Steven Long: What about ET?

- Ayad Al-Shaikh: Sometimes you cannot push it through deemed but it will get passed along to the appropriate avenue.
- Lake Casco: CalNEXT is huge on pushing these forward.
- Annette Beitel: We will be closely coordinating with other groups so that we do not tackle or do duplicate work. Let us know how we can make this better?

Merry Sweeny (via chat): And you'll be coordinating with the statewide gas ET program that ICF is running as well, correct?

- Ayad Al-Shaikh: Yes.

Steven Long: Are you only talking about new measures or also measure gaps that exist in measures now?

- Ayad Al-Shaikh: We would evaluate both.

Lake Casco: Regional savings are important; will we be able to scale different things such as heating/cooling to adjust to different climate zones?

- Ayad Al-Shaikh: I think that is a great idea. This is a great point.
- Annette Beitel: We have also talked about pulling measures for specific climate zones as applicable, they might be good measures but just not cost effective for the whole state. We can also do a white paper related to this if folks want.
- Henry Liu: One thing to consider is TSB, this will be huge in 2024 for the portfolio, we need to think about how TSB will play a role for everyone moving forward in 2024.
- Annette Beitel: That is a good point, thank you for raising that.
- Abhijeet Pande: +1 for TSB to be sed as a "portfolio impact" criteria to be considered.

Martin Vu (via chat): What data or references can be used to substantiate energy savings for this scorecard consideration?

- Ayad Al-Shaikh: This will be a quick screen; more screening will happen at the measure screening committee, or we can put it in another bucket where more analysis might be needed.
- Martin Vu: As we get new measures, size has always been a concern. Making sure that people come in with a good level of effort so that it can get to the programs.
- Annette Beitel: We will not be applying CPUC policy rules at this stage, we will be willing to look at data from other jurisdictions and in the eTRM we have sample sizes that are big enough. It is not intended to create a lot of pain for people who have good ideas.
- Martin Vu: The duct seal/duct optimization is a good example; these are savings that are being left on the table because of the rules. There is data out there we are just concerned with the amount of data that is needed.
- Annette Beitel: This is not intended to be a tough process.
- Roger Baker: Even if there is not enough data, there will be other paths that can help the measure move forward.

- Abhijeet Pande: It might be good to identify gaps that the idea is trying to fill, that would be a good idea to send to the market. In terms of the quality of the idea, if someone provides you with good information, some sort of quality or criteria could potentially help.
- Steven Long: TRL (Technology Readiness Level) might be a good way to tell if it is ready for the programs. Non-EE stuff is in two categories so it might be doing double work there. What about product stability?
- Anders Fergadiotti: For existing measure packages, when we do update sometimes some inputs change rapidly so I think it is critical to reevaluate the existing measures. Maybe only due 50%.
- Annette Beitel: This is a high degree of interest topic, Spencer Sator will be working on the workplan so that you have something to react to. We can also form a subcommittee and refine the process if people think that would be valuable.
- Spencer Sator: This has been tested, it is not radically new or different. It has worked before, and it is established in other jurisdictions (some version) we are just adapting to our process.

III. Measure Reviews

Presenter: Ayad Al-Shaikh & Lake Casco (TRC)

Materials: [3]

Direct Evaporative Cooler, Residential (LADWP / AESC)

Steven Long: There were measures like this before so it might be good to explore what was there before. It would not be DEER but I would look at the PUC database.

- Sean Lim: We have done some research and have looked at older measures that Cal TF provided.
- Annette Beitel: How will you determined if the system needs to be replaced or not?
- Armen Saiyan: We would probably get this information via surveys on existing conditions and go based off that.
- Annette Beitel: Do you have a prototype for mobile homes?
- Lake Casco: Yes.
- Steven Long: Is there a reason why this is only coming in as a POU measure?
- Ayad Al-Shaikh: TRC was terrible so the level of effort to get it going again was low, if we can address some of these concerns then we might get this going again.
- Steven Long: I am assuming TSB will help.
- Spencer Lipp: You will also need a program that will be willing to take this on.
- Gary Fernstrom: It is a good measure, but it faces a lot of market barriers, the double effect of evaporative cooling, direct and indirect has a good performance but those might not be available in the market, but I would suggest that they look at these two technologies direct and indirect.
- Anders Danryd: What is the difference between POU only?
- Ayad Al-Shaikh: Measure detail ID will have a POU ID in the status will be POU Ready as a measure status. The Cal TF members will need to affirm this measure before moving forward and publishing, it would not go to the CPUC.
- Armen Saiyan: If there are interests in making this a SW measure then we would like to go that route if possible.
- Eduardo Reynoso: What about the Water Energy Nexus?
- Ayad Al-Shaikh: The embedded energy will not play a big role, we will need to figure out how to deal with it as the state.

- George Beeler (via chat): For savings consider adding the avoided refrigerants released from compressor cooled.
- Ayad Al-Shaikh: That is a good one.
- Armen Saiyan: This might be accurate for the no AC existing conditions.
- Annette Beitel: We do systematically track new enhancements so we will note the separation of POU measures. We would want for this to be statewide if possible. Maybe this measure will create a program in the future, getting it into the market is good.
- Steven Long: Even if it is a great measure, finding a sponsor could be hard.
- Annette Beitel: This is part of the process so whoever we are getting the measure from might be interested on that.
- Andres Fergadiotti: We do not normally evaluate the rate analysis, but it would be great to compare the rates, how much will they be paying with this rather than the conventional offerings.

Portable Air Conditioner and Heat Pump, Residential (LADWP / TRC)

Annette Beitel: What are the differences between the portable and the ductless mini split?

- Lake Casco: These do not perform as well, but they are a lot cheaper than ductless mini split.
- Steven Long: These are portable, and they have a duct out of the window.
- Spencer Lipp: This is very directional.
- Myrna Dayan: Will you do something to make sure they are installed properly?
- Armen Saiyan: We will have consumer advisory documents that will provide people with instructions on how to use these properly.
- Eduardo Reynoso: Is the drip pan at the bottom?
- Lake: There are a few options, some have drip pans, others try to evaporate the water through the vents.
- Annette Beitel: What is the measure life?
- Lake Casco: 8-10 years.
- Andres Fergadiotti: What is the incremental cost from R410a and R32?
- Lake Casco: Not sure yet, but we will pull it from our cost analysis.
- Annette Beitel: Are we concerned about offering the customer this “cheaper” product?
- Armen Saiyan: We will conduct a comfort analysis before recommending this, we would also be taking on most of the cost.
- Gary Fernstrom: Does not have the performance of a central system, but the installation flexibility is a plus.
- Armen Saiyan: There is a split incentive between the owner and the tenant.
- Steven Long: How will you determine if it stays in place?
- Ayad Al-Shaikh: Will the connected capability address this issue?
- Lake Casco: Not sure if they would like that, but there are other measures that are CPUC approved that are portable.
- Spencer Lipp: These are portable, but not easy to move. This is all a part of EM&V.
- Andres Fergadiotti: We could evaluate the program in 2 years and figure out how many still have the technology.
- Annette Beitel: We have seen studies of things sold in the secondary market, so we might just have to recognize that this will happen. Savings will be there, and this is a good measure.

- Steven Long: This discussion has come up in custom with bigger pieces of equipment, but quite honestly this might not be as big of a measure. It might move from room to room but not more than that otherwise.
- Eduardo Reynoso: Are you considering interactive effects?
- Lake Casco: No because this will be the AC.
- Andres Fergadiotti: What about useability and hours of use?
- Lake Casco: There is a lot of research regarding hours of use and percent of use which we will leverage and use.
- Eduardo Reynoso: How would the orientation work?
- Lake Casco: We are not planning to model but we would put it in the best living spaces that are in the models.
- Ayad Al-Shaikh: Based on the behavioral comments do you think this would address concerns that were seen in the past?
- Andres Fergadiotti: This is a good start.
- Armen Saiyan: Would the connected be similar to smart thermostats, in regards to operating hours?
- Lake Casco: We could do that and shave some of the operating hours from the smart thermostats.
- Annette Beitel: How do you make sure there are no gaps in the window?
- Lake Casco: There are sliders with weather restricting foam.
- Andres Fergadiotti: What type of data collection would you recommend?
- Lake Casco: Building type and existing conditions.
- Armen Saiyan: We can add these as surveys.
- Andres Fergadiotti: I would recommend the demographics, how many people are living there, etc.
- Annette Beitel: Are you going to be collecting NEBS or calculating NEBS? Might be done during data collection, or after.
- Lake Casco: Yes, this is something we are going to do using ASHRAE 55.
- Adan Rosillo: Have you considered building code? If you alter the building enough then you will have to comply with ventilation (T24), power, and other things.
- Gary Fernstrom: Building codes usually do not apply to portable appliances, there is no way building codes could address this.
- Lake Casco: This goes through the window so it does not affect the envelope and plugs into an existing outlet, will run off 120 and are made to run off existing infrastructure.
- Adan Rosillo: Some window units need their own circuit because of the power requirements, a lot of AC units require their own plug even though they are made for existing plugs.
- Lake Casco: We will look at these electrical considerations with LADWP.
- Armen Saiyan: It can be included in the documentation that will be provided to the customer. This will not serve the entire home.
- Anders Fergadiotti: I think this is a good measure.

George Beeler (via chat): Regarding portable HP I just found a unit Whynter ARC-14SH 14,000 BTU (9,200 BTU SACC) Dual Hose Portable Air Conditioner and Portable Heater with Dehumidifier and Fan. This Energy Star Rated 14,000 BTU portable air conditioner features CFC-free Green R-32 refrigerant and lead-free RoHS-compliant components; Noise is kept to under 56 dBA

Solar Attic Fan, Residential (LADWP / TRC)

Steven Long: Part of the effectiveness of the attic fan is the venting, how would you address the venting if they do not have any?

- Lake Casco: That would probably be an eligibility requirement.
- Steven Long: I am just curious on the status of the advice letter that was put out there a while ago for PV equipment.
- Gary Fernstrom: We should collect data and ask vendors or manufacturers to provide data on CFM and develop a metric.
- Lake Casco: We are looking into this and asking questions on the different metrics and requirements for when you install attic fans.
- Gary Fernstrom: One of the concerns I would have is the size of the solar panel, maybe generating 25-35 watts. We want to make sure that they are not less powerful than the air they can generate.
- Lake Casco: They all use ECMs so they are pretty efficient fans.
- Andres Fergadiotti: You should look at the data regarding the life of this. They are great but what is the failing component.
- Steven Long: There is another industrial measure that might help you with the watts/CFM data that you might need.
- Myrna Dayan: Would you have scenarios where you have 2 measures being installed in one, attic fan and portable AC.
- Armen Saiyan: Potentially, this is not something we had considered.
- Eduardo Reynoso: If you do not know how much CFM you are pulling in, are there any rules of thumb for how big that hole has to be?
- Lake Casco: We would have to look at the building code.
- Armen Saiyan: This would have to be an evaluation question.
- Anders Danryd: The solar water heating is displacement rather than generation.
- Armen Saiyan: PV is for that specific end use and nothing else.
- Eduardo Reynoso: Is this considered add on or normal replacement?
- Lake Casco: Both.
- Anders Danryd: You might be able to claim building weatherization to help the EUL.
- Spencer Lipp: Some of the marketing strategies might be to go to roofers who are already doing this already, this will help you with costs.
- Armen Saiyan: We already are doing a lot with cool roofs and roofers so it could potentially be a strategy.
- Andres Fergadiotti: What set points are you considering?
- Lake Casco: We are asking manufacturers and gather information, let us know if you have any other resources that might be helpful.
- Andres Fergadiotti: How would this be more beneficial than the typical attic fans?
- Lake Casco: It is not plugged in, and many homes might not have an attic fan.
- Armen Saiyan: The worst case scenario for savings would be removing the power from the existing attic fan.

George Beeler: From my personal experience large 24" throat Ø turbine vents work well substituting for a whole house fan for night cooling. Using a round duct disk damper with a gasket makes for very low air leakage in winter.

IV.Metric 8C: Workplan Procedure and Template

Presenter: Arlis Reynolds

Materials: [1] & [4]

Armen Saiyan: What would be some examples? The custom initiative?

- Arlis Reynolds: Yes, however, the new screening would be a good example. We are only voting on the template now, but we can modify later on.
- Armen Saiyan: Can we change it moving forward?
- Annette Beitel: Yes, and we can always add and modify as necessary.

Workplan Template: Cal TF Approved.

Anders Danryd: I would support consolidating the permutations since the number of permutations are blowing up currently.

- Myrna Dayan: A lot of permutations can cause errors in selecting the wrong ones.
- Annette Beitel: We have had good luck with the commission before so hopefully this is something that we can get support on.

Moving forward with the ISP whitepaper: Cal TF Approved

V. Custom Update

Presenter: Arlis Reynolds

Materials: [1]

Steven Long: What was the disposition on Pump Overhaul?

- Arlis Reynolds: Pump overhauls would only support one per customer and any others would be free-riders.
- Steven Long: They started doing that a few years ago and I guess it is continuing.
- Arlis Reynolds: Glenn thought there would be other barriers that might make this a non-attractive measure.
- Lake Casco: This can maybe be part of the ISP.

Charles (Chass) Ehrlich: The first set of measures that Cal TF should pursue are hybrid or semi-deemed measures. Developing a simplified approach for permutations that do not exist in the eTRM. There are a lot of measures that can be put on the table very quickly, it would simply just be looking up savings values and either averaging or scaling.

- Gary Fernstrom: Yes, I would agree with that.
- Arlis: Chass can you please expand on that?
- Chass Ehrlich: There is a CEC memo where if one MAT does not apply then we would go ahead and pick another permutation, either Ex or Any if the New vintage is not available.
- Annette Beitel: Is this more for custom or deemed?
- Chass Ehrlich: There is a thin line, it is not specified in the memo and this is something that our programs are having issues with.
- Gary Fernstrom: I was referring to the standard custom approach to make the custom measures easier.
- Annette Beitel: In terms of technical and streamlining the review process?
- Gary Fernstrom: Yes, exactly. My experience is that customers might see different review times and comments for very similar measures.
- Chass Ehrlich: Yes, how would reviewers look at this.
- Gary Fernstrom: I see it as pretty much the same thing.

- Arlis Reynolds: Similar to hybrid measures there could be both a streamline approach to calculate savings and a streamline approach in the review process.
- Abhijeet Pande: I would agree with Chass and Gary, if there are things that follow the hybrid path then it would be good to draw a line with how other measures could follow the same approach.
- Annette Beitel: Looking at other jurisdictions that already have hybrid measures and seeing how other jurisdictions do the regulatory review and evaluation. Sometimes we complicate things in California but looking at other jurisdictions and seeing what works and presenting to the CPUC would be helpful.
- Lake Casco: Yes, have them agree on the approach where they might only check the 3-4 site specific inputs.
- Gary Fernstrom: I see the measures that have variable speed technology would be good, a simplified calculation tool would make these measures a lot simpler.
- Steven Long: Was that not the genesis of what we were working on in the custom measure group? Some of these measures might be better than looking at something new. The big challenge would still be the influence.
- Arlis Reynolds: Correct, the fewer site specific inputs needed would be better.
- Chass Ehrlich: When talking to a SW implementor is that influence should be taken off the table, that is just one opinion.

VI.eTRM / Existing Measures

Presenter: Ayad Al-Shaikh & Tomas Torres-Garcia

Materials: [5]

Steven Long: Does this process also include New Measures? That is information people want to be aware of, and we find out way too late in the process. If I want to start a new workpaper, there is no way to know whether others are already working on that other than to ask a bunch of people.

- Annette Beitel: Is that proprietary information? Will other implementers want to share that?
- Steven Long: Maybe up to a point, but there are other measures where implementers may have a common interest and may benefit from sharing information. Perhaps some measures are tagged to be confidential, but it would be good to share and improve awareness for the measures in process.
- Lake Casco: Measure development happens over months; measure reviews happen over months. Normal eTRM users cannot see what is in draft. It would be good to know what is in draft, what is the projection for measures in development or in process of being updated.
- Annette Beitel: We should have a table that shows measure updates in progress.
- Lake Casco: Perhaps we can share the measure change log, there are other components of the measure change forms.
- Steven Long: The emails that come up can cause more problems.
- Lake Casco: What should be included in notifications? Eligibility changes, savings changes, cost effectiveness changes (e.g. percent changes in savings, C/E, etc.; eTRM should be able to do that).
- Steven Long: Can new link to the report; the measure change descriptions may not be reliable because it depends on the person who wrote it.

- Armen Saiyan: Do you want that information while a measure in development? That could also cause problems because things change. Maybe instead of numbers, the description includes anticipated changes, up/down, etc.
- Steven Long: People who are planning measures need to be able to plan and anticipate the potential changes.

Lake Casco: This is at the measure level, right? Is there anything that shows sunseting at the offering level?

- Tomas Torres-Garcia: This report shows information at the measure level only. You can see offering level changes in the measure comparison report, but at a very high level.

Eduardo Reynoso: Is there a report that shows dispositions?

- Tomas Torres-Garcia: The dispositions approved in 2022 were added to the CPUC Disposition Placeholder references, the measure case description section in each measure will show you if there is a disposition associated with the measure or not. There is not report currently showing which measures have dispositions attached. I can see how that would be helpful.

Armen Saiyan: Do you have a log of the sunset measures prior to measures being sunset? I'm thinking of older sunset measures that you already have information for.

- Tomas Torres-Garcia: This list shows sunset SW measures and does not have legacy measures.
- Andres Fergadiotti: There is a list on the Cal TF website to show the list of measures that did not move forward. None of those have statewide IDs, but we could list the legacy measures.
- Armen Saiyan: That would be helpful because we are reviving some of those now.
- Steven Long: That would be good because with current changes, some of those measures maybe viable now.
- Tomas Torres-Garcia: We can look into adding those older measures to the list that exists in the eTRM.

Armen Saiyan: When does a measure drop off the report?

- Tomas Torres-Garcia: The measures will drop off each month.
- Lake Casco: Something similar to this would be useful for the "measures in draft" idea.
- Steven Long: Yes, with some description of what is changing, information like what is in the change log summary.

Eduardo Reynoso: CUPUC might not be getting all the measure package plans that have been submitted. Do we know what is triggering that?

- Ayad Al-Shaikh: Right now, what is appearing is new measure package plans associated with a draft. Once an item gets approved, the measure falls off the list. There is a check, if you submit a measure package plan (for an existing measure)

before you start your draft, then it won't show up on CPUC system. We have an enhancement to fix this.

- Tomas Torres-Garcia: All you need to do is create the draft before submitting a measure package plan. You don't need to start working on it, but you need to create it. The enhancement will be more of a check and we will discuss more at the 2pm meeting. Before you submit a measure package plan, the eTRM will not let you submit until you've created a draft.
- Anders Danryd: If there is an approved version of a measure, CPUC wants the measure package plan to be associated with the next version. I don't think the check is necessary. I advocate against this because, as I've been teaching people the eTRM, there are a lot of unspoken rules that "you just need to know." It's not easy to document.
- Steven Long: Some things are not intuitively obvious; it will help if you fine-tune over time.
- Tomas Torres-Garcia: The check (as an enhancement) will tell you exactly what you need to do before creating a new package plan. We are still working through this, but please do send me feedback.
- Annette Beitel: Would it be helpful for the eTRM core staff to have a pre-meeting on usability of the eTRM to have their user feedback? We want this to be very user friendly.
- Anders Danryd: Yes, the eTRM is very difficult to use for a new user. As we add more functionality, it gets more complicated.
- Lake Casco: It's not just how the eTRM works, it's based on what you're supposed to do. This applies to Measure Developers, not base users.

Eduardo Reynoso: Will the change descriptions be available via APIs or SQL in the future?

- Ayad Al-Shaikh: All the measure data is available through API today. We have some pretty advanced features. The report is meant to be emailed to you to have on your desktop when you want. For this conversation, we want to know which reports are helpful and whether there are pieces missing, etc.
- Steven Long: I'm trying to look at measures that are good for 2023+, but I must look at 2023, and then 2024. I'm not sure if I can do this using a customized report.
- George Beeler: I recommend "tailored" reports, instead of "customized" reports.
- Lake Casco: Can you get a custom report for just your subscribed measures?
- Tomas Torres-Garcia: This is on our future enhancement list.
- Steven Long: I recommend adding ability to look at fuel, sector, some higher level parameters. For example, if you are doing a program focused on a specific sector. MF housing has also been a challenge. Sometimes MF is in commercial, sometimes its in residential. I've had to go through manually; sometimes you can tell from the title, otherwise I go through building types. It would be good to be a report based on building type.

Lake Casco: Can I export all the permutations associated with a specific Building Type? I wish we could pre-filter by a specific parameter (e.g., building type, sector, subscription list, etc.) then the permutation download would be much smaller. The full permutation download can crash a computer.

- Spencer Lipp: The functionality exists in CEDARS.

- Tomas Torres-Garcia: Please keep sending in enhancement requests; we are looking at them constantly.
- Annette Beitel: The Cal TF team collects the entire list of proposed enhancements, and in the past, we've had a day-long charette to discuss and prioritize enhancements. We typically identify and prioritize the enhancement list once per year rather than on a rolling basis.
- Steven Long: Maybe semi-annually would be good to review.
- Lake Casco: The usage has also gone way up; this is a good thing, but also the more people use it, the more uses people have for it.
- Annette Beitel: We have a high number of users from W. Germany and other parts of the world.

Annette Beitel: Does the measure version comparison report compare text as well?

- Ayad Al-Shaikh: There is an enhancement request for that.
- Lake Casco: I get that question a lot – “what changed.” Comparison of text would be helpful for measure developers.
- Armen Saiyan: PowerBI does have some drilldown capabilities – e.g., for understanding the difference from one version to another, to understand the details behind the changes.
- Tomas Torres-Garcia: We can investigate that.
- Ayad Al-Shaikh: PowerBI is very powerful. The TRC page in eestats has the drilldown; is that the same?
- Armen Saiyan: Yes, similar feature. Another thing that occurred to me, regarding the list of future improvements. Most of the improvement requests are from funders. I'm wondering if we are getting feedback from other users. Most of the feedback and priorities is from the funders?
- Steven Long: Where is that? Is there a website?
- Ayad Al-Shaikh: Cal TF maintains an enhancement log of all the requests.
- Armen Saiyan: As user base is growing, we may want to solicit for feedback from broader users.

Steven Long: I think there was going to be an update on the PAs to include the RENs/

- Ayad Al-Shaikh: RENs can sponsor a measure now. If they want to create a measure, they can sponsor a measure. It will not require significant effort to add them to the PA codes.
- Steven Long: I think over time there will be growth in the other PAs (REN).
- Ayad Al-Shaikh: We can poll them to see if they want that capability.

Lake Casco: The custom permutations report – I've never tried to use that. Is that available now?

- Tomas Torres-Garcia: Yes, this is available at the measure level.
- Steven Long: You could have a measure specific report and a separate permutations report.
- Lake Casco: The CET downloads are really useful, if you could have a similar filtering as the permutations for the CET, that functionality would be awesome.

- Armen Saiyan: We do our own reporting through the backend. I wonder if we might be missing something.
- Ayad Al-Shaikh: The data is the same.

Steven Long: There have been a lot of great changes in the last year; I'm able to grab a lot of data that I couldn't grab before.

- Sean Lim: We would want to be able to download certain permutations using the API.
- Ayad Al-Shaikh: Please share ideas on what type of calls and filtering you want.

VII. BP Metric 6D: Provide Relevant Regulatory Updates to Support Cal TF Membership in Staying Informed with Regulatory Requirements

Presenter: Annette Beitel & Arlis Reynolds

Materials: [1]

Spencer Lipp: One issue with dispositions is that one PA would get them then it would be up to that PA to communicate it. The communication is broken.

- Steven Long: It is worse now since there is more implementors, it's a really big challenge. I would say it is harder than it used to be. Harder for implementors to get this data.
- Lake Casco: Dispositions come every couple months and they might not be applicable to the entire measure, they can be very specific to technologies. It is challenging to pull all these types of information together, memos/dispositions/etc.
- Spencer Lipp: Different utilities have different perspectives.
- Steven Long: Another challenge is knowing what people have and how to get the information. Dispositions are not a good way to communicate technical information.
- Annette Beitel: The best place to start is deemed but tackling the custom disposition data base can be helpful as well. Let's create a rulebook system, the principal will be the same.
- Spencer Lipp: There is a SW rulebook for custom and it is very outdated, and references are incorrect. Sometimes it is not complete.
- Annette Beitel: If we have a rulebook then we will need it to be law. There was a deemed rulebook before, but it was never approved by the CPUC.
- Spencer Lipp: The custom rulebook is on the CPUC website, someone just needs to take a comb, but no one had the time to do it.
- Armen Saiyan: The format of the rulebook would address somethings, but the dispositions are measure specific so not sure how that would fit into the rulebook.
- Annette Beitel: You can have sections on general policies, then a section on technologies and then the differences (swap coolers vs heat pumps). This would take effort and time, would it be useful?
- Steven Long: Yes, it would be, it must be official and there needs to be a process for updating this.
- Anders Danryd: It would be better if they do it since they are the ones approving it.
- Annette Beitel: If Cal TF does it then we would need to have the CPUC approve it.
- Lake Casco: Maybe writing up and proposing to CPUC would be best.

- Peter Biermayer: Sorry for being late, it got pushed back for a few reasons. I think it would be a document that should always be up-to-date. Anytime anything changes then immediately update it. We are putting everything in one place now, CEDARS.
- Annette Beitel: When will the rulebook be posted on CEDARS?
- Peter Biermayer: Hopefully by the end of February.
- Annette Beitel: Would you be opened to have Cal TF members reviewing the draft?
- Peter Biermayer: We just send it out to the key people and ask them to send it to the people who are available.
- Annette Beitel: Would you be opened with Cal TF Staff following up with you to see who we can distribute it to. Can we provide suggestions on how to keep it updated?
- Peter Biermayer: Yes, you can go ahead and provide suggestions. We currently do not have a plan on who will update it in the future.
- Annette Beitel: Will this be an official document?
- Peter Biermayer: Yes, if there are questions that it does not answer please contact DEER support and cc me.
- Steven Long: When you say measures that is nice, but you talk about refrigerant and water, and they are related to how you develop the workpaper.
- Annette Beitel: We will refine it, but yes they are proceedings related to measures which would be useful to explore.
- Steven Long: Not sure where you might draw the line in cost effectiveness.
- Annette Beitel: Yes we will redefine, we wanted to get initial input to draft the workplan.

VIII. Measure Property Data White Paper

Presenter: Ayad Al-Shaikh

Materials: [6]

Sean Lim: Are there parallels with the data collection requirements?

- Ayad Al-Shaikh: Yes, but also program requirements and program exclusions. There will be an API connection to this.
- Lake Casco: Have the eligible sources for each validation item been approved by CPUC? What is the acceptable documentation?
- Ayad Al-Shaikh: They were invited but it has not been approved. But there are other very important areas that we can tackle like product/model number.
- Lake Casco: There should be a way that should tell people what the best way is to do it, cut sheet or nameplate.

IX. Closing and Next Steps

Presenter: Annette Beitel

Materials: [1]