DOCKETED	
Docket Number:	19-OIR-01
Project Title:	Load Management Rulemaking
TN #:	232502
Document Title:	Transcript of 03-02-20 Staff Workshop
Description:	N/A
Filer:	Cody Goldthrite
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	3/23/2020 2:43:38 PM
Docketed Date:	3/23/2020

STATE of CALIFORNIA

CALIFORNIA ENERGY COMMISSION

In the matter of:	)	Docket No. 19-OIR-01
	)	
2020 Load Management Rulemaking: Draft Tariff Standard Amendments	)	RE: Review of Draft Tariff Standard
	)	
	)	
_____	)	

STAFF WORKSHOP
Held at the
California Energy Commission
Warren-Alquist State Energy Building
1516 Ninth Street
First Floor, Art Rosenfeld Hearing Room
Sacramento, California 95814
Tuesday, March 2, 2020

Reported by:
Susan Palmer, CET-124, CER-124

APPEARANCES

Staff from the California Energy Commission:

Karen Herter, Ph.D.
Daniel Johnson
Gabriel Taylor
Noel Crisostomo
Leah Mohney
Jacqueline Moore
David Nichols

Commenters and Attendees:

Dawn Anaiscourt, Southern California Edison
Gregg Ander, NAV consultant
John Anderson, Ph.D. OhmConnect, Inc.
Richard Aslin, Pacific Gas & Electric Company
Barbara Barkovich, Ph.D., California Large Energy Consumers Association
Rolf Bienert, OpenADR Alliance
Tony Braun, California Municipal Utilities Association (CMUA)
Edward Cazelet, Ph.D., TeMix Inc.
Tamara Dzubay, Ecobee
Laura Fernandez, BDSW, for CMUA
Madeline Fleischer
Martha Halek, State Regulatory Governmental Affairs
Emily Lemei, NCPA
Jessica Melton, Pacific Gas & Electric Company
Jennifer Montanez, San Diego Gas & Electric
George J. Nesbitt, HERS rater
Lawrence Orsini, LO3Energy
Henry Richardson, WattTime
Lekha Sridhar, WattTime
Jeff Stein, San Diego Gas & Electric
Nick Blar, SCPPA

P R O C E E D I N G S

MARCH 2, 2020 10:02 o'clock a.m.

MR. TAYLOR: Good morning, everybody. Welcome to the California Energy Commission and welcome to this Workshop on the 2020 Load Management Rulemaking. Thank you for joining us, those people in the room in person, and we have quite a few people online, so thank you for joining us there as well.

You will note that I'm not wearing a tie this morning. This is a workshop. We're expecting you to actually work and help us refine these regulations so that they are the best they can possibly be. If you are in the room and you are not an employee of the California Energy Commission, please come up and sit at the table. We'd like to pull everybody who is interested in joining this conversation and commenting on the record up to the table. We have microphones up here. We have a court reporter and we are recording this workshop as well. So we're trying to get as much valuable information from everybody in attendance.

The Energy Commission staff are welcome to participate in the conversation of course as well. I'm just trying to make sure that we get our guests at the table. So please do that now, if you can. I'm going to continue my conversation here just for a moment.

So I have -- when we're engaged in this conversation, we're trying to keep everybody to a reasonable length of speaking, so we do have a timer. Here is the timer, it's a three-minute timer. Please try to keep your comments to around three minutes per time you raise your hand. I don't want to have to use this timer, but I will resort to that if people are abusing the time limit and not letting others speak.

If you're online, please raise your hand when you want to speak, and we'll unmute you and give you an opportunity. If you're in the room, please just indicate you need to speak, and Karen Herter over here will be managing the discussion.

Thank you very much for joining us today. And I see there are quite a few people who are not at the table. Please do, especially if you're from any of the five utilities that are named -- all right, well, I'm not going to force anybody.

Okay, Karen -- oh, I have one more thing actually, yes, the housekeeping. So for those of you not familiar with the building, we do have restrooms over to this side and to the other side of the stairs. If there is an emergency, there will be an alarm that will sound. It is an extremely loud alarm, you will not mistake it. Please follow staff out the door and to the park across the street.

There is an alarm on that door over there that will probably get set off four or five times during the meeting. Just ignore it. It's just annoying.

Thank you, everybody, again for joining us. I'm turning it over to Karen here for a brief presentation, then we'll get into the discussion.

DR. HERTER: Thank you. Actually the presentation is the discussion, so if you would go to the first slide.

Hopefully everyone has seen the draft language online. It's been posted to the docket. There is a website. And if there are any questions about how to find that website or how to find the docket, please ask me afterwards and I can help you, to direct you.

This is a follow-on to the scoping workshop which we did on January 14th. And we discussed our purpose of the Load Management Standards in general. Today we're going to be talking about the Tariff Standard which is one of the four existing Load Management Standards in the California Code of Regulations. And the original standard required marginal cost rates. We are hoping to update those standards to include hourly and subhourly rates.

What I'd like to do today is just go through line by line, it's not a very long regulation, it's only about half a page, maybe 20 lines, and discuss what's in there right now and how the group and the stakeholders here in the

room and online would like to see changes to our draft wording at this time.

So let's get started right away. The first section is about the purpose and objective of the Tariff Standard. This standard requires that retail electricity providers develop rates based on marginal costs. That part was in the original standard, more or less unchanged. What's new is that they would submit the rates to the rate-approving body and to the CEC. Originally it was only to the rate-approving body. We're requesting that these also be submitted to the CEC and to make them publicly available -- this is the most important part -- for access by customers and their devices.

So the whole purpose of this is really to get hourly and subhourly rates offered by the utilities, voluntary rates offered to customers who could take advantage of them and also to publish them in a way that customers and their -- more importantly -- their devices can read the rates and automatically respond.

Fixed charges, rebates, and taxes associated with electric service are not subject to the standard. And the purpose of the standard, again, is to provide granular economic signals that enable increased demand flexibility through customer automation loads, with the goal of moving electric demand away from system load peaks and toward times

of surplus renewable power.

So these are the words right now, the draft that we're proposing, and we expect that many changes will be made to this before we submit it for the final in a few months. And we'd like to start the conversation on these three lines to see if there are any objections to what we have so far. And if not, we'll just keep going.

MR. ORSINI: I have not an objection but I have a question.

DR. HERTER: Sure.

MR. ORSINI: So you say you want --

MR. JOHNSON: Could you unmute his mic?

MR. ORSINI: Is this --

DR. HERTER: It's unmuted. In fact, --

MR. JOHNSON: Oh, it is?

MR. TAYLOR: It is working. Please --

DR. HERTER: -- just get a little closer.

MR. TAYLOR: Please introduce yourself.

DR. HERTER: Please state your name, yes.

MR. ORSINI: Lawrence Orsini with LO3Energy. My question is around the last sentence there, so shifting towards surplus renewable, at times surplus renewable power. I'm wondering for looking for a carbon effect from this or actually looking specifically to address renewable power?

DR. HERTER: Yeah. That's more of a general goal

and it's really a carbon effect that we're looking for. And so it could be reworded. Maybe a good way to reword this is to say towards times of the carbon-free energy, since that is our goal for 2045.

MR. ORSINI: Yeah, that would be my suggestion.

DR. HERTER: Okay.

MR. ORSINI: In the first meeting we had, the presentation I believe by WattTime showed that the carbon intensity and peak surplus renewables sometimes don't align, so.

DR. HERTER: Sure. Okay, that's a good point. Thank you.

Anything else?

MR. BRAUN: Hi. Tony Braun on behalf of the California Municipal Utilities Association. As I read the cross-referenced sections in the regulations, I just want to clarify. So you're anticipating these will be submitted to the Commission for formal approval, correct? So in order for the rate to go into effect it would require the approval of both the rate-setting authority and the Commission?

DR. HERTER: That's the way it's written right now.

MR. BRAUN: Okay. thank you.

DR. HERTER: Sure.

MR. JOHNSON: We've got questions online.

DR. HERTER: Sure.

MR. JOHNSON: All right. This is -- my name is Daniel Johnson. I'm helping with the Energy Commission running the WebEx today. We have some questions online, so I'm going to unmute and call your name, and then you can speak. Let's go ahead with George first.

George, go ahead.

MR. NESBITT: Nothing at the moment.

MR. JOHNSON: Okay. Please take --

MR. NESBITT: Sorry.

MR. JOHNSON: -- down your question mark. Thank you.

Let's see, okay, let's go with Edward.

DR. CAZELET: Ed Cazelet here from TeMix. On the last point, the purpose of the standard, it talks about shifting demand, but it doesn't talk about enabling flexibility to support the grid. So, you know, particularly with electrification coming, I suggest that it's important that both goals be in the standard.

MR. JOHNSON: Great. Thank you.

Next we're going to go to Barbara.

Barbara, are you there?

DR. BARKOVICH: This is Barbara Barkovich. Are you talking to me?

MR. JOHNSON: Yes. You can go ahead and speak to

the room right now.

DR. BARKOVICH: I am not prepared to do that yet. I was having difficulty getting into the WebEx and the phone number are disconnected, so I don't know what's just been said.

MR. JOHNSON: Oh, I see.

DR. BARKOVICH: So may --

MR. JOHNSON: Okay.

DR. BARKOVICH: -- may I reserve for later, please?

MR. JOHNSON: Sure, yeah. I'll --

DR. BARKOVICH: Thanks. Sorry about that.

MR. JOHNSON: That's okay.

All right, go ahead.

DR. HERTER: Yeah, I wanted to clarify my answer. And, yeah, I think that the answer to the question on approval by the CEC: just submission to the CEC, not approval by the CEC. So it's not so much an approval as just a notification. My apologies. I realized after I had said it that I had misspoken.

Okay, anything else?

Go ahead.

MR. ASLIN: Hello. This is Richard Aslin speaking on behalf of Pacific Gas & Electric Company. I just would like to get a little bit of clarification on the second

bullet point that fixed charges, rebates, and taxes associated with the electric service would not be subject to the standard. Does that mean that this tariff is not actually a rate that would be used to collect the revenue requirement for whatever the entity is?

DR. HERTER: The purpose of that, and we're happy to reword it to be clearer, is to make sure -- well, not to make sure, but that fixed charges, rebates, and taxes don't need to be hourly is really what that is saying. So the rate itself should be hourly or subhourly. Taxes don't need to be necessarily hourly or subhourly. Any fixed costs could be hourly or not. It's up to, again, the PUC, or the rate-approving body would make those decisions. That's beyond what we are trying to do here.

What we want to do is make sure there is a rate, a base rate that is hourly or subhourly. What -- some of the fixed charges, rebates, and taxes is the purview of the rate-approving body.

MR. ASLIN: Okay. Yes. Thank you for that clarification. I think that would be good to add a little bit of language in the actual proposed tariff to cover that.

DR. HERTER: Be happy to.

MR. ASLIN: And I just wanted to also say that I do have PG&E's comments. Did you want me to hold those until the public comment period, or how did you want to

handle that?

DR. HERTER: I think it might make sense to go through, since it's not very long, I think we have eight slides to cover the entire draft wording, and then we'll have the longer comments, --

MR. ASLIN: Okay.

DR. HERTER: -- the prepared comments.

MR. ASLIN: Thank you.

DR. HERTER: Thank you.

Great. Anything else on this slide?

Going once, going twice?

Great, okay, let's move onto the next. So here is where it starts to get a little sticky. Marginal costs and rates. Marginal costs were defined in the original Load Management Standard. And we think it's time to sort of update what that might mean. This is still a work in progress. Again, we're very much open to suggestions on how we might improve this.

Right now we're using wording from the California ISO that says marginal costs are defined as the costs in dollars per megawatt hour of serving the next increment of electricity of demand in the relevant load area, consistent with existing grid constraints and generators' ability to deliver energy to meet that demand.

In the original, Section 1621, which is the

General Provisions of the Load Management Standards, it was defined as "The change in current and committed future utility cost that is caused by a customer-initiated change in electricity usage. Total marginal cost may be divided into the commonly-known categories of marginal energy, marginal capacity, and marginal customer costs, or any other appropriate categories."

Now the final might be amended to use the California ISO wording. It might -- we might merge the two, but I wanted to get input from folks here and online to see if there were any major objections to either of those definitions or whether there was input on which portions are most important to include in the updated version, and any other issues.

MR. BRAUN: This is Tony Braun on behalf of CMUA again. A couple questions. When you say ISO wording do you mean it came from the ISO or that it just references what appears to be the ISO's market?

DR. HERTER: It came directly from the ISO.

MR. BRAUN: Okay. In thinking about the concept of marginal cost, I mean most of the time energy service providers, and I don't mean that in a defined way, undertake risk management and other types of mechanisms to try to hedge volatility of what might be the real-time prices that they're experiencing. How do you envision that type of

activity working here? Because you're going to have a lot of cost, actual costs that go into the risk management practices that tend to blend the more granular price signals. So help me understand the thinking in that regard and how that went into the development of this definition.

DR. HERTER: Well, we're trying to leave it sufficiently broad to allow a lot of flexibility on the side of the utilities and the service providers to manage that risk in a way that is appropriate for their service territories.

MR. BRAUN: I think as we study the language more closely, that's something that I think we might raise in rate comments is that -- I would actually expect every energy service provider that's actually doing their job to engage in these risk-hedging type of activities and not expose their customers to the volatility of the real-time price. And so that is obviously going to blunt the potential price signal. And then how do you flow that through to retail rates is something that needs to be carefully considered.

DR. HERTER: Sure. And keep in mind that the hourly and subhourly rates that we are hoping the utilities will offer we expect to be voluntary, 100 percent. We don't expect that all -- and so only the customers that want to sign up will sign up and only the customers presumably that

have devices that automatically respond will do that.

MR. BRAUN: Yeah. I thought through that question and, again, it's pretty complicated and I think we need to give it a lot of careful consideration. The utility is going to be undertaking these price mitigation measures for the whole of their customer base. So once you have opt-out type of provisions, then you get into a rate-design issue about how you're allocating the cost of the risk-management practices that have been undertaken. So it's just another layer to consider.

DR. HERTER: Sure. For sure a complicated issue.

Anyone else? Sure.

MR. JOHNSON: We have a question online, if you want.

DR. HERTER: Sure.

MR. JOHNSON: We have a question from Madeline.

Go ahead.

MS. FLEISCHER: Okay. Thank you. Just a question on the marginal costing, and this may be something that's on whether to amend the definition to match up the type of -- which is whether you guys are securing the fiscal carry over to negative pricing to customers. I think in terms of -- you know that the ultimate goal is automating some of the load flexibility with the system would probably be a good idea, but I wasn't sure what you guys would do about that.

MR. JOHNSON: Madeline, can you also introduce yourself, please?

MS. FLEISCHER: Oh, sorry. Madeline Fleischer with (indecipherable).

DR. HERTER: So the question was on negative pricing? So any details like that, we would -- that's a ratemaking issue, and we, the CEC, is at this point has no plans to get into ratemaking itself, other than setting very basic, foundational goals. The details of ratemaking, such as how to price negative, you know, costs is a little bit beyond what we hope to do here.

We expect that that would be addressed by the utilities as they created their own rates and submitted them to the ratemaking body.

MR. JOHNSON: Thank you. I think we have another question too from Barbara. Let me just check that.

Barbara, do you have a question?

DR. BARKOVICH: I do now. Thank you very much. Sorry. Yeah, I think the concern we have with the CAISO dollar-per-megawatt hour is the fact that that's not the only marginal cost. Not all marginal costs are volumetric. I think that Paul Nelson has submitted comments before noting that there are marginal costs that are capacity related and per-customer related, as you had in the original definition. And if you used the CAISO definition, CAISO

right now, although it's going to change with the Transmission Access Charge, only does have the volumetric costs, but that doesn't mean it's the only one that exists. In fact, it's part of the Transmission Access Charge; they intend to introduce a dollar per kW as well as a dollar per kWh metric.

DR. HERTER: Okay. Thanks, Barbara. Would you be willing to submit your comments in writing as well so we can take a look at that and get back to you on that?

DR. BARKOVICH: Yes, we will.

DR. HERTER: Thank you.

MR. JOHNSON: And can you also just introduce yourself for the --

DR. BARKOVICH: I'm sorry. Barbara Barkovich for CLECA.

MR. JOHNSON: Awesome. Thank you so much.

MR. ORSINI: Lawrence Orsini with LO3. So the point that customers are also going to be service providers in this framework if they have devices that can respond to provide service to the network, so it might be worth thinking through a bit how we classify customers in this.

DR. HERTER: So we'll take another look at the definition of customers and of service providers.

MR. ASLIN: So this is Richard Aslin from PG&E. So I'm just looking at this definition and I have to say

that PG&E hasn't put a lot of thought into this part of it so far, but I think it's not either/or. I think it's both. What you're looking at here is essentially the ISO definition is looking at the intra day incremental cost, whereas the prior definition is really looking at things that are more like medium-run marginal cost and long-run marginal cost that have to do with infrastructure build-out to serve load.

So it's really kind of a combination of what it is that you're really looking to get out of these tariffs. If you're just looking to get out of these tariffs some sort of like a load-modifying demand response for the very short term, then the ISO decision -- or definition is probably the closest to it. But if you're looking to do something more holistic that is going to influence demand over a longer period of time, then you probably need to think about the medium-run marginal cost and the long-run marginal cost and how that plays into it.

DR. HERTER: Great. Thank you. That's very helpful.

Anyone else?

All right. I think we are in...

All right. There's a short section on retail rates that says "To ensure efficient economic signals required for optimal load management, all retail electricity

rates shall be based on the marginal costs of electricity and shall recover the costs associated with the set of customers who elect that rate."

This is taken from the existing standard. It's revised slightly, but generally these words are already in the existing code. But we'd like to hear feedback on this set of draft language; or if everybody thinks they're great.

(Laughter.)

MR. ASLIN: Well, just -- Rick Aslin again for PG&E. So I think it's just really important to understand that based on marginal costs is a key thing there. Right now I don't believe that a rate that was purely based on marginal costs would recover the revenue requirement for the utilities because we have so much in the rates that's not marginal cost based. For example, depreciation of the prior investments.

So it's just really important that people understand that if you had a marginal cost rate, that would either over collect or under collect the actual revenue requirement. So it needs to be adjusted in some fashion. And how much adjustment there is is going to really impact how much impact the signal will actually have on changing customer behavior.

DR. HERTER: Um-hum.

MR. TAYLOR: I think it's important to emphasize

that the goal is not necessarily to change customer behavior but rather to provide a signal for devices to automate the behavior that customers want to see. So the size of the signal going back decades, you know we were looking at ensuring that the price on the peak was high enough that it would change customer behavior, but I think that this has changed significantly. Now we're just trying to provide a clear signal to the devices so that they can automate the needed behavior that the customer wants to see.

MR. ORSINI: I think the customer change might actually be interest in acquiring devices that could respond to the signal, so I'd have to agree with the benefit where we look at customer behavior as well. If we're going to incentivize flexibility at the edges of the network, that needs to be a focus.

MR. TAYLOR: Incentivization would be great. This is simply trying to enable, and then we'll get to the next step next.

MR. JOHNSON: We have some -- Barbara Barkovich.

DR. HERTER: Go ahead, Barbara.

MR. JOHNSON: Go ahead, Barbara.

DR. BARKOVICH: Sorry. Barbara Barkovich for CLECA again. I mean I think Rick's point is well taken which is that marginal-cost based rates, if you're only recovering the marginal cost will not recover the revenue

requirement.

I think there's also a nuance to the line that reads, "Costs associated with the set of customer" -- "Costs of" -- sorry -- customers who are on the rate, because you have to think about whether what you're trying to do is induce marginal behavior or whether you actually want to have cost-based rates. Otherwise you can get into the issue of cross-subsidies.

So it's one thing to be sending a signal at the margin for incremental use and another thing to be setting a rate such that the customers on the rate will not recover their full cost of service. And, you know, that's a longstanding debate that's gone on.

But one of the things that's happening now is recognizing the fact that if you create rates for customers, for example, with certain technologies, you want to make sure that those rates recover the costs from those customers and that other customers who don't have the technologies, they're not picking up the difference.

MR. JOHNSON: Okay. Thank you. Thank you.

We also have a question from George.

George, go ahead.

MR. NESBITT: Yes. George Nesbitt. I'm a HERS rater and we work in the capacity of working with consumers. And so I'm going to speak from a consumer perspective and as

a consumer.

And so it's the retail rate that we see and that we may or may not make decisions based on. And so I think with all the issues we face, trying to get to higher penetration renewables, we've got curtailment, you know there's carbon emissions, there's all these things the customer may not know about, may not care about, all they see is the rate. So we need rates that send the signal to the customer when to use energy, in general. And in specific there may be times to use more or less, and that could be automated or it could then be a manual consumer choice.

So I think if you tie -- I think the Energy Commission needs to think about what are the goals of load management, how does it support increasing renewable penetration on the grid, reducing carbon, but I think that if you only constrain it to one metric on the utility side, marginal cost, I don't know, I'm not an expert on all the utility side and everything, but you're probably going to get the wrong answer.

I think what you probably care about is how are these various rates -- how are the utilities -- what factors are they using to develop them, and then are those rates sending the signals that you want, that we need.

MR. JOHNSON: Okay. Thank you.

MR. ASLIN: If I could offer one just final thing, just picking up on the idea that these would be voluntary, rate programs that people subscribe to, my sense of it is that if these are going to be voluntary, the signal will have to be very strong in order to induce people to do this on a voluntary basis. I think that's been our experience with voluntary rates previously.

DR. HERTER: And that makes sense and it's an issue that we have been thinking about. It’s a difficult one. Thank you.

MR. RICHARDSON: Can I quickly add something to that?

DR. HERTER: Sure.

MR. RICHARDSON: This is Henry Richardson from WattTime. We just want to put in a piece that understanding customers' motivations may be beyond price, and so health damages or CO2, so that we're speaking to the original goal of the program, which is helping to create more renewables, not purely as rates but as doing something else, may be an important piece.

MR. ASLIN: Yeah. So -- again, Rick. Yeah. Thanks, Henry, for bringing that up, because I was also going to say that this will probably require a very significant marketing, education, and outreach effort that we need to be aware of and we need to be aware of the cost

of having that sort of effort. It will take a lot of effort to make people aware that these rates are out there, why they're out there, and what the implication of subscribing to that rate and acting according to that rate will be.

MR. RICHARDSON: And to go -- sorry. I'm going to go back a slide mentally to the marginal costs, because we've kind of been talking about rates and how consumers use them, but if we think about marginal costs there are societal costs and social costs to CO2 and other pollutants. If you're reducing load on a Central Valley powerplant that's polluting the local community, you see benefits beyond the costs that we're seeing in the retail or the wholesale definition of marginal costs, whether that's capacity or energy.

DR. HERTER: Thanks, Henry.

MR. RICHARDSON: I guess that would be any other appropriate categories captured but not explicitly stated in the last slide.

DR. HERTER: Great. Anything else on this topic?

All right, let's move on then. Okay. The next section, number 2, describes real-time tariffs as a tariff that incorporates a retail electricity rate that updates at least hourly. I think people throw around the term real-time rate, real-time tariff quite a bit, and people have different ideas of what that might mean. From our

perspective it's generally an hourly, 15 minutes, or 5 minutes, I think that's the standard. So based on day ahead or realtime energy market prices, one of the questions that we have is: Do we need to clarify this further? Do we need to say, for example, if it's based on the local balancing authority, which was one suggestion provided by a stakeholder.

Any comments on that?

MR. BRAUN: Hi. This is Tony Braun on behalf of CMUA. I think I'd like to give this some further consideration and consult with our members. Obviously the balancing authority areas have different operational regimes and their exposure to the ISOs real-time and they had pricing regimes that are different. But even within the ISO, load-serving entities take on various differing investments. And so, therefore, their exposure and to the real-time prices differs from entity to entity. And so I think we need to be careful about creating one definition that is attempted to apply to all. We may have an entity, for example, that is long in hours, in which the grid is actually increasing, trying to stimulate demand. So this requires a lot of consideration. I think BA, Balancing Authority, area distinction is probably a helpful one, but may need to go farther than that.

DR. HERTER: Great. Thanks, Tony.

Anyone else?

MR. ORSINI: Lawrence Orsini again. I think that when we consider how devices are making the edge of the network a lot more frothy and the need, actually, the reduced inertia that's caused by that in the network, I think moving to the fastest signal possible is going to provide the fastest response possible from devices at the edge of the network. I'd strongly encourage us to get as fast as possible. And not stand by in an hour, or 15 minutes, or whatever it might be, but, you know, what devices can respond to that. Because setting the standard for this today, it's probably not going to be relevant as the devices start to respond more quickly.

DR. HERTER: Agreed. And of course the trade-off is, you know, how much more difficult is that to do from a technical standpoint and from the utilities standpoint. If they can do it every -- can they do it every five minutes or one minute, or should they start -- we want to get something, you know get us moving in the right direction. So we don't want to make this so strict that it's not cost-effective. So to the extent that we can do it at five minutes and it's still cost-effective.

MR. ORSINI: I propose that from a cost-recovery perspective that actually there is a metric tied to the speed of the signal so that if you have devices that can

respond more quickly you're actually paid for that faster response because you're actually going to receive, you know, the economic benefits of that faster response as well, which would then align the utilities with economic incentive with providing a faster delivery of that data.

DR. HERTER: Agreed. Thank you.

MR. JOHNSON: We have a question online. Let's go to it.

Hi there. Ed, go ahead.

DR. CAZELET: Thank you. Ed Cazelet from TeMix. The language here that says the retail electricity rate updates at least hourly, perhaps isn't clear enough. If we look at how the CalISO updates, it's locational marginal prices, they do hourly for the next 24 hours or next day, perhaps each day about 1:00 or 2:00 p.m. And then there will be 15-minute LMPs published before each hour. And then there's further five-minute updating. So it's not quite clear what is meant by a rate that updates at least hourly here.

And if a customer commits to an hourly rate day ahead, how do they participate in, say, the 15-minute or 5-minute realtime prices if that's what they want to do, if they've already elected the day ahead price?

DR. HERTER: So again we're being intentionally vague in a sense. We're saying it has to be at least one

hour. The utility certainly has the option to do 15 minute or five minute. But if the customer wants it and the utility doesn't have it, I mean even now that's a problem, right?

I think what we're hoping to do is to put a threshold and say at least let's have hourly rates. Ideally, we want 15- or 5-minute rates, or whatever we can do, and it's cost-effective and the customers and their devices can respond to it. But just draw the line in the sand somewhere. And so we are proposing that we draw the line at one hour. But of course the utilities can do 15, 5, 1, whatever it is that they'd like to do.

MR. ASLIN: Yeah. So Rick Aslin again for PG&E. So, yeah, I think we need to keep in mind that it's more than just the signal. If it was just sending the signal and the device is acting on signals, five minutes might be possible, but now you're talking about driving this all the way through a billing system and generating a bill in a timely basis and being able to have all the support services to bill on the five-minute intervals. I think that's -- that's going to be a very expensive proposition. So I think PG&E would like to keep, you know, the hourly as kind of the -- that's what you need to do. And anything below hourly is what you can do reasonably.

And if we're ready to go that second, the second

part of it, the second bullet about the locational granularity, I think that's the more problematic. But --

DR. HERTER: Sure.

MR. ASLIN: -- do you want to move to that now or --

DR. HERTER: Yeah, let's move to that. Sure.

So the second part of this definition is, "And electric distribution conditions to reflect marginal costs at the" -- and then it's sort of a blank. We don't know how to define the granularity, locational granularity. And so the question is: Do we do it at the Zip code, do we do it at the Zip code plus four, do we do it at a transformer, something that's related more to the utility side or something more that the customer will understand?

So when we say Zip code, we think, well, the customer will know very easily. If they have a device that they need to say where they are, they might know their -- probably will know their Zip code. They might know their Zip code plus four. They won't know which transformer they are on, and so that might be more difficult if there needs to be input from the customer side. But from the utility standpoint, it might be simpler to talk about transformers or substations. And so I was hoping to have a conversation about how do we define locational granularity to help us send out the prices to an area that helps manage loads where

it's needed.

MR. ASLIN: Well, just for some context. So PG&E has 800 substations and we have 3,200 substation transformers. So if you took that and you had a five-minute rate, I mean that's an exponential calculation there. So you'd have millions, maybe even hundreds of millions of actual rates being sent out -- if you took it to that level of, let's say, the substation transformer.

And also many, many times these signals are going to be in conflict with each other. So, for example, if you're on a circuit which is near its loading capacity and that circuit is serving commercial customers, likely the high loading is going to be in the middle of the day. So you're going to be signaling people “don't use energy”. But then on the generation side, you're going to be signaling “please use energy”. So how are we going to resolve that conflict?

There will be many, many conflicts between these two signals.

DR. HERTER: Right.

MR. TAYLOR: And resolving that value stack, I think is one of the primary purposes of what we're trying to accomplish here.

DR. HERTER: It is. We're hoping to, again, get folks thinking about this. I know there are a lot of folks

thinking about this already, and sort of pushing them in the direction of solving these problems. We know that not all of the problems had been solved yet, but even in the process of creating these regulations it's not like this would happen tomorrow. You know, even if we put this in the code today it's going to be a couple of years before anyone would have to respond to it. So we have time, is the good news.

MR. ORSINI: If I might. Lawrence Orsini. I think it -- a lot of it depends on what problem you're trying to solve through the rate structure. So if you're trying to solve a carbon problem, and it's pretty ubiquitous then you have very slow signals for those sorts of things. It doesn't change carbon intensity on the network, it doesn't change that rapidly. If you're trying to solve a grid stability problem, then you need fast signals. So you don't need fast signals from everywhere on the network, you need those fast signals from the places on the network that are constrained or under strained or under served at that moment.

So maybe building in a differential where the consumer that is in those constrained areas sees that system benefit that they can provide and can respond to it. Because you don't need the consumer to respond when it isn't necessary for the network.

Back to your point about, you know, the billing

issues, there are distributed ledger technologies out there now that can solve some of those problems at a pretty fine level of granularity. So I think by the time this gets deployed and goes through its next iterations, those are going to be less important.

DR. HERTER: Thank you. And as for which problem we're trying to solve, I think we want to solve them both, ideally, --

MR. ORSINI: Understood.

MR. JOHNSON: -- or all of them.

MR. ASLIN: Well, so maybe we could talk about the timing a little bit later, but my understanding was that part of the timing was that we would need to submit these proposals in the next couple of years.

DR. HERTER: Yes. That's the draft language right now, has -- we'll get to it, but it's, I think, 2023 is the first date --

MS. [SPEAKER]: 2022.

DR. HERTER: Is it 2022? 2022, so, yes, a couple of years.

Any other recommendations, suggestion, ideas on locational granularity?

Great.

MR. JOHNSON: Go ahead, Ed.

DR. CAZELET: Ed Cazelet, TeMix again. So if the

customer registers for a rate, selects a rate, he doesn't really need to know whether it depends on a wide area or a very narrow area. And that can evolve over time as the signals get more granular. So if we're electronically communicating the rates to the customers, he doesn't need to know exactly how he's connected to a particular location.

MR. JOHNSON: Thank you.

DR. HERTER: I think the thought there is that if -- let's say I'm a commercial customer and I want to participate in a real-time tariff, so I buy a system that responds, it seems like I would need to tell that system where to go, how -- how to find -- again, this is a technical issue, but I think it's one we need to keep in mind.

If it's a utility program and the utility provides the technology, then, yes, then the technology will already know where it is in the system and where to find the signal, but if I'm buying something off the shelf at Home Depot, I need to tell it something in order to link me up to my rate.

MR. ASLIN: Well, I'm just going to say -- again this is Rick Aslin from PG&E -- that we need to -- we need to think beyond the signal. I don't dispute that you could send signals and that devices can act on signals, but when you tie it to a rate, that brings in a whole lot of other elements, for example, equity.

So if I happen to be a customer and I happen to be on a constrained circuit, should I be paying more for my electric service than someone who just happens to be located on a circuit that has plenty of capacity left on it?

Just a question.

MR. ORSINI: Yeah. No, just since this is a workshop, it's probably -- so maybe it's best to -- I look at this like it's a two-sided market. So, yes, you might be willing to pay more, but your services are also going to be more valuable where you have that problem. So when you think of value stacking, right, so if we've got carbon is the highest value, we've got grid resilience you know as some of the deepest, most embedded value, and the hardest to get to in the network, then sending that layered signal out so that as a consumer I can respond to gross value, like carbon intensity, or I can respond to an immediate value, where I am on the network at this moment, and be able to provide services that support that patch of network.

When I think about how this might affect from a ratepayer perspective, the rest of the population around them, again, they're providing grid services that could be doing things like preventing a blackout or solving congestion in the network, that's creating a grid-effective network.

MR. ASLIN: Okay, well, thank you for that. I

think that is a good clarification, because what you just described doesn't seem to actually be a rate. It's a procurement of a service. A rate is where -- and especially rates based on marginal costs would be where at least traditionally where we're trying to collect a revenue requirement that was incurred to build infrastructure to serve the demand, so the customers -- and what you're talking about is more -- there's like a procurement tariff that's available to procure these services from customers.

MR. ORSINI: Could be. I think this also fits into a rate perspective as well. I think the values in that value stack could actually be built into the rate itself, that the consumer is standing on a level playing field with the utilities to provide these services.

I'm a big proponent of performance-based compensation for utilities and really focusing network utilization, using a rate to solve some of these problems by exposing the consumer to the cost and benefit of these helps drive some of that.

MR. JOHNSON: Go ahead, George.

MR. NESBITT: Yes. George Nesbitt, HERS rater. So the rate and the signal aren't necessarily directly connected -- or don't necessarily have to be connected. As a customer I get a signal and I'm either going to automatically or manually respond to it. And where I am,

I'm going to get that signal based on where I am. And there's a lot of systems: OhmConnect, you've got, you know, Nest thermostats, Ecobee, there's various others. And they have a connection to you. They know where you are. They are getting signals from the utility and they know who to send out the signal to.

When we have something like a statewide Flex Your Power Alert, that's kind of broad, and people respond to it. Now whether their response actually really helps with whatever the problem is, maybe or maybe not. So I think we have the technology to send signals to the class of customers to get the response when and where we need it.

So if a commercial, a high commercial user really needs to use less, they're going to get that signal. But if other people in other places need to use more, they should be able to get that signal. As a customer I don't really care what level that is. I'm just going to get the signal and I'm going to respond or not. So thanks.

MR. JOHNSON: Thank you.

Next we have Ed.

DR. CAZELET: Ed Cazelet again from TeMix. The issue of how do we have very -- highly variable tariffs and how do we deal with the equity problem of, for instance, some customers are being high priced because they're in the congested line is at least partially solved with a two-part

subscription type tariff. It's similar to what SCE has proposed in the workshop and what TeMix and others tested during the Retail Automated Transactive Energy System Pilot funded by EPIC.

The idea there is customers subscribe to a pattern, a profile of electricity consumption at a fixed annual, fixed monthly cost. And then for deviations from that, they pay the hourly, 15- or 5-minute price, and -- or they get paid that if they use less. What it means from an equity point of view is you can provide lower subscription cost to customers but still give them the opportunity to save at high prices or purchase at low prices, where the opportunity arrives for them using optimization.

And, again to repeat, it allows you to create the kind of very highly variable real-time pricing that can reflect negative prices all the way up to situations where we have very high ramps and the prices might be equivalent to thousands of dollars per megawatt hour, without inducing a large variability in customer bills or utility revenues. Thank you.

MR. JOHNSON: Thank you.

DR. HERTER: Okay. Unless there are any objections, I think we'll move on. We're about halfway done.

All right. Here are the dates that we're

proposing that utilities submit rates: By July 2022 and 2023 -- and/or, I should say. So both of these are in there right now, with the idea that if the universal real-time rate, which is defined as one rate, and it doesn't matter what kind of customer you are, it only matters where you are and when you use it, if that's an idea that is too difficult to do right away and we need to start a little simpler with something for each sector, then we can have this sort of shorter-term goal of 2022. We just have an hourly rate for each sector. And then sort of brainstorm how do we start moving towards a rate that would be applied to any customer in the same time and the same location.

So I'd like to get input on what do people think about -- so I'd had conversations with some stakeholders on the idea of moving towards a universal real-time rate as a way to simplify tariffs for utilities. Right now, of course there are hundreds of tariffs. It's very complicated. One potential way to simplify them to start using marginal cost rates based on time and location. Is that something we can do? Is it something we should do? And, if so, how hard would it be, and can we do it by 2023?

Thoughts?

MR. ASLIN: So Rick Aslin again for PG&E. Our thinking here is that these deadlines are a little too aggressive given all of the concerns that will arise during

the workshops and the conversations that we'll inevitably be having over the next couple of years.

I think our preference would be that the language be changed to start up something that looks a lot like the statewide pricing pilot that was run prior to the rollout of the TOU rates. I think that was very instructive and it did allow for the testing of many different designs of the tariff. And of course it's voluntary. You have to volunteer to be part of that pilot. And also it spans across the IOUs and the many other load-serving entities that are now in California. So we have all the CCAs and we have the municipal utilities, we have irrigations districts, we have direct-access providers. You know we have a whole multitude of entities that are serving load now.

So I think just focusing on the IOUs is not going to be the best solution. I think the better solution would be let's all engage in a pricing pilot that takes place over a few years and let's look at the results of that and then let's decide what to do.

DR. HERTER: Okay. I have a couple of clarifying questions on that. When -- well, when you say a pilot, how is a voluntary rate different than a pilot?

MR. ASLIN: So the objective of the pilot would be to understand how different customer classes will respond to various designs of a rate. So the very purpose of the pilot

is to understand. It's a study that takes place so that we can understand how customers will respond. What will the uptake be, how do customers like being on these rates, what are the unintended consequences of these rates, what rate designs work for which populations, and things of that nature.

If it's just proposing a rate that would actually go into place and customers would actually be billed on, then that is a much riskier proposition for customers and for the utilities and for any load-serving entity who is engaging in these rates.

DR. HERTER: So is the difference then that they would actually be billed on them in a real tariff, and in a pilot that would not be an actual bill or...?

MR. ASLIN: Yeah. So generally for PG&E at least when we run a pilot, yeah, we're not running the whole thing through our existing billing system and our existing, you know, IT infrastructure, which takes a lot more time and money to integrate all these things into those larger systems.

DR. HERTER: So the main difference from your point of view would be the billing issue and the billing system?

MR. ASLIN: It's billing and it's all the IT infrastructure that would be required in order to support a

certain rate design. So we don't want to build that all out and then have a rate design that doesn't work. It'd be better to pilot a number of different rate designs, figure out which one will work, and then adopt that, and then you can build that into your existing infrastructure for all your IT and for your billing.

DR. HERTER: Thank you.

MR. BRAUN: Can I ask a clarifying question? So that's intriguing. Would you still have binding financial implications for the entities that are participating in the pilot?

MR. ASLIN: That would be a question for the pilot-design team.

MR. BRAUN: Yeah.

MR. ASLIN: So the way the statewide pricing pilot was run before the time-of-use rate rollout, there was a whole governing structure around that. So there were a lot of committees and things like that that worked on the design and then worked the whole thing through to the end. And at the end, I think it was beneficial to have done that because we much more understood what the actual impacts of the time-of-use rates were going to be and that if they were voluntary versus let's say mandatory, what the difference was going to be with that.

MR. ORSINI: I might submit that technology is

going to force the needs and change for the IT infrastructure upgrades anyway, as well as the needs for the -- the need to start adapting billing systems. Because you've got consumers who are now prosumers. You've got a lot of reactive and transactive devices that are showing up at the edge of networks. That's not going to stop. It's being driven by consumer choice. So I don't see a real purpose in delaying from a cost perspective doing those upgrades because in the foreseeable future I don't think we're going to see fewer transactive or reactive devices at the edge networks, we're going to see more.

MR. JOHNSON: Tamara, go ahead.

MS. DZUBAY: Hi. My name is Tamara Dzubay. I'm the Regulatory Affairs Manager at Ecobee. And I just wanted to kind of chime into that point because we did a really large study this past summer where we actually offered time-varying rate optimization to a large pool of our customers in California. And one barrier that we saw was just lack of customer education on the name of their tariff. So even when they were presented with a list of available time-varying rates in their Zip code in territories where we know there is almost a hundred percent of people on time of use already, it was really just a minority of customers that could identify the name of their tariff. And so it's been thinking through like how could IT infrastructure help solve

that, potentially by using load-management providers databases that could compare to utility customer-information systems. It would really help scale cost-effective load management and reach a lot more people.

I just wanted to make sure that all the stakeholders are aware of this research that we have. And as we start the conversation around how would IT infrastructure need to change to allow for it, just the thing to point to when you're thinking about like what is the level of awareness of the actual customers' awareness of their tariff name.

MR. JOHNSON: Thank you.

Let's see here.

DR. HERTER: Can I -- I'd like to ask a follow-up question on that.

MR. JOHNSON: Oh, sure, go ahead.

DR. HERTER: So are you suggesting that customers get better education or is there another solution to that problem?

MS. DZUBAY: So in the case of Ecobee, we have an energy control platform where utilities can see the tariffs that customers selected through our thermostat optimization program called Ecoplus. So one solution that we have talked to some utilities about is if there is a way for them to match in the background those customers' rate selections

against their customer information systems so that they can go ahead and verify the rates customers have selected on their devices or correct them if customers have actually entered the incorrect tariff name, or in cases which we saw which was really probably like specifically in SMUD where we know there are a majority of people on a time-of-use rate, we had the majority of people tell us that they're not on a time-of-use rate, and so they left that blank. So in the integration with utility IT infrastructure systems like that, we could help deliver time-of-use optimization to a lot more people by not having to worry about the customer-rate education issue.

And we could provide feedback to customers where, you know, we were able to match you with your rate and let them know that, you know, do you want automated load management and you don't know the name of your rate, would you like us to match you with that. Work with your utility to match you with your rate. And so we kind of see that as like a better solution to scale effective load management, because I think that customer education is going to be a barrier no matter how much money is invested in marketing and education programs. I think it's important, but we think at least in the system we have developed, and we don't know of other technology solutions that have attempted to do this by offering customers free time-varying rate

optimization, but we think that the more technologies that start to do this, they're going to see the same issues that we have seen, with a lack of customer education around the name of their tariff.

MR. JOHNSON: Another. He's on a phone, so I will find him really quick.

Okay, go ahead, John.

DR. ANDERSON: Thank you. Good morning. This is John Anderson with OhmConnect. We are a third-party demand response provider in the California market.

I just wanted to piggyback a little on the prior comment and mention something that we'll flesh out some more in our written comments, but I believe there is a very strong role to be played for third-party implementers in this whole real-time tariff setting. In particular, when I think about all of these systems that the utilities have developed to support the Rule 24 demand response ecosystems, the systems for customers to authorize data sharing to a demand-response provider, it seems to me that many of these systems could lend themselves very naturally to a customer choosing a third-party to help manage their experience on a real-time tariff, whether that's through messaging, data analysis, control of the device, and so forth.

And so I want us to be mindful of that for a couple of reasons. I think one, these companies, like

ecobee like OhmConnect has proven themselves to be very adept at customer engagement and educating customers and getting them to participate in managing their energy in new ways. But also I think these companies could bear a lot of the cost that might otherwise fall to utilities and to ratepayers, creating customer awareness and recruiting customers onto these rates. So as long as there is a clear business incentive for third parties to support customers' participation in these rates, I think we can lean, in large part, on the third-party ecosystem.

MR. JOHNSON: Great. Thank you.

MR. ORSINI: Karen, can I ask a question on the first paragraph?

DR. HERTER: Yes.

MR. ORSINI: Just to the room: What's the practical benefit of developing multiple tariff structures per sector? Is there a practical benefit to that?

DR. HERTER: No?

MR. ASLIN: Well, I can say for PG&E we did talk about this a little bit. We haven't given it a lot of thought, but, yeah, we did ask ourselves that same type of question. I mean if you're going to go with this sort of, you know, really almost wholesale change from the current rate architecture, sending -- or having a rate for specific devices might not be the best approach. It might just be,

you know, here is the cost to serve you at your location, regardless of who you are. Many of the things that are in the current rates, they're in there for noneconomic reasons. They are in there for reasons of equity. They're in there for reasons of social policy. Those are all very, very legitimate and good things. So we need to be careful that we're not getting into unintended consequences by moving to this more like pure economic signal sort of point of view, that we're not losing all of the other things which ratemaking has encompassed over the last many decades to serve customers and Californians.

With respect to what John was saying from OhmConnect, I mean I think that is another thing that we could study in the context of a pilot, is who is delivering the various services that are helping customers to manage these more dynamic rates. That would be an interesting question to try to work out in the context of a pilot.

MR. JOHNSON: Go ahead, George.

MR. NESBITT: Yeah, George Nesbitt. The idea of a universal rate of course sounds great. It'd be easy, there's only one rate. But I think, you know, and said, there are reasons why there are different rate for different classes of customers. And we do have different load profiles and there are reasons. And there's probably then different signals we need to send people based on their

general class and location. So a universal rate might not actually allow us to do what we need.

And I do think we've had plenty of cases where things have blown up, like mandatory time-of-use rates with solar electric. You know we've had problems with our attempts to deregulate the retail side. And so ratesetting is hard and the idea of piloting and there are, I think, many ways -- you know, you want to figure it out. And this is a great time for opt in when you pilot and you want to try to figure things out.

But I think the lesson overall is opt out gives you far more participation, whether it's saving for retirement or changing to the CCAs, or whatever it is. Less people will opt out than particular will choose to opt in to a system. And we're ultimately going to have to change the majority of people's behavior and use in relationship to electrical consumption in order to be successful. Thanks.

MR. JOHNSON: Thank you.

DR. HERTER: Okay. Any other comments on this slide?

Thank you for all your comments, by the way. I'm taking lots of notes.

All right, let's move along then. We're getting near the end.

All right then. Public information. So obviously

if we have rates that change regularly, we're going to need to publish those rates to customers, to devices. So we're including a section, most of it was already there, "Electricity providers shall ensure that information regarding existing and future rates is accessible to the public and their devices."

"Data and Methods." So here's one that's up for comments. "Prior to the fifth business day of each month, retail electricity providers shall submit to the CEC for aggregation and publication a current database of prices and calculations for all approved rates." And again approved rates here are by the rate-approving body.

But the question has to do with the comments that I have received from stakeholders that there needs to be a public database of rates that can be accessed by devices. This sort of is similar to the comment about there needs to be a way for the devices -- the device manufacturers to know what rates the customers are on. Where should these databases be stored and what format and by whom? It's sort of an open question.

So in the draft language right now I said, well, we're the ones that are creating the problems, so we'll provide the solution. But we're quite open to other solutions, whether there needs to be some other repository for rates that can be accessed by devices.

Many of you are probably familiar with the utility rates database that was I think created by NREL and funded by the DOE and it's posted now on OpenEI.org. That rates database is not updated regularly, but something along those lines and something that is a little more flexible to handle day-ahead rates, hourly rates, subhourly rates would be preferable. So -- thoughts?

MR. JOHNSON: Go ahead, Ed.

DR. CAZELET: Yeah. So for these dynamic rates or prices, at least we need APIs that will either push or allow customers to pull the current hourly or 15-minute prices for their particular location and for their sector if they're sector dependent. A static database of rates might be useful for history or to describe what particular rates you're on. But an API that is machine accessible I think is essential.

MR. JOHNSON: Thank you.

DR. CAZELET: Thank you.

MR. TAYLOR: Are there any manufacturers attending that would care to speak to this? I've had many discussions with manufacturers in the past about the need for this type of a signal. And that's largely at least in part where this language came from, but it would be great to have something on the record. If you're not comfortable speaking, maybe you can submit something in writing.

MR. ASLIN: So Rick Aslin, PG&E. My only comment here is that we just need to be very cognizant of the need for cyber security for this sort of application. I mean I would hate to see, for example, someone hack into, you know, a battery storage rate and somehow play around with that and then have all of the battery storage devices like either charging or discharging at the same time causing havoc on the system.

So long as we're very cognizant of the cyber security issues associated with this and those are addressed, I think the idea of having a central repository for rates is fine.

MR. ORSINI: Lawrence Orsini. So I don't think it matters where it is. I think it's important for it to be certified, so it needs to be signed, it needs to be encrypted obviously. Having the CEC own it, I don't -- you know, I don't know what that means, so maybe if it's on the CEC's database, it doesn't need to be there, right. I just needs to be certification that these are the rates at the right time, that you can verify. So there are plenty of machine ways to do this.

DR. HERTER: Okay. Let's move along, unless there's something else.

So another way to publish data, we are suggesting that we use OpenADR as sort of a server to server

communications and publishing of day-ahead, hourly, subhourly rates. This is an IEC standard. I think that most of California, large California utilities already use OpenADR so we don't except that this would be much of a burden on utilities.

The words in italics there are just words that will probably disappear simply because regulations don't allow for that sort of thing, but any comments on OpenADR as a standard? Objections from utilities on this? Comments on how this could be used, does it negate the need for a central repository because now we have an OpenADR server that can be accessed? Thoughts?

MR. JOHNSON: Someone online here.

Go ahead, Rolf.

MR. BIENERT: Hi, there. This is Rolf with the OpenADR Alliance. Just a quick question. And of course it would be great to hear from the utilities and so on. Of course in my capacity I fully appreciate this here, so thank you for putting it there.

I think during the hearing the other day we also mentioned that some of the prices in fact should be broadcast to some extent or just made available. So I think -- Karen, I believe we discussed sort of two ways here, right? A simple publishing pathway, potentially on just a website that can be pulled. And then the more specific

price communications using OpenADR here. Is it still the case that we are thinking about these two pathways?

DR. HERTER: I'm sorry. Could you ask that last question again? We lost you just for a second.

MR. BIENERT: Yeah, absolutely. Yes. Just to lead in again real quick, I think I believe Denver also from SMUD had presented that they are, for instance, testing out publishing prices just simply by posting them on some kind of an API on the website. And then of course OpenADR is a little more specific in its communication with the devices. So the question was: Are we still considering actually both of these pathways?

So one would be just simply publishing, and I probably shouldn't say simply because it's published, you know, not that simple. But publish in these prices on an API or website as one pathway. And then again the more controlled, specific way of publishing it through OpenADR. Are those two pathways still being discussed?

DR. HERTER: Yes, yes. So that the slide previous to this one was the first simpler way of just sort of publishing it to website or using an API, something along those lines. And then this is the more -- yes, this is the OpenADR version. So those are the two versions.

MR. BIENERT: Okay, perfect, yeah. No, I just want to confirm because I think we have some slightly

different wording that was earlier discussed. Okay, cool. Thank you.

MR. JOHNSON: Thank you.

We also have Ed.

Go ahead, Ed.

DR. CAZELET: Ed Cazelet from TeMix here. So the -- I believe this says that you shall publish all time-dependent rates using this IEC OpenADR standard. The -- does this preclude other ways of publishing that the prices, the rates -- but require that you also publish it in the IEC standard? And then --

DR. HERTER: It definitely does not preclude publishing it in other ways. This is a minimum standard.

DR. CAZELET: Okay. I just point out that the IEC standard is -- it's a very large document, costs about $400 per developer seat -- it's more than 200 pages long. And for the purposes of publishing prices, it's really a large investment, say, for a new CCA or a third-party provider to get involved just for dealing with price publications.

And the current IEC standard does not yet and OpenADR does not yet include transactive tenders and transactions. And while the OpenADR Alliance has proposed including these in the OpenADR standard for California, that hasn't happened yet. So the concern here is by restricting or putting so much use on this IEC standard that is large

and complex and really was originally developed not just for price publication but event-based demand response, we're just really inhibiting flexibility in how we deploy tenders -- I mean deploy tariffs and restricting I think the flexibility of vendors and utilities and CCAs, that sort of thing, to innovate in their tariffs.

I submitted some written comments on this to the CEC website, and they have already been posted. Thank you, Karen.

DR. HERTER: Thank you.

MR. JOHNSON: Thank you.

We have another. Let's go back to John one second here.

Go ahead, John.

DR. ANDERSON: Thank you. John Anderson again with OhmConnect. I just wanted to add one thought quickly to this line of thinking. Clearly it's very important that the prices for any real-time tariff are communicated to customers or to their devices so that they know when and how much to respond.

I'd just like to advocate though for making additional data available to customers or to their authorized representatives so that in addition to communicating prices, it's possible for customers to track, for instance, how much money they're saving over a certain

amount of time on these rates compared to, say, their other rate options. So this might involve things like the customer's billing cycle dates, any other pieces of information essentially necessary for the customer or a representative to reconstruct the bill under a real-time tariff as accurately as possible.

MR. JOHNSON: Thank you.

MR. ASLIN: So Rick Aslin, PG&E. We did talk about this and I think we are of the same mind as Ed, that it's premature to have this language in the tariff at this point in time.

MR. JOHNSON: That's it.

DR. HERTER: That's it? All right, moving right along then. Public campaign. Of course we need some language about educating customers. We wanted to revise the old language which I believe said "in a reasonable period of time" -- we're not allowed to do. We threw in "30 days" at this point. We're open to suggestions "of adopting a real-time tariff, electricity providers shall launch a public information campaign to inform customers why real-time rates are needed and how participants on real-time tariffs can save money." So this wording has not changed very much from the original with the exception of the 30 days, which is open to discussion.

MR. RICHARDSON: This is Henry from WattTime.

Could we say “the benefits of real-time rates” or “tariffs” so that -- benefits beyond money. I guess this is minimum, this is a minimum restriction.

DR. HERTER: Yeah. No, no, that's a good point. Thank you.

MR. RICHARDSON: There may be other benefits, or if utilities want to talk about things other than money.

DR. HERTER: Yes, absolutely. Thanks.

MR. ASLIN: So Rick Aslin, PG&E again. You know I think the 30 days is unrealistic. If you just think about how much time it would take to develop marketing collateral and to roll out, let's say, some kind of rate or value engine. I mean I'm thinking like a minimum is probably 120 days, but 30 days is definitely unrealistic.

MR. ORSINI: Just a question. Does this have to happen sequentially or is this something you -- could you be building the campaigns at the same time that the tariffs were actually being developing?

MR. ASLIN: Well, you could do it at the same time the same the tariffs are being developed, but you don't know that what will be adopted will be what you proposed. So oftentimes there are, you know, material changes in what's adopted from what was proposed. So this, if we took this literally, once it was adopted we would have 30 days to, you know, roll it out. I'm just saying I don't think that's

realistic.

DR. HERTER: Great. Thanks.

Anyone else?

MR. ORSINI: I would agree with OhmConnect. I think that there needs to be a more fulsome list of benefits behind beyond just the dollars and cents. The customers are going to engage with, very few of them care about the few cents it's going to cost, but they care deeply about the impacts it will have in climate and resilience and effects like that.

DR. HERTER: Okay. Thank you.

Anyone else?

Okay, I think the next slide is the last, I believe. Yes. Compliance. So this sentence came directly from a different part of the standard, "Review and approval of submitted tariff and data shall be carried out in accordance with the provisions of Section 1621(d)," which is General Provisions. Of course it begs the question, you know, why don't we go through that here? Much of it is not going to change, but we will be having another workshop in a few weeks. Once we have collected comments and addressed them in the tariff standard, we'll make changes to the tariff standard. And then we'll also bring out Section 1621, General Provision, so we can talk about any changes that might occur there. I think we plan to add just a

couple of definitions and other very minor changes.

MR. BRAUN: Hi, Karen. Tony Braun for CMUA again. This is the source of my prior first question. When I look at 1621(d) and the language here, it looks like the CEC is proposing to act as a ratesetting authority. And so anything that we could do to clarify that between now and the subsequent parts of the proceeding would be helpful.

DR. HERTER: Okay, unless there is anything else I think we're going to open it up to just general comments, for the record.

MS. ANAISCOURT: Good morning. My name is Dawn Anaiscourt. I'm with Southern California Edison. And I wanted to thank you for the opportunity to comment this morning. I think some of my comments will be reiterating other concerns and issues that have been raised already.

But overall Southern California Edison is supportive of real-time pricing designed to communicate directly with devices. This form of rate design can support California's decarbonization objectives because it can potentially optimize the use of electrical devices, such as electric vehicles, home appliances, agricultural pumping, street lighting, and area lighting; and, again, help to reduce customer bills and to more efficiently and effectively manage the grid and generation resources.

However, real-time pricing rate structures and

rates are actually being explored, to my knowledge, in other proceedings at the California Public Utilities Commission. And they're doing that in order to expand the use of distributed energy resources to meet California's decarbonization goals. So we have concerns with potential proceedings going on at the same time. And so pursuing similar objectives in different venues risks raising confusion and duplication of effort and an inefficient use of resources that California can't afford at this time.

So the CPUC efforts will proceed and those results could be leveraged at a later time for other applications such as the uses that the CEC is currently proposing in this rulemaking.

In addition, I think this comment was raised a couple of times. The proposed amendment to Title 20, Section 1623 could be read to imply a dual approval structure. And we have concerns that that would need to be coordinated to ensure alignment of priorities at both the CPUC and the CEC, including the successful implementation of default time-of-use rates, which is ongoing; to avoid the imposition of inconsistent or contradictory obligations; and to most efficiently apply agency and stakeholder resources to tariff proposals.

Lastly, SCE recommends that all load-serving entities be treated equally, with the same requirements

placed on them. This doesn't address the issue of customer that came up earlier, but for load-serving entities, to that end, SCE seeks clarification that "retail electric providers" does in fact refer to all load-serving entities and not just the IOUs and the other municipalities that were named in the notice.

Thank you for the opportunity to comment.

DR. HERTER: Thank you, Dawn.

Anyone else?

MR. ASLIN: Yes. So Richard Aslin, Pacific Gas & Electric Company. We will be following this up with written comments also. But, in the main, our comments are very much along the lines of the comments from Southern California Edison.

First of all, we did want to thank the Commission for the opportunity to participate today in the workshop. We believe that there are merits in exploring pricing structures that provide customers with economic signals that have greater time and geographic specificity so that the customers can better understand and respond to the actual cost of energy consumption throughout the day, the month, the season, and the year.

We are, however, concerned that there needs to be additional coordination between the California Energy Commission and the Public Utility Commission because there

are a number of efforts currently underway that are working towards more dynamic rate structures at the Public Utilities Commission.

We did also seek clarification on a couple of things. One is what is the definition of the retail electricity provider. Does it include POUs, load-serving entities. Does it include CCAs. Does it include direct access providers. What is the definition of retail electricity provider?

And, along those lines, are there jurisdictional issues which need to be resolved prior to implementing this proposed change to the Title 20 Standards.

And, finally, we had a couple of recommendations. One was around the timing of the July 1st, 2022. We think that that's not enough time and that instead of having those deadlines what we would recommend is that the Commission consider implementing a statewide pricing pilot and working through that statewide pricing pilot to answer many of the questions that have been raised today.

Thank you.

MR. JOHNSON: Go ahead, Tamara.

MS. DZUBAY: Hi. This is Tamara with Ecobee. I'm sorry. There is a little bit of feedback. I just wanted to highlight that aside from customer education, rate design, and signaling that having a mechanism to match customers to

the rate they're on is equally important in order to scale cost-effective load management. We saw this both in our primary research of eco-plus but also in secondary literature regarding California's roll out of default time-of-use rates.

MR. JOHNSON: So you know, if you're getting feedback right now you can turn of your speakers that are there where you're at and just go into the microphone. It should work.

MR. TAYLOR: And it sounds fine on our end.

MS. DZUBAY: Is that okay on your end, though?

MR. JOHNSON: Yeah, that's great.

MS. DZUBAY: Okay. Yeah. No, so we think that there is an opportunity in moving forward to get some requirements through the load management tariff standard that utilities can work with customer load management providers to establish a mechanism for rate identification and verification.

MR. JOHNSON: Great. Thank you.

MR. ORSINI: Lawrence Orsini. I'd just like to comment that in order to develop and deploy a rate like this, something that's going to be relatively fast from a transacting perspective, we're going to have to have access to data. I don't know that, you know, data access is or should be specifically written into the rate itself, but I

think we're really going to have to solve some data-management problems from, you know, just meter data access to even grid telemetry data access for price formation.

DR. HERTER: Can you explain why meter data access is necessary for rate publishing?

MR. ORSINI: Well, not for the -- yeah, not for rate publishing but I'm talking about -- what we're talking about is going to require devices to be able to respond. So you're going to need to see from those devices that a response has happened to billing, to your point. But the devices are going to need to see what's happening on the network around them to be able to respond as well. Unless that's going to be reflected in the tariff.

DR. HERTER: Well, the utilities have the meter data and so they bill the customer based on that data. So I guess I'm unclear why the devices would need the load data, the meter data.

Anyone?

MR. ORSINI: No, no. I just think that it's going to be an issue. You know, I can't give --

DR. HERTER: Okay.

MR. JOHNSON: Go ahead, John.

DR. ANDERSON: Hi. John at OhmConnect again. I'm hearing that echo now as well. I'll try to be quick. To Karen's question about why we need the meter data, I don't

think it's a matter of the device needing the meter data. But, again, insofar as the customer an authorized representative wishes to calculate the customer's expenditures it's a matter of price times quantity. So the price alone, isn't going to fit the bill, we need price and quantity to estimate what the -- or calculate precisely what the customer's bill is likely to be.

Granted, the utility has that data and is ultimately responsible for billing the customer. But to the extent that there is another entity that is managing the day-to-day experience on behalf of the customer, supporting that entity with the customer's permission is able to access all of the requisite data. Thank you.

MR. JOHNSON: Thank you.

DR. HERTER: Okay. I think that's it on our end. Is there anyone else that would like to provide general comments or anyone online to provide general comments? Otherwise we can head off to lunch a little early.

I'm getting a thumb's up.

All right. Thank you, everyone, for providing comments, for coming. I appreciate your time.

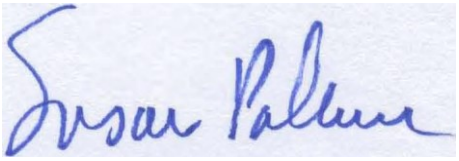
(Whereupon, the Workshop was concluded at 11:44 o'clock a.m.)

REPORTER'S CERTIFICATE

I DO HEREBY CERTIFY THAT THE TESTIMONY IN THE FOREGOING HEARING WAS TAKEN AT THE TIME AND PLACE THEREIN STATED; THAT THE TESTIMONY OF SAID WITNESSES WERE REPORTED BY ME, A CERTIFIED ELECTRONIC COURT REPORTER AND A DISINTERESTED PERSON, AND WAS UNDER MY SUPERVISION THEREAFTER TRANSCRIBED INTO TYPEWRITING.

AND I FURTHER CERTIFY THAT I AM NOT OF COUNSEL OR ATTORNEY FOR EITHER OR ANY OF THE PARTIES TO SAID HEARING NOR IN ANY WAY INTERESTED IN THE OUTCOME OF THE CAUSE NAMED IN SAID CAPTION.

IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND THIS 23RD DAY OF MARCH, 2020.



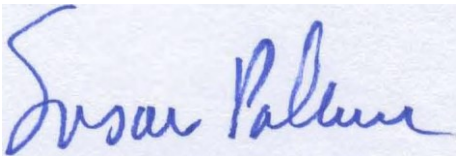
SUSAN PALMER
CERTIFIED REPORTER
CERT 00124

TRANSCRIBER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 23rd day of March, 2020.



Susan Palmer
Certified Reporter
CERT 00124