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CALIFORNIA ENERGY COMMISSION

COMMISSIONER WORKSHOP

In the Matter of: ) Docket No.
) 16-OIR-03
) 
) Developing Regulations, ) Workshop re: Title 20
Guidelines and Policies ) Data Collection
for Implementing ) Regulations to
SB 350 and AB 802 ) Support New Analytical
) Needs

CALIFORNIA ENERGY COMMISSION

THE WARREN-ALQUIST STATE ENERGY BUILDING

FIRST FLOOR, ROSENFELD HEARING ROOM

(HEARING ROOM A)

1516 NINTH STREET

SACRAMENTO, CALIFORNIA

WEDNESDAY, NOVEMBER 16, 2016

10:00 A.M.

Reported By: Kent Odell
APPEARANCES

Commissioners Present

Robert Weisenmiller, Chair
Andrew McAllister, Commissioner

CEC Staff Present

Sylvia Bender
Malachi Weng-Gutierrez
Christopher Kavalec
Martha Brook
Noel Crisostomo
Leon Brathwaite
Christopher Dennis
Caryn Holmes

Public Comments: (* Via telephone and/or WebEx)

Bill Boyce, SMUD
Timothy Tutt, SMUD
Valerie Winn, PG&E
Catherine Hackney, Southern California Edison
Tim Vonder, San Diego Gas & Electric
*Anne Smart, ChargePoint, Inc.
Jonathan Changus, Northern California Power Agency
Daniel Donaldson, Southern California Edison
Sarah Taheri, Southern California Public Power Authority
*Brian Goldman, CPUC
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Topics for In-depth Discussion
Moderator: Malachi Weng-Gutierrez, CEC

1. Behind-the-Meter Load Modifiers Including Electric Vehicle (EV) Charging
   a. Do revisions address concerns raised in stakeholder meetings?
   b. Are there any remaining concerns?
   c. What existing methods are used by utilities to characterize behind-the-meter load shapes?
   d. How are components’ net load shapes differentiated?
   e. What activities, programs, or cooperative relationships are being initiated to characterize behind-the-meter loads?

2. Networked Public Charging Stations
   a. Do revisions address concerns raised in stakeholder meetings?
   b. Are there any remaining concerns?
   c. What data standards are used to transfer data across networks to third party providers? Open Charge Point Protocols (OCP)?
   d. What concerns exist around limiting data access to maintain market competitiveness and what are some recommendations about how the Energy Commission should advance infrastructure installation?
   e. What amount of data is produced everyday by a single electric vehicle supply equipment (EVSE) with one charging cord? By a whole network?
3. Load Research Reporting: Thresholds 101
   a. Are there any concerns?
   b. What methods are appropriate to characterize and project system, distribution, and enduse load shapes for publicly owned utilities?
   c. How are system, transmission, and distribution losses estimated?
   d. What existing data from small publicly owned utilities can be used to estimate load shapes identified in Section 1344(a) through (e)?

4. Load Research Reporting: Interval Meter 105
   a. Are there any concerns?
   b. What security practices are implemented to maintain data security during storage and transfer of data between customers, utilities, and third parties?
   c. Please describe the implementation of Green Button data across the different utilities? How long are data retained?
   d. What load time intervals are collected by the utilities and how are the data being used to improve the performance of the electricity grid?

5. Natural Gas Distribution 114
   a. Are there any concerns?
   b. What data are collected and sampled to ensure gas injected into the natural gas distribution system meets specifications?
   c. How are natural gas pressures and losses monitored across the distribution network?
   d. What are current best practices for leak
identification?

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November 16, 2016 10:08 p.m.

CHAIRMAN WEISENMILLER: Good morning. Let's start off today's meeting. I thank everyone for being here. We're obviously trying to move relatively quickly, so we can get feedback on the Regulations and continue to work with people to narrow the issues.

I think I'll let Andrew do the longer spiel about how important data is going to be going forward and particularly as we deal with the responsibilities under 350. So it's really a great time to do this sort of refresh on what we're going to need. Obviously, over time we'll probably find other things, but I think it's a good start to allow us to do what we need to do. So thanks.

COMMISSIONER MCALLISTER: All right, again I'll reiterate, thanks for being here everybody. I'm looking forward to today and I know a lot of staff effort has gone into this. And this really, as the Chair said, this is a very important effort to lay a long-term foundation, a solid foundation, for all the new responsibilities existing really and new responsibilities that we have here at the Energy Commission under SB 350, AB 802. It compliments also a bunch of other efforts and other pieces of legislation that we are and will be implementing.

I won't go on too much. I feel like we got a
good presentation at the last Business Meeting about the
data from the Efficiency Division for the most part. And I
wanted to just highlight that there are a number of moving
parts that involve data at the Commission. Today we're
focusing on the Data Collection Regulations, which is a
rulemaking that I think really is on the sort of legalistic
end of it. We need to make sure that we have a solid
framework for being able to collect the right kinds of data
that we'll need, again with a long-term vision.

At the same time we have a number of rulemakings
and activities that are going on that are actually
implementing efforts, projects, programs under various
pieces of legislations that are the programs themselves.
So Assembly Bill 802 with benchmarking, updating our
forecasting, which is in Sylvia Bender's Division that --
and we'll be hearing from her -- and that's kind of the
context mostly that we'll be talking within today.

The SB 350 effort to double energy efficiency
requires also similar kinds of data as the forecasting
effort and other efforts that we'll be doing. So they all
kind of overlap and relate to each other. So we're trying
to ensure that we have the regulatory framework that
clarifies all of this and make sure that we can move
forward without barriers. So that's sort of the big
picture.
I think finally, we all know that 2016 is very different from 1995 or whenever the last time we updated these Regs. The technology is just moving forward at breakneck speed, automation. You know, big data has kind of become a cliché and I don't think we're exactly talking about that necessarily. It means different things to different people. So we need to modernize how we develop policy, how we implement policy and how we evaluate policy. And we have many more tools at our disposal and that's both in the private sector and the state.

So this is nothing new to anybody in this audience, but the state has a responsibility to move with the times as well. And that's really what we're trying to relate with these Regulations, is enable that to happen. So all the good work and all of the specific skills that we need to bring to bear can do so relatively unimpeded and within a clear framework.

So with that, I'm looking forward to the day and I'll pass it on to Sylvia, who I think is next. Yeah, great. Thanks a lot.

MS. BENDER: Let me just do a few of the housekeeping things to make sure that we're all on the same page here. We'd like to ask you all please to silence your cell phones. If you are on the WebEx, also please silence and mute your telephone line. We will be letting you know
when it is time for public comment as we go along.

This workshop is being recorded and will become part of the public record for this rulemaking. Restrooms are to the left outside of the hearing room's main door. There is a snack bar on the second floor. And in case of an emergency, please follow the Energy Commission staff out of the building and across the street to McKinley Park.

We're following up today on the preliminary workshop that we held on September 26th. We've received written comments from approximately a dozen different entities. And based on those comments and a series of informal data meetings with the stakeholders, staff is now presenting revisions to those earlier proposed changes.

In addition to the specific discussion topics noted on the workshop schedule, we will take additional public comments in both the morning and the afternoon. We will limit these comments to three minutes each, to accommodate as many of you as possible. And it would be very helpful if you would give your business card to the court reporter if you make a public comment.

Written comments will be taken until 5:00 P.M. on November 30th. And I understand that we may extend this date. We'll probably talk about that a little bit later. If you need instructions on how to do this, the workshop notice has all that information.
So with that, Malachi, I think we're ready to have you open the overview.

MR. WENG-GUTIERREZ: All right. Thank you, Sylvia.

So as Sylvia mentioned, today we are presenting some of the revisions that we have implemented as in the process of evaluating the written comments and meetings with different stakeholders. So I'm just going to give an overview and talk about a couple of things that we're going to cover today. And then talk about a few specific changes that we made. And then I'm going to let staff come up and talk about some of the analytical needs. And then we'll go and hopefully this afternoon, we'll have some interesting conversations about some specific topic areas.

So again, an overview of today, I'm going to be providing the background and overview of the data collection activities so far. Sylvia ran through them very quickly, but I'll elaborate a little bit. Again, we'll have staff come up and talk about some analytical needs. Then we're going to highlight some of the language changes.

I'm going to have Christopher Dennis from Siting come up and talk about some new language that was entered since September. It wasn't in the September draft. And it's almost a whole section, so I wanted him to go into more detail and describe it much the way that other staff
describe changes that were implemented on the September 26th workshop.

Then we'll have lunch. Then we'll go into the specific topic areas of discussion and then we'll follow up at the very end of some regulatory next steps.

So as Commissioner McAllister mentioned, it's been a while since we've done some significant rulemaking. The last real significant rulemaking was updated around 2001 and that was where we had some major changes. There was a minor update occurring in 2008, but really that was just to revise and clarify some of the issues that were brought about in the 2001 rulemaking.

So this current -- and that rulemaking in 2001 set up a number of data collection activities, including the quarterly fuel and energy reporting activities, the end use energy surveys, as well as a number of the confidentiality procedures and declaration of confidentiality. There's a whole set of procedures associated with those procedures, the confidentiality and designation of data. And those were all implemented in this 2001 timeframe.

Recent legislation and analytical needs have been driving a need to reevaluate our data collection activities. It's been, again a long time since we've done this rulemaking. And so that was our primary driver for
looking again at how we collect data and what data we need in order to both fulfill the mandates of the recent legislation as well as to look at the mandates and the requirements that we've been asked as forecasters to implement and what data we need in order to fulfill those new responsibilities.

So this year there was an order instituting rulemaking. It was adopted in January. And it basically started the process of updating the data collection rulemaking activities. Internally, staff has met across many divisions. If you notice the draft language itself covers many different areas. It's not just isolated to say electricity demand. It actually has a wide range of topics. And that really was because it's been so long that we opened a rulemaking that many people wanted to jump in and say, "Well, we have something that we wanted to change for a number of years. Can we insert our language into the draft rulemaking?" And so we've had numerous meetings and coordination efforts to make sure that we've captured everyone's sort of needs in this update.

As Sylvia mentioned, we had early regulatory language drafted and presented at a workshop on September 26th. We received comments and we have tried to incorporate those comments into these revisions. That being said, there are many elements that we are still
internally discussing as well as discussing with stakeholders to clarify how we might improve the language. So I think this workshop again is another opportunity for stakeholders to weigh in.

We are still -- and one of the items here is that in our September 26th workshop, there was certainly a response from stakeholders specifying they would like more engagement. So we heard that and we've been setting up discussions on specific topic areas, hopefully to answer questions, clarify the intent of the language. And then also the update the language as best we can, to meet everyone's concerns, or address everyone's concerns as well as meet our data collection needs.

So that's an ongoing effort. And we are hoping to have many of those discussions continue through the -- in the coming months. And I know that there are a couple of topic areas that we haven't really touched on yet. And I'm hoping that we will have meetings on those specifically the -- I believe we haven't one specifically on the EVSE public network charging station and the natural gas distribution data collection effort.

So I think I sort of touched on many of these items already. And then the last item here that I want to just highlight is I know there are plenty of concerns and comments that are still not addressed in this revised copy.
I would hope that in today's workshop the comments that we receive -- the verbal comments at least -- if they can be focused on those priorities, which the stakeholders would like the Commissioners to weigh in on. And those that you feel have not necessarily been addressed in the revisions that we've made, if we can focus on those, that would be helpful.

Also, if there is sort of explicit regulatory language that you would like to see inserted in a specific area that helps actually, it helps us to know what you want in the language and for us to sort of start working on how best to revise the language. So in any area that you can actually provide us with explicit language, that's helpful.

So the report itself, as I mentioned on September 26th is structured into four topic areas or categories. The first of which is an Administrative and Deletions Section and it primarily covers things like new definitions, large deletions, and then it also will eventually cover some of the changes in reporting methods. That's something that we internally, are thinking about in trying to figure out how best to modify the language to encompass perhaps new methods of collecting the data. And so we will -- we intend on evaluating that section. And that would be an administrative change.

Section two, those Regulations which deal with
generation are primarily supply side. They focus on the Power Plant Regulations and they include utility distribution data as well.

The Forecasting Regulations sections, those primarily discuss Regulations, which focus on collecting energy consumption data, energy use characterizations, including end use saturations and then also the load data. So I know those are big topic areas that we've had lots of conversations about.

And then finally, the Security and Data Disclosure Section -- right now I think we only have one change in there where we're adding some language to account for the new natural gas requests that we have in there. We want to make sure that that's automatically designated as confidential when it comes in. And so we've made that insertion in there. But that section, the entire 2500 Section, talks about both data confidentiality as well as aggregation, disclosure regulations and procedures, and other things. And those elements we'll probably be looking at as well to revise.

And I think that's the last slide I have here. So with that, I'm going to hand it over to Chris Kavalec to discuss enter into the section where we start talking about analytical data needs at the Energy Commission. And that should -- I'm hoping that will highlight some of the needs
that we have and explain, and make a connection between the
data we're requesting and some of the analytical purposes
that we have at the Energy Commission. I know that was a
big topic that stakeholders have brought up multiple times.
So I'm hoping that these four next presenters will help
clarify that need.

And then just a couple of last minute changes
with this, obviously Chris is not on the agenda. And he's
not Cary Garcia, but Cary was busy and was not able to come
and present. So I appreciate Chris stepping up in a busy
time of the year -- I know everyone's busy -- but in a busy
time of the year here at the Energy Commission to give this
presentation. And then also, I believe we have someone in
Fuels and Transportation. Jennifer Allen is not going to
be able to make it today, so we have Noel Crisostomo, who's
giving a presentation for Fuels and Transportation in a few
minutes.

So with that, I'm going to hand it over to Chris.

MR. KAVALAC: Thanks, Malachi.

Good morning. I am Chris Kavalec. I serve as
the Technical Lead for the IEPR Demand Forecast. And I'm
just going to give a real quick overview today about the
data needs that we think we have to support a continuing
robust and relevant forecast into the future.

The current situation is that our main supporting
data that we use for our forecast, we refer to as the Quarterly Fuels and Energy Report or QFER billing data. And what that consists of is utilities aggregate individual billing data into sectors, like residential, commercial, industrial and so on, by county, using the North American Industrial Classification system or NAICS Coding. And this has been fine for past forecasts although there's always issues with the accuracy or consistency of the NAICS assignments. And right now, we have no way to check or verify the NAICS Coding quality.

We do also get some limited hourly data from CAISO at the system level for the three IOU TAC or Transmission Access Charge areas. And we use that to develop weather normalized estimates of peak that support our peak forecasts.

So right now what we produce are mainly annual forecasts for specified fixed planning areas. However, the demands on our forecasts are understandably growing. And to meet these needs, these future needs, the traditional data collection that we get is not going to be sufficient. So we need to start collecting and delving into more disaggregated billing data as well as AMI or metered data.

We're interested in doing more localized forecasting, geography-wise. As an example, the IEPR Forecast, the Demand Forecast, is used as a benchmark for
Transmission Planning at the system level. And the IOUs have asked us to provide forecasts in a more disaggregate level, for example, the A-Banks level for Southern California Edison and we just don't have the historical consumption data to support that.

We also are planning to start doing monthly and particularly hourly load forecasting. But we know that the system peaks or local area peaks are still important. However rising in importance is the actual hourly profiles. We all know about the duck curve and the importance of understanding and measuring the ramp-up period for peak demand. And to do this properly, you need to at least get down to the sector level and as well as more local geographies.

Targeted analyses for some of our demand modifiers, some are listed here, efficiency. Commissioner McAllister talked about SB 350 related analysis and just generally being able to measure efficiency accomplishments using empirical data as well as -- so we're not only programs, but also our own standards, the impact of our own standards, which we haven't been able to measure empirically very well.

Studies on electric vehicles, where they're located, usage of electricity as well as charging profiles could be imputed for more disaggregated data. Distributed
generation, the location of adoptions and the impact on traditional utility-provided loads, utility-served loads.

I should add also regularly we do our saturation surveys, commercial and residential. And typically in the past the utilities provide individual billing data to the contractor who uses that to develop sample frame. However we don't have access to that data, which means that we can't verify the quality of the sampling frame. We can't do more specific studies related to commercial and residential respondents of the survey. If we need to re-weight the samples, for whatever reason, we can't do that at least here in-house, etcetera. So what we require to really meet the needs of the forecast is having the flexibility to apply billing and hourly load data where we want in terms of geography and also temporally in terms of hourly loads.

So let me just repeat. Where we are now does not really allow us to meet the growing needs for our forecast into the future. To support that, we're going to need a lot more data and be able to develop and modify and apply this data in a much more flexible way rather than collecting the data we do now for fixed planning areas.

So comments from the Commissioners?

CHAIRMAN WEISENMILLER: Yeah, just a couple. I mean, first obviously one of the areas where we really need
a lot more data to deal with it is the proverbial PV Peak shift issue. And also it's just, as we look at additions, one thing that it brings up in my mind at least the first time, you know, the surveys were alive and well. I mean we're obviously trying to resuscitate those on the saturation surveys. But again, that was something which somehow, somewhere along the line, atrophied. We're trying to get back there. But that was certainly -- we were collecting through that a lot more information in some respects then we are now, at least on residential and commercial.

COMMISSIONER MCALLISTER: Yeah. And just to build on that last point, you know I think we, through the whole restructuring and deregulation, that we went through in California a lot of stuff changed. A lot of who were doing what, or not doing what, changed as everyone kind of girded for the competitive environment that we were headed into. And we all know how that turned out in the early 2000s and so I think we're somewhat kind of suffering. In the decade or so we've been kind of suffering from this lack of information that in some ways was more robust, prior to deregulation. So in the new context of the second decade of the 20th century, we're sort of trying to reinvent that and get back and better than we were.

Really, I think you did a great job sort of at a good level there, Chris, explaining our new data needs.
And I wanted to just also mention the world baselining, because a lot of this is figuring out where we are historically, and how it's not just -- in order to measure things that you are talking about, we need a good baseline. So we need to look at temporal trends over time and much more specifically geographically in order to complement that macro understanding at a granular level. But it really is sort of a baseline and then we're looking at trends, overall trends.

And then unpacking that based on some more detailed discussions about okay well what might be going on in this or that area, with this or that program, and being able to see the overall trends and then determine which pieces of those trends could possibly be attributed to what efforts. And I think at a localized level, and so I think those analytical functions are things that we, as you said, have typically outsourced. And that has inherent limitations in terms of its relevance for our use in policy implementation and policy making and helping the Legislature and other understand what's going on.

So I think I wanted to just sort of make that context a little bit clearer and put a finer point on it. But thanks for your presentation.

MS. BROOK: Good morning, I'm Martha Brook. I am borrowed from the Energy Efficiency Division currently to
work as an Adviser for Commissioner McAllister. And I'm pleased to be here today. So what I'm going to talk about is how the data needs of the Forecasting staff relate and integrate with the data needs of the Efficiency staff and the Efficiency policy tracking requirements that Andrew briefly mentioned.

So we have aggressive energy savings goals articulated for the State of California. This concept of doubling efficiency in buildings was first introduced in the Governor's inaugural address last year or two years ago, and followed quickly by an adoption by the Energy Commission of the existing Building Energy Efficiency Action Plan 2015 where we articulated this doubling and the need to scale efficiency significantly.

So basically in that 2015 Plan we articulated that the current efficiency savings trajectory is insufficient to achieve our clean energy and emission reduction goals. And this, as hopefully all of you know now, has been reinforced by SB 350 in terms of energy saving goals to be doubled and specific targets to be set for entities across the state to achieve that doubling.

And as part of that SB 350 mandate the Energy Commission is required to track and report on the progress of the increased energy savings, through the Integrated Energy Policy Report and the Existing Building Energy
Efficiency Action Plan, both of which get updated routinely and will be updated routinely by the Energy Commission in the coming years.

One other key tenant of the action plan is that in order to unlock the energy efficiency potential in existing buildings, we require market focus solutions and data analytics. And the provision of data to the marketplace and to consumers is a very important and critical part of our action plan and will be required again to scale efficiency across the state.

This is an illustration of the planning that we will be doing for SB 350 in terms of setting individual saving targets for different entities in the state. And our obligation will be to track and report on achievements of individual wedges of savings as illustrated here in our policy documents and by extension to the Governor and the Legislature in terms of how we're doing with our savings goals.

So what's critical in this new mandate is we have to collect data to support our policy development implementation and tracking of efficiency. Our plans, currently, which have been articulated in the 2016 Update to the Existing Building Energy Efficiency Action Plan is to complete macro consumption modeling to do the baselining and the trends and the attribution of savings to specific
efficiency programs over time. That was mentioned by Commissioner McAllister.

A big part of what we need to do better, both for efficiency attribution and for long-term resource planning is to understand the uncertainty in our estimates. And we can't do that without granular and robust data supporting our analysis and I'll talk about that next. And then I'll also give you some examples of how we intend to map energy use and load shapes to buildings and the built environment in order to both implement policy and to track savings over time.

And then finally there's a lot of good derivative activities in terms of turning data back around to the consumers and to the market for them to make decisions that again will help transform the marketplace for additional energy efficiency across the state.

So macro consumption modeling, we're intending to leverage a lot of good work that was done by the Public Utilities Commission over the last several years to basically pilot the concept of macro consumption modeling, in terms of a way to attribute at a high level savings from efficiency programs from empirical data. This type of modeling typically uses consumption data, weather, energy prices and demographics, building stock characteristics and efficiency program descriptors. It's typical for a
regression analysis to be used where each of those types of parameters listed in blue would be assigned an independent parameter in the regression analysis approach. And by isolating energy efficiency in that regression, you can understand which part of the changes in consumption is due specifically to efficiency program activity.

So this is just an example of a table out of one of the PUC consultant reports on macro consumption modeling where they looked at six years of consumption data and these independent parameters of price and demographics. And were able to determine quite convincingly that there is anywhere from a 4 to a 5 percent savings in consumption, reduction in consumption, that's due to efficiency programs in the IOU territories. They were also able to estimate the cost of those savings anywhere from four to seven cents a kilowatt hour.

So this is just an example that we hope to leverage once we have the data that will support this type of analysis. And again, we'll be required to do this analysis for every one of those wedges that make up the 350 target setting exercise we'll be doing in 2017.

Currently, under the topic of uncertainty, currently our efficiency policy impacts are reported as singular estimates without error balance or levels of uncertainty articulated. We really need to look at the
distributions of energy use by sector, by building type, by
geography and by demographics to improve these estimates
and to understand and include expected ranges in our policy
setting and our long-term resource planning exercises.

So this is just one example of why one average
value for an aggregated group of consumption is not
adequate for the planning and the analysis that we need to
complete. So this is just a random sample of Prop 39
school AMI data that has been delivered to the Energy
Commission. And in this random sample the average is this
blue line, the 1430 kilowatt hours per day. If this was a
normal distribution, the 50 percent percentile would match
that blue line. It doesn't, it's actually quite far from
that.

So in this distribution there's many more schools
that are under the average than the number of schools that
are above the average. So by assuming this is normally
distributed we will actually make the wrong decisions. And
it's really important to understand the distribution and
how far it is off of a normal distribution, so that we can
make better policy in the future.

This is just another example at the hourly level.
And so you don't need to understand every line in the
diagram. I think what I'm trying to communicate here is
all of the colored lines are measured. This is directly
out of the random sample of Prop 39 AMI data. And then the
gray and the blue and the black dotted lines are the model
data for this same building type in the same climate zone.
So this is where we get it wrong and it's just not the
Energy Commission. It's not just the Efficiency Division.
All of the work that we do across the state, where we
depend on modeled energy use, has assumptions about these
load shapes that promulgate through every policy report and
policy decision that we make and it's really important that
we get this right.

So for example in this case, we're probably by
only depending on the gray and the black lines, probably
overestimating assumptions about air conditioning savings
and probably underestimating assumptions about lighting
savings, because we have the load shape wrong. So this is
just an area where we have begun to calibrate model data to
monthly usage, but we have yet to. And it's super
important, to also calibrate it to the extent possible to
hourly load data, because of this important discrepancy in
assumptions versus empirical data.

And I will just have to say that this is just a
very small sample. Obviously to get this right, in terms
of a model calibration exercise, we would use 2,000 or
20,000 schools, not 20, which are represented here on this
chart.
I want to make sure I didn't want to say anything about this, so then the only thing I wanted to say is again it's just not an efficiency issue, because these estimates of savings wind up in the Long-Term Demand Forecast. And the impacts on peak wind up in the Long-Term Demand Forecast. So there's a really strong connection here that we're trying to articulate. And hopefully you'll understand the need that we have for this type of data.

So this is just an example of some of the activities that we're starting to report on and some of the goals that we're trying -- strategies that we're trying to set in our Existing Building Efficiency Action Plan in terms of ways to use both modeled and measured data for city and local and regional planning activities as well as some of our statewide programs such as large commercial and multifamily benchmarking and disclosure.

So this snapshot is taken from the City Building Energy Saver. It's a Lawrence-Berkeley National Lab product that they're partnering with cities across the nation on right now. And it's just an example of a very rich visualization and kind of data-driven platform for making policy decisions about the built environment. And what -- well I'm going to come back to this slide later, so I won't say anything more about this now.

The other thing that we've committed to and have
articulated in our Existing Building Action Plan is the
need to develop test beds for AMI data analytics. So I
don't know how many of you have participated in AMI data
analytics. There are multiple tools across the state that
will help you look at your AMI data and try and make
decisions about where you can potentially save energy. And
our stakeholders thought it was important that an
independent body such as the Energy Commission provide a
means for some type of not necessarily a certification, but
some sort of a due diligence that a tool could come into
voluntarily and say, "Look. I've passed all these tests.
Therefore I must be doing my disaggregation of AMI data
correctly and I can now market my tool with this sort of
confidence that I'm getting it right."

So this test bed has two roles. It actually
helps analytic vendors test their product and improve their
product. But it also allows the Energy Commission and the
Public Utility Commission to do some sort of due diligence
role in terms of helping consumers understand that there's
value in these tools and that they're actually robust and
rigorous and more or less correct and won't mislead you
into inappropriate investments in your homes and buildings.

So this is just an example of three days of my
AMI data, in the last summer -- three days in the summer,
hot all three days -- and really different load shapes. So
the orange load shape is really typical of two
professionals who leave the house in the morning and come
back home on a hot day and turn on their air conditioner,
right? It's a really tiny little blip in the morning from
water heating or other usage when you're getting ready to
go to work, nothing for the rest of the day, and then you
come home, it's hot and you turn on the air conditioner.

So that's great and that's predictable and
hopefully AMI analytic tools will be able to identify why
your shape looks like that and what you could do about it.
And then along comes a millennial who comes home and those
other two days hangs out all day long in the house, who
knows doing what, but look how much energy he's using.

So these analytic tools and our assumptions about
behavior and load shape are all really important for us to
do a better job with. And if we have robust data, we'll be
able to build a test bed that allows vendors to test their
products against all sorts of load shapes for the same
home. And then be able to improve their tools to really
differentiate between these types us uses within the same
home or within the same building.

COMMISSIONER McALLISTER: Martha, can I -- this
is great. I just want to jump in and sort of make two
points. So Chris mentioned actually that some of the data
that he gets for the forecasting, there's been a process to
sort of automatically label it as private as it comes in, and sort of have that be just standard operating procedure. So I think we can have analogous conversations about individual level consumption data, other types of data that may be sensitive. And I wanted to sort of put that out there, because I think there will be possibly strong feelings about that and we're absolutely I think in large measure we're going to be on the same page with the utilities and other stakeholders on that.

And so I think that the bigger point is that here you're talking about you taking your own data and looking at looking at it and mapping assumptions onto your own family and your own millennial. And so that's a specific use case of sort of enabling personal use of that data in a way to help your decision making.

That is not the kind of information that -- this should be obvious right, but I just want to make it explicit -- that's not the kind of information that the Energy Commission would consider releasing publicly.

MS. BROOK: Right, I agree.

COMMISSIONER MCALLISTER: We are not talking about that, okay? So the two, there is a firewall here that I think sometimes we gloss over that maybe I and others sort of assume that we all know is there, which is the aggregated data, the pre-baked analytical summary data,
that kind of thing, would by and large in many cases would
be ripe for release for the kind of uses that you mentioned
before. So to help the marketplace adjust and understand
load shapes in a specific place, but not for individual
consumers, you know, aggregated at some level. Whereas the
individual level stuff obviously gets a completely
different treatment.

So I feel like that needed to be said even though
maybe it goes without saying, but I think we just need to
at each step, be very explicit about when we're talking
about data that is for the Commission's use, on that side
of the firewall. And other more summary high-level policy
relevant knowledge or information that's not actually data.
It's derived from the raw data or the original data, so I
wanted to just make that point.

MS. BROOK: Okay. Thank you so much. No, this
is important.

And what I've been trying to communicate is that
there's derivative good things that come out of having a
rich and robust data set at the Energy Commission. And we
are very, very careful about confidentiality and I think
that's obvious. But there are good things that we can do
by turning the data back around to the public. And this is
just an example of that, where if you can imagine I don't
know how many of you know about our AB 802 Benchmarking
Regulations, but we're in the process of completing those now. And in just a couple of years we will have this type of visualization platform for all large commercial and multifamily buildings across the state where any interested party, tenants, building owners can fly over this built environment and find out information about the built environment in terms of the relative energy performance.

So while we intend to focus the disclosure on the USEPA ENERGY STAR score, which was mandated in the AB 802 Regulations, we also hope to provide complementary information. So for example, if we have distributions of large commercial buildings in specific areas of the state, why wouldn't we want to include not only where you are in terms of relative performance across the nation, which is what the ENERGY STAR performance score does, but also add the information about where you fall into the California distribution for that same building type.

So that's just an example, which I am sure that most of the time those two metrics will not be the same. Sometimes they will depending on the building type, but in most cases they won't be the same. You'll probably get -- you'll fall more into the middle of the distribution of California buildings then you will look on that national scale. And I can talk to you ad nauseam about why I think that's true. But that's not the important thing.
The important thing is there's additional information that was relevant and useful. And as a derivative product from our policy analysis and tracking, we hope to make this type of data -- again that's not confidential in any way -- available to decision makers to help them help us scale efficiency across the state. That's all I have.

MR. WENG-GUTIERREZ: Great. Thank you, Martha. So next up, we have Noel and I don't believe there are any slides. So I'm just going to leave this up here.

MR. CRISOSTOMO: Hi, Commissioners and hi everyone. My name is Noel Crisostomo. I am a new Air Pollution Specialist in the Fuels and Transportation Division working on electric transportation. I previously was at the Public Utilities Commission working on all the CPUC's Alternative Fuel Vehicle Policies and the Utility's Charging Infrastructure Plan. So I'm glad to be here, working across the Fuels and Transport Division, but also trying to link those efforts with EPIC's R&D programs and the IEPR Forecasting efforts.

So I'll be talking about energy and public policy uses of transportation data. I apologize for not having slides, because I'm filling in for Jennifer. But I'd like to, along the lines of the previous presenters, explain the
needs for detailed information on electric transportation energy use given that our state has extremely lofty and aggressive goals to de-carbonize our transportation fleet per SB 350's transportation electrification efforts. As well as the broad state goals under the previous executive orders targeting halving of petroleum use in the light-duty vehicle and truck sector, as well as a overall 80 percent reduction in carbon emissions from transport by 2050.

So just to give you a quick market snapshot this month, I guess yesterday Chair Nichols from the ARB tweeted that California now has 250,000 electric vehicles in the state. Across the public charging infrastructure there's over 10,000 public Level 2 stations, 800 DC fast chargers, and roughly 25 percent of those have been funded by the Energy Commissions investments representing over $51 million in those stations.

And in terms of the market that is growing there will be dozens of new battery electric vehicles developed by the automakers to be released in the next coming years. There will probably be at least 40 by 2019. So what does this mean for energy planning in the state? There will be millions of new, potentially high-power charging loads that will potentially eventually be mobile storage devices. It'll be common place that battery-electric vehicles will have over 200 miles of range, which has the equivalent
storage of almost a dozen Tesla power packs, or power walls.

Charging on the DC side will approach 350 kilowatts for the Combined-Charging System Standard. And so this is an extreme add of new load in an era that load is currently declining and retail electricity sales are currently declining. So across the agency's efforts to decarbonize transportation I've come up with at least a dozen uses of transport data coming from both connected car systems like Telemetics, but also intelligent charging systems through networked EVSE, Electric Vehicle Supply Equipment.

So I'll just go through this parade of different agency efforts that cross. For example, the Department of Motor Vehicles, The Natural Resources Agency, The Energy Commission, The ARB, The Public Utilities Commission, the Department of Measurement Standards, the California ISO, the Department of Transportation, the State Transportation Agency, and probably others.

I haven't done the full regulatory review, but the point is everyone is going to be developing rules similar to this effort coming under SB 350. And so it'll be important to send a consistent market signal to the EVSPs and the automakers to develop the ability to share this information in a way that balances the need for
privacy, and clearly the need to transform our energy
system in an intelligent way.

So first, customers will need to be able to
locate charging infrastructure. This data is already made
available to the National Renewable Energy Laboratory
through the Alternative Fuel Data Center, which is
organized by the Department of Energy. And soon through
Fuels and Transportation Division contracts that are being
developed right now the NREL will be streaming data from
networked charging stations.

In addition to locating charging infrastructure,
we'll need to understand where vehicles are residing to
avoid Grid impacts. This is already regulated by the
Public Utilities Commission in its orders for continued
load research reporting, from at least the investor owned
utilities, to understand how to avoid high costs to upgrade
the distribution system when someone buys a car and is
going to blow their transformer, because they're adding new
load on an already saturated transformer.

ARB is developing a rulemaking on open
authenticated access to public charging sessions. And the
Department of Measurement Standards in a kind of a related
effort is developing meter technology requirements for the
accurate receipt and commercial sale of electricity as a
transportation fuel.
The PUC, CEC and ISO are working together on Vehicle Grid Integration to, for example, control charging of these electric vehicles to avoid adverse Grid impacts using time of use rates and increasingly dynamic rates. And to eventually provide for the settlement of -- monetary settlement of Grid ancillary services like frequency regulation.

These efforts require -- are already requiring a level of granularity in reporting under the distributed energy resource provider and energy storage and distributed energy resource initiatives at the ISO at a more aggregated level. But, for example, at the three electric investor owned utilities their light-duty vehicle infrastructure applications are already requiring, in order to track the functioning of the utility efforts against the private market, monitor utilization of the charging stations that are being approved at the PUC right now.

This information, by the principal energy agencies, will help inform the reliable operation of the grid by actually being able to schedule this EV demand based on people's behaviors. That might change dramatically as technology in batteries and charging systems continue progress. This is, also at the PUC, a extremely important issue around distributed energy resource planning in their Rulemaking 14-08-013.
Two critical initiatives under the DRP proceeding are one tracking and forecasting DER loads, which include electric vehicles. And two, having the utilities complete integration capacity analysis at the feeder level to inform DER providers how they can integrate solar storage, demand response, EVs etcetera into the Grid without causing upgrades. So the major electric utilities are already responsible for releasing down to the feeder and segment level data the operational conditions on the Grid. And that, I believe, will continue to be more granular and specific for frequency or voltage conditions.

Another point of this information is to validate the credits and revenue from the Low Carbon Fuel Standard. So the ARB in concert with the Public Utilities Commission has set up a means of returning the value of a Low Carbon Fuel Standard Credit to an EV customer to reduce the upfront cost or ongoing operational costs of their vehicles. But that requires that the electricity dispensed into the vehicle be validated by the continued integrity of the LCFS Program.

This information will help us analyze the utilization and maintenance needs of our deployed networks and private charging end uses. And overall improve, as why we're here, load and generation forecasting and planning. And further infrastructure investments that are strategic.
by a variety of agencies funding the transformation of our transportation system.

As we shift from gasoline taxes to potentially something else, potentially road use charges, we'll need to be able to allocate the costs of maintaining our public infrastructure, so that we can have drivable roads on which to travel within our electric vehicles. So the STA is implementing a Road Use Pilot, which might use a different data collection effort. It'll be important to coordinate all this.

And eventually when all of our cars are connected and electrified in some way, we could improve the system efficiency by monitoring traffic flows and congestion, road capacity and towing, as we have more intelligent transportation systems. Overall, this will help us track progress on our 50 percent petroleum reduction goal and GHG reductions under SB 350 and SB 32. And we can essentially leverage the existing technologies within our connected cars and intelligent charging networks to make this happen without too much additional cost.

COMMISSIONER MCALLISTER: Great thanks.

MR. CRISOSTOMO: If you have any questions I'm --

COMMISSIONER MCALLISTER: Yeah. I do have one question. And I'm maybe going to show my lack of sort of paying attention to this issue, but you did mention DMV if
I heard. So thanks, this is really good stuff.
And I wanted to highlight maybe the big fleets that Uber and Lyft represent and their jurisdictional kind of regime is going to change. And so maybe that's an opportunity to gather data from very large fleets in some way. I wanted to just ask if anybody's thinking about that in terms of, you know in this context of data and planning and forecasting.

MR. CRISOSTOMO: So in terms of the agencies or private industry?

COMMISSIONER MCALLISTER: Well, just to the extent that they will probably see some more standardized regulation, maybe there's an opportunity to sort of treat them as fleets, instead of as individuals. And not to impose more regulation, but to get data.

MR. CRISOSTOMO: I'm unsure of the interpretation of individuals versus the fleets and where that is residing, given the PUC reform efforts that might be continuing in some manner. But last time I was up at PUC, the Safety Enforcement Division still had enforcement authority over data collection and in some manner over the TNCs, that is Transportation Network Companies. They did gather information from the TNCs.

COMMISSIONER MCALLISTER: Okay, great. I was just hoping that since you just came over from there, you
might have some insider information. But I think the
fleets in general could be a really nice source of data.
And they're obviously huge in number, so but so but in any
case thanks a lot for the presentation. Welcome to the
Energy Commission. I'm glad you came over.

MR. CRISOSTOMO: Thank you.

MR. WENG-GUTIERREZ: Thank you, Noel.

And then just one quick word on that, the
Regulations as they stand today don't exclusively prohibit
the collection of data or characterization of the load
shapes for only say, residential users. So when we talk
about estimating the behind-the-meter consumption
associated with transportation, electrification or electric
vehicles, that would include commercial entities as well as
residents.

And then for the public charging stations,
although fleets may have dedicated charging stations, which
would not be part of the public charging station networks,
they might also have though service providers which would
then be obligated to provide us that information. So there
might be some way to differentiate those, but we might not
be able to do that. It depends on sort of the level of
detail we get in the data and how we might be able to look
at it.

COMMISSIONER MCALLISTER: Yeah. And this really
is a question beyond these Regs even, but I mean it might be worth reaching out to some of the MPOs and the COGs, you know, those that have transportation planning authority and just see where they're at with this.

MR. WENG-GUTIERREZ: Yeah. That's a great suggestion.

All right, with that I'm going to ask Leon to come on up and give a quick presentation about the natural gas distribution more data.

MR. BRATHWAITE: Good morning, Commissioners. Good morning, members of the audience. My name is Leon Brathwaite. I work in the Supply Analysis Office.

Today I'll be talking about hydraulic modeling of the natural gas distribution system and the associated data needs. SB 828, the Budget Act of 2016, codified the Budget Change Proposal known as Aliso Canyon Natural Gas Electric System Interaction and Gas Reliability. The budget change proposal required the Energy Commission to improve its technical ability. It also requires the Commission to monitor, model and analyze the interaction of California's electric natural gas system for Grid reliability. Also, SB 839 did task the Commission with some related activities.

The language of the BCP did require the Commission, did call on the Commission, to model the natural gas system and to monitor the natural gas flows
within the system. And with other agencies we tried to
ensure reliability both in the electric and the natural gas
sector.

The Energy Commission, as a result, is in the
process of acquiring a hydraulic model. With that model we
will be able to simulate the natural gas distribution
system in each utility service area. We will monitor the
interaction between electricity and natural gas. And this
will allow the Energy Commission to independently replicate
and verify the results of any work that we must review.
With this, of course, we will be able to ensure
reliability.

To complete this though, to do this modeling work
that we are now proposing, this hydraulic modeling work, we
will need data. We will need pipeline data, the
characteristics of the natural gas distribution system. We
will need flow information of the fluid, in this case it's
natural gas, that is flowing through the system. And as a
result and as such, changes to the Code of Regulations
provide an avenue whereby we can collect the necessary and
needed data. Remember, the BCP tasked the Commission with
this activity.

So the development of these Regulations will
further the goals and objections of SB 826 and SB 839. So
we'll collect data and we'll do the modeling as required.
There is one problem though. Under present reporting requirements, no Regulations are in place to facilitate the collection of the data. So staff proposes to make changes and/or additions to Section 1308(e) of the California Code of Regulations, which will help us collect the data that we need to do the modeling as required by the BCP.

We will be proposing that we collect data monthly. And that will fall, that monthly collection of data, will fall into two groups. First, we will look at the natural gas characteristics. That is its chemical composition, its specific gravity, its maximum mass molar fluid. (phonetic)

Secondly, we will also be collecting information on the pipeline segments. First, we will need monthly averages and maximum inlet pressure. We'll need monthly averages and maximum outlet pressure. And we'll also need monthly averages and maximum flow volumes.

And I think finally, as was stated several times, and I know Commissioner McAllister made a very important point about this, any data that's collected as a result of these changes or additions to the Regulations, will be automatically designated as confidential. And this of course is provided for in law.

That brings me to the end of my comments. And any questions, Commissioners, I'll gladly attempt to answer
them at this point in time.

CHAIRMAN WEISENMILLER: Just a comment really, when I was back at FERC in May and met with FERC on hydraulic modeling, they indicated that -- obviously the staff there are quite familiar with hydraulic modeling -- that any application to either add or delete a pipeline to FERC has to be accompanied by hydraulic modeling results to demonstrate the impacts on the system.

We both talked about how any time they had seen, or I had seen public hydraulic modeling, of the California systems was in the Mojave days where we did that or Pro Ingrich (phonetic) did that. So again, they were just surprised that was not a regulatory tool in California. Obviously we're not talking about distribution lines, but pipelines.

MR. BRATHWAITE: Well, Commissioner the model that we are thinking of requiring actually will allow us to add and delete pipelines, and look for pipeline segments for that matter, and look at the impact it will have upon the overall system.

Okay. Thank you very much.

MR. WENG-GUTIERREZ: Thanks, Leon.

With that, I'm going to go ahead and transition back to talking about just a summary of changes. That's pretty much, what we just heard from staff, where again
ideally an explanation of how the data will be useful to
the Energy Commission for multiple purposes. And I hope
that has addressed some of the concerns or some of the
questions regarding how we're going to use the data.

If not, then certainly during public comment,
we'd like to hear about if there's more interest in getting
even more detail or how that might be conveyed. We can
certainly have those conversations in further stakeholder
conversations or discussions later on as well, but we're
open to understanding how more we need to sort of explain
the needs for the data.

And certainly in the context of the rulemaking,
I'm sure Caryn will touch on this when we go forward and we
create the initial statement of reasons, we have to present
a set of comprehensive justifications for all of the data
we're requesting. And so certainly we'll be making that
effort as well in that document.

So I'm going to go ahead and just go through a
summary of the changes. These are changes not from
September, but the changes in total, so from the current
Regs to what we're proposing. I'm going to go over this at
fairly high level, because we spent a whole workshop in
September talking about many the details of the changes
that we're proposing. So if you have an interest in
hearing discussions about what the detailed changes are and
why we're making them, I would recommend looking back at that September 26 workshop and perhaps listening to the staff presentation on the specific sections. But I will go over them sort of at a high level here.

I will probably skip over, or quickly go over some of the elements, which we'll be discussing this afternoon on those specific topic areas as well as the topic area of section that Christopher Dennis will talk about again, which is a brand new change since the September workshop. So that's something he didn't get a chance at the September workshop to discuss and so he's going to be giving a more detailed description about what changes were made and why those changes were made.

So as I mentioned before, the first section deals with some administrative and definitional changes as well as deletions. So we have a number of new terms, which are actually inserted into the regulatory language. And these are primarily to both clarify existing definitions as well as to specify new definitions that are needed in the codes that we -- the language that we're proposing.

The way that it's written now, obviously all the definitions are still at the end of the definitional section in 1302. Once we finalize the document obviously it will be incorporated in alphabetical order, but just to know that all of the changes have been placed at the very
bottom. There have been some changes to existing definitions. For example, in the alphabetical, the previous language, if you look at the customer sector definitions I think we made some modifications there, really to be consistent with how we're collecting QFER data right now and how we designate those customer sectors by NAICS Codes. So those have been modified slightly.

In some instances the definitions that are inserted, the new definitions, we're trying to be consistent with other statutes and regulations where those definitions are used. But there are instances where we have be slightly different in our terminology and so to the extent that we can use consistent terms in other statutes we've referenced those.

And then we would, of course, welcome any comments that could better or improve the understanding or terminology that's used in the definitions. I know that the definitions for each of those elements have a significant role in how the actual regulatory language is interpreted and how it could affect the implementation of those Regulations. So it would be great to hear if they were comments of questions or suggestions about the definitions themselves.

The next item I wanted to highlight sort of at the outset is a large section that we're looking at
deleting. I mentioned this is September. We're still looking at getting a confirmation from the CPUC that we no longer need to collect this specific data. And this is primarily because I believe we've reached the cap. And once we've exceeded that cap, we're no longer obligated to collect the data. So our proposal in the Regulation is to delete the entire Article 6 section under Division 3, which is the data collection section.

And we don't believe that it's necessary. We're going to get confirmation -- we'll of course get confirmation before we actually do submit it in the OAL package. But for now, we are assuming that we no longer need to collect the data and that we're proposing it to be deleted. If there are comments, if any stakeholders are interested in having that data, maintaining that collection or have comments about it, I mean we'd like to hear about that alternative interpretation of the cap.

The next section in the draft language deals with generation. It primarily focuses on three different sections of Regulatory Code: 1304, 1308, and the wind performance sections 1383, 84 and 86.

So 1304 is a fairly comprehensive section. It's got lots of different sections. Christopher Dennis is going to actually be talking about one section within 1304. Probably the three major areas that we made changes to are
the insertion or clarification about CHP reporting dealing
with waste heats and thermal energy calculations. And so
that's an important set of clarifications that we're
introducing into 1304.

Additionally, we also have a set of
interconnection threshold reporting changes, which I think
we have had numerous conversations about. And I believe we
did in fact change some of that language in there to
account for some comments that were received in discussions
with stakeholders.

And then the last is there's a section of, or a
new subdivision of balancing authority reporting
requirements. And I think we have had some comments on
that, but certainly I think we've had some written comments
on that and we're still talking about that section, but if
there are any additional comments on that section we'd
appreciate those as well through either verbal or written
comment.

1308, I believe the primary change we've made
there, is again the natural gas distribution subdivision
that Leon just spoke about. We're just inserting that
again in order to facilitate the simulation work that's
going to be done in the supply office, surrounding the
natural gas distribution network.

In the wind performance reporting sections, again
we've got some changes in there to help clarify our analytical needs. We've inserted a few sections of language where we're asking for additional details in order to facilitate our calculations and some other clarifying language. So those are the primary areas that we've dealt with, dealing with the generation side.

Next, we have the forecasting sections that we're modifying: sections 1306, 1307 and then 1343, 1344 and 1353. So the first two sections here are dealing with LSE and UDC reporting for customer classification reports and then the gas utility and gas retailer reports. The section -- what we've added there is actually a request for customer level data. So that was a fairly significant change to both of those sections.

And I don't believe it's one of the topics that we're talking about this afternoon, so if people would like to weigh in on those changes in those two sections, we probably want to do that in the morning, during public comment.

But those again, much of the reason why we're going with that data is in support of the demand forecast as Chris had mentioned as well as the surveys that we want to implement. We need to get our characterization of the population. So again if there's some comments or suggestions about modifications to the language, we'd...
appreciate hearing about that.

Next is the section 1343, which is the end use characterization data. This is where we are implementing surveys. We have had at least one meeting on the surveys with stakeholders as well as received written comments. The changes in 1343 again were pretty significant. In the old framework the utilities were obligated to perform the surveys after providing us a implementation plan and us approving it.

And there was a schedule for the implementation of the surveys. We've changed that around a little bit. And so I think the obligation in the new language really falls to the Energy Commission, but requires the support of those entities or those regions that we are surveying. And then there's an alternative compliance mechanism, through which the utilities could implement their own surveys.

And so it would be great to get some feedback. Perhaps on that section that might improve the alternative compliance methods. Or if there's comments about the primary mechanism, that new primary or proposed primary mechanism for compliance that would be great.

1344, which is the load research and load metering report section has lots of detail in it and there's lots of sections under there, many of which we're going to cover in the afternoon. So I'm not going to go
into too much detail on that. But there were one of the things that we haven't changed in this version that was discussed, that I did want to take a look at and change, are the reporting dates. So I know that pretty much throughout we've talked about the March reporting date and there were some comments that the data might not be able in the timeframe given the work and the data cleaning and all the other work that needs to get done in order to provide this data. So we were going to look at changing some of those reporting dates to a little bit later in the year, maybe April or sometime of the timeframe. So that's not reflected in the current version. But we are looking at what those dates might be, what might be appropriate timeframe for reporting for that.

And then of course in the load metering, that section includes all of that behind-the-meter, the interval meter data, the network EVSEs, which are all topics we'll talk about in the afternoon.

Lastly there's some compliance language, Section 1353, and we did receive some comments on that. The original language, I think, was using sort of another section as a template. And one of the points that were made was that it didn't necessarily allow for an iterative process of compliance. So I did insert a 30-day compliance period in there or an opportunity for some discussion. I
don't know if that's adequate. And so certainly if there are suggestions about what would be a reasonable mechanism for resolving any sort of compliance issues, I'd be interested in hearing your comments on that.

And then lastly is the security and confidentiality section. Again, the only thing that we've made modifications to so far is the insertion of the automatic confidential designation for the natural gas data that we'd be getting in support of Leon's work for the simulation work.

Beyond that, we feel that everything else that we've been asking for is covered in the existing language, at least for the confidentiality elements. There are a couple of other sections dealing with the release of data and aggregation and things like that that we still need to take a closer look at and will probably be revising as well, but for the time being we've only really looked at this one designation of confidentiality. And that's what's in the Regs right now.

So that pretty much completes my high-level summary of the changes that are presented in the proposed Draft Regulations. And I guess I could, if there are any questions about any of that I could answer them. Otherwise I'll hand if off to Christopher Dennis to give a presentation on the 1304 Section that he's -- the new
language that he's inserting into that regulatory section.

CHAIRMAN WEISENMILLER: No, that's good. Let's move on to that topic.

MR. WENG-GUTIERREZ: Great.

So again, this is Christopher Dennis.

MR. DENNIS: Thank you, Malachi.

I'm Chris Dennis from the Siting Engineering Office and I'm here to talk about proposed changes to the 1304(a)(3) Regulations. I'll start off first with a summary of the existing Regulations and then go into a highlight of our proposed changes.

What are the Regulations and what do they do? The Regulations consist of three parts. There's part A, B and C. Part A is a requirement for data collection and water supply in use and wastewater production and discharge. Part B is a collection of biological take and biomass impingement. That part's already been discussed on the proposed changes there in a workshop we had previously. Part C collects data on violations related to environmental quality and public health.

Who provides the data and how often? Power plants that provide electricity to California within a control area -- provide electricity to a control area with end users in California required to provide this information. However, there's a limit to that. Part A
limits it to power plants with a capacity of 20 megawatts and greater, parts B and C to power plants with a capacity of one megawatt and greater. Reports are due annually February 15th of each year.

Who collects the data and what do we do with it?
The California Energy Commission collects the data, and the data is used for research, analysis and reporting. I've given a few examples. Here at the Energy Commission we've used the data for the Integrated Energy Policy Report. We've used the data for evaluation of renewable energy policy and impacts of water use by the power plants. And we've used the data to identify power plants whose water supply might be susceptible to the drought. And to then contact those power plants and ask if they need assistance.

Universities that use this data in research:
Universities such as Berkeley, Stanford, USC, Humboldt.
The news media agencies use the data and other federal and state agencies use this data.

I took the data that we used for our Drought Investigation and gave a snapshot of our power plant fleet in California for power plants 75 megawatts greater that consumptive use water. There are about 78 operating power plants in California under the Energy Commission's jurisdiction. There are 22 non-jurisdictional power plants. That makes a total of 100. These 100 power
plants have a capacity of about 29,000 megawatts. That's for natural gas, solar thermal and geothermal power plants. And because we're looking at the drought, that doesn't include hydro-electric, wind and once-through power plants. Hydro-electric power plants generally use water for -- it's a pass-through use and its used for non-evaporative cooling, so it's not consumptive.

Wind, we found based on our experience, basically doesn't use any water, negligible amounts. So we've excluded that and then once-through cooling watts ocean water. So that's not related to any drought.

Of these power plants, they use about 123,000 acre feet per year of water. The water comes from surface water, groundwater, recycled water and degraded ground water. Of the 100 power plants, 30 of them are using surface water, 20 are using ground water. The vast majority are using recycled and degraded groundwater, which we consider as drought resistant. Of the 30 power plants that use surface water, probably most vulnerable to drought because of yearly curtailments on surface water supplies.

And now I'd like to go into our proposed changes for the data collection. Regulations -- we're proposing these changes to clarify the requirements to make the data collection more useful and to remove data collection requirements that are not needed. I'll go through these
requirements following as a summary, highlighted summary. And the proposed changes are in the strike-through/underlining format.

One of the first ones I want to go through --

CHAIRMAN WEISENMILLER: It would be good to stay -- I don't really see anyone from the generation industry in this workshop.

MR. DENNIS: Okay.

CHAIRMAN WEISENMILLER: So one of the things I want to make sure the staff reaches out to IEP, certainly NRG, Calpine, reach out to the power plant owners, have a very detailed conversation, see where there are issues and where there aren't. But since they're not, I guess it's possible for someone on the phone, but I'm just trying to avoid going line-by-line and discovering the people who should be reacting aren't really here.

And I know, for example, on the water stuff you mentioned trying to identify power plants whose water supply susceptible. Well, I know in the drought work one of the things that obviously the owners were concerned about was if it became public that if their water supply was vulnerable. They could suddenly discover that their price of water would go up dramatically or their options could get pretty limited, pretty damn fast. So anyway, great to get more data, I just want to make sure that we
really reach out to the affected groups before this comes back to the full Commission. And not discover at the Commission meeting that we've got a crowd showing up saying we haven't heard any of this stuff.

So again, continue on with the high level. But really have a very detailed conversation with the people that it really matters to.

MR. DENNIS: I appreciate that, Commissioner.

Thank you.

CHAIRMAN WEISENMILLER: Okay.

MR. DENNIS: Proceeding on, with that in mind, we were proposing to remove from the Regulations both the hydroelectric power plants from the Reporting Regulations and the wind-powered power plants. Basically again because wind doesn't generate any water -- or use any water much and doesn't generate any wastewater. And the hydroelectric is basically a pass-through process, so we're thinking we don't need to have this data collection. Let's remove it.

I'd like to stop at this point and mention that maybe -- we're likely to be adding Regulations, proposed Regulations, here for the online data collection of the data through an online system. The system's in development right now, probably will be deployed in 2017, and it should make the data reporting quality more accurate, more
efficient to make it for the owner-operators more easy to report the data and for us to query the data and report it also.

In that line we're trying to make the data report units consistent, so like the water and wastewater reported in gallons all the way across.

And then I'd like to emphasize that we collect primary and back-up water supply source data and supplier data. This was important, for example, when we were doing our investigation on a drought. We didn't have a good data set for that. We had to make numerous phone calls, look through lots of data. It took days. If we had a good data set our response time to assist the power plants could have been a lot quicker. So we're looking to get good quality data that way. We have some help, but we need more.

And another thing I'd like to highlight is with the online data reporting format we are looking to get descriptive information, so we can do better analysis. And part of that we are looking to get consumptive and non-consumptive water processes in detail. For example, what is the steam cycle cooling water use at the power plants, how much are they using for inter-cooling, mirror washing, dust control emissions control, drinking, sanitation, landscaping. So that's clarified here.

And I think last thing I like to highlight is for
industrial wastewater. We're trying to clarify that we're not interested in the sanitary wastewater production disposal, but actually industrial wastewater production and disposal. That's the majority of the wastewater that's produced at the power plants. And this information may become more important as time goes on, as water becomes more scarce in the future.

And that's it for my presentation, are there any other comments?

CHAIRMAN WEISENMILLER: No, thanks. That's good. I appreciate it. And certainly any way we can modernize our data collection systems are great.

MR. DENNIS: Super. Okay, thank you.

CHAIRMAN WEISENMILLER: Thank you.

MR. WENG-GUTIERREZ: All right. Thank you, Chris.

So with that, that actually is the end of our formal set of discussions and presentations in the morning. I had here an opportunity to open it up for public comments so we can certainly do that before lunch. We're running a little bit ahead of the schedule. I know the lunch might, or after lunch, the afternoon might be a little quick. So I guess my suggestion I guess would be to open it up to public comments for a few minutes. And maybe we can get done a little bit early and then come back a little earlier...
than one perhaps.

    COMMISSIONER MCALLISTER: Sounds great.

    MR. WENG-GUTIERREZ: Okay great. So let me --
again if you could limit your comments to three minutes,
that would be appreciated.

    COMMISSIONER MCALLISTER: We have not been doing
the blue card thing, so we'll just let people raise their
hands and --

    CHAIRMAN WEISENMILLER: Yeah. Let's start with
anyone in the room who has public comments? Please.

    COMMISSIONER MCALLISTER: Go ahead.

    CHAIRMAN WEISENMILLER: Yeah.

    MR. BOYCE: Bill Boyce with SMUD on electric
transportation focus.

    A couple of observations, there's actually quite
a few agencies all starting to request similar data between
the Air Resources Board, Division of Measurement Standards.
And I know my folks' counterparts at the IOUs are also
answering the CPUC. So I'd like to suggest maybe really
trying to form an interagency group to really tackle this,
because a lot of the data is very close. And I think we're
going to end up in a situation we'd have to kind of split
reports quite frequently to do that. And the amount of
data being requested is also a lot of data with a lot of
access.
The second comment I would make, a lot of this is looking at energy utilization of course, particularly here. But one the other things that the data does not seem to be focused on, which would be consistent with the Governor's Executive Order for a marketed option is really taking a look at what sort of utilization patterns exist that could help guide us with regards to the effects infrastructure have on adoption. And those are the types of things that could help guide investment in infrastructure to help boost adoption. And looking at things such as for example if the pricing structure is too expensive and people aren't using the infrastructure, then what is kind of a break-even point where we actually get good utilization of the infrastructure, which would then tend to make us think of higher adoption.

So I would suggest really trying to think about this in an interagency and then also looking at the data for that other set of policy needs that actually I think at some levels is more pressing than the energy, where the energy issues will come farther out when there are a lot more vehicles on the market. Right now, data collection on how to build the market is probably more paramount. Thank you.

COMMISSIONER MCALLISTER: Thanks.

CHAIRMAN WEISENMILLER: Anyone else?
And again, obviously you don't get three bites at the apple and do this morning and do this afternoon and then there's public comments at the end as much as you stay eye level.

MR. TUTT: Good morning Chair Weisenmiller and Commissioner McAllister, Tim Tutt from SMUD. I'm not trying to get a second byte of the apple. I'm actually going to talk about different things. And I do expect to talk in the afternoon as well on specific topics. Maybe the whole apple will be eaten by the time we're done.

What I wanted to talk about was sort of a -- I mean it's obvious that your staff has spent a great deal of time thinking about what kind of new data that they need and what kind of uses that they might put it to. And it's been sort of a -- from the perspective of the stakeholders that are going to provide the data, very little time to look at those proposals.

This initial proposal, the draft language, just came out a few weeks, a month ago. And we were going through some, I thought, very well done informal meetings with Malachi to try to understand better exactly what was happening and so on. And then we're not sure where it all stands in terms of timing.

When this workshop came up, it seemed like we weren't done with the informal meetings. And it seemed
like the language that we were presented last week was not
done in terms of incorporating all the stakeholder comments
to date, there's still changes to be made. And so they
just -- it feels like we're in the midst of an iterative
process where part of the iteration is us making comments
on a regular basis on stuff that's not finished from your
end yet. So that's a work burden that we want to avoid.

But I wanted also to say that one of the things
that is of concern to all the stakeholders is that this
does represent a significant expansion of data collected by
you guys. That's clear. And particularly in two areas,
that aren't going to be talked about this afternoon, in
1306 removing the 100 kW limit for reporting -- UDC's
reporting on power plants is a huge expansion of our
reporting responsibilities there. And 1304(b), going down
to customer level data, is again a huge expansion that
comes along with a lot of confidentiality concerns from the
stakeholders. Thank you.

CHAIRMAN WEISENMILLER: No, that's good.
Actually with public comment you normally don't have a
dialogue, so excuse me.

I was going to say I think the thing we're
struggling with, and in terms of by adding today I was
trying to be helpful, I guess is what I'm trying to say.
Is that on the one hand, under 350, we just have a
phenomenal step up in what we have to do on forecasting. And as you know we've sort of -- this IEPR -- you know, you've not seen our traditional crank the knob forecast situation, which we're going to spend much more time on next year.

Now the problem in a way next year is we don't really have the data we're going to need, right? I mean to really do all the things we want. And as I often say on forecasting these things are iterative. It might be four years from now the forecast is really humming and does all of the things one would like to have it do this year.

And so we spent a lot of time on the data part. And indeed, as you know, once the Commission adopts an OAL there's this long lead time. And then actually data will start dribbling back in here, somewhere out -- hopefully before (indiscernible) out. So we're trying to move this along in that sense.

But what I thought is important was first for the staff to get -- it is a big change -- so for the staff to get something out to really start the dialogue. And at the same time I was concerned that there was an opportunity for the stakeholders to -- for Commissioner McAllister and I to listen to the stakeholder concerns. Now obviously, this wasn't to end the conversations, but hopefully to give you a different channel.
And again, I certainly encourage people to keep working through issues. I always say on a siting plant basis, as you know we start out by law, with there are 24 issues. And by the time you -- somewhere along the line you like to get down to 4 major issues on what's really important and not go into the final days litigating all 24 of those. Some are more aquatic and some are more desert, so you can't quite get to 24 for any individual case -- but again, narrowing issues.

So again, certainly this was an opportunity for Commissioner McAllister and I to both listen. And but at the same time, certainly encourage people to keep talking. And that's an opportunity for both you and the staff to figure out priorities. I mean and to make -- I assume there's some data with some adjustments that are probably relatively easy for you to provide. And try to work through those adjustments and see if those adjustments still get us to what we need, so hopefully that.

I don't know if you have anything else to say on process? I mean I'm sure this is going to take longer to get through. It's taken longer so far to develop it. It's going to take longer to have the dialogue than I'm sure we were hoping to have. But it's really important to do it right, you know?

MR. TUTT: Yeah. I appreciate the comments
Chair Weisenmiller. And the opportunity to speak directly to you is important I believe.

In the informal discussions we've been having with Malachi the concept of a working group has come up many times. And that I think it would be a useful sort of part of this initial process leading to formal regulations, if you could consider that. Thank you.

COMMISSIONER MCALLISTER: Yeah. I wanted to just chime in a little bit. So and maybe at some point, now or in the afternoon, Malachi could kind of remind us of the schedule that we're hoping to meet for the rulemaking itself. But I definitely appreciate your comment on the workload and we're not trying sort of make you reinvent the wheel every meeting. And keeping the threads going in a way that's substantive and not kind of piece meal and forward back, you know, jerky in that way. I think we all would benefit from.

So and my report that I've gotten from staff about discussions is positive as well. So that's good to hear that you also agree with that. So this isn't stopping the clock in any way. This is sort of just a mid-stream kind of check in.

Certainly, you know, it is a big step up. I mean there's no doubt about that. I guess part of what I'm hoping we get to is an appreciation or an agreement or an
understanding of like, "Okay. Well, what are the steps we need to take to create the infrastructure that then will facilitate this automate it as much as possible in an iterative way make sure that the burden is not -- is as low as it can be and not ongoing. You know, that sort of once the system is in place, it's in place. And so with incorporating all the privacy concerns and all that, I think that that's kind of where we'd all like to go. But the details matter here, so we have to work through it.

MS. WINN: Good morning, Valerie Winn with Pacific Gas & Electric Company. I share many of the concerns that have been voiced by Mr. Tutt and by --

CHAIRMAN WEISENMILLER: Put that on the record, that PG&E and SMUD agree on something. (Laughter.)

MS. WINN: Well, and I do in particular share Mr. Tutt's concerns about some of the granularity of customer data. As Mr. Tutt shared, in some of our working group conversations you don't necessarily need to look at every hair on his head to tell that he has gray hair. So we're certainly looking for on some of the customer-level data, that perhaps there might be a more aggregated level that might address some of your concerns.

And we say that from the perspective of we have 15 million customers. And when you start looking at hourly data for 15 million customers that's a lot of data and we
do have privacy concerns around sharing some of that data. And it's a lot and we're still learning how to turn that data into useful information. So I think that's something, we have all the data, but what is the most useful level for you?

We also share concerns of some of these requests, in particular on some of the new information that's been added in the current draft on water for power plants, that that is duplicative of other reporting requirements at other agencies. So I think some of the concerns or the idea for a broader working group all the agencies might be helpful.

And then lastly, and we'll get into some of these details later in the day, there are requests for information that the utilities simply do not collect. And so as we look at affordability for our customers of electricity, all of these expanded requirements cost money to be able to comply and to hire the people to do the work and then to report it. So looking for what's the right balance there, what are we trying to accomplish, and what's the most cost-effective way to achieve that result will be important for us.

And finally, we look forward to continuing to work with Malachi and other people on the Energy Commission staff. We have really valued the very interactive nature
of the discussions. Particularly, the one we're looking forward to will be the natural gas discussion, which we have not had an opportunity to dig in on those issues yet. But certainly, for PG&E the hydraulic modeling at the transmission level may be done, but it's certainly not done at the distribution level.

And a lot of the information requested again, is not something that we have available. So again, how can we find the right balance to help you -- for you to achieve your goals and for us to also be able to comply? Thank you.

CHAIRMAN WEISENMILLER: One of the things that may help us move along too, is if there are data that you're providing to other agencies that seem similar. And you've talked about trying to do the sort of (indiscernible) state working, you know, and we could do that. But a simpler thing might be to say, "Look, this is what we provide to the Water Board on water. If we provide this to you at the same time, will you be happy?"

MS. WINN: And we'd be happy to do that. Thank you.

CHAIRMAN WEISENMILLER: Yeah.

COMMISSIONER McALLISTER: The other thing, I think often data requests suffer from a -- I guess it's information asymmetry -- when often requesters of data
don't even really know what data you do collect. And we're not immune, we're not free from those constraints as well. So I think kind of a come to Jesus a little bit about like okay what do you have, what don't you have, those sorts of things. Just so we're all operating with the same deck I think just that sort of basic information would be helpful.

MS. WINN: Thank you, appreciate that.

MS. HACKNEY: Good morning Chair Weisenmiller, Commissioner McAllister, Catherine Hackney Southern California Edison. And my colleagues have already expressed many of the concerns that we all share, so I get to be the good guy. And I would like to express our deep thanks and appreciation to staff, Malachi and Caryn in particular. They've been extremely open and accessible and helpful to us today. We certainly understand how foundational the Demand Forecast is to inform multi-billion procurement and infrastructure investment decisions.

We understand that greater granularity is important, that there's a big difference between measuring and modeling as was said earlier. And so we look forward to our ongoing conversations, we too support the creation of a working group. We think it would be very helpful to resolve a number of these kind of outstanding issues, what you have, what can we give you? We very much appreciate, Commissioner McAllister, your comments about
confidentiality.

Clearly, Section 2505 is on the books. We may need to refine it somewhat to make sure that it is kind of in lockstep with all of our understanding that individual customer information will not be made public. So that's a good thing, so again thank you so much for the effort underway. Your staff is doing a tremendous job in bringing us together in trying to vet these issues and find a path forward. So thank you.

MR. VONDER: Tim Vonder from San Diego Gas & Electric Company. And I have a list of questions and concerns probably that long, but I think we'll have an opportunity after lunch to get into a lot more. But I thought I've been hearing quite a few comments and concerns on confidentiality, so I thought maybe I'd take this opportunity to just mention a few things on confidentiality. And maybe we can kind of think about them over lunch.

And my comments on confidentiality come, in part from years of experience working with both the Public Utilities Commission and the CEC in our efforts to provide data to both agencies. And many times over the years we've run into little roadblocks when it comes to confidentiality. And I thought I would just kind of bring a few things up, you know, as something that we can think
about and talk about later. But confidentiality is a very, very big issue when it comes to providing information, especially at a very, very detailed level. And the level of detail that we're being asked to provide this time, I don't think it can go any lower than hourly information by individual customer.

So there's a lot of concerns there when you provide that much information. Trying to keep it confidential, masking the information is one technique, but also we have to realize that through triangulation and putting other pieces of information together it's easy sometimes to zero in, taking a couple of different pieces of information and zeroing in on an individual customer and identifying that customer without actually having the name of that customer in front of you. And so that's something that I think we need to pay attention to, and guard against being able to identify a customer by triangulation or putting together other sources.

Another thing with regard to confidentiality is over the years I've found that providing information to the CEC and asking for confidential treatment that is consistent with what would be granted confidential at the PUC, I've learned over the years that the rules here are different than the rules there. And if we're going to be getting down to the level of individual customer again, I
think we need to take a look at the confidentiality rules that we are expected to use at the PUC along with the rules that are being developed here. And hopefully that they can be developed in a way that are consistent.

CHAIRMAN WEISENMILLER: I hate to tell you, but one of the big issues in the Legislature last year was to reform the PUC's confidentiality provisions. That ultimately led to that bill was not successful, but certainly the Governor and President Picker are committed to reforms in that area. So I would not hold that up as a gold standard.

MR. VONDER: Well, thank you. It certainly is a concern. And I guess the other thing that I'd like to mention with regard to confidentiality is transmitting the data and custody of the data.

When we transfer large volumes of data, I think cybersecurity is going to become an issue here in ways of making sure that someone cannot hack into this process of either transmitting the data. Or once the data arrives, hacking into it, because the volume of data that we're going to be asked to provide to you is basically our entire billing file. And so, in essence we'll have our billing file in two places and when you have data in two places then it's more risk of it being hacked than it is if it's one place.
So I just think that those are a few things that we should consider for the future.

COMMISSIONER MCALLISTER: Thanks, Tim.

CHAIRMAN WEISENMILLER: Thanks.

MR. VONDER: Thanks.

CHAIRMAN WEISENMILLER: Anyone else in the room or on the line?

(No audible response.)

No, nobody. Okay, so --

MR. WENG-GUTIERREZ: All right, does anybody online have any questions? It doesn't look like anybody had any questions so far, but just if you could let us know.

CHAIRMAN WEISENMILLER: Or at least comments.

MR. WENG-GUTIERREZ: Yeah, sorry, comments.

CHAIRMAN WEISENMILLER: But again we're going to have a public comment series at the end too. And so --

MR. WENG-GUTIERREZ: Yeah, I don't any popping up.

CHAIRMAN WEISENMILLER: -- you don't see any, and at this point we're on going to be back at 1:00 schedule.

So Malachi has identified five topics we're going to cover. Obviously more when you get to the written comments if there were high-priority other topics, it'd be good to have those spelled out. So again as we look at going forward we
can continue to work on issues, so thanks.

Back at 1:00.

MR. WENG-GUTIERREZ: All right, so yeah. We'll return at 1:00 o'clock then, thank you.

COMMISSIONER MCALLISTER: Yeah, 1:00 o'clock.

(Off the record at 11:58 a.m. for lunch)

(On the record at 1:08 p.m. after lunch)

COMMISSIONER MCALLISTER: And let's get started again. Sorry, we're running just a couple of minutes late, but I think still in the ballpark. So Malachi, do you want to get us started off again?

MR. WENG-GUTIERREZ: Great, thank you. So I hope that -- I've certainly felt like there were quite a few conversations during the lunch period, the lunch time, and hopefully that some of those conversations and comments will come into the conversation of the afternoon as we touch on some of these in-depth discussion topics.

So for the afternoon we have five items and I think we have a fairly short period of time to run through them. Hopefully we can touch on most of them and get some pretty substantive comments and concerns identified.

I'd like the focus again to be on, if there can be, how to improve the existing regulatory language that's been presented or proposed. So to that extent, that would help our staff in revising the language. It gives us a
pretty clear and concise starting point to work with, so it would be great if comments could be focused on that sort of detail.

Also, I'd also want to emphasize though that if you have a high-priority concern this afternoon, I would recommend that you sort of focus on those concerns as opposed to all of your concerns, which again, you can provide in written comment or in the further discussions that we'll have, the staff level discussions. I'm certainly intending on having some additional meetings on various topics, probably all of the topics that we're going to talk about today or this afternoon will be topics for further conversations.

And then lastly, I just want to say again I think we did a good job in the morning session where if there was a comment that you agreed with you were able to say, "I agree with their comments, but I'm going to say some other things." So again, not duplicating the comments would be helpful in expediting the process as well as focusing the conversation.

So with that, I'm going to start right in on the first topic area that I wanted to emphasize this afternoon, which was the Behind-the-Meter Load Modifiers. And this, of course, includes electric vehicle charging as one of the components of the Behind-the-Meter Load Modifiers; the
other two being photovoltaic systems and energy storage.

So each one of those three items are pretty important in us understanding what the load shapes are comprised of. And I wanted to just -- I don't know if everybody's had a chance to look at the actual language and what we've inserted n there. But just to highlight, it's on page 53 of the language. It's basically Section 1344(g) and the primary thing we've done to change this was really to include a 1 percent of peak as the basis of that reporting, I believe.

So what that does is instead of having -- so it basically adds another threshold for reporting that might cap or limit the obligation to report. So I think that was part of the concern, was if you may be a smaller POU or you may not have the ability to do some of the work or have the resources, that language was inserted in there ideally to help differentiate those parties that might have resources. But also to focus on those that have a significant potential modification to their loads given these resources.

So it would be interesting to hear what people have to say about that language. And what I want to do is sort of open it up for actual comments, with again emphasizing those areas where you felt that the language may have met some of the needs, but may not have met all of
the concerns. And then if there aren't very many comments on this -- I think there were a few people that wanted to comment on this -- if there's not many comments on this topic area then I'd like to maybe explore some of the questions that were presented here to get a better sense about how do the utilities differentiate the components of load shapes and other things.

So with that, I think I'm just going to open it up for comment. And I think yesterday there were a few people who suggested that they would be commenting on this. So and again I guess what I will do is I will limit, I think, to three minutes to keep us moving forward.

  MS. WINN: But Malachi, I can be very succinct.

  MR. WENG-GUTIERREZ: All right, then.

  MS. WINN: Good afternoon. Thanks for that lunch break. It was nice to get out and get a little bit of a walk.

  We are, of course, still going through the updates to the second version of the Regulation. So just the quick feedback I've gotten from some of our folks on the load modifiers has been that some of these -- as we've talked in the Working Group -- PG&E simply doesn't have information on some of these things.

  For example, I think we've got pretty good information right now on PV wind and fuel cells on our
system. But we may not have information on whether there are energy storage systems or the type of electric vehicle that a customer might have. And so particularly on energy storage what we're seeing now, particularly with some of the SunRuns and SolarCitys is that the PV may integrate storage with it. And so but if a customer hasn't asked us for a new panel in their house, we're not even going to know that they have an electric vehicle or that they have a storage system behind the meter.

So there are some real gaps in the information that we actually collect.

And then on electric vehicles, the distinctions by vehicle type, some of that information might be better gathered from the Department of Motor Vehicles. I mean, again we don't necessarily know that a customer has an electric vehicle unless they need to upgrade a panel. And that's probably only 20 to 30 percent of our customers.

And then as I understand from our technical experts, that some of the distinctions by whether it's a battery electric vehicle or a plug-in hybrid, that some of those distinctions really aren't going to have much meaning going forward. They're kind of obsolete, because they're about the same battery size. And so that's really what the important part is there.

So we'll address that some more in our written
comments, but we still have challenges in providing some of this data. Certainly if we have it, we can talk about what we're able to provide. But we don't have it for everyone in our service territory.

CHAIRMAN WEISENMILLER: It's interesting, because I know when I got my Volt one of the things that was part of the package was basically telling PG&E that I had a Volt, so I guess part of it was this question. I don't know how many people say, "never" or "yes." But and then trying to guide you towards the different charging options you had.

MS. WINN: Interesting. Well, of course, yeah and if you do have it separately metered -- if it's submetered -- then we would have you on that EV charging tariff and we would have the information. But that could be then because you've requested either an upgraded panel or perhaps a different tariff. I don't know all the details with that.

CHAIRMAN WEISENMILLER: Yeah, but at least there's some option that people might just tell you that we have it. Now, what happens if they tell you, is probably an interesting question.

MS. WINN: Okay. That's a good question. Thank you.

COMMISSIONER MCALLISTER: Yeah, and I'll also
just say you're right; a lot of this information might exist elsewhere. And I think there's a rebate program and virtually all the EVs participate in it and so there's addresses associated with that. And then also DMV does a lot of the registration data.

   But I think the point here is that we need to be nimble in terms of what the expectation is, and getting clear on what the expectations with you are, and also what the expectation of what we're getting from other places is. So that we can match all that up as best we can.

   MS. WINN: Right, and it's also one of those things that solar panels are a bit easier to track, because you can't easily sell them off of your roof to someone else. So then you've also got that additional complexity of well someone might have an EV today and sell it to someone else in two years and maybe not replace it with an EV.

   So those are some of the other things that might lead us to say DMV would have better record keeping on some of that, and how could we look at that information and leverage it in a meaningful way here?

   COMMISSIONER MCALLISTER: Are you looking at analytics to recognize load shapes EV charging and detect that through other means than just their telling you?

   MS. WINN: Well, I think we're certainly looking
at some of these things. And it still, as the penetration
grows in our service territory, we'll probably see more
trends. But I can't really say what they're able to glean
from some of the analysis today. I don't have that
information with me.

COMMISSIONER MCALLISTER: Okay. Thanks.

MS. WINN: Thank you.

MR. WENG-GUTIERREZ: So just a couple of
comments, just clarifying again the Regulations itself. So
this section is really looking at developing an estimation.
It's not necessarily that it would be capturing every
single EV owner in the territory and then combining it into
an actual load shape or developing an average load shape,
so there is some leeway here as to what methodology could
be used in order to estimate what that load shape would
look like.

And I was going to wait until a further section
down in the Load Research Section to talk about it, but
there is that component of flexibility that I hope can help
in alleviating some of the burden to comply with this and
other load research sections.

Part of that language, where we've inserted it,
actually talks about what is the uncertainty given the
existing set of data that you have. So that's the other
thing, that we recognize that you may not have all the
data, but what data do you have and can you leverage to make an estimate? And then how certain or what's the quality of that estimate? And that would be helpful.

MR. TUTT: Tim Tutt from SMUD, good afternoon. Very much appreciate the addition of the 1 percent threshold for these load modifiers. I think that's a good change. One slight edit to that I think is rather than saying 1 percent for that year, which implies the reporting year, it should be you reach 1 percent and maybe then you have a year to develop a methodology. So maybe it should say two years prior to. You know, you reach 1 percent two years prior and then your reporting obligation is two years after. You know what I mean.

MR. CHANGUS: Good afternoon. Jonathan Changus with the Northern California Power Agency and I will go into deeper detail, I think, in written comments. But just I think would echo some of the concerns PG&E raised about what data we may or may not have at this point, in this juncture. And it seems like the -- I appreciate that there's some flexibility about what exactly may be required in working with what we've got.

And we just want to note that in discussions about the integrated resource planning, transportation and electrification in particular, one of the key takeaways I had from that conversation from CEC staff was what were
areas the CEC could be helpful, where are the gaps? And I think we've heard in that forum, as well as again here, is that the DMV Registration Database I think could be very useful to a utility planning owner understanding what's going on as well as to the CEC, so trying to explore that as well as the CVRP Database. And we'll go back as well and look and see more specifically what do we have and what don't we have. And to look and see what are some of those other data sources to help inform this portion of the forecast going forward.

MR. DONALDSON: Good afternoon, Daniel Donaldson with Southern California Edison. I just wanted to thank you for the opportunity to comment.

One of the sections that was really impactful to us was the new section that Malachi just referenced adding to the draft language, Section 1344(a), talking about what to do if behind-the-meter data isn't available for all of our behind-the-meter generation and other assets. And really there was a lot of discussion with the working groups around the statistical estimation methods that would be used to really refine how to estimate that data. So we think that was a really good addition and really would warrant some additional discussion in the working groups. Potentially at a DAWG meeting as well would be an opportunity to gain some consistency around those methods
MR. WENG-GUTIERREZ: Thank you.

All right, well I think then I wasn't going to go into detail on the plans and that 1343(a) until the actual threshold level conversation, but I'm glad to hear that it actually is somewhat being received with some positive things. It may not be the actual solution, but hopefully it does give some flexibility to obligated parties.

Was there anyone else who wanted to comment on the behind-the-meter modifiers, in particular maybe the language associated with the energy storage or any of the other elements, the specifics? I know Valerie touched on what they might have as data sets, and the focus seemed to be on EVs, but is there anything on energy storage that might be of concern?

(No audible response.)

All right, okay well then with that certainly this is not the end of the conversation on this specific topic area. I think unless there are some comments from the dais from the specifics that were brought up here we will continue to have those conversations about the behind-the-meter estimation. And we can certainly talk a little bit more specifically about both the 1 percent value with maybe a two-year timeframe versus a single year and also the compliance mechanism that we've inserted into 1344(a)
when we can refine that language as well.

So I'm going to move on then to the next section or the next basically set of topics, which is Section 1344(h) and that, if you're following along at home, is on page 53 of the revised regulatory language. It's dealing with Networked Public Charging Stations and there was a bit of confusion about who were the obligated parties under these Regulations.

I tried to convey that who we had intended on providing the data would be the electric vehicles, EVSE service providers as opposed to say an owner or someone who manages the site. Really, we want to basically leverage existing data that's being collected through the networked EVSE service providers. And use that data as a resource for our purposes. And I know Noel, this morning, touched on some of those uses as well as in our previous conversations people have talked about how to leverage that to better inform our investments going forward in EVSE infrastructure.

So the language that has been changed for this section really focuses only on trying to clarify who the obligated parties are, not necessarily at what we're asking for at the data. But really to say we want to make sure it's the EVSE service provider versus anyone else. And I know there might be some ambiguity if a utility is entering
a marketplace installing EVSE charging stations that if they were then to become the service provider for some sort of proprietary network then they might have that obligation. But if they are offloading that sort of back-off as responsibility to a different service provider then they wouldn't necessarily be an obligated party.

So I wonder if there are any comments on this section from anyone in the room?

COMMISSIONER MCALLISTER: Okay. I have a question --

MR. WENG-GUTIERREZ: Sure.

COMMISSIONER MCALLISTER: -- which is maybe not exactly what you're asking, but I guess I'm just wondering what we know about the -- you know, a lot of digital communication's going on here. And I guess I'm just wondering is this a topic of discussion in the PUC proceeding in terms of what data obligations or what information would come along, as sort of being built into that ecosystem in terms of either cars themselves, and understanding where they are and where they're charging and when versus the charging stations themselves undertaking which car is there and when it's charging. I mean, is that data being generated and what's happening with it?

MR. WENG-GUTIERREZ: I think I'm going to let Noel talk to that. I mean, I have a pretty good idea about
it, but I think he might be the resident expert on that.

CHAIRMAN WEISENMILLER: No, that's good. Yeah, I agree. I mean, I have to think if say PG&E is putting in 7,500 chargers we've got to end up with something that shows how effective they were.

MR. WENG-GUTIERREZ: Yeah.

Go ahead.

MR. CRISOSTOMO: Hi, this is Noel Crisostomo from the Energy Commission. The three utility applications, I guess PG&E just recently received a proposed decision from the CPUC on Monday. But they all closely mirror each other around monitoring and reporting for utilization of the networks that are being deployed.

So the pricing and the responses by the customers will all be collected in order to understand how first the provision of infrastructure will help EV adoption. And then two, understand how the different models of directly sending the price to the driver or an alternative -- sending it to the site host who might be giving it away for free -- will affect the charging profiles of the actual EVSE array.

What was your next question?

COMMISSIONER MCALLISTER: Well, so that's helpful.

MR. CRISOSTOMO: And then I'm envisioning the car
versus the charger.

COMMISSIONER MCALLISTER: Only the car knows where it is and what charger, where is the information being sort of collected and then aggregated by someone?

MR. CRISOSTOMO: So for the utility programs there will be essentially meters in the charging stations or at the head of the array, like the top of the array. So the utility will be a single source, but the EVSPs who are providing the charging station itself could also be a source of information as well as the automaker's telematics-based systems. But this exact issue about the automaker data and the EVSP data and the utility data will be the subject of a joint CEC/PUC workshop on the 7th about grid integration communications, which I will be leading.

COMMISSIONER MCALLISTER: Okay. Great, perfect. So that really does answer the question. I guess I wanted to kind of endorse the idea that eventually this would be an interesting topic. In the context that we're on today it would be -- and in the forecast in particular -- it would be good to have a discussion at the DOG about this issue and how it's impacting demand and how it's doing the load modifiers and all that. So behind-the-meter modifiers, so I want to endorse the Edison idea.

MS. WINN: Hi, Valerie Winn for PG&E. And I'm not familiar with the reporting requirements that the CPUC
may be imposing as part of the Electric Vehicle Decision, but I think certainly it would be worth, as part of the working group, to take a look at what the CPUC is asking us to provide. And syncing up with those reporting requirements as much as we can to avoid duplication of effort.

And I would say also that PG&E's charging stations, once they are up and running, we will be a small portion of the market. So I think some of the other issues in this area with respect to network service providers, others will need to comment on what they are able to provide.

And, of course, as Noel's already indicated the models for how these stations will be run are different amongst the three utilities. So there well may be some information we have as the station owner and there may well be information we don't have. So I think that's still evolving and to the extent we can structure the regulation to provide flexibility to update as information changes going forward, that would be helpful.

MR. BOYCE: Bill Boyce with SMUD on more on the electric transportation viewpoint. Some of the data request requirements on this area literally are at every single transaction. So even today when we were at the utility talking about hourly type data, for every single
account this would even be down at every single charge that happens on a public charger, so just wanted you to be aware of that. That's even more data if you think about like every time someone fills up at a gas station type of data collection.

The other thing I was going to say with regards to where the vehicles are, where the data gets collected, only about 80 percent of the market participates in the Rebate Program at the state level, CVRP. So about 20 percent of the cars really don't participate; that's kind of like the very first access data point. Certainly, DMV does have records on the data. You all would have a lot more access to that.

And last overall on the CVRP be aware that the legislation went through that also put additional price constrictions on who will be able to get that. So the amount of data we'll be collecting at that will be reduced.

Thank you.

MR. WENG-GUTIERREZ: Great, thank you, Bill.

I believe we are having some issues with the WebEx connection and the audio, so I think we've gotten some comments from people online just through a chat session saying that they haven't been able to hear some of the audio. I know that we have at least a couple of people, I think, who wanted to make comments who were
calling in. So if we have more comments in the room that would be great, while we try and look at how we might get them reconnected. Otherwise we can move on and once we get the audio reconnected and they can hear, provide comment, then we can have them either do that at the end or --

CHAIRMAN WEISENMILLER: Do we want to take, I was going to say, a three-minute break just for AV issues?

MR. WENG-GUTIERREZ: Sure. Let's do that. Yeah, let's take just a --

CHAIRMAN WEISENMILLER: And if anyone has something in the room, raise your hand or something. But again, often on these things if we just take a break it's more likely to be fixed than if we try to muddle through.

MR. WENG-GUTIERREZ: Yeah, perfect. All right, let's take a five-minute break then and we'll try and get the WebEx session back up and running. And I appreciate your patience with this.

(Off the record at 1:35 p.m.)

(On the record at 1:37 p.m.)

MR. WENG-GUTIERREZ: So actually if we could go ahead and just get started again, so I appreciate everyone online while we tried to resolve that audio issue. It looked like for some reason the audio cut out, so hopefully you didn't miss too much of the conversation. But we are on the network public charging station topic. We've heard
from a couple of people in the room and we were hoping to hear from anyone online who might have comments regarding this.

So if there's anyone online, I know you won't have the benefit of hearing what comments were already made. So there might be some duplication of comments, but if you would like to make a comment on this specific section of the regulatory language please do so. I think we have at least two people that might want to comment.

CHAIRMAN WEISENMILLER: That's good. I was going to note we have a court reporter here. There will be a transcript that people can listen to for that section, but again I wanted to make sure people had it more in real time.

MR. WENG-GUTIERREZ: Right, perfect.

MS. SMART: This is Anne Smart at ChargePoint. I would like to comment?

MR. WENG-GUTIERREZ: Perfect, great. Thanks.

MS. SMART: Sorry, I'm really bummed out we missed all of that, so apologies. I don't know what was said after lunch at all, so ChargePoint we understand the intention behind the tool. It's been helpful to hear, particularly this morning, get a better sense of what this purpose of collecting this data is.

However, we remain concerned that the way that
this is written it -- we have three concerns. One being that it doesn't -- I'm now reading the screen that just popped up real quick. Okay, one concern is that we don't have all the capabilities required across all charging stations to produce the data that is expected here, particularly on a session-by-session basis. I think that there needs to be some sub-groups or working groups that include more of the charging station industry to tax through where technology currently stands, particularly for stations that will be already deployed when this rule goes into effect. And then what technologies and capabilities we're looking to have in the next few years.

Secondly, we remain concerned about the competitive implications. We understand that there will be some privacy protections, however in a market that the value of our data and particularly for smart charging and network stations, is really important to our company. And I'm sure there are competitors. And so providing that type of information free of charge to other competitors potentially is something that our company is definitely nervous about, particularly in an environment where we have more and more utility programs coming out.

There was a comment earlier, I think was by Bill at SMUD, that we'd like to see where stations are not being used and then use that to plan where more stations should
be put out. I mean, that's the kind of thing that every
charging station network operator does on a competitive
basis on their own to keep their business running. So the
idea of having that regulated in the future is just a
little scary.

And then the third element, looking through the
slide that was just put up we definitely do not agree that
Open Charge Point Protocol shouldn't be used as a standard
for transferring data. I think that we are excited to have
the December 7th workshop on standards development under
the SB 350 transportation electrification side of things.
I think before we propose any specific standards here there
should be coordination across ARB, CEC and CPUC to make
sure that we are actually using standards that are real
standards that have been implemented by a standard-making
body.

And then the last question on here I see is what
amount of data is produced every day by a single EVSE with
one charging code. We've got lots of data. We have
utilization data, we have session data, we don't
necessarily have the data that would be specific to an
individual driver or the type of data that would allow us
to know what else is occurring on a customer's property
such as solar or storage. It's not tied directly to the
station itself, but we'd really like to sit down and go
through that with many other people from the charging station industry to make sure that we're letting everyone at the CEC know what technology is out there and what type of data they could use, so that we can help address the concerns that you have. Thank you.

MR. WENG-GUTIERREZ: Thanks, Anne, for that. And I apologize again for you not hearing the other comments before. I think there was some mention about the workshop coming up, so we will be working to coordinate on that workshop and the comments and issues that come up in that workshop.

I did want to just say about the OCPP, that was merely an item that I put on there. It's certainly not an endorsement of any given protocol for the purposes of actually transferring data. It was really an opening to a conversation about what would be some reasonable sets of standards. And so I think again that December workshop coming up, should inform some of those topics.

MS. SMART: Great.

MR. WENG-GUTIERREZ: So with that I'm not sure if there are any other comments or questions to Anne? It doesn't look like it.

Is there anyone else online who have any other comments on this item?

(No audible response.)
So I'm not seeing that there is anyone. The other thing I wanted to say to Anne was that as with many of the other topic areas we're talking about this afternoon we are going to have a continued engagement with stakeholders. And certainly this particular topic area is one that we need to have another set of meetings. I know you've suggested that we need to have a broader engagement by EVSE service providers, and certainly that's something that we want to do going forward.

MS. SMART: Great, thank you.

MR. WENG-GUTIERREZ: Of course.

So if there are not any other comments online or in the room, on this topic area -- one second -- then we'll go ahead and move on to the next item. And that is the Load Research Reporting element that's really talking about the thresholds. So when I say thresholds, in Section 1344 which again is this load research area, many of the requirements for the reporting have associated thresholds with them. So in some instances there might be a 1,000-megawatt per year threshold or 200 megawatt per year threshold. And we've actually made modifications to those thresholds to lower them. In some cases, as I think I mentioned in September, the intent here is to try and true up to other reporting and analyses that we're performing. So we have given some thought to what data we think is
reasonable to collect at different threshold levels.

But through our conversations with stakeholders it certainly became apparent that we probably wanted to provide some more flexibility in the language to allow for sort of a differentiation of reporting. So in some instances, we might have entities that are fully capable of providing many of the data that we're requesting. And in some other instances they may not have all the resources or the actual infrastructure to provide that.

So as I alluded to earlier, one of the elements that we tried to resolve that issue with was by including this new Section 1344(a), which basically creates a framework by which a plan can be submitted if it's infeasible to produce the estimates in this section based on actual metered data. And the intent there obviously, is to open the door to other methodologies to make these estimations. And we hope that that language gives the flexibility to potentially obligated parties to be a little bit more creative in how they want to estimate these load shapes and provide the data to us.

So I wanted to highlight it in this particular section, because this is expanding the obligated parties under many of these sections. And I think we did hear about instances where alternatives or some flexibility would be valuable to parties. So I wanted to get a sense
of whether or not the inserted language addressed some of those concerns, maybe to what extent they have, and whether or not additional revisions or changes need to be made to that specific section.

And then also if you have additional outstanding concerns about, say a specific threshold level in reporting a specific section, that might be also invaluable to hear about. So if anyone has a comment on that I'd appreciate it.

MR. CHANGUS: Hi, Jonathan Changus with the Northern California Power Agency.

Quickly just I think we want to express some appreciation for the recognition that some of the smaller entities may not have the same capabilities. We'll be taking a closer look, and will provide if we have more specific comments in written, but at least want to acknowledge that it's a good step in the right direction. And if there's suggested edits we'll make those in the written comments. Thank you.

MR. WENG-GUTIERREZ: Great, thank you.

CHAIRMAN WEISENMILLER: Yeah, one of the things to think about too, Jonathan, is that I suspect some of the POUs that are say -- you know, Modesto might not have that many electric vehicles where others like say Palo Alto or Silicon Valley -- could have lots of and so, you know, in
fact they might be coming up to finding impacts on the distribution system right now.

So it'd be good to think a little bit too, about which of the POUs might be the most prone to have impacts in this area.

MS. TAHERI: Good afternoon, Sarah Taheri with the Southern California Public Power Authority.

I just wanted to echo Jonathan's comments, but also raise that our members do still have a few concerns with this language. We do appreciate the added flexibility here and look forward to working with staff on seeing if we can come up with some proposals for improvement.

(Audio feedback muted on the line.)

I was just going to raise that we have had some members share that in the past, looking at load research studies, has been not feasible from a business perspective for them. So again, we do appreciate the flexibility here and will look into that in more detail and look forward to working with staff on that.

MR. WENG-GUTIERREZ: Great, thank you.

So if there are no more comments in the room I wonder if there's anybody online who might want to comment on this specific topic?

I believe we had a couple of the POUs, in our conversations with the stakeholders, and --
Okay. So again is there anyone online who would like to provide a comment on the load research reporting element that's talking about the thresholds and the newest insertion of 1344(a) giving sort of a flexible compliance alternative?

UNIDENTIFIED SPEAKER: (Online) Yeah, excellent (indiscernible) --

MR. WENG-GUTIERREZ: So it sounds like it's excellent and --

CHAIRMAN WEISENMILLER: Would you please identify yourself if you mean to be talking to us, otherwise please mute your phone? It seems like there's a conversation going on that I don't think we need, but again we're looking for --

MR. WENG-GUTIERREZ: I think you're right, it's probably not associated with this proceeding.

All right, well it doesn't look like we have any other commenters on this specific topic. So I know, again we certainly anticipate having further conversations on this area. So we'll certainly look forward to written comments on the topic, how we might improve the language, and then we'll have additional stakeholder discussions about this as well.

So I'm going to move right along then to the next item, which is the Load Research Reporting Section. This
is Section 1344(i) now as it's been renumbered, and it's found on page 55.

I know that we've certainly talked about this in our discussions. There's not really any -- we didn't make any revisions to this language as of yet, but it was something that we internally were discussing. So we just never came to any sort of resolution as to how best to adjust the language, so hence there's not real proposed changes to the Regulations.

But we certainly are interested in hearing, again some of the concerns associated with providing this interval metered data at this aggregation level, you know, whatever the concerns might be.

So with that I'm just going to open it up again for comment on this specific topic area. Given that we haven't made any specific changes I know you can't say we agree with the changes that have been made. But if there are things that you would like to see perhaps changed in the regulatory language to address some of the concerns that we've raised or that have been coming up, that would be great. And that would be useful to hear about.

UNIDENTIFIED SPEAKER: (Online) (Indiscernible)

CHAIRMAN WEISENMILLER: Again, if you're having a conversation, please don't share it with us. Mute your line.
COMMISSIONER MCALLISTER: Can we tell on this end who is talking, so we can see the little speaker icon going off when somebody's talking on that end? Is that possible to mute it specifically?

MR. WENG-GUTIERREZ: It is. I'm not sure how many people are on, so it might be one of those. But usually you can see whether or not they are talking and --

COMMISSIONER MCALLISTER: Right, pick off the person who's talking and mute them?

MR. WENG-GUTIERREZ: It sounds like we just muted everyone, so we can open it up for --

CHAIRMAN WEISENMILLER: Well, let's only open up when we get to the point of asking people if they have comments.

MR. WENG-GUTIERREZ: Exactly.

COMMISSIONER MCALLISTER: So and then if anybody on the Web or on the phone could shoot us a question or type us a question or type us a -- raise their hand or whatever they have to do -- that would be helpful too.

CHAIRMAN WEISENMILLER: That'd be helpful, but again if you're having a conversation just mute the line. I mean, you know, it's not that hard.

MS. WINN: Technology has advanced.

CHAIRMAN WEISENMILLER: So right, yes.

MS. WINN: Gee, it takes me back to when I was a
kid and we had open lines, five people could be on there. I'm telling you how old I am, anyway Valerie Winn for PG&E.

And certainly we had filed some written comments on the interval meter energy consumption data certainly recommending that consumer-specific energy use data be eliminated, because we do have concerns about privacy. And I'm sure that we will continue to talk about some of these things through the working group meeting about whether there is some appropriate level of aggregation that could meet your needs and still protect customer information. And I know we've talked about energy upgrade programs previously where we had anonymized data or are there other tools that we could use rather than customer-specific data.

And then one of the other items discussed during the working group meetings had to do with the dates for our reporting requirements. And certainly first and second quarters we have a multitude of reporting requirements and something in mid-March. I think a lot of the data are still being reviewed and analyzed at that time and we may seek to have some of those dates delayed to a little bit later in the year. Like for example, a lot of load data and customer data are provided in FERC Form 1. That's due May the 1st, so something that gives us adequate time to review the data for accuracy would be helpful. Thank you.

MR. WENG-GUTIERREZ: Great. Thank you, Valerie.
And I do believe that I commented on the schedule change, so I think that's something that we want to look at across this whole section. So just being cognizant of all the reporting that does occur at the beginning of the year and what would be a reasonable timeframe. So that is certainly something we're looking at as well.

And I know that you have brought up in our discussions the aggregation, the appropriateness of the aggregation level, and so that's something we can certainly continue to talk about and see what might meet our needs. So I'm sure that'll be an ongoing conversation that we have.

COMMISSIONER MCALLISTER: I did just want to point out that AB 802 does specifically call out customer-level data. And Martha's presentation did highlight what that could and would be used for, so this is a new kind of approach. We're moving forward into the present as we talked about in our preambles here. So I don't want to lose sight of that, because there are very specific needs that we have and we're fully committed to assembling the ecosystem that we need to confront those challenges.

MR. WENG-GUTIERREZ: Yeah, and I would agree certainly Martha's presentation as well as many of the others as well, did touch on the benefits of having this level of disaggregation. So I think we see lots of
opportunities and we see some need for it through many different areas across the Energy Commission.

MR. TUTT: Tim Tutt from SMUD again. And yes, 802 did specify that the Energy Commission may get customer-level data and the needs were laid out well this morning. There's still some privacy concerns that we need to work through in working groups. And I guess --

COMMISSIONER MCALLISTER: Agree on that, I don't want to imply that I don't agree with that.

MR. TUTT: Okay. I think one of my questions is if we do go down this path, you guys do go down this path and get this 15-minute data for every customer, do you still need as much load research data? Do you still need some of the other data? It almost seems duplicative, because you can just sort of add up and get to a load shape and that kind of thing.

COMMISSIONER MCALLISTER: Yeah, thanks. That's the kind of creative discussion we need to have about seeing how all the new pieces fit together, but they will fit together I'm confident.

MR. WENG-GUTIERREZ: Right, so I would agree with you. There might be instances where we can eliminate then other requirements. And I think we have eliminated some of the sections that we didn't really touch on. But we have deleted them, because again with this new information we
will then be able to provide -- you know, get it. So some of the sections in 1344 though, we might need to expand the amount of data that we'd be asking for in order to aggregate it appropriately and understand where to -- that sort of thing. But we're completely -- we understand that if we were to get to this level of detail then yeah, it could supplant some of the other requirements for reporting.

All right, any other comments in the room on this specific topic? No other concerns or comments that want to be shared today?

(No audible response.)

Anybody else online, is anybody?

CHAIRMAN WEISENMILLER: So unmute the lines.

MR. WENG-GUTIERREZ: Do you want to unmute all the lines and then we'll see --

CHAIRMAN WEISENMILLER: We'll have them wade through it, yeah.

MR. WENG-GUTIERREZ: All right, so if anyone --

CHAIRMAN WEISENMILLER: Let's try it and if this doesn't work then mute and have people raise their hands or note.

MR. WENG-GUTIERREZ: So we are talking about the load research reporting interval metered data component of the Regulations. And we're looking for a comment from
anybody online that would like to provide comments?

(No audible response.)

It doesn't sound like it. All right, so go ahead and mute them again.

So again if there are any other concerns or comments that want to be made we certainly have the written comment period and you can provide comments during that section. And again, we'll have continued conversations about this topic area as well through our discussions.

All right, well then I'm going to move on to the last section I think.

COMMISSIONER MCALLISTER: Malachi, can I just ask one question on this?

MR. WENG-GUTIERREZ: Sure.

COMMISSIONER MCALLISTER: There is a question in there about Green Button and maybe I'm not sure if -- I mean I'm happy to wait for that discussion until written comments come in. I guess I'm kind of wondering, sort of at a high level how utilities are or are not implementing that and kind of why? So if there's anybody who wants to jump up and give a high-level answer to that, that'd be great. But I think there is an infrastructure there that exists and it's not perfect. But it's there and so not for everything that we're talking about, but there is a -- okay.
But it does have its usefulness particularly -- well, I won't elaborate. But I'm curious really, as to how the utilities see the Green Button Tool and Green Button Connect in going forward and their interactions with customers.

MS. WINN: Right, and Valerie Winn for PG&E. And I know that we've had many discussions on the multitude of platforms customers can access their data through. But I don't have up-to-date information on how the implementation of that is or where it is today. I can offer to provide an update on that through our written comments. Okay, thank you.

COMMISSIONER MCALLISTER: Thanks.

MR. CHANGUS: Jonathan Changus with NCPA again. I know there's definitely amongst our membership, some folks that are farther along at looking into Green Button as a solution. There is a variety of customer data, customer interface questions going on as far updating customer information systems, getting the billing system into a more up-to-date model. There's still a lot of our membership that is rolling out smart meters in AMI and so that kind of critical base infrastructure is the first step. And so once that's in place, and along the same lines, starting to think about the portal that the customer is going to use going forward is definitely on the horizon.
But there's a few steps that need to be taken first before we get there, so I think we're always looking at ways to improve the customer experience. It's figuring costs and what are the resources necessary on our end at the individual utilities, which don't always have a proper IT Department within the utility. The city will have something to do some of that, so there's some resource constraints there. But a lot of it has more to do with larger customer information system upgrades that need to occur first.

COMMISSIONER MCALLISTER: Thanks.

Okay. I think that's it. Thanks for bearing with me there, Malachi.

MR. WENG-GUTIERREZ: No, no. That's good.

All right, so then we're going to move on to the last topic area that I wanted to focus on this afternoon, which is the Natural Gas Distribution Data. Again, Leon touched on and actually described and showed the explicit language that's associated with it. And it sounded like this morning people recognized that we probably need to have some further discussions on this specific topic area and bring in some other individuals from the utilities and stakeholders to talk about what data might be available and what data is collected.

And although we haven't necessarily made any
modifications or changes again to this regulatory language, I know it's something that we haven't really focused on. And that it does involve some interesting data, perhaps a large quantity of data as well. So again, I wanted to open the door on the possibility to talk about this specific topic. And if there are any additional concerns or comments that want to be made on this specific topic, I'd like to hear those.

MR. TUTT: Tim Tutt from SMUD again. And I think our issue here is just that we do have over 200 million therms a year of natural gas throughput in our system. But we just get it from Valerie and then give it to our four power plants. So we don't think this really fits us and we're looking for some clarification or maybe an exemption to get out on this area.

CHAIRMAN WEISENMILLER: Do you guys still do a pipeline to local gas or do you only buy gas from Valerie or when you get a chance import it by Valier?

MR. TUTT: Only from Valerie as far as I know.

CHAIRMAN WEISENMILLER: Okay.

MS. WINN: Thank you, Tim, for buying our gas. PG&E did raise in its comments on October the 17th a number of questions on the request for natural gas information. And as I noted earlier today we don't collect a lot of data at the distribution level that we might have at the
transmission level. So certainly we need some discussions on what do you mean by distribution pipeline segment?

We have more than, I think it's 40,000 miles of distribution pipe in our service territory. So how we define things can help us better explain what data we might or might not have that can inform the analysis that you're looking for.

There are also a number of other things that I think will be better pursued through the working group discussions, so we can just better understand what information is needed.

CHAIRMAN WEISENMILLER: No, I think the PG&E gas system as you know, is sort of very unusual thinking back to when PG&E under bankruptcy proposed to FERC it's backbone system. And at that point if you look elsewhere in the country there's an interstate pipeline backbone system, a city gate, and typically the gas distribution company deals with the city gate. I remember back at FERC on Mojave looking at a Commissioner and realizing he thought of a gas distribution company as the City of Arkansas. And trying to explain that PG&E was different in nature than the City of Arkansas, you know?

But your distribution system in some respects is similar, some parts of it are used similarly to backbones elsewhere, and others it's totally different. So it'll be
a good conversation for you to have with the staff. There might be a certain pressure or size pipe that might be a good breakpoint. But as I said it's certainly one of the more complicated gas systems in figuring out. And certainly, if you say you don't measure below a certain pressure or size, then obviously we're not going to get that data.

MS. WINN: Right, but yeah I agree, happy to have the discussions with staff. And also if it's one of those -- I know we've taken you on a tour of our gas operation center -- if that's something that's helpful for staff to better understand how we're managing our system and some of the issues we look at in the management of our system, or how we model our gas flows, that might be helpful as well.

CHAIRMAN WEISENMILLER: That might be good, because certainly that is an opportunity to see what you are measuring or monitoring. And also certainly getting a better sense of what you do model. You know, again I don't think we expect we're going to go past what you measure or model now, but just trying to understand that.

MS. WINN: Okay. Thank you.

MR. WENG-GUTIERREZ: Yeah, and actually I just wanted to comment on that as well. We had multiple conversations internally about what would be an appropriate threshold level for the reporting requirement. I
certainly, when I read the language, recognized that as the other elements in 1344 had threshold levels that were sort of cutting off intentionally about who needs to be the obligated party in what we're looking for. So we had conversations internally.

And so I think as I recall, some of the results of those conversations were well, they could vary across different utilities and obligated parties. And so getting a sense of how that might -- how best we might implement something in the Regs to consider variations across utilities would be helpful. So I think that would certainly be something we can talk about, but I just wanted to let you know again we were cognizant of that issue, thought about it, and talked about it internally. Just we don't have a solution yet for it, so looking forward to those conversations.

CHAIRMAN WEISENMILLER: Well, okay. But to make things more complicated, when you look at the California topology we do have some interstate pipelines serving in California who may or may not be prepared to cooperate with us. We do have some local gas distribution companies, the City of Long Beach is an example. But again, I don't know if they know that you might be knocking on their door.

And I know there are some private pipelines, Calpine (phonetic) is an example, that again is somewhere
in the mix. And I guess if you really scratch deep enough there's a lot of exchange gas going on among gas producers and ultimately either their users. But anyway I would assume at some point again we're making progress in this direction, but we need to figure out what's the most important data we're trying to get?

MR. WENG-GUTIERREZ: Right. Exactly and again, I don't know if Leon wants to jump in and comment on that, but I would expect that the needs of the model and how we want to inform the model will also play a role in what we go after and what we're trying to ask for. Excellent, I just wondered if the --

COMMISSIONER MCALLISTER: Why are you talking so much about the natural gas piece?

MR. TUTT: I just wanted to correct one statement, we do have one local source of gas. It's biogas from the digester facility at the county.

COMMISSIONER MCALLISTER: I guess I was going to ask a question too on that front. So how are we treating the flavors of gas in this? I mean, biogas is set up to be a big deal, right, potentially? So I just want to make sure --

CHAIRMAN WEISENMILLER: But the quantities are so small --

COMMISSIONER MCALLISTER: Well, I guess if we're
updating our --

CHAIRMAN WEISENMILLER: The quantities right now are small enough that it's not going to affect our analysis, but certainly in the future they could --

COMMISSIONER MCALLISTER: Yeah, they could.

CHAIRMAN WEISENMILLER: -- assuming, well actually I'll --

COMMISSIONER MCALLISTER: (indiscernible) is not here, but --

CHAIRMAN WEISENMILLER: Actually, if PG&E ever decided to do a gathering system for biogas, similar to what it used to do before it got rid of that puppy -- I think you got rid of it?

MS. WINN: Well, I worked on some of those early CalPower contracts for PG&E. And so certainly when we were doing dairy biogas if folks are injecting into our system and we have a contract with them, then it would be metered how much they're injecting so that we would know how much to pay them. So that sort of information, if they're injecting into the pipeline, would be captured through some of those contractual reporting tools. Maybe not necessarily through the gas monitoring, because I mean it's got to be cleaned up to have certain constituents removed before it's injected.

COMMISSIONER MCALLISTER: Yeah, I'm thinking sort
of long term. If we take SoCalGas at its word then it's really amp up to some significant percentage of bio, then we need to make sure we're putting the different sources in the right buckets.

MS. WINN: Right. And some of that may come through in the Low-Carbon Fuel Standard Reporting, because if it's being used for transportation you would capture it there. And if it's being used for renewable generation, because right now we get to claim that, that's going to show up through your RPS reporting as well.

COMMISSIONER MCCALLISTER: Yeah, okay. So that's a good conversation to have.

MR. WENG-GUTIERREZ: Right, so I didn't -- Leon, did you want to weigh in? You looked like you were going to step up and make a comment?

MR. BRATHWAITE: For the record I'm Leon Brathwaite, I work here at the California Energy Commission.

A couple of things, number on the biogas issue, I do not believe that the model that we are trying to acquire requires us to distinguish between gas say from a normal regular gas as opposed to biogas. What we will be assuming, and I think going forward, is that all gas that enters the system, the distribution system, will be gas that -- "pipeline quality gas." And whether it is biogas
or any other kind of gas that is the assumption we probably will be making.

And also about the issue about data, we do recognize that we are requesting at this point and time, very large metrics of data. And we recognize the potential problems or difficulties that we placed upon the utilities or any of the people who are affected by any new Regulations. And I think Malachi is correct, and Valerie is correct, that during the course of our conversations as we go through this process, we can find ways to trim down the data requirements. So that we can fulfill our needs as laid out in the BCP and the utilities and other parties will not be too burdened by our needs and our desires to get this work done, because it is important that we do it. It is required by law and we will be glad to work with the utilities and try to limit the scope as long as it can fulfill both their needs and our needs.

And that's all I wanted to add to this.

COMMISSIONER MCALLISTER: Thanks, Leon.

MR. BRATHWAITE: Right.

MR. WENG-GUTIERREZ: Okay. So I guess I'm going to check on the phones again, if there's any comments on this specific topic area, if you can unmute them. And then is there anyone on the phones that would like to comment on the natural gas distribution topic?
(No audible response.)

It doesn't sound like it. Okay.

So again there are certainly plenty of opportunities for written comments to be submitted. We will certainly be having additional discussions on this topic as well with the stakeholders going forward, so again plenty of opportunities to engage on the topic.

If there are no further comments on these specific topic areas then I was going to move along to have Caryn come up and talk about Next Steps for the Regulation -- Next Regulatory Steps -- an important distinction.

MS. HOLMES: I'm Caryn Holmes. I'm with the Energy Commission, also in the Legal Office.

I think most people are probably pretty familiar with the rulemaking requirements, but Malachi asked me to summarize them here. As we've talked about, we're in the pre-rulemaking phase. It's informal, you've seen drafts, the drafts can change, it doesn't trigger additional requirements.

We're hoping that as we work through these topics and continue to meet with people we're able to come up with a formal rulemaking package. Most of you again are aware that when we start that process there's four documents. There's the Express Terms, which is what we're talking about here today. There's a Statement of Reasons in which
we talk about the justification for why we ask for the data that we're asking for. There's the Notice itself, which gets mailed and posted to people that are on our mailing list and in the California Regulatory Notice Register. And then there's a Fiscal and Economic Impact Analysis that's prepared that's submitted.

At the same time when those documents -- it's actually the publication in the California Regulatory Notice Register that starts a 45-day public comment period -- we may or may not have a workshop or hearing within those 45 days. The answer to that question would probably depend upon how close we can get to consensus or agreement over the next couple of weeks.

Once the 45 days is up, the Energy Commission can choose to go ahead and adopt this proposed package at the Business Meeting or it could issue 15-day language, because it gets 15 days notice instead of 45 days notice. But eventually at some point there will be formal adoption at the Business Meeting.

After that happens the staff put together a series of documents, updates to any information, all of the comments that were submitted. Puts them into a package for purposes of public participation, probably the most important part of that is there will be a response to every single comment that's made during the rulemaking process.
When that package is complete it goes to the Office of Administrative Law. They have 30 working days or six weeks roughly to review it. When it's approved by the Office of Administrative Law it goes to the Secretary of State. There's a complicated formula that I will spare you about when the Regulations become effective. We are obviously hoping that we can have them become effective January 1st, 2018 so that all of the data that we collect on a calendar year basis, starting in 2018, is the new data.

So if anybody has any questions about that process, I'd be surprised but I'd be happy to answer them.

COMMISSIONER McALLISTER: Thanks, Caryn.

CHAIRMAN WEISENMILLER: Yeah, thanks.

MR. WENG-GUTIERREZ: So I think with that then we can open up to general public comment. We've already heard many of the comments on the specific topic areas, but again giving people the opportunity maybe online or in the room, to comment on anything in general that we've talked about today.

CHAIRMAN WEISENMILLER: One thing I was going to suggest people either now or in writing, or both, think a little bit is about process next steps. And again realize that we're trying to move towards a consensus, but we're not going to take forever.
MR. TUTT: That was going to be my one comment here is that we had talked yesterday in a call about potential for extending the comment deadline, so I just wondered if there's been any thought and discussion going into that. And if that can be provided to us today?

CHAIRMAN WEISENMILLER: Do you have a specific date that you or any of your colleagues are going to propose for the deadline? Again, I would just as soon here specific suggestions.

There goes Valerie straight for the mic, no that's good.

MS. WINN: I'll charge forward, Valerie Winn with PG&E. Given next week is Thanksgiving holiday and I'm already losing folks, December the 12th might be a good date to give me adequate time to get my experts engaged on the latest draft and may give us some time to perhaps have another discussion on some of these other issues to see if we can narrow those down.

But certainly I just wanted to again express our appreciation for the team who's working on this. They've been very available. What we would like to see, I think to help move this process forward, because we are very invested in participating and helping to shape this would be kind of a schedule. Maybe for the next three weeks or through the end of the year for when and what topics we
want to discuss, so I can make sure I have my experts in
the room to be the most helpful.

CHAIRMAN WEISENMILLER: And again, now to make
life a little more complicated for you on the spot, is if
you were to identify say the top three or four targets for
working group discussions in that period of time what would
they be?

MS. WINN: Well, certainly the natural gas one
for us. I think the EV and the storage questions coming up
with something that works today based on what we have
available, would be good to talk about. And then I think
talking about the level of aggregation of some of the
interval data would be also a priority for us.

CHAIRMAN WEISENMILLER: Thanks.

Jonathan?

MS. CHANGUS: Yes. The first one was asking
about the extension on comments and if -- December 12th
would be fantastic, give us a chance and we'll really dive
in and provide specifics, that would be really helpful.

The second piece was December 7th was mentioned a
couple of different times as a joint workshop. I didn't
see that yet on the CEC or CPUC website, so part of going
forward is we're trying to get more folks in too that
aren't maybe on a specific listserv. Is where are we
supposed to go to find out about a working group that's
created or other things that aren't necessarily part of the
formal rulemaking. I'm on most of the listservs, so that's
fine for me but --

CHAIRMAN WEISENMILLER: Well, it sounds like
you've managed to put a firewall up between you and the PUC
listservs is my guess.

MR. CHANGUS: I wish.

CHAIRMAN WEISENMILLER: Go ahead.

MR. CHANGUS: Yeah, they keep asking us to
cmparticipate, so there you go. So just clarity on what is
the December 7th workshop?

CHAIRMAN WEISENMILLER: Please.

Please come up to the mic and explain that as we
again, try to build that into our process, going forward.

MR. CRISOSTOMO: Hi, this is Noel Crisostomo from
the CEC, formally at the CPUC.

So the December 7th workshop on Vehicle Grid
Integration was announced through the R13-11-007 Service
List. It hasn't been posted on the CEC's website, but it's
essentially going to be a joint workshop with my position
at the CEC taking a lead in sort of previously as a PRA
(phone) or a Regulatory Enlist in the Energy Division.
So it's the 7th, no agenda has been posted yet. But it
will be held at the CEC.

CHAIRMAN WEISENMILLER: Okay. Can we post both
the Notice and ultimately the Agenda on this part of our -- under this docket?

MR. CRISOSTOMO: Sure.

CHAIRMAN WEISENMILLER: Is that -- please.

MS. TAHERI: I'll just stretch for it, Sarah Taheri, Southern California Public Power Authority. I did want to raise one topic that wasn't explicitly addressed today, which for SCPPA and I believe some other utilities, is a concern. And we'll definitely be keeping tabs on this one, but the current proposed Regulation has some language linking to CEC's enforcement authority. Of course, we understand why that would be in there.

We did just want to make sure that as we are going through and rolling up our sleeves, trying to develop solutions here that we aren't exposing utilities to penalties for not being able to provide data that they cannot collect. So definitely understood that we need to engage in this discussion and help identify some of those areas, but just something that we are certainly keeping an eye on as well.

CHAIRMAN WEISENMILLER: The good news is our attorney was nodding her head yes, so I think she probably agrees with you.

MS. TAHERI: And then the last bit, also support for the extension on the comment deadlines, I think
December 12 would be great.

CHAIRMAN WEISENMILLER: Anyone else in the room?

Anyone on the line?

MR. WENG-GUTIERREZ: Seran, is anybody on the line that wants -- yeah that's fine.

So is there anyone on the phone that would like to make a final public comment on the Regulations?

(No audible response.)

All right, it sounds like we are getting no comments from participants online.

CHAIRMAN WEISENMILLER: Okay. Let's go --

MR. GOLDMAN: Hi.

CHAIRMAN WEISENMILLER: Go ahead.

MR. GOLDMAN: I have one comment. This is Brian Goldman from ORA at the CPUC and because I was unable, and I'm sure others were unable to hear a majority of the afternoon conversation, I was just wondering what the timeline was for the release of the transcript. So that I'd be able to have some background as to what the conversation was.

CHAIRMAN WEISENMILLER: Okay. Court reporter?

Okay. So do we need -- it's about two weeks for the transcript. I guess part of the question is in terms of can we post it.

COMMISSIONER McALLISTER: Were you able to record
the conversation on WebEx even though folks couldn't hear us on the outside?

MR. WENG-GUTIERREZ: We're going to have to check with IT on that.

COMMISSIONER MCALLISTER: Okay.

MR. WENG-GUTIERREZ: My understand is that we were able to record it, though when we reset it I think the meeting ended and I don't think that would have gotten recorded.

MR. WENG-GUTIERREZ: So we missed about five minutes worth of conversation in the recording.

CHAIRMAN WEISENMILLER: Well, I was going to ask both of you to get back to this gentleman on the timing on that. And part of it obviously, I think the 12th is going to happen, I'm just trying to figure out how the transcript part -- if we can do something that facilitates participation and allows us to keep that date. And allows us to keep that date or at least work out an arrangement with him on it.

And I guess the one thing I let everyone off the hook a little bit easier on, but Valerie did volunteer where she thought we needed some additional work between now and --

COMMISSIONER MCALLISTER: Yeah.

CHAIRMAN WEISENMILLER: And so looking out at
Tim, does anyone else -- do you agree with Valerie's list? Or do you have additions or do you want to basically hold that off until you do the 12th?

UNIDENTIFIED SPEAKER: (Indiscernible)

CHAIRMAN WEISENMILLER: Okay. That works. And again but certainly at this point assume that the December 7th event is sort of folded into this, but trying to get people's feedback on the process, suggestions, particularly. But I definitely encourage conversations to continue, the idea wasn't by this workshop to put an end to that but facilitate moving forward in a way and do continue the conversations.

COMMISSIONER MCALLISTER: Yeah, no I think we've surfaced with some more details, some additional details, issues we need to keep talking about. And just to reiterate what the Chair said, this is meant to enhance the conversation, not to corral or monopolize the conversation. So staff is more than happy to continue this engagement and I think -- in fact, I think that's critical -- about sort of getting it right and moving forward.

I mean, this is a substantive conversation that if we don't have some basis for the details, then it's not going to be very usable going forward. So we just want to avoid that and have it be very clear what the expectations are in going forward.
So beyond that I'm encouraged by the conversation and I appreciate all the staff work and absolutely appreciate utilities and other stakeholders participating here, because I know this is a real fundamental part of all of our lives going forward. And I think if we can get it right actually it will produce a lot of value across the board, really literally for California. And the stakes are even higher than they were a week ago I would say. So that wasn't meant to be funny, but okay.

So anyways, those are the extent of my comments at this point. I want to just thank everybody again. And Chair Weisenmiller, do you have any other comments or should we just adjourn?

CHAIRMAN WEISENMILLER: Again, I'd like to thank the staff for their hard work and thank everyone for their participation. And again this meeting is adjourned.

MR. WENG-GUTIERREZ: Great, thank you.

(Whereupon, at 2:29 p.m., the workshop was adjourned)

--oOo--
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