BEFORE THE

CALIFORNIA ENERGY COMMISSION

In the Matter of:	)	Docket No. 12-EPIC-01
	)	
Implementation of the Investment Plans for the Electric Program Investment Charge Program	)	Webinar RE: First Triennial Investment Plan

Joint Webinar on the Implementation of 2012-2014
Triennial Investment Plans for the
Electric Program Investment Charge Program

CALIFORNIA ENERGY COMMISSION
HEARING ROOM A, 1516 NINTH STREET
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Reported by:
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I N D E X

P R O C E E D I N G S

DECEMBER 18, 2013 1:30 p.m.

MS. DOUGHMAN: Welcome to the Joint Webinar on the Implementation of the 2012-2014 Triennial Investment Plans for the Electric Program Investment Charge Program.

This is a two-hour webinar, so we will go from 1:30 to 3:30. Our first speaker will be Cem Turhal with the Energy Division of the California Public Utilities Commission.

MR. TURHAL: All right, well hello everybody, my name is Cem Turhal and I'm an Analyst at the CPUC. And before I begin my introduction, I would like to thank everyone that's involved in getting the decision out, especially the CEC, PG&E, SCE, and SDG&E.

While we wait for our slides to get loaded up here, please save your questions for the end of my presentation so that I can have a nice flow with it and we can start as soon as the Powerpoint gets ready here.

MS. DOUGHMAN: Gem, can you see the Powerpoint?

MR. TURHAL: I think I'm still two slides down. All right, one more. All right,

excellent. Thank you.

So where to begin. In the series of decisions the CPUC determined that the Commission has a compelling interest in providing ongoing support for the development and deployment of new and emerging technologies in California. This is despite the function of the Public Goods charge, which was in December of 2012. To address the gap in May of 2012, the CPUC adopted the Phase 2 EPIC Decision, establishing a framework for the deployment of funds to provide ongoing support for the development and deployment of next generation clean energy technologies.

The EPIC program is focused primarily on supporting pre-commercial efforts with some additional support for more market facilitation activities, which we'll discuss in detail later in my slides.

The support the EPIC Program provides is largely intended to help fill gaps in the funding that exists for technologies forced to rely exclusively on private capital.

In the next few slides, we'll cover the funding amounts for each of the funding areas. Thank you. I think someone is on the phone, if

you can mute yourself that would be great.

As you can see for the years between 2013 and 2020, the EPIC funding will be $162 million annually. I should note that in 2012, however, the program budget is $143 million, so $143 million in 2012 between 2013 and 2020 is $162 million. So this $143 million was based on the Commission's Phase 1 decision in the EPIC Proceeding, with that amount to be allocated across the different areas in the same proportions as the budget shown in this table.

The CEC will have the Lion's share of the budget with the ability to fund all three of the funding elements, Applied Research, Technology Demonstration and Deployment, as well as Market Facilitation. The EPIC Decision limits the other three program administrators, the utilities, mainly PG&E, SCE, and SDG&E, to spend funds only in the Technology Demonstration and Deployment category.

Under the terms of the Decision, the IOUs are prohibited from using the funding they are administrating for generation projects. As noted below the table, a minimum of 20 percent of the CEC's funding for Technology Demonstration and

Deployment must be used for bioenergy projects. Next slide, please.

Here, we'll take a look at funding by each funding administrator. The table showing the EPIC funding was directly taken out of the November 14th EPIC Decision, which we'll get into in a bit. As you can see, the total amount authorized for the 2012-2014 Triennial investment cycle is $467 million, with only a year left to make these allocations. Basically 2014 is it.

Given that shortened timeframe with the initial Investment Plan cycle, and for the purpose of the initial Investment Plan cycle, ordering Paragraph 39 of the latest EPIC Decision allows the uncommitted and unencumbered funds that would under normal circumstances be returned to ratepayers, be rolled over as if those funds were encumbered or committed.

So if this doesn't make sense to you, take a look at ordering paragraph 39 of the EPIC Decision, which we'll discuss further, and that should kind of alleviate any questions you may have. Next slide, please.

Since November 1st of 2012, the CPUC and the California Legislature have been bestowing

some exemplary regulatory delay on the EPIC Program; however, as of November 14, 2013, we have a final EPIC Decision that approved the Proposed Investment Plans of the Program Administrators. I'm sure, like you, we're very happy to announce that the EPIC Program is finally live, which is great, and now the program administrators will award contract grants to successful bidders, and report the award recipients in their annual report filings, which is due on February 20th of 2014, and will continue to be February 28th until basically 2020. So next slide, please.

The CPUC will continue to provide oversight for the program and will begin its deliberation on the second Investment cycle in early 2014 once the Program Administrators file their second round of Proposed Investment Plan applications with the CPUC.

Let's take a look at the next slide for the anticipated schedule for the EPIC Program's approval activities, which was also directly taken out of the CPUC Decision. So next slide, please.

As you can see with the November 2013

approval of the first Investment Plan, we're a bit behind, but I think that it will all work out. If the assigned ALG does not change the schedule, we can expect to have some public discussions on the Program Administrator's second Proposed Investment Plan filing some time in Q1 2014, after which the CPUC will deliberate on the proposed application and, if all goes well, issue a Decision in December of 2014, launching the secondary investment cycle of the EPIC Program at the end of 2014. Next slide, please.

As I mentioned before, the Program Administrators will file annual reports starting February 20th of 2014. The contents of this report were proscribed by the November 14th Decision and you can see that the contents of this report on Attachment 5 of that Decision, so if you scroll to the very very end of the document, you'll see Attachment 5, which will kind of give you a flavor for what's going to be in the report. So briefly, the reports will have an Executive Summary, introduction and overview of the process, progress, and then discuss the Program Administrator's budgets, and the specifics of each project.

Furthermore, the Program Administrators will file Excel spreadsheets –- this is kind of new -- as per Attachment 6, you will see if you again scroll further past Attachment 5, all the specifics of Award of Projects that the Program Administrators will file and the CPUC will remain public after review. And, again, you can see the contents of this report on Attachment 6 of the November 14th Decision. Next slide, please.

Now that the program is live, I encourage you to sign up with the EPIC Service List to receive new information and updates on the program. I thank the CEC for having a very up-to-date EPIC webpage from the get go, and encourage the IOUs to follow suit in a reasonable timeframe. That being said, the CPUC is also creating its own webpage and it should be up on the CPUC's CPUC.ca.gov webpage before the end of the year. I expect the IOUs to have something by the end of the year, if not early January. Next slide, please.

If you have any questions or comments, here is my contact information. Feel free to give me a call after reviewing the November 14th Decision. I think that concludes my intro.

Thank you for listening. I'll take any questions if there are any. Seeing none, I guess, Laurie, Pam, this is all you.

MS. DOUGHMAN: Are there any questions for Cem? If you have a question, please raise your hand on the Webinar. Okay, let me -- Megan? Megan had raised her hand?

MEGAN: Can you hear me?

MS. DOUGHMAN: Yes, please go ahead, Megan.

MEGAN: Is this conversation going to be available on line?

MS. DOUGHMAN: Can you repeat your question, please?

MEGAN: Is the slideshow presentation available online?

MS. DOUGHMAN: It will be available shortly and also a recording of the Webinar with the slides will be available, as well.

MEGAN: Can you give a location?

MS. DOUGHMAN: Sorry?

MEGAN: Can you give a location for that?

MS. DOUGHMAN: Yes. That is -- I'll bring it up in a moment.

MEGAN: Thank you.

MS. DOUGHMAN: The location is www.energy.ca.gov/research/epic. Are there any other questions? Okay, so let me go over the agenda.

So we had our introduction from Cem Turhal. We will now go to the Investor Owned Utility EPIC Investment Framework. Then, we will have an overview from Southern California Edison, Pacific Gas & Electric, and San Diego Gas & Electric. Then we will have public comments on the Investor Owned Utility Investment Plans. Then we will have the Energy Commission Investment Plan overview followed by public comment on the Energy Commission's EPIC Investment Plan.

So now I'd like to turn this over to Ferhaan Jawed of Pacific Gas & Electric Company.

MR. JAWED: All right. Good afternoon. I'm just going to cover the highlights of the Joint Utilities focus in terms of the Investment areas. There are about three slides before we get into more details into each of the different IOU program areas.

So I'm on slide 13, so for those following along. So as we've talked about

earlier, the IOUs have about 20 percent of the overall EPIC budget, while the CEC has the rest. As you can see in the middle of the page, the utilities will focus on Technology Demonstration and Deployment, that investment area. Meanwhile, the CEC will invest in this area, as well as Applied Research and Market Facilitation.

At the bottom of the page, what we want to talk a little bit about is where the IOUs are focused; more specifically, that is, in the Grid Operations/Market Design, Transmission, and Distribution. The two categories that you see in the gray color there are the ones which have a little bit more elaboration, so as Cem had mentioned earlier, the utilities cannot invest in the generation only area, the CEC may. Then the other note is about the demand side management category, so while the utilities are not precluded from investing in this area, there are existing proceedings in the Demand Response area and the Energy Efficiency area that already cover this area. So the key here for the utilities is to make sure the activities are coordinated and they don't duplicate work with EPIC focus areas.

So let's move to the next slide here and

we'll talk a little bit in more detail about what TD and D means. As you can see, the official definition is there. As we've discussed, the IOUs are focusing their investment in this one area, they have more limited funds that are more focused for that reason. The utilities' main role is to conduct grid-specific demonstrations, to evaluate the cost, benefits, and feasibility of new technologies in real world applications.

So these factors are unique for a given utility given their specific grid composition, their IT landscape, their customer profile, and their business requirements.

So, for example, demonstration would validate compatibility of new technology within an existing utility's IT infrastructure. This could include things like the telecom network, business applications, cyber security, and related activities to inform what full development costs would look like.

So utility-specific demonstration is essential to inform real costs, benefits, and feasibility at full deployment. Of course, the utilities do need to stay engaged with the entire technology maturation curve, meaning that that

would include all the way beginning with early R&D to final deployment. And what that means is that the IOUs expect to stay informed and involved in the earlier stage research activities. This would happen through partnerships with research organizations, academia, the business community, as well as the CEC.

So, next let's turn to the IOU Program Framework for organizing the various EPIC projects. For those participating today, you may remember this framework from previous workshops and webinars. The framework was developed based on significant collaboration with stakeholders and others to really highlight the specific areas that are important to long term development of the 21st Century Electric Grid.

At a high level, the framework is intended to do three things: first, it captures the overarching EPIC guiding principles of safety, reliability and affordability; second, it demonstrates the direct linkage between the utilities' proposed investment areas and key policy requirements like the 33 percent renewable RPS Standard, but it also links in major trends,

trends like infrastructure –- aging infrastructure, that is -- workforce development needs, and others that will significantly impact the 21st Century Grid.

Finally, this framework outlines three primary investment areas and one foundational or cross-cutting category, which the IOUs have identified as critical areas. So these are the key areas that we believe require the focused, sustained and collaborative TD&D investment in order to modernize the grid and to provide the long term benefits that Californians are interested in.

This is our framework, one to organize our various projects, but also to give context to the value chain categories that we talked about previously.

So now that you have a high level perspective on how the IOUs are approaching EPIC, we'll turn to each of the three IOUs more specifically to understand how each of those programs vary. So we'll start first with SCE.

MS. DOUGHMAN: So our next speaker will be Percy Haralson.

MR. HARALSON: Good afternoon.

MS. DOUGHMAN: Can you come up to the podium, please?

MR. HARALSON: Sure. Good afternoon. Southern California Edison has organized their projects into four different areas starting with energy resource integration, grid modernization and optimization, customer focused products and services, and cross-cutting foundational strategies and technologies.

We have a total of 14 projects that we'll be executing in the EPIC project. The first project that I want to talk about is our Superconducting Transformer Project. The goal of this project is to go ahead and test out a superconducting transformer at the distribution level, it's a 28 MVA Transformer that would be installed in our MacArthur Substation. The capabilities of this device cover a number of different areas, one is the inherent increased efficiency of a superconducting transformer, and also the built-in or kind of natural fault current limiting capability that would be built into the device as during a fault when it is pushed out of being super-cooled.

This project is the first of its kind and

originally this was a walk-a-shop project, it's now SCX, and we'll go ahead and we'll be showing the operational efficiency gains that we'll see with this, associated with the losses that you'd normally have in a typical transformer. And again, we'll be testing out the functionality of the inherent Fault Current Limiting capabilities of this device. It will be liquid nitrogen cooled instead of oil, so it also has some safety advantages to it, also. And again, from EPIC standpoint, its increased reliability, improved power system performance, and lower operating costs, increased safety, and efficient use of ratepayer monies.

The second project is an Advanced VAR Control Scheme for the SCE Transmission System. And the basic concerns, problems and gap to be addressed is to demonstrate efficient voltage regulation of different voltage levels, we'll be executing this at the Devers substation while minimizing the number of switching actions. We'll be monitoring and eliminating circular VAR flows among multiple parallel transformer banks in the substation, increasing efficiency, and providing early detection of unusual operating

conditions in highly stressed system scenarios. So we'll be reducing the switching events, or the number of switching events, on equipment then for increased reliability.

On the technology and strategy to be demonstrated, we're increasing the renewables integration by improving VAR resources, reserves, and allowing for higher efficiencies for energy transmission through the transmission system, then. It also will reduce failures associated with our load tap changers by reducing the number of load tap changer operations that would occur then.

And again, this fits into increasing reliability, improved power system performance and lower operating costs, increased safety, and efficient use of ratepayer money.

Our third project is our Substation Automation-3 Phase III. This is a continuation of our new generation of substation automation, that's Substation Automation-3, and this will extend its capabilities into better managed critical cyber security systems. This would be using the Common Cyber Security Services would be built into the Gateway as part of this project.

It will allow us to install the system with legacy devices still in an existing substation, so we'll be pushing new technology out to the substation and letting it be able to meld with legacy systems and to, again, one of the key pieces that will be the gateway device which will allow multiple protocol conversions, then.

As part of this project, too, we will have enhanced alarm and intelligent alarming to better allow the operator to control our system and also recognize early detection of issues or problems with the system.

The last piece of this will be to go ahead and have an improved factory acceptance testing methodology for it, and site acceptance testing processes to more easily be able to integrate this into other substations into the future.

This is a continuation of the project that we've started in the Irvine Smart Grid Demonstration Project and will be a future phase, then, or extension of that work. Again, this supports increased reliability, improved power system performance and lower operating costs, increased safety, and efficient use of ratepayer

money.

Our next steps for Southern California Edison for the EPIC Projects will be in Q1 of 2014. We will be releasing a large RFP for Specialty Engineering and Technical Services, which we will then out of that create a pool of approved resources that can then be applied to all of these different projects, all 14 projects, then, that are in the portfolio. SCE has a two-tiered approach and we believe this is consistent with CPUC's and EPIC procurement requirements. And RFI was previously released in August of 2013 for this reason, and the industry expressed significant interest in it. So we expect the RFP to go very smoothly. Thank you.

MS. DOUGHMAN: Thank you. Our next speaker will be Suna Taymaz.

MS. TAYMAZ: Thanks, Pam. And hello, everyone. My name is Suna Taymaz and I'm part of the Smart Grid Research & Development Project Management Office for PG&E. I will be walking you through PG&E's EPIC project portfolio in a similar fashion to SoCal Edison.

PG&E has proposed projects under the Common Investment Framework shared by all three

utilities, and that was presented earlier. This slide that you're seeing represents our current portfolio projects broken out under the three main investment categories, Energy Resources Integration, Grid Modernization and Optimization, and Customer Focused Projects and Services.

Like SoCal Edison, we are still at the early stages of program launch with solicitations coming in 2014. The EPIC Program was approved just about a month ago, but we are still very excited to take the next step to begin to execute against this Technology Demonstration and Deployment Portfolio.

We are continuing to evaluate, develop and refine these projects as part of an ongoing process, so these projects may continue to morph. The first phase of each project is really to vet out the specific requirements which will drive scope, timing and feasibility.

I'd like to describe two projects that are beginning to launch and heading into plan analyze phase. The first one is from the Grid Modernization and Optimization category and the title is Safety and Reliability through New Data Analytics Techniques.

So I'm sure you've all heard the term Big Data, which is a hot topic in the utilities right now. As part of this EPIC project, PG&E is evaluating a very specific use case in this area to see how we could apply new Big Data technologies and strategies to enhance public and system safety and reliability.

There have been significant advances over the last few years in data mining, analytics, and data correlation, and we seek to use these technologies to feed into our Asset Management and Investment Planning practices. With these advanced data technologies, we believe we can yield targeted methods that focus our spending most effectively to increase the safety of our system and the public safety.

So we've nicknamed this tool the Star Tool, or System Tool for Asset Risk. The tool will incorporate some of those newer data concepts. It will take in various attributes related to our assets, I've listed just a few here. So for example, asset condition and operating history. And then we can combine this with external data, for example, geography, weather, other geospatial data, and then, as part

of Phase 1 of this project, we may determine other data available and also use some of the advanced data techniques to look at data correlation, unstructured queries, other methods to better identify and prioritize safety and reliability risks.

As I mentioned, we are in the very early stages of this project, but very excited about it was we look at exploring this new risk-based tool and methodology that allows us to explicitly and methodically target and lower risk across the entire territory.

The second project I'll describe is from the category Customer Focused Products and Services. The project name is Appliance-level Load Disaggregation. The challenge today is customers can see their monthly energy costs on their bill, but it doesn't necessarily tell you at a granular level what's driving the energy consumption. If the customer had this information, they could perhaps make a different decision, turn down a specific appliance, look for a more energy efficient appliance, or take other actions. So this demonstration project would provide the customer with itemized

presentation of their energy usage. In fact, itemized billing was ranked in customer research in 2012 by 71 percent of residential customers as the most valuable potential energy management tool.

So walking through an example, a customer would be able to log onto a dashboard, perhaps on their mobile device, or on the Web, and look at costs by major appliance. They could run analytics, perhaps look for spikes in usage, other anomalies. Perhaps they could access the raw data and run their own queries. They could project monthly usage or get sent alerts based on what the customer defines as the criteria. It could also set up or receive personalized energy saving tips.

We believe this project has customer benefits in terms of lower energy costs, as well as societal benefits in terms of energy conservation, and also spurring new technology and innovation in the residential energy management space.

So in describing these projects, as I mentioned, they're all at the early stages, but our efforts are underway to launch the EPIC

portfolio, making sure that the individual projects meet our own internal project readiness and governance controls.

Some of you will be interested in procurements, and we will also be providing information at the end of all three utility presentations on how to contact us. We also anticipate procurements, technology and services-related procurement starting shortly and ongoing through 2014, especially as you progress into Phase 1 and Phase 2 of projects, and have assessed feasibility and requirements in the plan analyze phase.

Thank you very much and I'll turn it over to San Diego Gas & Electric.

MS. DOUGHMAN: Our next speaker is Dr. Frank R. Goodman, Jr. from San Diego Gas & Electric.

DR. GOODMAN: Thank you, Pam. I'd like to give a quick overview as the other IOUs did on our plans relative to implementation of the EPIC Triennial I program. And you see here on this first slide a same structure as what we heard from the other IOUs, and you see that San Diego Gas & Electric has focused its activities in the

two areas from the original Chevron organization that was shown at the start. And the first area on the left is grid modernization and optimization, and we had proposed in our first Triennial Plan a bundle of five interrelated projects on Advanced Distribution Automation. And they cover the five major pillars of Advanced Distribution Automation, which is actually the heart of Smart Grid and was the original place where the concept of Smart Grid evolved.

And I will get into a couple of the illustrative examples from that list of five in a minute, but I want to mention on the right side you see Customer Focused Work, and this is on this Electric Vehicle Submetering Pilot. There was a separate order from the EPIC proceeding that requested that the three IOUs in California work together on a rather large Submetering pilot, and in the course of the decision process around EPIC, we were at first asked to use EPIC money, and then encouraged to use EPIC money to fund the pilot because we had no other way of funding SDG&E's participation in that pilot. So SDG&E plans to use the EPIC funds for the Submetering pilots, but this is still tentative

and pending final approval, and it's gone up to our executive level and, since we were encouraged by the PUC to do so in the final decision on EPIC, and we have no other source of funds for the Submetering, we will redirect some of the money from the left column over to the right column, and that will mean shortening the list in the left column. And we'll work our way up from the bottom, the final estimate for the Submetering requirement is still being made, but we anticipate having to eliminate two or three programs from the left column, working our way up from the bottom and making those eliminations.

So the two illustrative examples that I'm going to show you are going to be the first two bullets on the left because those are the ones that should survive this redirection of funds and, as I say, all of that is still tentative and pending final approval, and we have our legal and regulatory people settling on the details of what is needed working with the PUC at this time, the CPUC.

Okay, so turning now to those two illustrative examples, we have Smart Distribution Circuit Demonstration as the first. And here, we

want to identify preferred circuit components and designs for a more fully automated distribution system, and we have by happenstance been going out and fixing problems as we get higher and higher level of photovoltaics, in particular, and now also PEV, the Electric Vehicles coming in, but the photovoltaics are well down the road in giving us the problems of high penetration that have been talked about, as in the future for 20 years or more; they're real and they're happening now.

Voltage is a particular problem. So we've been going out and fixing the problems on individual circuits to keep them up and accommodative of more distributed generation. We want to move toward an advanced circuit design that incorporates features that make it easily adaptive to a future type of circuit situation with high penetrations of generation and electric vehicles. For example, do you want to use the distributed generation as a part of the solution to some of the problems it creates, or bring in other power electronic components to solve your volt VAR problems, what mix of switch capacitor banks or power electronic devices do you want to

use? Those are the kinds of things we're sorting out in that project through some trials and some simulation on what's called a Real Time Digital Simulator. And some of the pilots may be done in a laboratory environment, and some of them out in actual circuits. And the primary and secondary principles met are increased reliability, improved performance -- and that includes lower operating losses, electrical losses, increased safety, and efficient use of ratepayer money. And then, because you're reducing your electrical losses, you actually will need less imported power that might come from an emission generation system. And then finally, it will encourage economic development because it will make our system more friendly towards customers who want to have things like generation and electric vehicles.

Finally, the Grid Support Functions are the second illustrative example; this is Grid Support Functions of Distributed Energy Resources. And here we are trying to get at the value proposition, in other words, we're already testing smart inverters, if you will, to see if the necessary functionality to enable grid

support functions of DER is there. But in this program we have here, we want to get at the value proposition because, if you're going to have your DER used for non-traditional things other than being a kilowatt hour source, using it as a part of your overall integrated volt VAR solution, or as a monitoring node, or status information on the system at the location of the generation, or other uses that have been identified, and I have kind of a laundry list at the first bullet there. You have to really have the value proposition and some of these things may work in specific applications and specific circuit situations, and some of them may not in other situations. So we want to find out what the value is of these different functionalities that we could use DER for in different application situations. And it may be there are some things that are not going to pan out economically, so we don't want the industry to be getting too far down the road on large-scale deployments of four quadrant inverters with the hope that they will solve your volt VAR problems, and find out that the value just isn't there, or that there's some practicality issue like do inverters fail too

often for you to be able to depend on using DER that way.

And now, in both of these projects, I have the same bullet list at the bottom, you're basically doing the same thing in terms of what the primary and secondary principles are, and in both of these projects, and if we are able to move to a third project in that column, depending on how the Submetering price settles, we have the underlying goal of informing our Smart Grid Deployment Program. And we had worked out a fairly elaborate cross-benefit analysis for these programs I'm describing with our Smart Grid Deployment Team because the information coming out of these R&D projects are intended to guide their choices in the deployment programs.

Okay, so that ends my presentation and I am now going to move to speaking on behalf of all the IOUs in kind of a wrap-up.

The next steps ongoing through 2014 will be the implementation of our Triennial Investment Plan, including project-specific solicitations. All of the IOUs have a common approach on their procurement process and the structuring of the projects to where we first get our ducks in order

internally and get the teams that are at the utilities lined up, and they will then move toward a procurement process. But the ultimate work is done in some cases as a combination of utility and outside vendors.

And second, we have the second Triennial planning process beginning. I skipped one there, the first Triennial report being due, as already mentioned by Cem in his presentation, but then we move into the second Triennial planning process with a stakeholder workshop in March and that's where we present the plan the way we did for the first Triennial last -- in 2012, it was, we had presented it in about September and gotten reactions through a Webinar process. We're going to repeat that for the second Triennial plan and shooting for March, and then for a final submission of the second Triennial plan in May. And all of these dates are tentative, but that is our working timeline at the moment.

And then we'll move to questions now, and this is questions for all of the IOUs and, while we're doing that, we thought we would leave this contact information up for those who want to note it.

MS. DOUGHMAN: Okay, so we have a question from Boar Ur, and I'll give the name to the Court Reporter. By the way, we will have a transcript posted and this is being recorded, and the recording will be posted on our webpage, as well. So the question is: "Are all EPIC funds already allocated to projects the utilities are describing? In the projects they are mentioning, are they open to vendors? Or were those already selected?"

DR. GOODMAN: Yeah, I'll take a crack at that, and then I -- oh, sure –- Frank Goodman, San Diego Gas & Electric, and I'll start, but I encourage the other IOUs to chime in. Our funds are fully committed; in fact, because of what I described there with the two columns and an unexpected addition to the customer area on Submetering, we've gotten more money and we're having to eliminate or defer projects, as I said. The way our programs work is we will be setting up the internal team that a vendor would work with, whether it's in a lab project or out in the field in our system, but obviously the vendor, if we're going to deploy their product, they need to be working with our internal team to do that.

But it would lead, after we get the internal stuff set up, to a competitive procurement where we solicit a vendor for the needed equipment or software, whichever it may be.

MR. HARALSON: This is Percy Haralson with Southern California Edison. And again, our 14 projects that we have currently in the portfolio are fully funded by the EPIC Program and so all of those funds are accounted for. But from the standpoint of whether there is a chance for vendors to participate and things like that, of course, as part of our RFP Program that I talked about earlier we will be putting out RFPs for participation in these projects with it, so that's how they would be involved.

MS. TAYMAZ: And this is Suna Taymaz for PG&E. So we do have a list of approved projects from the original plan. That being said, we still are in the plan and analyze phase to look at those costs, look at the scope. All projects, whether they be on this list, modified, or potentially even new projects would also go through a similar competitive procurement process. And so the best way to get in touch about those would be the contact info listed on

the slide, as well as the eventual webpages we'll be putting up.

MS. DOUGHMAN: Okay, thank you. We have another question. This is from Arthur O'Donnell. "Could you please repeat the Decision number that caused a diversion of San Diego Gas & Electric EPIC funding to Electric Vehicles?"

DR. GOODMAN: This is Frank Goodman of San Diego Gas & Electric. I don't have that available right now. Perhaps that could be sent out to you later. It's an OIR number. Ah, thank you. D.13-11-002. D.13-11-002. So did that answer the question? Thank you, Pam.

MS. DOUGHMAN: I see we have another question coming. This question is from Daniel Malarkey. "What advice would the IOUs have for a vendor who thinks they have a product or service that is relevant to a project that has been described?

MS. TAYMAZ: This is Suna Taymaz from Pacific Gas & Electric. Part of the EPIC Program is to understand what's out there, understand the market, what potential services are out there, what tools and technologies vendors are developing. So right now the best way really is

to get in touch via the contact information provided. I can speak for PG&E. We have a procurement process. What we'd like to do is make sure we understand which vendors are interested in EPIC projects, and so what we're looking for first is to send the contact information via the emails provided, so that we start to build that base of kind of vendors interested in the EPIC space. Once you provide us with your contact information, and perhaps which specific project you're interested in, then we can help connect you to those project teams.

MS. DOUGMAN: Okay, we're going to unmute all the telephone lines. So if you do not have a question, please mute your own line. If you do have a question, please state your name and your affiliation.

Okay, can you state your name, please? Okay, it sounds like we do not have any questions at this time on the telephone lines, so we will mute the lines. And we will proceed to the presentation on the Energy Commission's Triennial Investment Plan. The speaker will be Erik Stokes.

MR. STOKES: Thanks, Pam. My name is

Erik Stokes and I'll be presenting the Energy Commission's portion of this Webinar. This first slide here provides a visual of what we're trying to help accomplish with the EPIC Program, and it's really this transformation of the power grid from a system in which power flows to customers from a centralized fossil fuel power station to a system that is cleaner, more decentralized, more flexible, and less carbon intensive.

It's also a system where customers have greater control and more choices over their energy use, but it's also a system that's going to be more complex and will require Smart technologies to help manage this complexity in a more optimal manner.

The next slide outlines the process we went through in the development and the adoption of the Investment Plan started back in August of 2012 with Scoping Workshops both in Northern and Southern California. A couple of the key milestones during this process, one back in October, was the CEC adoption of the proposed Triennial Investment Plan and its submission to the CPUC. And then the next key milestone, this was about a month ago when the CPUC adopted a

decision essentially approving a slightly modified version of the Energy Commission's proposed Investment Plan, which brings us to now where we're going to start implementing this Investment Plan.

One of the over-arching frameworks for the EPIC Program is this concept of an invasion pipeline, which represents the different development stages that new technologies go through on their way from research to a commercialized product. Within this pipeline, there's a couple funding gaps or Valleys of Death; and one of the objectives with the EPIC Program is to try and help fill these funding gaps and also provide the information and data to help de-risk these new technologies to potential investors and customers.

So the next slide here represents at a high level our proposed budget for the Applied Research and Development Area. One of the State's policy goals is the loading order of preferred resources, starting with Efficiency and Demand Response, followed by Distributed Generation and Renewables, and finally Infrastructure Improvements and Clean Fossil Fuel

Generation. And as you can see from this table, our budget here reflects the loading order.

In the Efficiency and Demand Response space, we're targeting some of the major end-use areas such as lighting, plug loads, and heating and cooling. The State also has some pretty ambitious policies for buildings including Zero Net Energy Buildings, so in this area we'll be looking for some of the new innovative approaches and technologies that can help us achieve these building goals in a cost-effective manner.

Under Clean Generation, we have two kind of higher level topics, the first is how we help advance distributed and community-scale technology such as bioenergy and high penetration PV communities. Under Utility-Scale Research, we're looking at areas such as being able to better forecast variable output from renewable facilities such as wind and solar, looking at the role thermal energy storage can play in supporting higher penetrations of renewables onto the Grid.

Under Smart Grid, as I mentioned earlier, this kind of system that we're trying to achieve is going to be much more complex, and so some of

the technologies here are helping to manage that system in a more efficient and optimal manner. Under the Smart grid enabling clean energy, we have initiatives for advancing communication and control systems, looking at ways to advance innovative storage technologies, as well as developing advance planning tools that can help identify what types of resources the Grid will need looking out into the future, as well as how we can better utilize customer-side resources to better support the Grid.

We also have a new area in the Applied R&D Area called “Innovative Clusters.” This is an area that probably needs some further stakeholder outreach and it’s something you can expect in the future that we’ll probably have a workshop or some sort of request for comments to get additional stakeholder input as we further scope this initiative.

The next slide shows our high level budget for the Technology Demonstration and Deployment Program area. In the Applied R&D area, we’re primarily focused on developing and proving out new technologies. In this area, the focus here is really on scaling up new

innovations and beginning to create market pull for these new technologies. We have three broad areas, high level areas under this category. The first is demonstrating emerging efficiency and demand response technologies for the building sector, as well as the industrial, agriculture, and water sector.

In the next section for Generation Technologies, one of the requirements of the Phase 2 Decision is that we provide a minimum of $27 million for Bioenergy Demonstration, so that's reflected in this initiative. Also reflected here is storage and other technologies that can help support the integration of high penetration renewables into the Grid.

Under the third area, Energy smart community demonstrations, we have three topics, the first is zero net energy buildings in communities; the second topic is microgrids, looking at how we can further deploy microgrids in IOU territories, and the fourth is demonstrating electric vehicle to grid integration.

The third program area is the Market Facilitation area. And initiatives in this area

are primarily focused on how do we address the more non-technical barriers to increased penetrations of new technologies into the marketplace, such as making sure there's a trained and adequate workforce and looking at ways to help overcome regulatory hurdles, especially those that may unnecessarily stall new projects. Part of the initiatives in this area will also provide new information and data that can guide new investments and decision making that helps maximize ratepayer benefits.

This next slide shows project eligibility criteria for the three program areas. These criteria aren't set in stone and could change, depending on the specific solicitation. But for the most part, they are pretty accurate for what you can expect in the three respective program areas.

A couple things to point out: in the area of Matched Funding, the areas of Applied Research and Development and Market Facilitation, matched funding isn't a requirement, but proposals that do provide matched funding will typically score higher. In the Technology Demonstration and Deployment, the solicitations will require that a

minimum of 20 percent match funds be required.

The next slide outlines kind of what's to come for the Energy Commission's implementation of the EPIC Program, starting in early 2014, the Energy Commission would begin releasing Program Opportunity Notices for select funding initiatives in the Investment Plan.

Typically, a Program Opportunity Notice would be posted on the website and it will also be sent out to a number of available Listservs.

And we actually have -- this was just posted today, this is a six months look ahead of upcoming funding opportunity announcements, as well as opportunities for feedback on future Program Opportunity Notices. And this is currently on the Energy Commission website. If you go to Research and -- it's up there, and we'll make sure we include that in the Powerpoint that is posted later.

So as I mentioned, over the next six months, we'll be releasing Program Opportunity Notices for select funding initiatives. We'll also be having opportunities to get more stakeholder feedback for certain initiatives, either through workshops or requests for

comments.

Also in 2014, the Energy Commission will start developing the second Triennial Investment Plan which is due to the CPUC in May 2014.

And for more information, here is the website for the EPIC Program. This includes upcoming workshops, funding opportunity announcements, and how to get on Listservs.

MS. DOUGHMAN: Thank you. Okay, now we will turn to Public Comments and Questions on the Energy Commission's EPIC Investment Plan. So at the beginning of your comment, state your name and any organizational affiliation name. If we cannot get to your comment within the allotted time, please email or mail your comments to Docket@energy.ca.gov and copy Otto.Tang@energy.ca.gov. Indicate EPIC in the subject line and include Docket No. 12-EPIC-01. Also, you can mail comments to the California Energy Commission, Docket Office, Mail Stop 4, regarding Docket No. 12-EPIC-01, 1516 Ninth Street, Sacramento, California 95814-5512. Written comments should be submitted to the Docket Unit by 5:00 p.m. on December 23rd.

So first let's go to comments on the

WebEx. Okay, it looks like we have a question from Scott Engstrom. “Does PG&E still plan to sponsor a project for subtractive and additive building?”

MS. TAYMAZ: This is Suna from PG&E. We had an original plan filed a year ago. Since then, we have removed some projects, which was in our latest filing this year, due to we could not see the benefits or, after further evaluation, they were duplicative, or other items. So the list of projects that we have are those that were represented on the slide. That being said, if there is something that was missed, or a particular project that you either saw there or didn’t see there, please email the email link and we can certainly get back to you.

MS. DOUGHMAN: Okay, thank you. We have a question from Stephen Morrison. “If a potential project is both Microgrid and Bioenergy focused, what process resolves where an Applicant ought to pitch the project?” This is for the Energy Commission.

MS. tENHOPE: This is Laurie tenHope with the Energy Commission. It will be important to look at the details in each posted solicitation.

So if you look at the Investment Plan, it will provide some guidance in terms of how each initiative is approached, but really the solicitation is where we outline what type of projects we're looking for. It's possible an application, you know, a proposal could fit in more than one.

MR. TANG: Okay, so we have another question from WebEx. This one comes from Elissa Brown from Sierra Nevada Conservancy. Elissa's question is: "Can you give more information about this new category of upcoming funding, demonstrating bioenergy solutions that support California's industries, the environment, and the Grid?"

MR. STOKES: Yes. I think the best place to look for more information on that is going to be in the Investment Plan, and I believe it is S13.1 in the Investment Plan.

MR. TANG: Okay, the next question is from Shawn Garvey: "Do I understand correctly that in 2014 the funding of entire first phase is available, but in future Triennials will be released on an annualized basis?"

MS. tENHOPE: This is Laurie from the

Energy Commission. And I'm not sure I understood the question, but I think it's in terms of how funding will be released in the first versus the second plan. The funding that you saw -- funding is collected on an annual basis, and it was collected in 2012, 2013, and 2014. Because we're starting the program basically in January of 2014, funds have accumulated and we will be doing more of an accelerated release -- well, "accelerate is probably not the right word –- "accumulated release" in 2014. You know, I would expect in the second Investment Plan, it would be more aligned with, you know, slightly delayed from the collection to implementation. But that schedule will be solidified as we develop and implement the second Investment Plan. If any of the other Administrators want to add or does that seem consistent with everybody's thinking?

MR. JAWED: Yeah, this is Ferhaan from PG&E. The only think I would add is that there is that capability of extending use of funds from beyond the first Triennial period. So to the extent that the delay in the regulatory process resulted in delayed projects going beyond 2014, there is that capability to spend first Triennial

period funds later on. Do you have anything to add?

DR. GOODMAN: Yeah. Frank Goodman, San Diego Gas & Electric. In addition to the comments already made, I would add that in the case of some of the programs, and in the case of San Diego Gas & Electric, it was all of our first Triennial Programs, our multi-year projects, and so you won't have annual release of funds, you would have procurements to pick vendors or contractors to do the entire project, which might span the whole three-year execution period for that Triennial Plan.

MR. TANG: The next question is from Robit Salve: "Are environmental impacts of renewable energy not considered by the Energy Commission?"

MR. STOKES: Yes, they are. They will be in the strategic objective as five of the Applied R&D Area.

MR. TANG: The next question comes from Jeff Presley: "What is the deadline for new proposals?"

MS. tENHOPE: This is Laurie tenHope. For the Energy Commission, each of the

solicitations will list when proposals are due, and so that will vary across the year because they will be released across the year and then the due dates will be specified. If people are interested in being able to provide input for future Investment Plans, that process will begin in the spring of 2014 with an anticipated workshop in March of 2014, and the Final Plan is due May 2014. So if you're interested in kind of shaping direction, you want to participate in the second Investment Plan; if you want to submit a proposal, watch for solicitations.

MS. DOUGHMAN: And I just wanted to add that we encourage you to join the email Listserv that is located at www.energy.ca.gov/research/EPIC. We will be distributing information to this Listserv and so it's very important that you sign up to receive messages from the EPIC Listserv.

MR. TANG: So the next question comes from Chris Meyers: "Has the CEC consulted with the State Treasurer to establish terms to be imposed as a condition to receive funding, or the State to accrue any intellectual property interest or royalties pursuant to Public Resource

Code 25711.5?"

MS. tENHOPE: Yes, we have. But the person who has done that follow-up is not available on the Webinar, so that is one of our requirements as part of SB 96 and we have begun those conversations.

MR. TANG: The next question comes from Brian: "Will there be clauses in the RFP that prohibit for profit entities from profiting from EPIC funds?"

MS. tENHOPE: There are different requirements in a contract versus a grant, and so if the Energy Commission is releasing Program Opportunity Notices for grants, profit is not allowed; if we're releasing an RFP for contract services, it is, so you'll need to pay attention to the solicitation type and what's allowed.

MR. TANG: The next question comes from Daniel Malarkey: "Where does one locate on the full webpage the fully approved EPIC Investment Plans for the Utilities?"

MS. DOUGHMAN: For each utility, I think –- go ahead, Suna.

MS. TAYMAZ: I was going to say I believe they're on the CPUC site right now, I don't have

the exact link, it's probably in Cem's presentation here. We will also –- CEC, I believe you may have yours on your website?

MS. tENHOPE: Ours is on our website, but I don't believe yours are on our website.

MS. TAYMAZ: And then the IOUs, as Cem mentioned, are working to set up a website with this information, as well.

MR. TURHAL: If I can chime in, as soon as the CPUC has their website up, this will all be included in our website, as well as links to all the utilities, as well as the CPUC's website.

MS. DOUGHMAN: And I want to add that, at the Energy Commission's EPIC webpage, there is a link to the most recent EPIC proceeding, A1211001, as consolidated. And if you go to that link, then you can find all the documents from the proceeding, I believe the IOU Investment Plans are posted here. But as Cem said, the CPUC is also preparing an EPIC webpage, and the IOUs will be preparing EPIC webpages, as well, going forward.

MR. TANG: The last question that we have comes from Cathy Higgins: "Why was technology defined as not yet commercial versus the previous

California ET definition that included under adopted, thus commercially available, but not new, or not yet being widely used?"

MS. DOUGHMAN: This is Pam Doughman. So for bioenergy there are things that are not widely used in California; for example, some air pollution control technologies that the EPIC Plan indicates may be eligible under S13.1. But in general, it's part of the Energy Innovation Pipeline in the technology demonstration and deployment area, so the focus is on providing demonstrations and providing data that can help emerging technologies to become more broadly utilized in California.

MR. TANG: The next question comes from Brian: "Regarding the table of upcoming funding opportunities, will some or all of those funding opportunities limit profit?"

MS. tENHOPE: I can't answer that at this point.

MS. DOUGHMAN: Okay, so we have no more questions on the WebEx. Now, what I'd like to do, we're going to open the lines again, but just before we do, I want to encourage everyone to mute your own telephone line unless you are

planning to provide a comment. If you would like to provide a comment, then state your name, organizational affiliation, and then proceed with your comment. Okay, we're going to open the lines.

It sounds like there are no questions over the telephone. Okay, so there are a few people here today. Is there anyone in the room that has a question? So if you have additional questions that you would like to raise later, as indicated on this slide you can send them by email to Docket@energy.ca.gov and cc Otto.Tang@energy.ca.gov. Please submit written comments to the Docket Unit by 5:00 p.m. on December 23rd of this year. Laurie, did you want to have any closing comments?

MS. tENHOPE: I just want to thank people for their participation online and for the fellow Administrators who are here in the room. I think all of us are really excited to be at this point now where we can launch the program and excited to be starting the work and to work together on these transformational research. Do any of my fellow Administrators want to make any closing comments? Hearing none.

MS. DOUGHMAN: Okay, we'll adjourn for today. Thank you, everybody.

(Whereupon, at 2:44 p.m., the Webinar adjourned.)

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