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BEFORE THE CALIFORNIA ENERGY COMMISSION

In the Matter of: )
 ) Docket No. 16-IEPR-01
2016 Integrated Energy Policy )
Report Update )

CALIFORNIA ENERGY COMMISSION
FIRST FLOOR
ART ROSENFELD HEARING ROOM
1516 NINTH STREET
SACRAMENTO, CALIFORNIA

MONDAY, OCTOBER 24, 2016
10:00 A.M.

Reported by:
Peter Petty
APPEARANCES

Commissioners
Robert Weisenmiller, Chair
Karen Douglas, Lead Commissioner

Staff
Heather Raitt, IEPR Program Manager

Public Comment
Greg Blue, Cogentrix
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A few housekeeping items.

If there’s an emergency and we need to evacuate the building, please follow Staff out the doors and across the street diagonally to Roosevelt Park.

Today’s workshop is being broadcast through our WebEx conferencing system, and parties should be aware that you’re being recorded. We’ll post an audio recording on the Commission’s website in a couple of days, and a written transcript in a few weeks.

I’ll be giving a presentation on the Draft IEPR this morning. And then there will be an opportunity for public comments, and we’re asking parties to limit comments to three minutes. We’ll first take comments from those in the room. You can go ahead and fill out a blue card, if you like, and you can give it to me or put it in the box. And then we’ll take comments from WebEx and those on the phone.

Meeting materials are in the entrance to this
hearing room. Comments are welcome, and we request that 
they’re sent by November 7th, and the notice provides 
instructions on how to submit comments.

And with that, I’ll pass it over to the 
Commissioners. Thank you.

COMMISSIONER DOUGLAS: All right. Well, good 
morning. And I would just like to welcome everyone to this 
workshop. We’re excited to -- I guess we don’t have a very 
full room yet. Hopefully, we’ll get more attendees or some 
on the phone. But we’re certainly excited to hear from 
people and appreciate you being here.

CHAIR WEISENMILLER: Yeah. This is Chair 
Weisenmiller.

I certainly want to thank Commissioner Douglas for 
hers leadership on this, and the Staff who work on preparing 
what’s a strong document. I’m looking forward -- and, 
obviously, stakeholder participation in these activities. 
I’m looking forward to hearing comments today and in writing 
later.

Thank you.

MS. RAITT: Great. Okay. All right. Thanks. So 
I’ll just be giving a very high-level overview of the Draft 
2016 Integrated Energy Policy Report, or the IEPR.

The Energy Commission is required to prepare an 
IEPR in odd-numbered years that assess energy supply and
demand, protection, delivery and distribution, market
trends, and major challenges. On even-numbered years the
Energy Commission prepares an IEPR Update.

For a little background, the IEPR Lead,
Commissioner Karen Douglas, issued a scoping order on March
28th, 2016, identifying the report topics. The Energy
Commission adopted the order instituting the information
proceeding in April 2016. And the Commission held ten
public workshops on topics identified in the scoping order.
The information gleaned from the workshops was instrumental
in developing the Draft Report.

The 2016 IEPR Update reflects -- excuse me, I
guess people might not have heard that.

The 2016 IEPR Update reflects upon the transition
we are in as we work to transform the energy system in the
face of a changing climate. There is an increasing
recognition of the far-ranging effects of climate change and
the need to address it.

The state’s unprecedented drought has resulted in
the death of over 66 million trees since 2010, the 13 oldest
wildfires burned in California since 2000.

Using a broad definition of the energy sector that
includes transportation sector and refinery emissions from
the industrial sector, energy use in California accounts for
about 80 percent of the state’s greenhouse gas emissions.
This report examines how the state has made great progress in transforming its electricity sector to achieve the state’s energy and climate goals, and identifies other transformations that are still needed.

California continued its tradition of leadership in environmental policy when Governor Brown signed Senate Bill 32 by Senator Pavley on September 8th, 2016. SB 32 put into law the Governor’s goal to reduce California’s greenhouse gas emissions 40 percent below 1990 levels by 2030.

The Governor also signed a companion bill, Assembly Bill 197 by Assembly Member Garcia to assure the implementation of the 2030 Greenhouse Gas Reduction Goal is transparent and equitable, with the benefits reaching disadvantaged communities.

Another important bill this year was Senate Bill 1383 by Senator Lara requiring the Air Resources Board to implement a comprehensive plan to reduce short-lived climate pollutants, methane, hydrofluorocarbons, and anthropogenic black carbon.

While California is taking bold steps to reduce its greenhouse gas emissions, the state generates only one percent of global emissions. Reducing California’s emissions will not be enough to solve climate change.

Accordingly, the Governor is working to advance
global action by spearheading the Under 2 MOU, a commitment by cities, states and countries to take action to help limit the rise in average global temperatures to below two degrees Celsius.

The Governor was also a leader in the 2015 United Nations Climate Change Conference in Paris, and has signed accords with leaders worldwide to reduce greenhouse gas emissions.

Looking at California’s greenhouse gas emissions by sector, the electricity generation sector accounts for about 20 percent of California’s greenhouse gas emissions in 2014. The industrial sector, which includes oil refineries, accounted for roughly 24 percent. The residential and commercial sectors accounted for roughly 11 percent. And although not shown in this figure, the greenhouse gas emissions for the residential and commercial sectors collectively account for more than 26 percent when accounting for electricity use in those sectors.

The transportation sector is the single largest contributor to greenhouse gas emissions in California, accounting for roughly 37 percent of statewide emissions in 2014, almost double the electricity sector. Transforming California’s transportation system away from gasoline to zero-emission vehicles is a critical step for meeting the state’s climate goals.
As discussed in the 2016 Environmental Performance Report of California’s Electrical Generation System, California has realized tremendous progress in the environmental performance of its electricity system over the last decade, primarily as a result of its energy and environmental policies. Greenhouse gas emissions from the electricity sector are already about 20 percent below 1990 levels. This is a correction from the Draft IEPR which says 26 percent. Regardless, reduction is considerable and is largely attributable to increases in renewable energy and decreases in coal-fired generation.

Installed capacity of renewable energy in California was more than triple between 2001 and 2016, totaling 23,600 megawatts as of June 30th, 2016. This includes small self-generation such as rooftop solar.

Between 2010 and 2015, installed capacity of utility-scale solar-photovoltaic power plants rose from roughly 40 megawatts to 5,700 megawatts. Residential solar installations have also grown dramatically, with California accounting for more than 40 percent of the installed capacity nationwide. 4,400 megawatts were installed as of June 30th, 2016, and almost 2,000 of which were installed just in 2014 and 2015.

Coal-fired electricity serving California has steadily declined over the past decade to currently serve
about six percent of California’s load, and is expected to decline to zero by the middle of the next decade.

For the electricity sector, criteria pollutant emissions are modest, contributing just two percent of total emissions in 2000, and were cut more than half by 2015.

California has made tremendous strides in its land use planning. The Desert Renewable Energy Conservation Plan is a comprehensive effort to identify the most appropriate areas for large-scale renewable energy development within 22 million acres of public and private desert landscape, while protecting and conserving desert ecosystems.

At the culmination of years of effort, on September 14, 2016 the U.S. Secretary of the Interior approved phase one of the DRECP, covering 10.8 million acres of public lands managed by the Bureau of Land Management.

Building on such landscape-scale planning efforts, the Energy Commission, California Public Utilities Commission and the California Independent System Operator launched the Renewable Energy Transmission Initiative 2.0, or RETI 2.0, to identify the constraints and opportunities for new transmission needed to access additional renewable resources.

Also, over the past decade the fossil-fuel power plants’ fleet in California has become more water efficient, resulting in a relatively modern fleet of thermal power
plants that consume little water. Even greater improvements can be achieved, however, by updating the 2003 IEPR Water Policy to require the use of recycled water and alternative technologies for all power plant operations. Even with these advancements, more work is needed. The rapid growth in California’s renewable resources has brought new challenges for grid operators trying to maintain reliability while managing swings in wind and solar generation. Two days in 2016 illustrated that the grid is already experiencing unprecedented operational fluctuations. On May 15th, 2016 the net load reached a minimum of almost 12,000 megawatts, an amount not anticipated until 2020. On February 1, 2016 the three-hour ramp was 11,000 megawatts, approaching a ramping need not expected before 2020. Helping to address such challenges, the California ISO, Pacific Corp, and NV Energy participate in an Energy Imbalance Market, or EIM, to balance supply and demand, and dispatch least-cost resources over five minutes. With the EIM excess energy in California, California’s ISO balancing area can be transferred to other areas in real time. With the energy transfers facilitated by the EIM the California ISO avoided curtailing 272,000 megawatt hours of renewable energy in the first half of 2016.
Further benefits can be realized with the development of a regional west-wide electricity market to help integrate renewable resources. The California ISO study found that a regional grid would save California ratepayers up to $1.5 billion per year and reduce greenhouse gas emissions by more than 7 million metric tons by 2030.

Flexible resources that can reliably and cost effectively ramp up and down to reach ramping needs are becoming increasingly important. Also, more work is needed to upgrade the electricity distribution system to accommodate the growing use of small distributed generation. As California electrifies the transportation system the need will only grow.

The permitting process for new transmission continues to take six to eight years, much longer than the three-year process envisioned by the Governor. The Energy Commission, CPUC and California ISO should conduct regulatory process reform to implement the Governor’s vision.

Meeting the 2030 Greenhouse Gas Reduction Goal will require significant progress decarbonizing the entire energy system. Energy efficiency is a key component of the state’s strategy. At sufficient scale, energy efficiency reduces the need for new generation and transmission resources. Transforming California’s -- excuse me --
transportation sector away from gas lane to zero-emission vehicles, powered predominantly with renewable electricity is fundamental to California’s strategy for meeting its greenhouse gas reduction goals.

While sales of zero-emission vehicles are growing and infrastructure deployment is advancing, much more growth is needed to meet the Governor’s goal of 1.5 zero-emission vehicles on California roadways by 2025.

Also, all Californians need to realize the benefits from energy efficiency and weatherization, renewable energy and zero-emission and near zero-emission vehicles.

In accord with SB 350, the Energy Commission and other state agencies are evaluating the barriers and developing recommendations for low-income customers, including those living in disadvantaged communities, to access these clean energy technologies.

Finally, California leads the nation in the development of innovative technologies, and must continue to support the research, development and deployment of emerging technologies that will be critical to ultimately transform its energy system.

While California must take swift action to reduce climate change, it is also grappling with the legacy of an aging infrastructure. In the past few years the state has
suffered two major disruptions in its energy’s infrastructure that has tested the state’s abilities to provide reliable energy service to Southern California. Energy supply disruptions can put public health and safety at risk, and have consequences to local businesses and the economy as a whole.

The most recent disruption stems from the massive leak at the Aliso Canyon natural gas storage facility in late 2015. The Energy Commission, CPUC, California ISO and Los Angeles Department of Water and Power worked together to assess the risks to local energy reliability and develop action plans to reduce those risks.

The Joint Agencies first developed an action plan aimed at maintaining reliability over the past summer. It helped manage the increased use of natural gas-fired electricity to satisfy air conditioning needs. The second action plan addresses reliability in the upcoming winter months, focused on natural gas used for heating.

In response to the leak at Aliso Canyon the legislature passed a suite of bills addressing the storage of natural gas. For example, SB 380 by Senator Pavley continues a moratorium on injection of natural gas to Aliso Canyon storage until specified standards are met. SB 826 by Senator Leno appropriates $2.5 million to the California Council of Science and Technology to study the long-term
viability of natural gas storage facilities in California, in accordance with the Governor’s Aliso Canyon State of Emergency Proclamation.

The second ongoing risk to energy reliability in Southern California stems, in part, from the unexpected shutdown of the San Onofre Nuclear Generating Station in 2013. This was compounded by the planned closure of several natural gas-fired power plants along the Southern California coast as part of the phase out of once-through cooling technologies.

A multiyear Joint Agency effort has been closely tracking the development of resources needed to assure reliability in the area, including preferred resources such as energy efficiency, demand response, distributed renewable energy generation and storage, as well as transmission additions and conventional generation.

One of the conventional generation projects, the Carlsbad Energy Center, was planned to replace the Encina OTC plant but is facing delays from legal challenges. The Joint Agencies may need to request that the State Water Resources Control Board delay the schedule for the Encina Power Plant.

Managing the decommissioning of nuclear power plants is another legacy issue for California. Decommissioning of San Onofre is already underway. And the
last operational nuclear power plant in California, Diablo Canyon, will close by 2025 as part of an agreement between PG&E, labor, and environmental organizations.

For both San Onofre and Diablo Canyon, public safety, security, environmental remediation, and the management of radioactive materials are key concerns. Citizen groups, local government and state agencies continue to express concern over long-term onsite storage of nuclear waste, while actively engaging federal agencies and congressional representatives for expedited development of both interim and permanent storage options for nuclear materials.

Going forward, the state is shifting to a more comprehensive approach aimed at improving the performance of the energy system and achieving the 2030 Greenhouse Gas Reduction Goals. Consistent with SB 350, integrated resource plans will be the primary tool for implementing greenhouse gas reduction measures in the electricity sector, while also maintaining reliability and controlling costs.

Ongoing efforts to transform California’s transportation system will be key and requires, among other things, advancing both zero-emission vehicle infrastructure and vehicle deployment. SB 380 requires investor-owned utilities to increase access to electricity as a transportation fuel to support widespread transportation
Further, the 2016 ZEV Action Plan, which was released after the Draft IEPR, identifies actions state agencies will take to help meet the Governor’s goals for zero-emission vehicles.

The 2030 Greenhouse Gas Reduction Goals also require expanded and improved analytical capabilities. To reflect changes in the evolving energy system, forecasters need access to more granular data, particularly more locational data to better track, for example, increases in distributed energy resources, energy efficiency, and a zero-emission vehicle charging. Further analysis is also needed to better understand how the peak demand is shifting to later in the day with the increased use of rooftop solar.

This IEPR lays the groundwork for revisions to the Energy Commission’s forecast in the 2017 IEPR and beyond. In planning for new transmission and generation the state needs to continue refining and implementing practice strategies, like landscape scale planning to reduce energy infrastructure impacts.

Despite efforts to reduce greenhouse gas emissions, California’s climate is changing. Governor Brown’s Executive Order B-30-15, and a set of bills passed last year in this, mandate expansions of the state’s adaptation efforts and the goal -- excuse me, with the goal
of making the anticipation and consideration of climate change a routine part of planning.

Continued climate research for the energy sector is also needed to better inform climate adaptation and mitigation strategies. In short, the state needs to build on and expand the successes realized in the electricity sector over the last decade to transform its overall energy system.

So that concludes my presentation on the Draft Report. As I mentioned, written comments are welcome and due November 7th. And so this is a work in progress. And we’ll carefully consider all the comments received today and in writing. And we plan to post a final draft at the end of January for possible adoption in February.

And with that, I’ll turn it over to the Commissioners. Thanks.

CHAIR WEISENMİLLER: Thanks a lot for your presentation. I was going to note, EIM now also includes Arizona and Puget Sound.

MS. RAITT: Thank you.

CHAIR WEISENMİLLER: But anyway --

COMMISSIONER DOUGLAS: All right. Great. Well, thank you for your presentation.

We’ll move to public comment. I have one blue card. And if anyone else who has not yet filled out a blue
MS. RAITT: You can just come over here. Sorry about that.

MR. BLUE: Good morning. My name is Greg Blue. And I’m a little surprised I’m the first speaker, since I just walked in the room. I was just now writing out what I was going to say, but I’ll jump right in.

I appeared at the August 29th Workshop on Southern California Electricity Reliability and offered some thought. And, actually, we filed comments, and appreciate the recognition in the Draft Report of those comments. And we also wanted to -- we appreciate the recommendation, which is to assure that resources for local reliability remain available.

And it’s all regarding, for folks who may not have been at that workshop, it’s regarding peaker plants, especially two down in -- we have 50 megawatt gas-fired peakers, each with a five- to seven-minute start time, one hour minimum runtime, four starts a day, those kind of peakers, down in the San Diego subarea which, according to a report by a local capacity annual assessment tool, shows that eight out of the next ten years, it’s a deficit in that
subarea. Now granted, it’s a subarea. Granted, the load forecast is maybe -- you know, there’s different ideas of what the load forecast is.

Nonetheless, it doesn’t really matter because in the end the report now recommends the potential of keeping Encina Plant open down there. And there must be -- it must be enough of an alarm to folks to get to even be thinking about that.

And I guess, you know, even if you decide to keep that open, I guess my word of caution is that that application process is going to take a year at a minimum. And it’s likely to be protested by many parties. I’m just guessing, the environmental groups and others will be protesting. So, you know, it would be awhile before you could even get the approval to keep that plant open beyond.

So there might be a period of time where you may not be able to have it open until you get approved to open up again.

So I guess, again, what we had put in our comments was the need for an insurance policy, specifically in San Diego, but this really applies to the whole state, but an insurance policy, basically, of a five- to seven-year contract for these peakers that are transitional contracts. That kinds of leads us to the green grid, leads us to where battery storage is fully up to scale, accounts for the delays in Carlsbad, accounts for the delays of the two
transmission projects down there, accounts for the delays in
the regionalization of the IOS, as well.

So there’s a lot of things that are happening over
the next three to four years that we really think, from our
opinion, and I’ll be filing comments on this, again, as
well, that the state of California needs to look at, you
know, some sort of -- I call it an insurance policy, to make
sure you have these contracts -- these projects that are
needed, this type of generation needed that are contracted
in there so you don’t have to worry about this.

So I guess my other recommendation -- I understand
my time is up, but I don’t see a line behind me, so I’ll
just keep going.

My recommendation, as well, will be that when you
give your message to the PUC, that you certainly add a sense
of urgency, because we think there’s a real sense of
urgency. And I think you’ll see that as you move forward.

Thank you.

COMMISSIONER DOUGLAS: Thank you very much.

Other speakers? Would anyone else like to speak
who’s in the room?

If not, let’s open the lines.

MS. RAFFT: All right. If anybody on WebEx wanted
to make a comment, please use the chat function to let our
coordinator know. No?
COMMISSIONER DOUGLAS: All right. Well --

MS. RAITT: Oh, we can just open the phone lines --

COMMISSIONER DOUGLAS: Okay.

MS. RAITT: -- for just one moment.

COMMISSIONER DOUGLAS: Sorry. Okay.

MS. RAITT: So please put it on mute, unless you wanted to make a comment. We’re going to open the phone lines for just a moment here.

COMMISSIONER DOUGLAS: All right. Anyone on the phone like to make a comment? It doesn’t sound like it.

So, Heather, can you remind everyone one more time when written comments are due?

MS. RAITT: Written comments are due November 7th. And the notice for this workshop gives all the information you need to submit comments.

COMMISSIONER DOUGLAS: Fantastic. Thank you, Heather.

Thank you everybody. And we’ll look forward to seeing everyone’s written comments.

We’re adjourned.

(The meeting adjourned at 10:28 a.m.)
REPORTER’S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

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

IN WITNESS WHEREOF, I have hereunto set my hand this 1st day of November, 2016.

[Signature]

PETER PETTY
CER**D-493
Notary Public
CERTIFICATE OF TRANSCRIBER

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

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

I certify that the foregoing is a correct transcript, to the best of my ability, from the electronic sound recording of the proceedings in the above-entitled matter.

______________________________
MARTHA L. NELSON, CERT**367

November 1, 2016