

## DOCKETED

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1 day.

2 We'll take comments first from folks in the  
3 room, and then folks on WebEx, if you'd like to make  
4 comments just use the tap function to let our WebEx  
5 coordinator know you want to make comments. And then  
6 we'll take the phone-in only comments.

7 If you haven't already, please sign in at  
8 the entrance. And all the materials for this  
9 workshop are available on our website. And we  
10 welcome written comments, which are due on August  
11 18th, and the notice gives the process for how to  
12 submit comments.

13 So thank you, and with that, I'll turn it  
14 over to the Commissioners for opening remarks.

15 COMMISSIONER DOUGLAS: Hi, good afternoon  
16 everyone. I'd like to welcome you to this workshop.  
17 And I'm really looking forward to the presentation  
18 on the draft Environmental Performance Report and  
19 the comments on the draft Environmental Performance  
20 Report.

21 As I think probably everyone here knows,  
22 there's just been a huge amount of change and  
23 evolution of our electricity system over the past  
24 decade or so, spurred in large part by environmental  
25 policies, climate policies certainly with AB32 in

1 2006, and SB1368 and SB350. More recently renewable  
2 energy policies, energy efficiency policies, and  
3 once-through cooling and a suite of environmental  
4 policies. And we've seen as a result of that some  
5 very significant and substantial changes on the  
6 ground.

7 I certainly was fascinated myself with some  
8 of the data and information that came out of the  
9 report and I'm very much looking forward to getting  
10 the comments on the report and hearing more thoughts  
11 about it. So I think those are my opening comments.  
12 Thanks for being here.

13 CHAIR WEISENMILLER: I also would like to  
14 thank everyone for their participation today and  
15 thank staff for pulling this together.

16 When Commissioner Douglas talked about  
17 framing this IEPR around the EPR, I just have to  
18 agree, I thought that was a great theme. It's been a  
19 long time since we've done the Environmental  
20 Performance Report so it's time to really look back  
21 and provide some perspective to the changes that are  
22 going on in the energy system and to look a little  
23 bit forward in the arc on what the future changes  
24 will be.

25 So again, I'm certainly looking forward to

1 today's presentations. Thank you.

2 COMMISSIONER SCOTT: Hello and welcome  
3 everybody. I just have been hearing, believe it or  
4 not, quite a bit around the Energy Commission about  
5 the Environmental Performance Report and am really  
6 looking forward to digging in and seeing what some  
7 of the additional details are and I thought  
8 participating in a workshop would be a great way.

9 So thank you, everyone, for joining us and  
10 I really look forward to hearing the presentations.

11 MS. RAITT: Great. So our first  
12 presentation is on the report by Jim Bartridge and  
13 Judy Grau will do a presentation.

14 MR. BARTRIDGE: Good afternoon. Thank you,  
15 everyone, for being here.

16 Thank you, Commissioners, for your  
17 comments. You've eliminated our first couple slides.

18 So I'm Jim Bartridge, I'm in the Siting  
19 Division with Judy Grau. We're in the Transmission  
20 Planning and Corridor Designation Office, and let's  
21 just get going.

22 So the purpose of today's workshop is to  
23 present an overview of our Environmental Performance  
24 Report. We published this document on July 19th;  
25 here's the web page it's available on.

1           We're going to take stakeholder comments  
2 after this presentation, and then we'll do another  
3 presentation by Alana Mathews on the SB350 Barriers  
4 Report.

5           Governor Brown's Climate Change Pillars:

6           Increase renewables standard from 33  
7 percent to 50 percent;

8           Double energy efficiency savings of  
9 existing buildings;

10          Reduce petroleum use in the state by 50  
11 percent;

12          Reduce release of methane, black carbon,  
13 and other climate pollutants;

14          Manage farm and rangelands, forests and  
15 wetlands for carbon storage;

16          And periodically update California's  
17 climate adaptation strategy.

18          Clean Energy and Pollution Reduction Act  
19 was passed last year, SB 350. It meets a lot of  
20 these goals. I think the transportation didn't quite  
21 make it. The petroleum use didn't make it last year  
22 but there's still a lot of talk about that.

23          SB 350 increases those standards;

24          Allows for the transformation of the ISO  
25 into a regional organization;

1           Increases our energy efficiency targets;  
2           Directs the Energy Commission and the CPUC  
3 to establish resource plans, integrated resource  
4 plans by load serving entities;

5           And again, more on the Barriers Report  
6 you'll see soon.

7           The purpose of our 2016 Draft Environmental  
8 Performance Report is:

9           To evaluate the effects of climate change,  
10 GHG reduction, and other energy and environmental  
11 policies over the last 10 years. So over the last  
12 decade we've enacted a number of legislations and  
13 policies to reduce GHG emissions and help transition  
14 toward a cleaner energy system, including most  
15 recently with SB 350.

16           In the report we try and describe  
17 transformative technologies and approaches that  
18 support these policies, and then hopefully provide  
19 the basis for Integrated Energy Policy Report  
20 recommendations.

21           So with the EPR we know where we've been.  
22 We wanted to take a look at the system changes,  
23 where we've been, where we're at today, and where we  
24 think we're going.

25           So the history of the Environmental

1 Performance Report.

2 In 2001, the first EPR provided an initial  
3 evaluation of the environmental performance of the  
4 generation system from WWII through 2000.

5 It noted major system improvements in the  
6 conversion from oil to natural gas in generation  
7 facilities.

8 Better combustion technologies, new  
9 pollution controls were added.

10 And it also noted that while the amount of  
11 water used by power plants was less than 1 percent  
12 or total statewide water demand, the impacts from  
13 individual power plants on limited local water  
14 supplies could be significant.

15 It also found that new power plants had  
16 increased their use of alternative water supplies  
17 and dry cooling technologies.

18 The 2003 EPR looked at the system from  
19 deregulation in 1996-2002, and we discussed the  
20 energy crisis of 2001-2002, but also noted that the  
21 energy crisis had limited environmental impact. That  
22 was more of an impact in public safety and  
23 reliability to the system.

24 In the 2003 EPR we noted that capacity  
25 additions were primarily natural gas combined cycle

1 units;

2 That overall system efficiency had  
3 continued to improve;

4 And emissions stayed relatively flat.

5 Fresh water supply for new power plants was  
6 a concern given many new plants had been proposed in  
7 areas of limited supply, and this carried forward  
8 into the 2003 IEPR resulting in a policy change  
9 regarding the use of fresh water for cooling at  
10 power plants.

11 2003 was also the first time we looked at  
12 OTC plants, once-through cooling, noting impacts to  
13 marine ecosystems as an issue of concern.

14 And finally, we also noted that wind power  
15 would play a large role in meeting the RPS and we  
16 highlighted bird mortality from strikes with  
17 turbines as a major issue of concern.

18 The 2005 EPR noted that the system overall  
19 had a small footprint compared to other parts of the  
20 country and the rest of the world.

21 There were continuing concerns over fresh  
22 water supply for new power plants, once-through  
23 cooling effects, and avian mortality.

24 It also raised concerns about environmental  
25 justice issues, climate change, and the profile of

1 imported power

2           The 2007 EPR, again the system overall had  
3 a small footprint, though environmental issues  
4 associated with renewable energy development were  
5 starting to emerge.

6           Between '96 and 2003, 37 percent of new  
7 power plant capacity proposed recycled water for air  
8 cooling; that was good.

9           And in 2004, 69 percent of new capacity  
10 proposed recycled water for air cooling.

11           We also noted, then, that as we increased  
12 renewables to meet the RPS, biological resource  
13 impacts would occur due to increased solar and wind  
14 energy development.

15           Interestingly enough, as an aside, in 2007  
16 is when we began talking with BLM, entering into an  
17 MOU to work on projects throughout the state, and  
18 mostly the large solar projects in the desert.

19           MS. GRAU: Okay. So now we are going to  
20 turn our attention to the actual draft report, and  
21 copies are available on the back table. If you  
22 haven't had a chance to digest all 150 pages, we're  
23 actually going to sort of walk through chapter by  
24 chapter and give the summary, so this slide just  
25 shows how we organized the topics in the report as

1 well as today's presentation.

2           And we just want to mention that this  
3 report had a number of contributing authors across  
4 multiple divisions within the Commission and that  
5 would not have been possible without their  
6 authorship and technical expertise and review, and  
7 so we'd like to thank everyone, many of whom are in  
8 the room, for their excellent work on this project.

9           So these next couple of slides talk about  
10 all of the policies that -- the evolution of  
11 policies that how we got to where we are. They're  
12 all discussed in Chapter 2 of the report, so we  
13 won't be reading them here. And actually,  
14 Commissioner Douglas already set these up by  
15 mentioning many of these in her opening remarks, and  
16 we would encourage you to read the whole chapter in  
17 advance of any written comments. Read the whole  
18 chapter as well as the whole report.

19           On this page I just want to make a few  
20 notes on environmental Justice.

21           The federal agencies recognized  
22 environmental justice in 1994, and the Energy  
23 Commission began including environmental justice  
24 concerns and demographics as part of our power plant  
25 siting work beginning in 1995.

1           And then in 1999 California passed its  
2 first environmental justice law which codified the  
3 definition of environmental justice as follows:

4           "The fair treatment of people of all races,  
5 cultures and incomes with respect to the  
6 development, adoption, implementation and  
7 enforcement of environmental laws, regulations and  
8 policies."

9           And in 2012 Senate Bill 535 by DeLeon  
10 required that a portion of cap and trade dollars be  
11 set aside for investments in disadvantaged  
12 communities, and you'll be hearing more about that  
13 Barriers Report work for SB 350 later today.

14           So given all of these policies, this figure  
15 more or less highlights the effects that these  
16 policies have had on the amount of renewable  
17 generation that's been added to our electricity  
18 system from both in-state and out-of-state  
19 resources.

20           And so you can see that generation from  
21 renewables was relatively flat throughout the 1990's  
22 and then increased rapidly with the passage of the  
23 first renewables portfolio standard and other  
24 environmental and greenhouse gas reduction policies  
25 and mandates and goals.

1           And so this information on the changes to  
2 the installed capacity over the last ten years is  
3 actually taken from Table 1 of the report, and so  
4 just a couple of highlights.

5           On the positive side, our coal use  
6 decreased from 595 megawatts down to 167. It was  
7 already a small number, but getting smaller.

8           The nuclear decrease was the two power  
9 plants, San Onofre and Diablo Canyon until San  
10 Onofre was closed in 2013.

11           Natural gasses increased from 38,000  
12 megawatts to 45,000. I think the majority of that is  
13 combined cycle, so that's the net, though, with some  
14 plants being closed, so there's a net increase.

15           Solar PV increased from 2 megawatts to  
16 almost 5,55. An important point to note here is that  
17 these data are actually for in-state capacity for  
18 facilities 1 megawatt and larger. So anything  
19 smaller than 1 megawatt, which is a lot of solar PV,  
20 is not included in our numbers, which is why the  
21 increase looks so dramatic.

22           And then solar thermal increased from 378  
23 to almost 1,300 megawatts.

24           And then finally a large increase in wind.

25           So now what are some of the challenges from

1 an evolving generation system.

2           We know that renewables have new and  
3 different effects compared to the conventional  
4 generation. We'll be discussing some of those  
5 impacts one by one as we go through the  
6 presentation.

7           Numerous integration challenges associated  
8 with interconnecting remote renewables;

9           And also addressing the net load curve,  
10 also known as the duck curve. Figure 9 in the report  
11 for those of you who are not familiar with that.

12           And then finally, we have to modernize the  
13 natural gas fleet for several reasons:

14           Air quality as well as we need more  
15 flexible units to integrate all the intermittent  
16 renewable generation;

17           And we are also faced with the challenges  
18 of retiring our facilities that used once-through  
19 cooling;

20           So we see an increased role for energy  
21 storage and distributed resources, which we're going  
22 to be talking about;

23           And then, of course, the shutdown now of  
24 the last two of California's nuclear power plants  
25 with Diablo Canyon being planned for shutdown in

1 2024 and 2025 as they are not renewing their  
2 licenses.

3           So the first three bullets on this list,  
4           Interconnection of renewables;  
5           Integrated generation and transmission  
6 planning;

7           And then maintaining reliability with the  
8 closure of the OTC plants, we've identified and  
9 assessed these issues through several Integrated  
10 Energy Policy Report cycles and also the Strategic  
11 Transmission Investment Plan that the Energy  
12 Commission does biennially, and these have continued  
13 to be addressed by the energy agencies. There's  
14 nothing new here for those who have been following  
15 those issues; we know about them and we're dealing  
16 with them. So today I just want to focus on the last  
17 two bullets on this slide.

18           The energy imbalance market is the  
19 voluntary market to balance supply and demand in  
20 real time. Right now the existing entities are the  
21 California ISO, PacifiCorp and NV Energy.

22           And just recently the Cal ISO published  
23 their second quarter results for the energy  
24 imbalance market gross benefits report, and that  
25 report noted that the EIM has reduced the amount of

1 curtailments from renewable resources within the  
2 California ISO footprint, which is what one of the  
3 goals was.

4 In addition, just on Monday the Cal ISO  
5 began the testing phase with its two newest  
6 participants, Arizona Public Service and Puget Sound  
7 Energy. So over the next few weeks the California  
8 ISO will operate the EIM under real conditions but  
9 the transactions won't be financially binding until  
10 October 1st.

11 And then finally, possible regionalization  
12 has been a huge issue lately. I believe it began  
13 back in April 2015 when the Cal ISO and PacifiCorp  
14 signed a memorandum of understanding to explore the  
15 feasibility, costs and benefits of PacifiCorp's full  
16 participation in the Cal ISO through the day-ahead  
17 market.

18 So they had already begun through the  
19 energy imbalance market or the real time market, and  
20 now we have an MOU -- the ISO has an MOU to look at  
21 the day-ahead market.

22 The California Legislature recognized the  
23 potential for the benefits of an expanded regional  
24 organization and thus included provisions in Senate  
25 Bill 350 to study the benefits to California as well

1 as the governance changes that would be needed to  
2 create and maintain a regional system operator.

3 And studies conducted by the Cal ISO do  
4 show significant benefits to California rate payers,  
5 and we've had a number of public workshops on  
6 governance, and those governance issues are being  
7 addressed in the Energy Commission's docket, for  
8 those who are interested, it's 16-Reissued General  
9 Order-01.

10 And this slide shows that the state's  
11 policies to reduce greenhouse gas emissions in the  
12 electric sector are working. Carbon dioxide  
13 emissions have declined from roughly 105 million  
14 tons of CO2 equivalent to 90 million tons between  
15 the year 2000 and 2014.

16 In-state emissions from the electric sector  
17 over the last few years have been about 20 percent  
18 below 1990 levels, which is the red line on this  
19 chart.

20 And so there's a full expectation that the  
21 overall trend is that greenhouse gas emissions will  
22 continue to decline with the increase in renewable  
23 generation, increased energy efficiency, the  
24 addition of distributed renewable energy resources,  
25 modernization of the gas fleet, decline in out-of-

1 state coal purchases, and then transmission  
2 additions and changes to the electricity markets.

3 So with that, I'm turning it back to Jim.

4 MR. BARTRIDGE: These are the environmental  
5 issue areas we looked at within the Environmental  
6 Performance Report. I won't go through them as I'm  
7 about to.

8 For air quality and public health, air  
9 emission trends have continued to improve with the  
10 transition to a high renewable, low carbon  
11 electricity system as we reduce our dependence on  
12 fossil fuels. And statewide criteria pollutant  
13 emissions have also declined.

14 However, the existing fossil fuel  
15 generation fleet is operating with frequent stops  
16 and starts and rapid ramps up and down, and these  
17 operating fluctuations could cause emission rates to  
18 increase even as overall emissions continue downward  
19 as less energy is needed from them.

20 In addition, given the poor air quality in  
21 many regions of California, it can be difficult to  
22 obtain air permits for even the cleanest facilities.

23 Finally, while ambient air quality in  
24 California is improving, a growing population,  
25 climate and geography will continue to challenge our

1 ability to meet the health-based ambient air quality  
2 standards in the future.

3 For water use and conservation, we'll talk  
4 a little bit about the 2003 IEPR Water Policy.

5 In that policy in the 2003 IEPR the Energy  
6 Commission adopted a water conservation policy for  
7 power plants to limit the fresh water use for power  
8 plant cooling to only where alternative water supply  
9 sources or alternative cooling technologies are  
10 shown to be environmentally undesirable or  
11 economically unsound.

12 Since then, the Energy Commission has  
13 encouraged power plants to limit their use of fresh  
14 water by using recycled water and water efficient  
15 technologies such as dry cooling.

16 Despite the addition of many thermal power  
17 plants in the last decade, the total amount of fresh  
18 water used for cooling has not increased  
19 significantly.

20 The IEPR Water Policy also resulted in an  
21 electricity system that is more reliable in drought  
22 conditions.

23 And also, because of the once-through  
24 cooling policy, almost 2700 megawatts of OTC gas  
25 fired plants have been retired or replaced by 2015.

1           As alternative cooling technologies and  
2 those repowers or retirements continue, we expect  
3 the biological impacts to California's marine  
4 ecosystems to also be eliminated.

5           And then finally, water use by utility  
6 scale renewable generators is highly dependent on  
7 both technology and cooling type, but nearly all new  
8 generation renewable capacity in California is from  
9 wind and solar PV, and these technologies can  
10 operate with essentially no water.

11           Finally, PV facilities typically do use  
12 water for panel washing, and the amount of water  
13 used during construction for all renewable types can  
14 be considerable.

15           This table, the land use per megawatt by  
16 fuel type, shows the average acreages which we used  
17 also for acreage planning assumptions in the Desert  
18 Renewable Energy Conservation Plan.

19           As renewable generation has increased,  
20 projects and acreages have increased in size and  
21 scale, which has led to new and different  
22 environmental impacts, different than conventional  
23 power plants we've sited in the past.

24           We used these acreage assumptions in the  
25 EPR to better understand the number of acres of

1 overall project footprints, but they do not  
2 necessarily reflect the intensity of land uses.

3 In regard to wind, we assumed an average  
4 wind project required 40 acres per megawatt  
5 consistent with the DRECP, and Enrail (phonetic)  
6 assumes, however, that wind energy facilities are  
7 capable of providing one megawatt of power with  
8 roughly 24 acres, so we wanted to show a range here  
9 and calculate based on that in the EPR.

10 This is the 2001 through 2015 installed  
11 capacity for in-state electric generation capacity  
12 by fuel type, and I think the big story here is the  
13 dramatic increase in renewables we've seen over the  
14 last ten years. This is Figure 1 in the report, and  
15 again, these facilities are 1 megawatt and larger.

16 So for biological resources, the general  
17 effects associated with renewable development  
18 include Habitat loss, degradation, and alteration  
19 associated with scale and location of renewables.

20 A major concern has been avian mortality at  
21 both wind and solar facilities.

22 For wind, between 2005 and 2007 the Energy  
23 Commission worked closely with the California  
24 Department of Fish and Wildlife to develop the  
25 voluntary California guidelines for reducing impacts

1 to birds and bats from wind energy development. And  
2 the U.S. Fish and Wildlife Service issued the land-  
3 based wind energy guidelines.

4 In our solar siting cases the Commission  
5 also requires a variety of mitigation measures for  
6 impacts to habitats and special status species,  
7 including avoidance of habitats, exclusion fencing  
8 to protect habitats, and securing replacement  
9 habitat acreage to compensate for those removed from  
10 development.

11 Finally, the Energy Commission supports  
12 ongoing energy related environmental research  
13 through the EPIC program that's looking at ways to  
14 further reduce impacts.

15 For cultural resources, as large renewable  
16 energy projects have developed in both desert and  
17 agricultural areas there has been a corresponding  
18 increase in the number of cultural resources  
19 identified on or in proximity to project sites.

20 Several of the Energy Commission's large  
21 desert solar siting cases tribes were highly engage  
22 through the process, including identifying  
23 resources, consultation, expert witness testimony,  
24 and construction monitoring.

25 That engagement increased staff's overall

1 knowledge and helped them develop a set of standard  
2 conditions that prioritize avoiding and minimizing  
3 impacts to cultural and archeological resources. And  
4 if that's not possible, for the excavation, recovery  
5 and curation of those resources.

6           Their engagement also gave us a more  
7 thorough understanding of tribal concerns related to  
8 areas other than cultural resources, including  
9 biological resources, water, air quality, and visual  
10 impacts.

11           And finally, it's been valuable engaging  
12 with tribes in various landscape planning exercises  
13 as we've done in the DRECP in San Joaquin solar  
14 process and are continuing to do in Redding so that  
15 we understand their perspectives early only.

16           There has also been new state consultation  
17 policies related to cultural resources. In September  
18 2011 Governor's Executive Order B1011 encouraged  
19 state agency collaboration with California tribal  
20 government and directed agencies to work with both  
21 federally recognized and non-recognized Native  
22 American tribes so they can provide meaningful input  
23 to the development of policy on matters that affect  
24 tribal communities.

25           As a result of the Executive Order, both

1 the Resources Agency and the Energy Commission  
2 developed new tribal consultation policies.

3 Further, AB52 amended CEQA to require lead  
4 agencies to conduct tribal consultation as well.

5 And finally, we expect continued and  
6 increased tribal engagement in both planning and  
7 permitting processes going forward, and we also  
8 expect the scale and cost of cultural resource  
9 mitigation to increase.

10 Visual resources. Compared to conventional  
11 power plants, the area within which visual impacts  
12 may occur is typically much greater for utility-  
13 scale renewable projects, and particularly for  
14 projects using solar power tower technology.

15 For solar, glare and reflection from  
16 mirrors and panels can be reduced with coatings and  
17 proper positioning.

18 Appropriate siting and design of wind  
19 turbines can help but will not fully mitigate visual  
20 impacts of wind projects.

21 Environmental justice, we've already  
22 mentioned that in a previous slide but we'll note it  
23 again.

24 The majority of populations in California  
25 are minority populations. And for us, we've been

1 analyzing EJ impacts since 1995 but there are  
2 challenges identifying EJ communities in rural  
3 areas, primarily because the data from the Census  
4 Bureau is based on sample information, and our  
5 ability to obtain reliable poverty information and  
6 estimates are used from a much larger area than  
7 potentially affected areas around a project site.

8           So with that, continued outreach is  
9 critical as climate change impacts become more  
10 pronounced.

11           For nuclear decommissioning. Nuclear  
12 Regulatory Commission Decommissioning Rulemaking was  
13 opened in November 2015 to obtain input from  
14 stakeholders on the development of power reactor  
15 decommissioning draft regulatory basis to replace  
16 the current patchwork process that depends on  
17 license exemptions and/or amendments.

18           In March 2015 the Energy Commission  
19 submitted comments to the NRC that focused on  
20 maximizing safety while minimizing environmental and  
21 economic impacts, increased public engagement and  
22 expanded roles for the states and stakeholders.

23           The NRC expects to post the draft  
24 regulations in November 2016 for review, and as  
25 recommended in the 2015 IEPR, the Energy Commission

1 will engage in all stages of the rulemaking process.

2 MS. GRAU: Okay. Turning now to San Onofre  
3 and the status of its decommissioning.

4 Southern California Edison has stated its  
5 intent to complete the full NRC mandated  
6 decommissioning process for San Onofre within 20  
7 years, which is significantly shorter than the  
8 allotted 60 years.

9 And as of June of this year, Southern  
10 California Edison has achieved the necessary site  
11 modifications for placing the plant in a "cold and  
12 dark" state, which means that the San Onofre plant  
13 is now de-energized and in a safe non-operating  
14 condition.

15 Islanding the spent fuel pools involves  
16 replacing the normal systems that support the spent  
17 fuel pools with standalone cooling and filtration  
18 systems, and SCE expects to complete these  
19 requirements by the third quarter of 2016.

20 Construction of the new independent spent  
21 fuel storage installation, ISFSI, is expected to be  
22 completed in 2017, and SCE expects to complete the  
23 transfer of spent fuel from the pool to dry cask  
24 storage in this new installation by 2019.

25 The spent fuel will remain in dry storage

1 until such time in the future that it can be  
2 transferred to a federal storage facility or  
3 repository.

4 California requires the plant site to be  
5 restored to its original condition in addition to  
6 the NRC's requirements; and moreover, the  
7 environmental restoration of the San Onofre site is  
8 required as part of the U.S. Navy lease to SCE, but  
9 a final agreement between the parties has not yet  
10 been reached.

11 And then with Diablo Canyon, under the  
12 terms of the June 2016 Joint Proposal between PG&E  
13 and environmental and labor groups, PG&E has agreed  
14 to increase investment in energy efficiency,  
15 renewable energy, and energy storage beyond the  
16 current state mandates while phasing out production  
17 of nuclear power at Diablo Canyon, and then  
18 permanently retiring the plant by 2025. The Joint  
19 Proposal will require a number of steps before its  
20 final approval, however.

21 In accordance with the agreement, PG&E  
22 announced its plans to shut down Diablo Canyon at  
23 the end of the current licenses in 2024 and 2025.

24 PG&E will pursue expedited post shut-down  
25 transfer of spent fuel to dry cask storage using San

1 Onofre transfer schedules as their benchmark.

2           And finally, PG&E will prepare a site-  
3 specific decommissioning study no later than 2018,  
4 when the Nuclear Decommissioning Cost Triennial  
5 Proceeding is filed with the CPUC.

6           With respect to spent fuel management, the  
7 Energy Commission supports Senator Feinstein's  
8 bipartisan efforts to establish a Nuclear Waste  
9 Administration, a consent-based siting process for  
10 repositories and storage facilities, and a pilot  
11 program for interim spent fuel storage as identified  
12 in the Nuclear Waste Administration Act of 2015.

13           The expedited transfer of spent fuel from  
14 the cooling pool to dry storage is a policy  
15 supported by the Energy Commission as well as the  
16 California Public Utilities Commission and the Union  
17 of Concerned Scientists.

18           The Department of Energy has recently begun  
19 a consent-based process to develop solutions for the  
20 long-term sustainable management of the nation's  
21 high level radioactive waste.

22           The DOE's goal is to identify sites that  
23 have public support for the interim storage of  
24 nuclear waste from the nation's nuclear power  
25 plants.

1           The Energy Commission's comments focused on  
2 the site removal priority listing, environmental  
3 justice, infrastructure support, route planning, and  
4 early inclusion of the State as well as  
5 stakeholders.

6           The presence of spent nuclear fuel onsite  
7 at California's four nuclear facilities for years or  
8 even decades means local emergency preparedness must  
9 be maintained and security measures must remain in  
10 place.

11           Aging and weathering are a source of  
12 concern for the onsite independent spent fuel  
13 storage installation facilities. The NRDC, industry,  
14 and national labs are currently engaged in efforts  
15 to develop aging management processes and programs  
16 for the nation's spent fuel storage installations.

17           New decommissioning regulations should be  
18 based on a site specific process promoting planning  
19 levels defined by a site specific risk profile.

20           And the report also looked at emerging and  
21 transformative technologies, and we recognize that  
22 renewable energy technologies are becoming more  
23 efficient and the costs to develop solar  
24 photovoltaic and wind energy facilities has dropped  
25 significantly in recent years, with utility scale PV

1 costs falling the greatest from more than \$4 a watt  
2 to less than \$2 a watt.

3           With respect to other offshore ocean  
4 energy, including wind, wave, tidal and ocean  
5 thermal technologies, the Energy Commission held an  
6 IEPR workshop on May 25th of this year to discuss  
7 developing wind energy off the California coast, and  
8 we do plan to put an appendix in the 2016 IEPR  
9 Update that discusses that workshop.

10           And also, in response to requests from  
11 Governor Brown, the Bureau of Ocean Energy  
12 Management announced in May 2016 that it will  
13 establish Federal-California Marine Renewable Energy  
14 Task Force to collaborate on planning, permitting  
15 and coordination related to offshore renewable  
16 energy development.

17           So as noted, Distributed Energy Resources  
18 can provide an important of California's future  
19 energy mix.

20           Assembly Bill 327 and the PUC's proceedings  
21 on distributed resource plans and integrated  
22 distributed energy resources are addressing some of  
23 these challenges.

24           And also, the More Than Smart initiative by  
25 Cal Tech's Resnick Sustainability Institute and the

1 Governor's Office in September 2013 were established  
2 and that framework incorporated into the  
3 distribution resource plans proceeding and the  
4 vision established by that More Than Smart program  
5 lays out actions that California should take to  
6 enable higher penetrations of distributed resources.

7           And then finally, AB 2514 directs the  
8 Public Utilities Commission to establish targets for  
9 energy storage and a program to procure energy  
10 storage. The first round of procurement resulted in  
11 more than 300 megawatts of selected storage projects  
12 by the investor owned utilities.

13           Procurement includes in front of the meter  
14 storage such as batteries collocated with power  
15 plants, as well as behind the meter storage  
16 aggregated together to perform like a virtual power  
17 plant.

18           So California is investing in technologies  
19 that will continue to allow the state to meet  
20 renewable energy and greenhouse gas reduction goals,  
21 and it's important to support research and  
22 technological advancement on both demand and supply  
23 site technologies.

24           The Environmental Performance Report finds  
25 that emerging distributed technologies such as

1 rooftop PV can offer many of the same environmental  
2 benefits as utility scale solar PV with the added  
3 benefit of being installed in the built environment.

4           However, there are a suite of market and  
5 operational barriers being addressed that require  
6 additional research.

7           Integrating and harmonizing new  
8 technologies together such as solar with energy  
9 storage requires the state to continue to carefully  
10 plan the next generation energy system and focus on  
11 developing technologies that seamlessly connect  
12 consumers with energy technologies.

13           So the report notes that the state should  
14 continue to facilitate distributed resources by  
15 ensuring research studies and pilot demonstrations  
16 are able to make it from the lab to the market.

17 There are opportunities to build off the  
18 distribution resource plans and off of the Energy  
19 Commission's staff studies like those performed in  
20 the southern San Joaquin Valley in Southern  
21 California Edison's territory.

22           Landscape-scale planning takes into  
23 consideration a wide range of potential constraints  
24 and conflicts, including environmental sensitivity,  
25 conservation and other land uses, trial cultural

1 resources and more when considering future renewable  
2 energy development.

3 Previous Integrated Energy Policy Reports  
4 have discussed the benefits of using landscape scale  
5 approaches for renewable energy and transmission  
6 planning.

7 Through previous and current efforts such  
8 as the first and second RETI processes, Renewable  
9 Energy Transmission Initiatives, as well as the  
10 Joint Renewable Energy Action Team agency work on  
11 the Desert Renewable Energy Conservation Plan, and  
12 the stakeholder-led San Joaquin Valley  
13 Identification of Least Conflict study, California's  
14 agencies, local governments, tribes and stakeholders  
15 have gained experience planning and identifying the  
16 appropriate areas for renewable energy development  
17 and associated transmission. Planning activities  
18 such as these can help the state meets its renewable  
19 energy and climate goals.

20 Since the formation of the original RETI  
21 and DRECP, the Energy Commission, PUC and Cal ISO  
22 have worked to align their electricity  
23 infrastructure planning and to establish the  
24 analytical link among the different infrastructure  
25 studies conducted by the different agencies.

1           The coordinated agency planning activities  
2 have become more critical as higher levels of  
3 renewable generation capacity are expected to be  
4 developed.

5           As noted in the 2015 IEPR, the California  
6 county governments are the permitting authority for  
7 most non-thermal power plants such as wind and solar  
8 PV located on private lands in California. They have  
9 permitted many of the renewable energy projects  
10 developed in California and will continue to be  
11 important partners in both permitting and planning  
12 going forward.

13           From 2012 to 2014 the Energy Commission  
14 established and administered the Renewable Energy  
15 and Conservation Planning Grants to help qualifying  
16 counties plan for renewable resource development  
17 consistent with the state's long-term renewable  
18 energy, greenhouse gas reduction, and resource  
19 conservation goals. These grants support the  
20 development of renewable energy elements as part of  
21 counties' General Plan Updates that identify areas  
22 where renewable resources are prioritized and  
23 preparation and certification of environmental  
24 impact reports can be made and the engagement of  
25 public, private and tribal partners to plan for

1 renewable energy development.

2           There are a number of transmission planning  
3 issues also discussed and addressed in the report.

4           The Garamendi Principles or Senate Bill  
5 2531 from 1988 recognize the value of the  
6 transmission system and the need for coordinated  
7 long-term transmission corridor planning to maximize  
8 the efficiency of the transmission right-of-way and  
9 avoid single purpose lines.

10           The 2015 IEPR made the following  
11 recommendation regarding transmission right-sizing,  
12 and this is as follows.

13           "The State should develop a set of right-  
14 sizing policies through the 2015 IEPR Update process  
15 and informed by RETI 2.0. These policies at a  
16 minimum should include a comprehensive definition of  
17 right-sizing as well as describe the process through  
18 which the costs and benefits would be analyzed."

19           And so a comprehensive right-sizing policy  
20 would help ensure that when a large transmission  
21 project is built it doesn't have to be replaced or  
22 upgraded shortly after it's completed.

23           A good right-sizing policy essentially  
24 expands the analysis of large transmission  
25 facilities and looks beyond a ten-year planning

1 timeframe to determine whether a proposed  
2 transmission project should be sized larger to meet  
3 needs more than ten years out.

4 A right-sizing policy could be applied in  
5 the transmission planning processes by expanding the  
6 analysis past ten years, or in the licensing of  
7 transmission projects by including alternatives that  
8 are larger than the proposed projects.

9 We look forward to hearing any comments you  
10 may have today or in writing on the right-sizing  
11 concept.

12 To date most contracts for renewable energy  
13 have required full deliverability of renewable  
14 resources during peak conditions. This contractual  
15 requirement, which is a prerequisite for obtaining  
16 resource adequacy credit, can result in costly  
17 transmission projects that may add little or no  
18 additional renewable energy being delivered to the  
19 system. Many interconnected generators are able to  
20 deliver full output most of the time even without  
21 additional network upgrades beyond those required  
22 for interconnection.

23 As renewable generation requirements grow,  
24 the energy agencies are exploring the value of  
25 "energy-only" renewable resources contracts instead

1 of requiring full deliverability. This option has  
2 the potential to lower costs and increase the  
3 potential for renewable energy generation in many  
4 areas.

5 Finally, transmission corridors could be  
6 identified and designated as a result of the  
7 landscape scale planning efforts already mentioned.

8 And so some of the staff draft conclusions  
9 that we would like to offer are that the system is  
10 cleaner, has gotten cleaner over the past ten years,  
11 but we need to continue to improve environmental  
12 performance to meet our energy and greenhouse gas  
13 reduction goals.

14 Climate adaption is becoming increasingly  
15 important and urgent, and we actually have a  
16 separate sub docket as part of our 2016 IEPR  
17 proceeding on Climate Adaptation and Resiliency. So  
18 we would encourage you to become familiar with that  
19 if you aren't already.

20 Systems planning, design, and operation  
21 must evolve to address the critical issues that  
22 we've discussed throughout this presentation.

23 And finally, that new and emerging  
24 distributed energy resources has an important role  
25 in the future.

1           So that concludes our walkthrough of the  
2 report, and just to reiterate, written comments are  
3 due two weeks from today on the 18th.

4           We plan to publish the staff final version  
5 of the Environmental Performance Report in early  
6 September.

7           And then in early to mid October the Energy  
8 Commission will publish its Draft IEPR Update, which  
9 will include a chapter based on the Staff Final EPR.  
10 So hopefully you kept that all straight between  
11 draft and final and IEPR and EPR.

12           And then on October 24th there will be a  
13 workshop on 2016 Draft IEPR Update.

14           So that concludes our presentation, and so  
15 we'll move into stakeholder response and comments.

16           We do have a number of technical staff in  
17 the room to answer questions as necessary if Jim and  
18 I are not able to. So we would take comments in  
19 person first and then WebEx and phone participants.  
20 But before we do that we'll start with any questions  
21 from the dais.

22           CHAIR WEISENMILLER: I had just a couple.

23           On Slide 30 you make the statement that  
24 "Bioenergy and geothermal can help integrate solar  
25 and wind." The question is how? I mean, these are

1 base load relatively inflexible resources and I've  
2 been hearing that for six years, but when people go  
3 to negotiate geothermal contracts, say with the  
4 utilities, they're told they don't really need the  
5 all peak power, they don't really need base load  
6 power.

7           And indeed one of the rationales in your  
8 talk to PG&E about why they're moving away from  
9 relicensing Diablo Canyon is that they don't need  
10 base load power.

11           So again, I just don't quite understand  
12 that. We need flexible resources but we don't need  
13 base load, and so you have to really make sure that  
14 geothermal and bioenergy to be useful are flexible,  
15 not base load.

16           MS. GRAU: Okay. Maybe we misstated that,  
17 because the thought was that they can operate more  
18 flexibly, not necessarily as base load.

19           CHAIR WEISENMILLER: Okay, that's good.

20           MS. GRAU: We stand corrected, yes.

21           CHAIR WEISENMILLER: Okay. Other question  
22 is we've done really huge changes in the system  
23 since the last one. It would be good to get a sense  
24 of whether the -- how the benefits are allocated  
25 between disadvantages communities and other

1 communities, you know, in terms of just, you know,  
2 we do environmental justice reviews, as you indicate  
3 in the power plant siting cases, but I guess what  
4 I'm saying, it would be good -- and I know we're  
5 going to have Alana's presentation next, but just in  
6 terms of looking at the massive changes, are these  
7 really proportionately helping disadvantaged  
8 communities or sort of the wealthy communities?  
9 What's the impacts of the changes in our energy  
10 system across different types of Californians?

11 MR. BARTRIDGE: I think we'll also defer to  
12 Alana on part of that, but I think the reduction in  
13 pollutants is helpful to disadvantaged communities  
14 and our most sensitive receptors in society. I think  
15 that's what I can offer at this point.

16 CHAIR WEISENMILLER: I was thinking of the  
17 350 impact studies by the ISO tended to say lower  
18 cost observed resulted in more money in California,  
19 more jobs. But also there was the part of the  
20 analysis that looked at, as you said Jim, where the  
21 environmental impacts were coming, and looking at  
22 with Enviro Screen it was certainly helping in that  
23 context. And they were also looking at it for the  
24 job implications of shifts.

25 And again, those were all pretty useful in

1 that context, but again, just trying to figure out  
2 as we go forward how to make sure we're really  
3 thinking about the environmental justice for  
4 disadvantaged communities issues in this analysis.

5 MS. GRAU: Yeah, that's a great point. The  
6 final Cal ISO SB 350 studies were just the subject  
7 of a workshop a couple weeks ago.

8 CHAIR WEISENMILLER: Right.

9 MS. GRAU: So I think that in our staff  
10 final report it would be good for us to more  
11 thoroughly bring that record in and massage it a  
12 little and figure out what the means for the future  
13 and, like you said, the impact on disadvantaged  
14 communities and all that.

15 We don't have a lot in this report on any  
16 assessment or analysis of that, so we would be happy  
17 to do that.

18 CHAIR WEISENMILLER: Yeah. And again,  
19 certainly if people have ideas on not just that part  
20 but just the huge change in the systems, how that  
21 really affects.

22 Is it all the advantages of coastal  
23 communities, which are pretty wealthy, but the power  
24 plants are operating less, or is it really helping  
25 disadvantaged communities? Certainly things that

1 reduce air pollution in the south coast or San  
2 Joaquin have really huge impacts. Right?

3 MR. BARTRIDGE: I'd also offer to that that  
4 we don't necessarily have all the recent data from  
5 the ISO, we don't have that in this report yet.

6 CHAIR WEISENMILLER: Right.

7 MR. BARTRIDGE: What we tried to do was  
8 build off existing materials that we had, so things  
9 were in process in other forums as we were  
10 developing this report.

11 CHAIR WEISENMILLER: Yeah, I guess part of  
12 what I'm saying is not necessarily the ISO analysis  
13 as much as can we use similar tools here to get a  
14 sense of what the changes the last ten years have  
15 done?

16 So again, I'd certainly be interested in  
17 peoples' suggestions on how we might do that. But  
18 again, the ISO studies at least give you some idea  
19 of some of the tools that might be useful in this  
20 context.

21 Janet.

22 COMMISSIONER SCOTT: I had a question about  
23 how are you considering transportation  
24 electrification and vehicle grid integration as part  
25 of the, kind of looking at the grid of the future?

1           As you all know, and I did a quick skim and  
2 I saw that we've got a page on vehicle grid  
3 integration but I haven't had a chance to read  
4 through the full report to understand how we're  
5 putting that in there.

6           I know that this report looks out over ten  
7 years, but where the state is heading is, you know,  
8 the Air Resources Board has said by 2040 90 percent  
9 of the vehicles sold -- and that's passenger cars --  
10 needs to be zero emission vehicles, and by 2050 the  
11 Governor put a goal out there at the talks in Paris  
12 in December about having 100 percent of the vehicles  
13 sold by 2050 be electric. And we're also looking at  
14 electrifying our ports in the medium duty/heavy duty  
15 sector as well, and that's a pretty big change, I  
16 think, potentially for our electric grid.

17           And so I'm wondering how in the short term  
18 over the ten years that this report looks out we're  
19 thinking about and characterizing transportation  
20 electrification.

21           MR. BARTRIDGE: Well, let me add that we  
22 looked backward, we looked at the last ten years.  
23 And going forward the changes to the electricity  
24 system, we think the electricity system at this  
25 point is pretty clean, and recognizing that

1 transportation is about 40 percent of the GHG  
2 problem.

3 We didn't touch on that necessarily,  
4 transportation in depth, knowing there's other  
5 programs that do so, but we did feature and  
6 recognize that the Energy Commission has investments  
7 and we understand the Governor's goals toward  
8 transportation.

9 So I think that there will be development,  
10 and as you know, through EPIC we're working on some  
11 of these programs and vehicle to grid. This one was  
12 primarily focused on the electrical generation  
13 system.

14 COMMISSIONER SCOTT: Great, got it. And you  
15 know, I'm thinking about these vehicles also as the  
16 potential -- and I know that there's a VGI chapter  
17 in there -- but the potential to be storage and also  
18 kind of help integrate the renewables into our mix.

19 COMMISSIONER DOUGLAS: I don't think I have  
20 any questions. I think I've probably over the  
21 iteration of producing the draft exhausted my  
22 questions many times over.

23 I will note on Chair Weisenmiller's comment  
24 that we did have a robust internal discussion about  
25 what it would take to look at the overall reductions

1 in, say, the run time of the older parts of the  
2 natural gas fleet and could we geographically  
3 quantify that in some way that we could overlay with  
4 various indicators for disadvantaged communities,  
5 and it required a granularity of analysis that  
6 wasn't easy to get to with the statewide, generally,  
7 the statewide data that we were looking at.

8 And that is not to say that that kind of  
9 analysis can't be done; it was just something that I  
10 very much wanted to see, but I think with the level  
11 of data that we were working with it was not easy to  
12 do.

13 CHAIR WEISENMILLER: It's fair game to  
14 leave something for the next EPR.

15 COMMISSIONER DOUGLAS: I would tend to  
16 agree with that. I agree that it would be really,  
17 really useful data to have and to be able to analyze  
18 and show people.

19 CHAIR WEISENMILLER: Yeah. I mean, one of  
20 the tools that the ISO used was the BEAR model,  
21 which really went through the employment impacts.

22 And again, at some point it would be  
23 interesting to have that sense overall for the  
24 energy system changes.

25 And obviously they did some degree of -- on

1 the environmental stuff, the granularity was not  
2 Census tracked as much as air basin, so it was  
3 pretty interesting to see what was going on with  
4 South Coast/San Joaquin as opposed to a statewide  
5 number since those are really where you'd anticipate  
6 where we had the most severe air quality issues.

7 COMMISSIONER DOUGLAS: Alright. I think the  
8 questions from the dais have been more or less  
9 exhausted, although we always could come up with a  
10 few more.

11 But I have three cards in my hand for  
12 people who might want to make public comment, or who  
13 clearly do. If there's anyone else who'd like to  
14 make comments now, you're welcome to.

15 And of course, the deadline for written  
16 comments is when?

17 MS. GRAU: August 18th.

18 COMMISSIONER DOUGLAS: August 18th. Is that  
19 on the slide? There you go. Were you about to cover  
20 that slide?

21 MS. GRAU: Actually, I think we did.

22 COMMISSIONER DOUGLAS: Alright, perfect.

23 MS. GRAU: Leave that up.

24 COMMISSIONER DOUGLAS: Alright. So there's  
25 an August 18th deadline for written comments and we

1 are looking forward to seeing your comments.

2 I'll start calling. I've got three cards  
3 here, as I said.

4 David Townley, CTC Global.

5 MR. TOWNLEY: Chairman, Commissioners,  
6 thank you for the opportunity to bring an important  
7 message to this Environmental Performance Report.

8 I'm Dave Townley, Director of Public  
9 Affairs, CTC Global Corporation. We're headquartered  
10 in Irvine, California.

11 Billions of dollars have been spent on  
12 improving efficiency and creating new technologies  
13 in the power generation side. Billions of dollars  
14 have been well spent looking at energy efficiency  
15 and new high efficiency programs on the end user  
16 side. Yet the electricity moves from generators to  
17 the end user over inefficient, old conductor  
18 technology.

19 There are modern high performance  
20 transmission conductors commercially available that  
21 improve the efficiency of the T&D system and have  
22 been available for years. This class of modern high  
23 performance conductor was named by transmission  
24 engineers over a decade ago as high temperature, low  
25 sag conductors, and have been used across the U.S.,

1 across the world really to solve technical and  
2 reliability problems related to excessive sag of  
3 transmission and distribution systems. But other  
4 benefits of this class of conductors have been  
5 ignored or at best overlooked.

6           These modern conductors for the same  
7 diameter wire carry twice as much current as the  
8 older traditional conductor. And some of these  
9 modern conductors can reduce line losses by 30  
10 percent or more. Reduced line losses means less fuel  
11 burned, less air emissions produced.

12           Connecting new renewable generation plants  
13 to the grid with these modern conductors means that  
14 more renewable megawatt hours are going to get  
15 delivered to the grid and ultimately to the  
16 consumer.

17           The additional capacity of these modern  
18 conductors means more renewables can be added to the  
19 existing right-of-way that have been recondotored  
20 with these modern conductors.

21           So these modern high performance  
22 transmission conductors should be evaluated for  
23 every T&D project being proposed by the utilities.

24           We should use every opportunity that we  
25 have to improve the efficiency of our T&D system and

1 to make the most of our existing right-of-ways. We  
2 can cost-effectively significantly reduce air  
3 pollutants, including CO2, by selecting modern high  
4 performance transmission conductors for our T&D  
5 projects.

6 Thank you for the opportunity.

7 COMMISSIONER DOUGLAS: Thank you for your  
8 comments.

9 I've got two more blue cards. And I will  
10 remind people that we'll take public comment on the  
11 EPR and then we'll have a presentation from Alana  
12 Mathews on just the status of the SB 350 Barriers  
13 Report work.

14 So Rochelle Becker, Alliance for Nuclear  
15 Responsibility.

16 MS. BECKER: Rochelle Becker, Alliance for  
17 Nuclear Responsibility. Thank you for holding this  
18 meeting today.

19 One of the things that came up while you  
20 were discussing the various projections for the  
21 future is the demise of San Onofre and the soon-to-  
22 be demise of Diablo Canyon.

23 San Onofre's end came in an emergency  
24 situation and the entire state was reactive, but the  
25 positive part of that reaction was that the entire

1 state came together. Every agency that had some  
2 oversight over these nuclear power plants came  
3 together to try to figure out how we go forward.

4 PG&E has given us nine years to do this  
5 planning, and what I'd really like to see is a  
6 proactive agency-wide group of people starting to  
7 plan for how we begin to wean ourselves off of  
8 nuclear power in the state of California.

9 There will be many agencies involved in  
10 this process. There were many agencies involved in  
11 the last process. We did it as well as we could, but  
12 I don't think anyone would say we did it well.

13 And so we'd like to see with the  
14 combination of the utility workers, the  
15 environmental groups, the utility, we'd like to see  
16 all the oversight agencies also weigh in, look to  
17 see where their need is, when we will need you, what  
18 we will need you for.

19 And then I would invite you all this fall  
20 or early next year to come to San Luis Obispo and  
21 explain to us the process of doing without a nuclear  
22 power plant, because this is a very small community  
23 very dependent on PG&E resources, and we want to see  
24 the agencies that will be involved in our community  
25 at least once to tell us what their part of the

1 process will be and how they'll help it go smoother.

2 So that's what I ask of this Commission and  
3 will ask of all Commissions, that you talk to each  
4 other and that you plan a date that you can all come  
5 to San Luis Obispo and let us know what the process  
6 will look like before nine years is up.

7 Thank you.

8 COMMISSIONER DOUGLAS: Thank you for being  
9 here.

10 John Geesman, Alliance for Nuclear  
11 Responsibility, has remarks on Slide 27.

12 MR. GEESMAN: Thank you, Madam Chair.  
13 Before I get to Slide 27 let me commend the  
14 Commission for reviving this report after ten years,  
15 and also congratulate Jim and Judy for project  
16 managing an excellent draft.

17 My recollection is it's pretty hard to get  
18 staff resources to work on this report given  
19 competing demands from siting cases and other  
20 environmentally related work, but I think you've got  
21 a fine work product in front of you and I look  
22 forward to seeing the final.

23 I have two points to raise with respect to  
24 Slide 27.

25 The first is the first bullet, "SCE plans

1 to complete decommissioning within 20 years.”

2 I think you need to be very careful about  
3 your word choice here. Decommissioning will not be  
4 completed until all of the spent fuel is removed and  
5 the ISFSI itself is decommissioned. Southern  
6 California Edison currently projects that for 2051,  
7 which is substantially longer than 20 years.

8 And even that projection is premised on  
9 what my client considers the unrealistic assumption  
10 that the federal government will begin accepting  
11 spent nuclear fuel for permanent disposal in 2024.

12 The other point that I would like to make  
13 relates to the last bullet where it says,  
14 “Additional environmental restoration and  
15 remediation likely necessary to meet Navy lease  
16 terms.”

17 I don’t think that word ‘likely’ should be  
18 in there. The Navy lease is unique among the nuclear  
19 fleet nationally. It’s on public land and it does  
20 require the full removal of all subsurface  
21 structures.

22 Now, your IEPR adopted earlier this year  
23 and this draft report does make some mention of  
24 state requirements for full remediation. I would  
25 strongly encourage you to expand on that.

1           Two years ago Southern California Edison  
2 declared that decommissioning was fully funded and  
3 that they had set aside adequate funds to fully  
4 remove all subsurface structures consistent with the  
5 Navy lease.

6           I think the decommissioning standards that  
7 your siting process imposes on plants that have  
8 received a license from this Commission would not  
9 allow for any welching or renegotiation of a solemn  
10 commitment made to a public agency such as the Navy  
11 regarding public land, and I think you should  
12 clearly enunciate what state policy should expect in  
13 this circumstance.

14           Rate payers paid into the decommissioning  
15 fund for several decades, since 1988, with the  
16 expectation that the Navy lease would be complied  
17 with and all subsurface structures removed. You  
18 should see to it that that happens.

19           Thank you very much for the opportunity to  
20 address you.

21           COMMISSIONER DOUGLAS: Thank you for being  
22 here today.

23           I've got one more card, Spencer...I see  
24 you. I'm sorry.

25           MR. OLONICK: (inaudible)

1 COMMISSIONER DOUGLAS: PG&E.

2 MR. OLONICK: Spencer Olonick, State Agency  
3 Relations with Pacific Gas & Electric. I want to  
4 echo those thanks to staff for an impressive  
5 comprehensive report.

6 That being said, we have some concerns  
7 about transparency in process to date and  
8 stakeholder engagement thus far. And also, I guess  
9 between now and September's publication we'll be  
10 submitting written comments, of course.

11 Two quick points.

12 As always, we like to see technology  
13 neutral recommendations in the report, and to the  
14 extent possible with an eye toward RETI 2.0, LTPP,  
15 TPP, etcetera. Like to avoid duplicative planning  
16 effort. Thank you.

17 COMMISSIONER DOUGLAS: Thank you, and we'll  
18 look forward to getting your comments.

19 Very good, I think we're through the  
20 comments. Should we check the phone lines?

21 Anyone on the phone or WebEx?

22 Okay, let's go on to Alana Mathews'  
23 presentation then.

24 MS. GRAU: Before we do that I just want to  
25 say that actually Melissa Jones and Eli Harland are

1 the other two primary authors of this report. Even  
2 though they didn't speak today, they did a lot of  
3 work on this report, probably more than me, and I  
4 don't know about Jim but so we just want to  
5 acknowledge them, too. Thank you.

6 COMMISSIONER DOUGLAS: Thanks for saying  
7 that, Judy, that's absolutely right.

8 MS. MATHEWS: Good afternoon. First I just  
9 want to say to the Chair, Commissioner Douglas and  
10 Commissioner Scott, thanks for the opportunity to  
11 participate in today's workshop. The discussion of  
12 environmental justice in this EPR report reflects a  
13 larger priority of the Energy Commission to really  
14 look at how our energy policies and programs affect  
15 California's most vulnerable populations.

16 So that priority is also reflected in our  
17 efforts to prepare a Barriers Study pursuant to  
18 Senate Bill 350, and that's what my presentation  
19 will cover, basically a five-point major update that  
20 will cover the requirements, the scope, the  
21 components, our schedule, and lastly, our public  
22 engagement.

23 So very quickly, Senate Bill 350 Barriers  
24 Study has approximately four requirements.

25 Generally, it's mandating us to look at

1 barriers to and opportunities for solar photovoltaic  
2 energy generation and other renewable energy by low-  
3 income customers, including those in disadvantaged  
4 areas, as well as to look at barriers to contracting  
5 opportunities for small businesses in disadvantaged  
6 communities.

7           It's very important that we not only bring  
8 cleaner technology to disadvantaged communities but  
9 we bring it in a way that they can benefit, so  
10 that's the purpose of this particular requirement.

11           And then lastly, to look at the barriers  
12 for low-income customers to energy efficiency and  
13 weatherization investments.

14           And the last part of the report is a  
15 requirement to come up with recommendations on how  
16 we can increase access for those different types of  
17 investments.

18           The scope of the study, which we outlined  
19 in our June 3rd workshop, includes:

20           Looking at low-income housing  
21 characteristics;

22           Setting goals, metrics, and reporting  
23 requirements for clean energy programs;

24           Looking at the various low-income customer  
25 programs; federal programs that are administered

1 here in California as well as state programs;  
2           Defining what those barriers are;  
3           Looking at solutions and opportunities;  
4           And again that second component, making  
5 sure we're ensuring economic benefits as we look at  
6 recommendations for bringing clean energy into  
7 disadvantaged communities.

8           There are pretty much four components of  
9 the Barriers Study we're preparing. And by  
10 components, I mean what the Barriers Study will  
11 actually reflect.

12           It will reflect the exhaustive literature  
13 review that we conducted earlier this year, which is  
14 a series of over more than a hundred articles,  
15 studies that have already been done that looked at  
16 barriers, identifies them as well as identified  
17 potential solutions and opportunities to increase  
18 those types of technologies.

19           After we did the literature review, the  
20 writing team looked at -- they performed a gap  
21 analysis, which basically looked at data gaps to say  
22 we can't put forth a very robust recommendation  
23 because there's just not enough information out  
24 there, so that gap analysis produced questions and  
25 targeted areas of where we need to look.

1           And so that gap analysis informed the next  
2 phase that will be reflected in the study is our  
3 public engagement, so we can say, well, this is  
4 where the data gaps are. Perhaps implementers,  
5 community residents could give us more information  
6 to fill that out. And then it also identifies the  
7 areas where we won't be able to give as robust  
8 recommendations because there's just not enough  
9 data, and perhaps give an incentive to do more  
10 research in that area.

11           The third phase is the public engagement,  
12 that's where we are now, and we have a kind of  
13 three-step approach to that.

14           We are having the public workshop, which  
15 includes the scoping workshop we had June 3rd. We're  
16 going to have a more technical workshop on August  
17 12th where we'll be inviting different agencies,  
18 stakeholders, program implementers, environmental  
19 justice groups to come and look at the barriers and  
20 give us feedback. Most importantly, give us  
21 recommendations and solutions and opportunities that  
22 they've identified in their work.

23           And lastly, we will have a draft workshop,  
24 another public workshop September 13th.

25           Then we also will engage in seven community

1 meetings throughout the state with community  
2 stakeholders who are hosting the meetings so we have  
3 an opportunity to meet with community members,  
4 people who benefit from these programs or have the  
5 ability to participate, to identify any barriers,  
6 solutions and recommendations.

7           And then lastly, all of that information  
8 will be reflected in the ultimate recommendations  
9 that will be a part of the Barriers Study.

10           The schedule, which some of it has  
11 reflected what I've just shared with you.

12           We had our kickoff workshop on June 3rd.

13           Comments on that were due June 20th.

14           July through September, that's when we're  
15 having our public as well as stakeholder community  
16 meetings.

17           September we'll have the draft study posted  
18 for review.

19           And the rest of the schedule is reflected  
20 at the end of the year.

21           In December would like to have and we're  
22 aiming to have the final study presented for  
23 adoption at the December 14th business meeting.

24           So there are opportunities for members of  
25 the public to be able to comment not only at the

1 August 12th workshop but the September draft study  
2 workshop that we'll have, and then again October,  
3 and there'll be another opportunity in November.

4           And by the mandate of 350, it is supposed  
5 to be published and submitted to the Legislature by  
6 January 1, 2017.

7           As I mentioned earlier, in tying this to  
8 the priority that the Energy Commission has put  
9 forth of engaging environmental justice communities,  
10 I think that our public engagement really reflects  
11 that while we have reached out to a lot of groups  
12 that have a relationship with and work with  
13 environmental justice communities on these issues in  
14 the areas of Los Angeles, Fresno, San Bernardino,  
15 Oakland, South Lake Tahoe, and Ukiah.

16           So the South Lake Tahoe community  
17 engagement will really reflect the Sierra  
18 communities, so Truckee and areas where there's not  
19 a lot of density such as the urban areas, but that  
20 will reflect the environmental justice communities  
21 in that area.

22           And then Ukiah is a meeting that's going to  
23 reflect engagement with tribal communities. And so  
24 those are special environmental justice communities  
25 that we want to make sure we pay attention to and

1 not just the urban areas that are traditionally  
2 reflected in such as Cal Enviro Screen.

3 And with that, I will open it up for any  
4 questions.

5 CHAIR WEISENMILLER: I think all of us  
6 thank you for coming today to do the presentation. I  
7 think what we were trying to make sure, obviously  
8 the 350 process that we had been in various business  
9 meetings bringing together everyone since this cuts  
10 across I think all of our programs, certainly all  
11 the Commissioners' interests.

12 And at the same time we wanted to make sure  
13 that the IEPR participants were aware of the process  
14 and understood the timeline here for the Barriers  
15 Report, the workshop, the draft and the final.

16 Certainly we would like to have actionable  
17 recommendations. Some of those may or may not  
18 involve some of the PUC programs. We anticipate  
19 they're certainly very interested in this,  
20 particularly Commissioner Peterman, and very  
21 interested in whether there might be any enhancement  
22 in some of the weatherization or low income  
23 programs.

24 So certainly it's a good opportunity for  
25 the utilities who have ideas in those areas to

1 contribute those into this process.

2           Along with it's pretty wide ranging, not  
3 just energy efficiency but how to make renewables  
4 more generally accessible and also both residential  
5 and small business.

6           So again, certainly encourage folks to look  
7 at this and help us as we go forward.

8           COMMISSIONER DOUGLAS: Alright. Well, thank  
9 you very much, Alana.

10           Are there any additional public comments in  
11 the room? Heather, do you want to check on the  
12 phone?

13           MS. RAITT: Yeah, if we could just open up  
14 the phone lines if you want to make comments on the  
15 phone we'll open up the lines now. If you're on the  
16 phone and don't want to make comments please mute  
17 your line.

18           Hearing none, I think we're done with  
19 public comments.

20           COMMISSIONER DOUGLAS: Alright. Thank you,  
21 Heather. I think that means we are done with today's  
22 workshop. Thanks again, everybody, for being here  
23 with us today.

24                           (Adjourned at 2:22 p.m.)

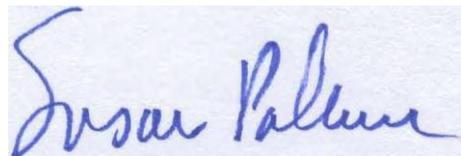
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**REPORTER'S CERTIFICATE**

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 2nd day of September, 2016.



Susan Palmer  
Certified Reporter  
CERT 00124

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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.



September 2, 2016

MARTHA L. NELSON, CERT\*\*367