BEFORE THE

STATE WATER RESOURCES CONTROL BOARD

In the Matter of:	)
	)
Proposed Policy on the Use of	)
Coastal and Estuarine Waters for	)
Power Plant Cooling	)

PUBLIC HEARING

CA EPA BUILDING, 2nd Floor
COASTAL HEARING ROOM
1001 I Street
Sacramento, California

TUESDAY, SEPTEMBER 16, 2009

9:00 A.M.

Reported by:
Peter Petty CER**D-493

BOARD MEMBERS PRESENT

Charlie Hoppin, Chair
Tam Doduc
Frances Spivey Weber

Staff Present

Dorothy Rice, Executive Director
Jonathan Bishop, Chief Deputy Director
Marleigh Wood, Senior Staff Counsel
Bruce Fujimoto, Division of Water Quality
Dominic Gregorio, Division of Water Quality
Joanna Jensen, Division of Water Quality

Public Comment

Dennis Peters, California Independent System Operator (CAISO)
Robert Strauss, California Public Utilities commission (CPUC)
Mike Jaske, California Energy Commission (CEC)
Nancy Yoshikawa, U.S. Environmental protection Agency (USEPA)
Joe Dillon, National Marine Fisheries Service (NMFS)
John Moore, Sierra Club
Sarah Sikich, Heal the Bay
Angela Kelley, California Coastkeeper Alliance
Steve Fleischli, Self
Joe Geever, Surfrider Foundation
Mark Gold, Heal the Bay
Leila Monroe, Natural Resources Defense Council (NRDC)
Bill Powers, Powers Engineering
Steve Castaneda, City of Chula Vista
Tatiana Gaur, Santa Monica Baykeeper
Laura Hunter, Environmental Health Coalition
David Nelson, Coastal Alliance on Plant Expansion(CAPE)
Henrietta Groot, PhD, ECOSLO and Mothers for Peace
Theresa Mueller, City/County of San Francisco
Marco Gonzalez, Coastal Environmental Rights Foundation
Livia Borak, San Diego Coastkeeper
John Harrington, Bayview Hunter's Point Community Advocates and Communities for a Better Environment
Carina Daniels: Pacific Environment
John Steinbeck, Tenera Environmental
Eric Miller, MBC Applied Environmental Sciences
Dave Bailey, Electric Power Research Institute (EPRI)
Bob Lucas, California Council for Environmental and Economic Balance (CCEEB)
Mike Hertel, Southern California Edison (SCE)

Eric Pendergraft, AES Southland
Susan Damron, Los Angeles Department of Water and Power (LADWP)
Katherine Rubin, LADWP
Eric Tharp, LADWP
Mark Krausse, Pacific Gas and Electric Company (PG&E)
Chris Ellison, Ellison Schneider & Harris, representing Dynegy
Chris Sanders, RRI Energy
George Piantka, NRG Energy
Brian Cunningham, PG&E

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P R O C E E D I N G S

SEPTEMBER 16, 2009 9:17 a.m.

CHAIR HOPPIN: I am Charlie Hoppin, Chair of the State Water Board. To my left is Board member and Vice Chair Frances Spivey Weber. And making an entrance on time is my colleague, Tam Doduc. I would like to welcome you this morning to this public hearing and proposed statewide water quality control policy on the use of coastal and estuarine waters for power plant cooling. I will serve as the Hearing Officer this morning. Let me introduce our staff, if you will, Chief Deputy Jonathan Bishop, from the Division of Water Quality, Dominic Gregorio, Joanna Jensen, from the Office of Chief Counsel, Marleigh Wood -- and, Bruce, I do not see your name here, but I know you are here with us, Bruce Fujimoto, who does not say a lot, but does most of the work on a lot of these things, so you need to know where he is. And Dorothy Rice. Did I forget anybody else, Ms. Rice? No, I mentioned Jonathan.

From a procedural standpoint, this hearing will be held in accordance with the Notice of Public Hearing dated July 9th, 2009, to receive input on proposed statewide policy. If you intend to speak on this issue, please fill out a blue speaker card if you have not already done so, and bring it to the front of the room for either Joanna or Bruce will take your cards. If you are not sure you want to

speak, fill out a card and mark "if necessary." If you have already submitted written comments to the Board, please briefly summarize your comments when it is your turn to speak. Time limits will be imposed on oral comments, if necessary, to allow all participants the opportunity to be heard.

My colleagues hate the way I handle the time restrictions because I am always too lenient, but I am going to allow you to have five minutes, if you are right in the middle of a thought, I am not going to cut you off, but please do not take advantage of that, I would rather have you have five. We are going to try to group up speakers, I understand, Dominic. If you would like to speak in consecutive orders and groups, if you would let Joanna and Bruce know that, and we will do everything we can to accommodate you.

The State Water Board will not take action on this issue today, but will consider approval of the proposed policy at a later board meeting. This hearing is recorded. There will not be sworn testimony. I will call speakers in the order I have received the blue cards, and when you come to the podium, if you would, please state your name slowly and identify yourself. We do have a Court Reporter and, so they do not have to ask you what you said, be sure and enunciate very clearly and state the affiliation you have.

Staff presentation at this time will be from Dominic Gregorio. Mr. Gregorio?

MR. GREGORIO: Thank you, Chair Hoppin and members of the Board. So with regard to our proposed policy, our goal is to protect marine life from the adverse impacts of once-through cooling and water intake structures, while ensuring the continuity of the State's electrical grid. There are 19 existing coastal power plants, they withdraw somewhere between 15 and 16 billion gallons per day of water from our coastal ocean and estuarine waters, using a single pass system, also known as once-through cooling. You can see here on this map the location of the 19 power plants from Humboldt Bay on the north, all the way down to the South Bay in the south part of the state. They are located in each of the coastal regions, as well as in Region 5.

So, generally, there are known impacts to aquatic life from once-through cooling systems at coastal power plants, and one of those is impingement, this is when the larger organisms such as fish, turtles and mammals become injured by, or trapped against the facility's intake screens. Entrainment is when the smaller organisms such as plankton, fish larvae, and eggs are drawn through the cooling water system, where they are subjected to some pretty extreme conditions, and generally we consider that to be 100 percent mortality on a virtual sense, there might be

a few organisms that get through alive, but they are usually not very healthy after they get through the system, so that is why we say 100 percent virtual mortality. And then there are the thermal discharges, and what we have concentrated mostly on in this development of this policy are the intake impacts, but it is important to remember that there are discharge impacts, as well.

So in terms of what our estimated impacts to marine life are, for impingement, we estimate about 2.6 million fish annually in our state waters that are impinged, which comes out to about 84,000 pounds per year. And that is based on average data from 2000 to 2005. There was an expert review panel that was convened, a group of scientists, and these numbers on impingement and entrainment come from the work of that panel.

For marine wildlife, which here we are only counting seals, sea lions, and sea turtles, there are some other forms of wildlife that are not included, at about 57 annually are impinged. That does not mean they all die, that just means that they get into the sea water systems and are actually impinged, but some are released alive. And then, for entrainment, we estimate about 19 billion fish larvae annually, and that is predominantly for fish and there are other plankton that are entrained, which are not included in these numbers.

CHAIR HOPPIN: Dominic, not to interrupt you, but at some point, are you going to put this all into relative relations to the total numbers in the ecosystem? I mean, when we sit up here on the dais, certainly 19 billion in anything seems like a lot, but it is a relative number. Are we going to talk about how this relates to what is really there and what portion if being damaged? I mean, that to me -- the relative proportion of mortality is probably more critical than a gross number that seems pretty glaring. So at some point, are we going to talk about that?

MR. GREGORIO: So, as far as the total number of these organisms in the ocean, I am not --

CHAIR HOPPIN: Well, my point is 19 billion fish larvae seems like a lot, but if there are 300 trillion that are being exposed to it, it is not of consequence, so I do not know how consequential 19 billion is, in the scheme of things. So at some point, whether it is today, or before we deal with this, certainly I am going to have to know how relative these numbers are.

MR. GREGORIO: We could certainly provide you with information on the relative importance of this.

CHAIR HOPPIN: I mean, it seems like it is critical to me. If this is a half percent of what is being exposed, it may not be a big deal; if it is 50 percent, you know, we have got to have some idea as to how this fits into

a relationship with the environment that is being affected, you know, before we can make an intelligent decision.

MR. GREGORIO: Sure, and we can go ahead and do that, we are just not prepared to give you those numbers.

CHAIR HOPPIN: That is all right, I mean, at some point we are going to have to have that. Go ahead.

MR. GREGORIO: So, in terms of our legal responsibilities, we have designed the proposed policy around our requirement to comply with the Clean Water Act, Section 316(b), that requires that the location design, construction, and capacity of cooling water intake structures reflects the best technology available for minimizing adverse impacts. It is important to also mention that we have a section in the California Water Code, and that section requires that new or expanded coastal power plants -- and for that matter, any industrial facilities -- that it take and use intakes of sea water, that they use the best available site design technology and mitigation measures feasible to minimize intake of mortality of marine life.

Now, we are concentrating in our draft policy on existing coastal power plants, and so the Clean Water Act is more relevant in that case, but it is important to realize that we do have this section in the Water Code, as well.

So in terms of background, the Clean Water Act

Section 316(b) rules are implemented through NPDES permits. For each of those power plants that I showed you earlier, there is an NPDES permit. Most of those are out of date now, they are administratively extended for the majority. U.S. EPA issued a Phase 1 rule for new power plants back in November of 2001, and that has pretty much withstood some court challenges. They also issued a Phase 2 rule for existing power plants in 2004 that was remanded in a court case which we call Riverkeeper 2 in January 2007, and those rules were for the most part suspended in July of 2007. So, currently, there are no state or federal regulations other than the federal requirement that permit writers use Best Professional Judgment or BPJ that currently exists on how to implement 316(b) for existing facilities. Now, I know that EPA is in the process of starting up that project of, you know, coming up with new rules since the court decision, but I think that is going to be a ways off before they finalize that.

So that is the general status at this point. The Regional Water Boards must apply BPJ when renewing permits for existing power plants. The Regional Boards are primarily waiting for this policy to be decided on before they go forward with rewriting a lot of those permits, so, as I said earlier, they have been administratively extended. The BPJ determinations are usually very complex and require

significant Regional Water Board resources. And it is also difficult because of the changing regulatory landscape that adds uncertainty to the once-through cooling permitting process. There are other agencies that issue permits, for example.

Most of the once-through cooling power plants, again, have expired permits, and the current approach generally, in the past, has led to inconsistency in the regulation of those power plants. So what we are hoping for in this draft policy is to have a consistent approach statewide.

So just where we have been to this point, we held workshops in 2005 and 2006, then we developed a preliminary draft based on the original EPA Phase 2 rules. We placed that in a scoping document, which we released and then had a scoping meeting back in 2007. Following the Riverkeeper 2 decision, we revised our scoping document and revised our preliminary draft, and we released that in March of 2008. We had two scoping meetings in May of 2008, and again, we had an expert review panel that was formed in 2008 to review the scientific aspects. And although it says this for the proposed policy, it was really more providing this information for the Substitute Environmental Document.

We also convened later in 2008 an interagency working group to develop a realistic implementation plans

and schedules that would ensure electric grid reliability. The members of that working group included the California Public Utilities Commission, the Energy Commission, CAISO, the State Lands Commission, and the Air Resources Board, and the Coastal Commission. We released our draft policy and substituted environmental document in July of 2009 and we are here at the public hearing now for that document.

So to just briefly --

MS. SPIVEY WEBER: I am going to interrupt you just briefly, were any of the Regional Air Boards included in this group? No, okay.

MR. GREGORIO: They were not formally included. We did have one presentation from the South Coast Air Quality Management District to the interagency working group, specifically about the South Coast Air Basin issues.

So the draft policy proposed statewide technology-based requirements that would significant reduce the adverse impacts to aquatic life from once-through cooling at power plants. The policy would be implemented through an adaptive management strategy by which -- and here, the word "standards" is probably not correct -- but which that technology can be implemented without disrupting the critical needs of the state's electrical generation and transmission system. The policy would reduce the permitting burden on the Regional Water Boards, as I discussed earlier,

and would provide overall consistency.

So what we did was we selected closed cycle wet cooling as our proposed best technology available, and we have two tracks to implement that; Track 1 would require the Permittees to reduce the intake flow rate at each unit -- and this is a critical difference between Track 1 and Track 2, Track 1 refers to a unit level implementation -- that would be commensurate with that which would be achieved under closed cycle wet cooling, so those are cooling towers that use evaporation for cooling purposes. That would result in a 93 percent reduction that would be required, compared to the design intact flow rate. And you might ask, well, why not 100 percent for this, and the difference is that most of these plants would have to take in some waters from the state's surface waters to use as make-up water for the evaporative cooling. And in addition, for impingement purposes, we would require that the through screen intake velocity would not be allowed to exceed half a foot per second.

The second track, Track 2, would be available really to provide flexibility to the Permittees, if they demonstrate to the Regional Board satisfaction that compliance with Track 1 is not feasible, the Permittee would then have to reduce the impingement mortality and entrainment of all life stages of marine life for the

facility as a whole. So, again, this is now taken as an entire facility, rather than unit by unit. Many of these power plants have multiple units at them, and those would all be considered together on a facility level. And we would want that to be still comparable to that which would be achieved under Track 1, using both operational and structural controls, or both. And so what we mean by comparable is within 10 percent of the reduction in impingement mortality and entrainment achieved under Track 1.

CHAIR HOPPIN: Dominic, is that an achievable goal? I mean, it is a nice percentage and all, but we go from Track 1, which certainly, without economic consideration, would have to be considered to be the most environmentally friendly option, with just minimal intakes of makeup water, aside from all the aesthetic and environmental concerns. But, I mean, all things being equal, Track 1 would be the most environmentally permissible. But then, when you go to Track 2, the transition in technology, I mean, it sounds good, but when you think about the flows that would be needed to operate on a once-through type basis, as far as filtration, what we are dealing with is microscopic organisms, I mean, do we have that kind of a technology to get within a comparable level of 10 percent? I have intentionally stayed out of the

details of this until we start getting to this point, but that seems like the transition with technology to remove 90 percent of the threat seems like an enormous step to me. Do we have that, Jonathan?

MR. BISHOP: Yeah, the idea here, Chair Hoppin, is that, on Track 1, we have a technology base, we are essentially saying, "Use this technology or something comparable to closed cycle wet cooling." On Track 2, what we are saying is, you have a whole range of options looking at your facility, so I will give some theoretical so that you can get an idea of what we are thinking about, and this came from many discussions with stakeholders and power plants. There are multiple units on a power plant, so if they decided to take two of their four units and turn them into air cooling, they have now reduced their intake by 50 percent. They decide to take one of the next ones and make that a combined cycle system, so they reduce their intake, additionally, for that one. They put screens on there to reduce the amount of intake, and then, lastly, maybe they take their once-through old style unit and run that as a peaker only during 20 or 30 days during this --

CHAIR HOPPIN: Aren't the peakers considered on a basis of maximum capacity, and not separated for their --

MR. BISHOP: Well, the point here is that we would take a look at the whole facility and that you would use

structural management controls to bring that together and get that to you within that percentage. It is not about picking one technology and slapping it on the front of an intake structure for once-through cooling.

CHAIR HOPPIN: So then, how do we deal with attrition? I mean, if you look at air quality issues, people can develop credits by either eliminating or -- marketable credits, if you will -- by eliminating pollution-causing units, whatever they are, whatever part of industry it is. So here, we have got a suite of once-through cooling facilities, some of which I assume, during the course of the life of a permit, are going to go away through attrition, and so do we create credits?

MR. BISHOP: No, we are not proposing with this policy to look at the once-through cooling suite as a whole, we are looking at each facility, and in Track 1 we are looking at each unit within a facility, Track 2, we are looking at the facility as a whole, but we are not proposing a coast-wide credit system for this.

CHAIR HOPPIN: So there is no combined incentive for a energy provider with multiple sites to choose to eliminate a system completely? I mean, they are just kind of forced to do it because they cannot force to do it financially, and there is no added incentive to say, "Okay, I have got five of these plants and I am going to take two

of them offline…?"

MR. BISHOP: It is not built into that system.

CHAIR HOPPIN: All right.

MS. DODUC: Before you -- oh --

MS. SPIVEY WEBER: Okay, go ahead. I have had one chance --

MS. DODUC: Okay, I will take my chance. My question of Track 2 is that it is intended to provide some operational flexibility for the facility operators, and in my meetings with some of the power plants, I think there is a lot of opportunity for innovation in this area. I know that some of them are looking at exploring options that might actually result in achievements that are higher than Track 1 if they pan out, and if the economics worked out, obviously. But the reason I do like Track 2 is the additional operational flexibility, and additional opportunity for creativity and innovation. My concern about Track 2, though, is what -- I would hope that we would be providing some guidance to the Regional Water Quality Boards. We had a very robust discussion at yesterday's Board Meeting on what is feasible, what it means, how you determine what is feasible and what is not, and right now, this language is pretty open-ended, and I am concerned about the inconsistency that may result from Regional Board's different interpretation and criteria for feasible

determination.

MR. BISHOP: And we would be very open to hearing from folks today on the level of constraint and guidance they would like to see on determining what is feasible. We left it, as you said, pretty open because we wanted to allow for that creativity and flexibility where it made sense, but we are also open to hearing --

MS. DODUC: For example, my first question would be, in determining feasibility, is this technological, economic, physical?

MR. BISHOP: I can give you our thoughts on that, that this is technological, physical, and permittable, not economic. We have another --

MS. DODUC: You have another track for that?

MR. BISHOP: Yeah.

MS. SPIVEY WEBER: And my question is, on new facilities, which we are not dealing with here, what is the best technology available?

MR. GREGORIO: It is closed cycle wet cooling.

MR. BISHOP: Closed cycle wet cooling, same as our Track 1.

MS. SPIVEY WEBER: Okay.

MR. BISHOP: So if you were going to build a new power plant, you would have to go there.

MS. SPIVEY WEBER: Where does dry cooling come in

as best technology available?

MR. GREGORIO: So dry cooling would obviously be better because it would not use very much at all in the way of water, but I only say closed cycle wet cooling because that is what the Phase 1 regulations that EPA have currently on the books state.

MS. SPIVEY WEBER: So if someone moves to dry cooling, that is fine?

MR. BISHOP: That would satisfy Track 1.

MR. GREGORIO: That is very good if that happens. And it could also happen within the facility for Track 2, as well.

MS. DODUC: Before you move off the slide, just a quick follow-up on my comment about perhaps there might be some technology or mechanism that will lead to achievements at a level that is better than Track 1. Does the current language allow for that to be captured within Track 2? The way that I am reading the language right now, "within 10 percent of the reduction of Track 1," that sounds limiting.

MR. BISHOP: No, if it was better than the required, there is no barrier to that. There would be a barrier to it being not as protective.

MS. DODUC: Okay. I am always the optimist.

MR. GREGORIO: So in terms of Track 2, because it is fundamentally different than Track 1, it might involve

certain structural and operational controls that need to be monitored. While we would not require monitoring for Track 1, we would require monitoring for Track 2, and that is in terms of impingement impacts and in entrainment impacts. Both would require a 12-month baseline study, and that is prior to implementation of control, and then after implementation of control, we would require the plants to go back and do that same monitoring again. The type of monitoring might be different pre- and post-. For example, for entrainment monitoring, often times the monitoring is done in the source water, plankton tows and that sort of thing. If screens were applied, fine mesh screens, we would have to have a different way of monitoring to determine if that is effective or not, so it might not be exactly the same study that just repeated, depending on what kinds of controls are implemented. But we would require this monitoring.

MS. SPIVEY WEBER: But are you saying here that you established a baseline, but you anticipate that there will be monitoring consistently for the rest of the life of the facility?

MR. GREGORIO: I do not know that it would happen necessarily consistently. We leave that open to the Regional Boards, and that is why on the slide here it says "other studies as necessary," so if, let's say, screens were

applied and it is shown that they are effective, and I am not necessarily using that as a preferred thing, I am just saying that is a possibility, that if you show that those screens work, it might not be necessary to keep doing that every permit cycle.

CHAIR HOPPIN: Jonathan -- or, Dominic, you use the word "screens" on Track 2 like they are -- almost like they are sitting on the shelf and somebody can go put one in, having had some experience in a former life with screens on a river system, trying to keep out fish that were much larger than a larval stage, and not having to do with ocean storms, and tidal effects, and seaweed, and salt, and all that, I mean, just without interrupting your presentation, I mean, have there been studies to show that there is a practical means of screening in the ocean larval sized items? I mean, I am having a hard time with the visual on that.

MR. GREGORIO: Yeah, so there is a technology that is referred to as wedge wire screens. It is a particular company that --

CHAIR HOPPIN: There are different, yeah, I am familiar with those, but --

MR. GREGORIO: And so there have been no demonstrations that I am aware of in California waters for those wedge wire screens. There have been applications of

those kinds of screens back east in estuarine habitats, and we do have some of our power plants and intakes in bays and estuaries. But, again, there have never been any proven applications in California waters.

CHAIR HOPPIN: I guess my concern goes back to what I said earlier, if what we are talking about has no real track record, if you will, there may not be much difference between Track 1 and Track 2, in reality. I mean, the way I am looking at this is, for a price, Track 1 has readily available technology. Track 2 does not necessarily seem like much of an option to me, unless I am really missing something here because, if you are unable to come up with the Track 2 type designs that we are talking about, you automatically go back to Track 1, don't you?

MR. BISHOP: Yeah, essentially what you -- we keep using different examples here, but there are other ways to get there than screens. Our thought is that -- we have heard from a number of folks that one of their constraints is that footprint of the facility, so they do not have enough room to go completely to air cooling or to recycled wet cooling, but they can get a large way there by taking multiple units out and doing that. So we wanted to provide an opportunity with Track 2, so that if they cannot get all the way there, they have an option for essentially repowering their facility, putting in dry cooling where it

works, or wet cooling towers where it works, and retaining some capacity for once-through cooling as essentially a peak or a back-up power. We are not suggesting that we have -- that there is a technology that you can slap on the front of the intake and solve your problem, this is really looking at your facility as a whole and trying different opportunities at that facility, theoretically, you know, design opportunities, to come within the design capacity.

CHAIR HOPPIN: So, but in essence, by segmenting we are reducing the capacity of these plants by --

MR. BISHOP: No, that is not what I am suggesting. What I am suggesting is that, if you are going to repower a facility, you have multiple units at that facility, you repower three of your four -- I am just making that number up -- of those facilities, but you still need to have a backup of one of your units in case there is down time, in case there is peaking power needed, you would be able to do that. If we left it with just Track 1, you would not be able to operate that facility, that one unit, under once-through cooling. This is to provide an opportunity for that flexibility, it is not to provide a whole different route of technology.

CHAIR HOPPIN: I understand the theory, and thank you for explaining it, but before we make this decision, much like I would like to know the impacts of numbers of

larval organisms, I would like to be more informed in a briefing as to the feasibility and the options on the Track 2 type technology.

MR. GREGORIO: We could definitely do that.

CHAIR HOPPIN: We do not need to do that today.

MR. GREGORIO: So we also recommend immediate and interim requirements, so the more immediate of those are -- there are two of them -- within basically one year of the effective date, we would want the Permittees with offshore intakes to install screens to prevent impingement of wildlife, essentially, seals, sea lions, turtles, that sort of thing. This is one of the things that we changed from our preliminary draft in the scoping stage. We had a much smaller mesh size that we were recommending, I think it was four or five inches, now we have extended that to nine inches based on some experience from the Scattergood plant down in the L.A. area, and so that would be, again, within one year of the effective date, we would expect those with offshore intakes -- now, remember, there are some plants that have shore intakes, and this would apply to them. The second thing within one year of the effective date would be for the power plants to reduce intake flows essentially when they are not generating the electricity or performing some sort of critical system maintenance. And again, that would be demonstrated to the Regional Water Board that the reduced

minimum flow is necessary for operations. And so this would involve an active step with the Regional Water Boards. The longer term of these would be to get --

CHAIR HOPPIN: Dominic, on that point, we have heard through the course of this that there is a certain amount of flow that is required to prevent fouling, is there -- if we come up with --

MR. BISHOP: That is exactly what the -- the Permittee would be required to demonstrate to the Regional Board that this reduced flow, this minimum flow they need for operations --

CHAIR HOPPIN: That is where we are going to allow them to inject the hexavalent chromium into the --

MR. BISHOP: And lots of chlorine, yeah.

CHAIR HOPPIN: Good.

MR. GREGORIO: Hopefully it is not --

MR. BISHOP: Do not worry, it was an inside joke.

MR. GREGORIO: So, again, the longer term requirement would be beginning five years after the effective date of the policy and continuing until final compliance is achieved. The Permittee would need to implement measures to mitigate impingement and entrainment. For example, they could fund a restoration project. Now, I want to be clear that that is not what we are suggesting in the way of technology, this is simply an interim measure.

The courts have decided that restoration is not a technology, and does not satisfy the requirements of 316(b), it is not a best technology. But it is something that we feel we could ask the plants that have longer implementation schedules to implement restoration during that interim period.

So we have some special provisions and the first set that I will discuss are the provisions for nuclear facilities and, if the Permittee -- and, remember, there are two nuclear power plants in the state that use once-through cooling -- if the Permittee demonstrates a compliance with Track 1 or Track 2 would result in a conflict with the safety requirement established by the Nuclear Regulatory Commission, the Water Board will make a site-specific determination of the best technology available for minimizing the adverse impacts. It would not resolve in a conflict with the Nuclear Regulatory Commission safety requirement. And in the case of this being -- you know, if this were applied, we would need a letter from the Nuclear Regulatory Commission very clearly stating that there would be a conflict.

And then we also recommended independent special study for the two nuclear plants to investigate the feasibility and the cost of compliance alternatives, and that study would be done, again, by an independent third

party and there would be a review committee set up that would include the power plant operators, but also state agencies and representatives from the environmental community, so that there was a complete transparency to that process.

There is another thing that we added in that is different from the original preliminary draft last year, and that is a "wholly disproportionate" demonstration. There would only be a limited number of plants that would be eligible for this, the two nuclear plants would be eligible under our recommendation, and also power generating units with a heat rate of 8,500 Btu's or less, which is sort of a fancy way of saying the existing combined cycle plants. There are three plants that have units in the state that use combined cycle, and that is units at Moss Landing, units at the Haynes Power Plant, and at the Harbor Power Plant. So those plants or units would be eligible for this. The burden would be on the Permittee to provide data and demonstrate to the Regional Water Board that the costs -- and we wanted to make this as consistent as possible, the costs would be demonstrated in terms of dollars per Megawatt hour. So the cost of compliance with Track 1 or Track 2 would be "wholly disproportionate" to the environmental benefits to be gained. And the Permittee would still need to reduce the impacts to the extent practicable, so, for

example, if they were successful in making the "wholly disproportionate" demonstration, they still would need to reduce the impacts, and it just would not be to the full level of Track 1 or Track 2.

CHAIR HOPPIN: Tam has a question, and then I have got one.

MS. DODUC: How did you settle on the 8,500 Btu value as the cutoff for eligibility?

MR. GREGORIO: We did that in consultation with our consultant when we were coming up with the Substitute Environmental Document, and that 8,500 represents a very efficient power generating scenario, so it turns out that the three power plants that use combined cycle, those units are very efficient at generating power in terms of water usage and also fuel usage, because we are considering, you know, the overall environmental impacts of the plants, and so air emissions, greenhouse gases, to kind of go into the consideration of this "wholly disproportionate" demonstration. So that is how we came up with the 8,500 Btu.

MS. DODUC: Let me ask it a different way, I am sure we will hear from some of the speakers today, as I have heard in many meetings with them, why shouldn't all plants be eligible to demonstrate that they will have "wholly disproportionate" impacts?

MR. BISHOP: Right, and the reason we chose that is that the steam boiler plants, which are the other plants that fossil fuels plants that are out there, that are very old technology, very inefficient technology, the combined cycle plants are plants that, in the recent past, have spent a large amount of capital to produce efficient power and so we wanted to recognize that investment with our ruling.

CHAIR HOPPIN: Jonathan, to that point, that leads me to my question, my recollection is that the Moss Landing Plant has both old technology and combined cycle. You talked earlier in the Track 2 about segmenting, that you might in fact take one segment and put it into a peaker type category. How does the -- I believe Moss Landing had a single intake for these two technologies -- is that considered to be a segmented plant, then? Do they get credit for the combined cycle that they have already got to help --

MR. BISHOP: They would get credit for the combined cycle. We have not -- we did receive questions on this just last week at our workshop where we were talking with folks two weeks ago, and so we will have to clarify is this by unit, or by facility, it is not clarified in here. We did not even think about that when we were drafting it. But we would want to give credit for things like the Moss Landing's new efficient plant.

CHAIR HOPPIN: Yeah, I would think that there would be some consideration, and you are saying it gets back to the definition of segmenting, but hopefully we can get that cleared up at some point.

MR. GREGORIO: And just for clarification, it is my understanding that Moss Landing has two intakes, one for the newer units, and one for the older units.

CHAIR HOPPIN: But they are essentially the same, they are side-by-side, the same technology, right?

MR. GREGORIO: Well, the intakes themselves are the same technology, they have traveling screens in them and they are both coastal, they are not offshore.

MS. SPIVEY WEBER: And how did you decide to actually use this "wholly disproportionate" demonstration as a new segment? You do not think Track 1 and Track 2 do enough? Because, as I understand it from the Supreme Court ruling, it is optional.

MR. BISHOP: It is optional. We --

MS. SPIVEY WEBER: And so why are we going -- adding yet another step?

MR. BISHOP: We took a look at the Supreme Court's ruling and there was -- we were given the option of doing this, and so staff's recommendation is that we avail ourselves of that option for a limited number of plants. We did not have to do this, we could remove this from the

policy and still meet the Supreme Courts, and we could expand it to all plants and still meet the ruling, but staff's recommendation is that we use it for the nuclear plants and the higher efficiency plants, but it is definitely a policy call.

MS. DODUC: Jonathan, my concern, when we talk about cost benefit analysis is that, typically, it is easier to quantify cost than it is environmental benefit. If that were not the case, we might have won some legal challenges in the past, so when I see this provision in the policy, I am a bit concerned in terms of -- I would hope that we would provide some criteria and guidance, and I do not know how we would do it since I do not know what capacity is internally, and economic-wise, to provide economic costs and benefits guidelines to the stakeholders, but this open-ended burden, I guess is the word you use here, on the Permittee to do both cost and benefits troubles me in that I think, with all due respect to all those involved, I think we are going to get very well documented cost values and perhaps not substantive analysis of benefits.

MR. BISHOP: Well, keep in mind, because we did think long and hard about this, that what we are talking about, we have two nuclear facilities which, on the previous slide, we are asking a independent party contractor under a review committee to look at the different options and the

costs associated, so we will have a good understanding of the costs associated with the nuclear plant. So that is two of the five that are eligible for this. So that we are really talking about three plants that have already upgraded their facilities. Yes, I expect that we will get very good information on the costs, and not so good information on the benefits, because that is what happens with cost benefits -- there are models that you can use, there are analyses that can be run, but it is a limited number that we are talking about that would be eligible for this under this rule. There is one other discussion that was brought forward at our workshop that we are considering, which was to expand the independent review of the costs for the nuclear power plants, but to add essentially that same sort of independent oversight of the cost benefit analysis of the "wholly disproportionate", which is something that staff is considering at this time.

MS. DODUC: Following up yet again, I am still not comfortable with the benefit side of this, and I think one of the reasons why it is drawing such a flag for me is the request that Charlie made with respect to relative perspective, the entrainment, impingement impact of these plants, and I will look to Marleigh to provide this answer maybe not today, but at some point. I know that you briefly discussed it in the environmental document, and that is, for

the Board in considering environmental permitting and policies, I am not aware of any clause or specific language in the Clean Water Act or Porter-Cologne that somehow authorizes us to consider the relative impact. I mean, for example, to me, I am very uncomfortable at the thought of saying that impingement and entrainment, the millions and billions value, is okay because it is 10 percent, or whatever, of the entire population or species out there, and I am not aware of any legal -- my read of our legal responsibility is that, when there is an impact, when there is a take, when there is an environmental impact based on a discharge, that we are required to take steps to address that. Now, yes, we have to consider a lot of factors into account, but I guess what I am asking for is, if there is any legal guidance with respect to where the Board draws the line because, to me, it is a different judgment call as to, you know, if I am going to be asked to decide whether an impact of a billion, you know, whatever pounds of entrainment is acceptable, it is hard to make that decision, and I am looking -- I guess I am not articulating very well because it is too early for me -- but I am not aware that there is a legal provision where the Board can weigh whether a certain amount of entrainment or impingement is acceptable.

MS. WOOD: Well, to some degree, you are getting

to the basis of why 316(b)has been so difficult to implement, because, as you know, the Supreme Court looked at what is the best technology available, what does "best" mean, and it is a best technology to minimize adverse environmental impact. "Minimize" does not mean eliminate completely, it means to reduce. So what the best technology that is available, the Supreme Court was considering how you consider costs, and how you can consider costs, and I think that goes back to the first part of what you were saying with how we look at costs and environmental benefits, and how we monetize the benefits.

MS. DODUC: Because I could easily see, I mean, if I were developing this cost benefit analysis, the benefit can be minimized by putting it in the context of relativity, but, still, it does not diminish the fact that there is a tremendous dis-benefit to the environment, so, again, I am struggling and I think, if we were to keep this particular provision in the policy, I would be looking to include some additional guidance or criteria, and I do not know what those guidance and criteria would look like at this point.

MS. WOOD: Well, there has been a lot of attempts to quantify the benefits in some of the court cases, or rather, the cases that have come up so far, and nobody has come up with a really good and foolproof way to get around the issue that you are raising, which is that the benefits

are much harder to monetize.

MS. DODUC: So --

MS. WOOD: They do have this habitat production foregone as one element that they are bringing up and that was used, I believe, in the Voices of the Wetlands case, which now is going before the California Supreme Court, but Region 3 had used that in their "wholly disproportionate" analysis. And the Appellate Court found that to be acceptable in looking at the "wholly disproportionate" demonstration, but we do not know what is going to happen with that case, so there is not a lot of legal authority out there on how to do this. And that is one of the reasons that 316(b)has been such a difficult task to get your hands around.

MS. DODUC: Yeah, I am just concerned that the way this is drafted right now, almost everyone who applies will be able to demonstrate the costs, but not the benefit, and then what is the Regional Board to do?

MR. BISHOP: Well, I mean, that is a reasonable concern. That is one of the reasons that we limited it to those plants that we limited it to.

MR. GREGORIO: And just to follow on with Marleigh's comment, we did, as Jon mentioned earlier, think a lot about this section, and what we did not want to see, to be honest with you, is a commercial value to a certain

poundage of fish, because that is just not representative of the ecological effects for, you know, a power plant. And so she mentioned habitat production foregone, that is a biological model that essentially relates the entrainment to, you know, habitat organisms like gobies, I think, in the case of Moss Landing, you now, you can relate the amount of entrainment of those gobies to the habitat that those gobies inhabit in the estuarine environments. And so it is a way to equate entrainment to an area, it is not equating it to a dollar value, but it at least gives you something more tangible than just, you know, X number of larvae. And so that was one of the reasons why we included this, but we did not want to limit it to just habitat production foregone, because, for offshore intakes, there might be other models that may be valuable, as well.

MS. DODUC: Quick question. Have you received any input or comment from the Regional Boards regarding this provision?

MR. GREGARIO: I have not received anything formally from Regional Boards yet, and particularly on this provision.

MR. BISHOP: I received an informal from Region 3, encouraging us to consider some sort of cost benefit in the development of the policy.

MS. DODUC: But did they ask for, or have they

developed any sort of guidance on how to -- I mean, how would they evaluate a cost benefit analysis?

MR. BISHOP: Region 3 is the region that I am aware that went through this process for Moss Landing. They are also the ones that are most -- they informally have talked to me about wanting to include their approach that they use.

MS. DODUC: Well, the other issue is, then, to make sure there is consistency in whatever approach the Regional Boards use.

MR. BISHOP: Right.

CHAIR HOPPIN: On Tam's comment, and I certainly appreciate her opinion, you know, on one hand we are talking about larval counts; in reality, the effect of the environment is on surviving larvae that grow into being gobies or rock cod, or whatever we are dealing with here, and so the relativity of the larvae is not quite as important as the health of the species, I would think, because unless these larvae are different than what we see with salmonids, there is a relatively high mortality, I mean, in the 90th percentile, or higher, on some of these, so again, the health of the species is more of an indicator than the total number of larvae, is it not? I mean, there again you get back to a relative number, you can extrapolate it out, but I still think has bearing on this because --

MR. GREGORIO: And that is exactly why we included this concept in the model of habitat production foregone, because it takes that into account. Basically, it turns that entrainment, which is sort of a, you know, almost an abstract when you think about those numbers, it is hard to equate that, it turns that into an ecological value. The number of gobies per that habitat when they are adults. So gobies are organisms that live in the bottom, they are benthic fish, they are demersal fish, and so it is easy to equate those, and I think that is why Region 3 picked that approach for the Moss Landing plant.

The last thing I wanted to mention on this slide is the bottom bullet there, that if the plant were successful in making this "wholly disproportionate" demonstration to the Regional Board, they would still need to mitigate under our proposal the remaining impacts. So it is not like they would just, let us say, for example, they could reduce their impacts to 60 percent, there still would be some remaining impacts that they would essentially -- they would continue that interim requirement for restoration. So that is what we mean by the remaining impacts must be mitigated.

So, as I mentioned earlier, the policy would be implemented through an adaptive management strategy. We already have a committee; we discussed it earlier, a working

group of agencies. And what we are proposing is that it be formalized as an advisory committee to be convened and to review the progress of the implementation of the policy, and to report back to the State Water Board every two years. And the State Water Board would consider this committee's recommendations and make modifications to the policy as needed, and the Regional Boards would then, you know, throughout this process, they would reissue and modify the NPDES Permits to conform to the policy, and so what we did is we provided some feedback mechanisms in this adaptive management strategy.

MR. BISHOP: Let me just expand on that for just a moment because what we are talking about here is a little different than when we normally have a permitting process where we have, you know, a facility which we set limits for and we expect them to comply within a certain date. They do not really impact each other. But with the power company and the grid, there is impact between what one facility does has on the power grid as a whole. This approach is meant to put that information about who is going to be producing power, when, in the hands of the folks that understand that best, the CAISO, the Energy Commission, the Public Utilities Commission, and providing them with that information so they can look at the grid and the impacts of when the plant needs to go down for modifications, and provide that loop back to

the State Water Board staff and Board members. We are not, and we do not claim to be experts on the power grid. This is to make sure that, as we move forward with our policy, that we do not cause or contribute to power black-outs, or shortages, or grid disruption. We work diligently with these energy agencies to come up with an implementation scheme that allows the needs of the grid to be taken into consideration at the same time as we move forward with implementation of reductions in the impacts from once-through cooling.

CHAIR HOPPIN: Jonathan, I would make one comment on the advisory committee protocols there. And it kind of gets back to the concerns that I had in vain on the Construction Storm Water Permit. I mean, we are certainly proposing crossing an enormous threshold here, and to review this initially at least every two years, it seems like we can have an awful lot of havoc -- I would think that advisory committee certainly on the front end, until we saw how functional all this was, would be needing to meet on a much more regular basis to react to the realities of --

MR. BISHOP: Yes, let me clarify that. These are reports, minimum reports back to the Board. The advisory group is going to be meeting as needed throughout the times, and we have been meeting on quarterly, we expect something to that effect, maybe even monthly for the first year while

we are reviewing the initial schedules. But to satisfy and make sure that there was a commitment by the State Board staff to bring back the results of this group's work on a regular basis, we put every two years. That does not mean that we could not come back in a year, or 18 months, if there was a need to bring back and make a modification to the schedule to address the issues of the grid. This is a minimum requirement that we put in so that there was a clear check-in every two years. It was really to make everyone comfortable that there was a commitment on the State Board staff.

CHAIR HOPPIN: And the advisory committee -- we have a proposed composition of that?

MR. BISHOP: Yes, we do. It would be -- jump in if I forget anybody -- but it would be the PUC, Public Utility Commission, the Energy Commission, CAISO, State Water Board, the Coastal Commission, the Air Resources Board, and the State Lands.

CHAIR HOPPIN: Wouldn't you want to have some industry representation on that? I am sure everybody would want to be on it, so I do not know how you do that equitably without excluding people, but --

MR. BISHOP: This is not meant to be a stakeholder group; this is meant to be state agencies that have review and permitting authority over power plants. It does not

mean that we will not be talking repeatedly with the stakeholders, both on the information from this with the power companies, with the environmental organizations. These will be public meetings, they will follow the open meeting acts so that everyone can attend and listen to the deliberations. But we did not want to set this up as a stakeholder approach, we wanted to set this up as the folks that have to address permitting of the power plants and maintain the grid, have the ability to influence the schedule that the State Board would be adopting.

CHAIR HOPPIN: But it would be an open meeting format?

MR. BISHOP: Yes.

CHAIR HOPPIN: Okay, well, I will stand my original comments that the review period certainly initially -- it will depend on the quality of the work and we will know that after the fact, but I would think the review period should be on a very regular basis initially until we are sure we have done what we intend to do here.

MS. DODUC: Well, I think initially there is like a one-year period for them to submit their plan, so really the first year you should not be making any changes.

MR. BISHOP: Right. It is a six month period --

CHAIR HOPPIN: Unless people are unable to submit a plan.

MS. DODUC: Then that will, I think, raise other issues and -- I mean, I think I have sort of the reverse concern that Charlie does, and that is --

CHAIR HOPPIN: That has not been unusual.

MS. DODUC: Yeah, well, you know, I am to the right of you now, so I feel like I need to be on the right of you. Considering how complicated this policy is, and the long tortuous path it has taken to develop this, you know, I would say we always plan to open, update, and revise as necessary, but I would hate to have to do this on a monthly or annual basis. I think once the Board adopts the policy, especially a policy that has some very specific requirements and targets and dates, you know, let's not give people the implication that we are willing to re-open it every year to revise things. I think we do need to give it some time, we do need to work with the advisory committee and make sure the implementation goes forth on an adaptive and efficient process, but when -- whenever the case may be that I vote or act on this policy, I would do so with the confidence that -- I would hope that I would do so -- with the confidence that it is a good solid policy that would stand at least the first two years before we go in and reopen it again. So I do not want to send the message to folks out there that, "Oh, don't worry, we'll open it up again in a year or so." I think people should take these things seriously, should plan

for it, and, yes, in the event that there is something that we really did not foresee, that does create the need for re-examining, then, yes, we will do so. But it should not be taken for granted that we are going to not take seriously the policy and the conditions and requirements in the policy.

MR. BISHOP: I just want to clarify one thing. We are not suggesting that every two years we re-open the policy. What we are suggesting is that we grouped facilities in large groups with their end dates, you know, compliance dates. Those groupings are not expected to happen at those dates. Those are the end dates of that grouping. But we need to go through a process of evaluating the grid needs and scheduling the upgrades, and then we need to come back to you and set the actual times on those, on a statewide basis. The general concept of this policy is that the statewide -- the timing is statewide because it has implications on the grid when each power plant goes down, and that the State Board is the most appropriate place to look at the statewide issues of that timing. But the individual feasibility issues related to the technology at a plant are more appropriate at a regional board level, so those have been allocated to the Regional Board for site specific issues. You always have, of course, the ability to take up on your own motion, or on petition, those decisions

at the Regional Board. But we wanted to separate those two conditions. We are not expecting every two years, when these reports come back, that we are going to be changing things every two years. But we do want to keep you informed on the progress every two years and we will bring back to you modifications to the schedule as needed to deal with the grid and our compliance issues. They may not necessarily fall into that two-year window. And the last thing I want to make clear, I have made clear before to folks, is that these are not just opportunities to extend the schedule at the end, these are opportunities to refine this large grouping, some of which might be an extension, I understand that, but some of which are going to be sooner because their plans have changed, and when the facilities are going through their permitting and operations stuff.

MS. SPIVEY WEBER: And my only comment on the advisory committee components, it seems to me that, because the Regional Air Boards do the permitting, they really should be in the room, otherwise, I can just see -- this group agrees, and even the Air Board agrees, but the Air Board really does not control the permitting of the Regional Air Boards.

MR. BISHOP: Good comment. Noted.

MR. GREGORIO: And just a point of clarification. We have been talking about a two-year period, and for the

first year, the plants would submit their implementation plans to the State Regional Boards, and the advisory committee would evaluate those plans and come back to the State Board within a year of the effective date. So this is sort of a general slide, and generally it is every two years, but at the very beginning it would be after one year.

So this was essentially, in terms of our schedule, this was a major departure from our preliminary draft or in the scoping meetings. We originally had suggested that we group the power plants for implementation by their capacity, utilization rate. And so we, in working with the working group, we again would have the same composition that we are recommending for the SACCWIS. We learned a lot more about how this will affect the grid, and we are convinced that a better way to approach this is more on a geographic basis than on a capacity utilization factor basis, and so that is an important change from our original preliminary draft. And for the fossil fuel facilities, which we separate fossil fuel from nuclear facilities, as well, and that is fairly similar to the original draft, but the permittees would have to submit an implementation plan to the Water Boards within six months, and the committee would review that within one year, which is what I just referred to earlier, and as John referred to, each facility has its own deadline for compliance -- that is a no later than date -- and the

permittees must meet their deadline as soon as possible, and we would have to consider grid reliability in that.

And so this is what we are proposing as our schedule following this Board hearing. We have -- our comment period ends on September 30th. Usually, as you know, we have the comment period end roughly at the same time as or maybe before in most cases, before the hearing, but we decided with the importance of this topic, that we would be better off extending that written comment period a couple weeks after the hearing. And so it ends on September 30th. A big job for staff would be, you know, responding to those comments, and so we expect that to take quite a bit of time and we also are going to recommend a workshop in the fall of 2009, after the comment period has ended, but we thought it might be a good idea to come back in a workshop format and have further input at that point.

CHAIR HOPPIN: Dominic, there has been a written request for an extension of that. I am sure the requesters will plea their case here before long and we are going to have to, you know, certainly we will consider that after today's meeting.

MR. BISHOP: I would like to just clarify that it is not on here, but the draft policy was put out for public notice on June 30th, so this would be a 60-day, which is two months comment period already -- 90 days, excuse me -- that

is twice the time that is required, which is normally a 45-day, and I would like to kind of build on what Dominic said about the workshop. The thought is to have a workshop late enough in the process so that we can bring forward changes, any staff changes, based on the comments prior to the actual adoption hearing, so that the Board had a chance to hear comments based on the changes, and to make recommendations to staff on those changes before we bring it back to a hearing.

CHAIR HOPPIN: What is the date for the fall workshop?

MR. BISHOP: We do not know yet because we do not know how the -- the comment period has not ended yet, and we will not know until -- if we get back, like I expect to have all the comments saying, "this is wonderful, just go forward," we would not need that workshop. But if there are changes we need to make based on those comments, we would like to bring those to a workshop for the Board.

CHAIR HOPPIN: If you would please note that the one date that it would not work for me would be the first November hearing.

MR. BISHOP: So noted.

CHAIR HOPPIN: As much as we all love to stick our head in the sand, I would not want to stick my head in the sand.

MR. GREGORIO: So finally, we would -- we are taking sort of an aggressive approach to this and you might say optimistic, but we would like to bring this back before the board for adoption of the final SED and the policy in December of 2009, and if that happens, we would expect to get final approval from the Office of Administrative Law by March of --

MR. BISHOP: Excuse me, Dominic; what I meant to say is we are planning to bring it for your consideration in December. We would of course not deem to decide how you would vote on it, if you voted yes on it, and then we would take it to OAL in March 2010.

MR. GREGORIO: That is what I meant.

MS. DODUC: All right, a question for Dominic, or Marleigh, or anyone. One of the comments we heard a lot in considering the Construction Storm Water Permit, and I expect to hear it again today, is wait for EPA. What is the status of EPA efforts in this area?

MR. GREGORIO: So we did have a meeting with EPA Headquarters and Region 9 staff a couple of weeks ago. They are just starting their process now. I think it is going to take them -- they are on a track of a several year period. We do have a representative from USEPA here today that might be able to be more specific on that, but it is quite a ways away, and so, from my perspective, I would like to see us

moving forward with our state policy to provide consistent guidance to the Regional Boards.

MR. BISHOP: I would also note that the last time EPA put forward was in 2004. We are not almost at the end of 2009, and it is still not in effect. I would not expect them to be able to produce guidance to policy that would not have legal challenges, and so it means waiting a long time.

MS. DODUC: Wow, I heard there was a package all ready for Administrator Jackson to sign.

MR. GREGORIO: So that is our -- that is Joanna's fish, and so we can answer anymore questions that you might have, any comments, and if not --

CHAIR HOPPIN: Are we sure this fish is not eating larvae?

MR. GREGORIO: It probably is.

CHAIR HOPPIN: I understand that was a proposal to put a screen on their mouths so they --

MR. BISHOP: That is correct. We will be showing that on the next slide. The agenda for the rest of the day is that, after any additional questions or comments that you have, and then we would open it up for public comment and listen to what folks have to say about our proposed policy.

MS. DODUC: Well, I will just take a moment now and thank you, Jonathan, and Dominic, and all the staff. The policy has come a long way since I was first appointed

to the Board, and Jerry Secundy, then Vice Chair, was leading this effort, and the first scoping document that was released. I also want to take a moment right now and thank all the folks who have provided comments, all the folks who participated in the work group, I think this has been a very long, very well developed policy, and I look forward to hearing your comments today and seeing what other changes need to be made, but I do want to take the time to acknowledge staff's great work, Joanna, too, staff's great work on this issue.

CHAIR HOPPIN: Can we have a rough categorization of our speakers here. Energy agencies will go first, the feds, the environs, the cities, the consultants and power folks, and the power agencies. The first presenter will be Dennis Peters.

MR. PETERS: Good morning, Chair Hoppin, members of the Board, my name is Dennis Peters, External Affairs Manager for the California Independent System Operator Corporation. And we appreciate the opportunity this morning to provide comments on the proposed policy of the California State Water Resources Control Board, or Water Board, to implement Section 316(b) of the Clean Water Act, as reflected in the June 30th, 2009 Draft Statewide Water Quality Control Policy for the Use of Coastal and Estuarine Waters for Power Plant Cooling. As our joint letter

indicates, you should have all received that yesterday, the ISO along with the California Energy Commission and the California Public Utilities Commission, collectively known as Energy Agencies, I will refer to us as that, believe that the draft policy issued on June 30th, 2009 contains a satisfactory mechanism to ensure electric system reliability by allowing continued operation of existing power plants using once-through cooling technology, until replacement infrastructure obviates the need for such plants for reliability. We are pleased that the Water Board staff has chosen to incorporate the energy agencies' infrastructure replacement concept into the draft policy. And we urge the Water Board to reserve this element in any final policy that it adopts. I would just note that the policy, or the proposal itself, from the Energy Agencies as contained in the Substitute Environmental Document, there are many details in that particular document, and if there was one recommendation I would make, is that maybe some of those details that are important be brought forward to the policy itself. We know going forward there are many challenges, known and unknown. Let's not forget that this policy affects 32 percent of the installed capacity of the plants in California, regardless of their capacity factor, they provide important local, zonal and system reliability benefits. They provide benefits for renewable integration.

We have recently completed a study, the ISO has, that shows that the existing fleet of plants is sufficient to incorporate 20 percent renewable into the California electric system, and it depends substantially on these plants that are affected by this policy. Some of the known and unknown challenges, you know that design permitting developing for generation and transmission is a multi-year process, and experience has taught us that assumptions in the area of energy infrastructure may change materially during the implementation of any adopted policy. One only needs take a look at the challenges that we face with, for example, South Bay Power Plant, or Potrero Power Plant, two of the 19 plants affected by the policy, to realize that there are challenges, and changes do occur, materials changes occur as time goes forward. We believe the policy needs to provide the flexibility to accommodate development and permitting delays, as well as other contingencies and some of these are known, others are unknown, certainly the South Coast air quality issues are an uncertain element of this. We believe a key element of the policy is the periodic review and update by the Statewide Advisory Committee on Cooling Water Intake Structures, the Statewide Task Force, or SACCWIS, as we have now started to call it. The periodic review and update of the compliance schedule, in order to be responsive to delays or changes not foreseen

at this time, and I appreciate Chair Hoppin's comments that, you know, we may need to meet more regularly, and perhaps provide updates to you more frequently in the early part of the implementation of this policy than the two-year minimum that Jonathan Bishop had mentioned. I would note that the dates we included in the proposal and that got included in the policy were based on a number of assumptions, and those dates could change, as has been mentioned by staff, to be sooner or later than what is recommended in the policy. I would conclude by saying that the implementation of the policy is going to require a close working relationship between us and the statewide task force over many years, over more than a decade that allows for the Water Board to satisfy its objectives, while not jeopardizing reliability of the California electric grid. And I would leave you with one recommendation to shore up the language of the policy, and that is that the Board does need to give greater deference to the recommendations of the Statewide Task Force that we bring before you. Thank you very much.

CHAIR HOPPINS: Thank you, Mr. Peters. We have another question for you. We certainly crossed a threshold here. I think the acronym for your group almost takes longer to say than the words it represents. That is the first time we have done that in history, so we are definitely forging into new ground here.

MR. PETERS: Thank you, Chair.

CHAIR HOPPINS: Fran has a question for you.

MS. SPIVEY WEBER: Yes, I heard a discussion about the South Bay facility and one of the things that struck me is that you have a formula for deciding the must run facilities, which is very useful, to have something that is pretty transparent, but your starting number is extremely important because then it -- you know, things can fall in and out, depending on what your assumption is at the beginning. And, at least in that conversation, there were several numbers that were at play, and so this is just a heads up to you, as you have given us a heads up, that we need to be more cognizant of the advisory group. I think we also need to ask that the numbers be consistent, and it is going to be very hard for any energy entity to want to give up electrons. I mean, it is just not in your nature. So we are going to have to work together to make sure that we have got good numbers that are defensible as we move down this path. So I just wanted to make that plea to you all --

MR. PETERS: I appreciate that.

MS. SPIVEY WEBER: -- that these numbers be defensible.

MS. DUDOC: If I may? I would also add my thanks. I really do appreciate the energy agencies and your participation, whatever it is called, to date, and your

continued, I hope, participation in the future implementation of this policy. And obviously your expertise and knowledge in the area of power management and grid reliability is extremely important, and I certainly respect that that is your primary area of responsibility and expertise, and certainly would provide a great deal of credence and deference to your advise on those issues, just as I am sure you respect the Board's authority and responsibility when it comes to protecting aquatic species and resources, of course, taking into account the concerns and issues of reliability and other areas that you will be helping us with.

MR. PETERS: Thank you.

CHAIR HOPPIN: In the interest of time, I am going to have speakers come up three at a time and have the second two sit in the front here, just so we spend more time listening to you, and less time waiting for you to walk up. So the next three will be Robert Strauss, Mike Jaske, and Nancy Yoshikawa. Good morning, Mr. Strauss.

MR. STRAUSS: Good morning, I am Robert Strauss from the California Public Utilities Commission, from the Energy Division. I will save time by not repeating everything that Dennis just said. Basically, we are working in concert with the ISO and the CEC, and we have the same basic concerns. The one thing I would like to emphasize, in

addition to what has already been said, is the cost impacts of these policies, the Commission, the Public Utilities Commission, has been working to reduce the need for energy and reduce the need for fossil plants, including these plants, the energy efficiency programs, and this California Solar Initiative to distribute generation. A lot of effort the Commission is doing is to reduce the need for power plants of this sort. So this is just part of an overall state policy that includes the GHG concerns, and air concerns. Now, in that context, replacing these cooling systems is going to be very expensive. And so we appreciate that the draft policy provides a lot of flexibility, so that the generation owners can use various means to reduce the cost to meet the environmental goals at the lowest possible cost. And so we want to emphasize that fact, that just to maintain those policies that allow that flexibility, then it is very important, because we are talking potentially billions of dollars here, and what we want is the emphasis to be on reducing the environmental harm, not on an arbitrary meeting some limit or other, but what is the actual environmental harm, and the statements I have heard today from the Board fully reinforces my assurance that that is what you are going to do. But that is what I came here to say, is that flexibility is really important in modifying costs. I also want to emphasize -- or mention the "wholly

disproportionate" aspect is also important to us because the "wholly disproportionate" costs, the talk about developing the benefits is hard, but one of the additional costs in that "wholly disproportionate" is the cost of alternative sources of energy and the environmental costs of those sources of energy, so that what we do not want to do is trade off water pollution for air pollution, for example. And that needs to be considered holistically, and so we think that that "wholly disproportionate" analysis provides that type of -- that look at the issues. And so we urge you to maintain that part of the program. Obviously, we support the draft policy as a whole, but, like Dennis emphasized, certain parts of it; we would support parts of it, our emphasis is environmental protection, cost, and reliability, and we think they are all very important. Thank you.

CHAIR HOPPIN: Thank you, Mr. Strauss. Mike?

MR. JASKE: Good morning. My name is Mike Jaske, representing the California Energy Commission. Our joint letter has many elements that both Mr. Strauss and Mr. Peters have covered. Let me just add five or six specific things that are important to the Energy Commission. First, the Energy Commission supports the imposition of an OTC mitigation policy. We have long supported the retirement of these plants, you will hear power plant operators criticize this policy because it will force them to retire, in many

instances, we think they should retire -- they are 40, 50 years old, their lives are coming to an end, they need to be retired --

CHAIR HOPPIN: That gives me a lot to look forward to.

MR. JASKE: Now, having said that, we need to do that in a way that assures reliability. We work long and hard to develop our replacement infrastructure proposal, we are essentially compared to the original Capacity Utilization Rate Schedule that Dominic mentioned earlier in the Scoping Report phase, you know, stretching things out a bit, we are tying that stretch-out to the whole policy emphasis that all of the energy agencies and the Legislature have, in effect, directed us into through AB 32. We do not want to have these plants replaced immediately if the only thing that can replace them is a repower of a fossil plant that emits a whole lot of GHG. If it takes another six or eight years to replace them with renewables, or distributed generation, or some other preferred substitute technology, we believe that is an appropriate trade-off to make, somewhat continued operation of these plants with their OTC impacts, but facilitating, in effect, a bridge to the electricity system of the future. We support a careful cost estimate for nuclear plants, we believe there are some pieces of existing studies that PG&E and Edison have

conducted that might be considered objective, and so we should review those studies, start from there, and not necessarily from ground zero. The Energy Commission conducts its integrated energy policy report process every two years. We have been looking at this aging power plant issue and they are almost synonymous with OTC plants since 2003, we have had a retirement policy since 2005, clearly your OTC mitigation policy is a means to bring our policy into viability, and we have in effect, as both Mr. Peters and Mr. Strauss said, worked ourselves into a bargain where the energy agencies are going to adapt their planning procurement processes so that we can keep track of these plants, monitor them as part of our day-to-day planning processes, and take OTC mitigation via replacement either through new power plants, or through transmission upgrades into account, and in effect rebuild the electricity system so that we do not need most of these plants in the future.

CHAIR HOPPIN: Mike, I have a question for you. You talk about it in a reasonable way, the need for a bridge between the removal of these plants and the operation of alternative fuel sources in new plants. How do we -- you know, it is one thing from a regulatory standpoint to shut something down, it can be a rather swift process; the process you go through with the mandates for renewable energy for new sites and everything, as I understand it, are

greatly complicated by permitting because of A.B. 32 and other air restrictions, but certainly the siting of plants and, more specifically, the siting of transmission lines. I mean, everybody wants power, but nobody wants a transmission line. So how do you -- I mean, I can see the blunt instrument that takes these plants out as your requesting have done, the course for continuity, if you will, and for the development of the alternatives or replacements, is not quite as clear a course.

MR. JASKE: There are substantial challenges to siting new facilities, whether they are generators or transmission lines. In part, that is why the regional approach that Mr. Bishop talked about and that is embedded in this draft policy, takes longer to implement in Southern California, because that is where the issue is the most critical, or the tensions between available air credits, or licensing transmission lines in highly congested urban areas, will be the most difficult to carry off. However, the Legislature has now passed two bills that freeze up some amount of air credits in Southern California. Assuming the Governor signs those bills, there are at least several power plants that are essentially at the tail end of their permitting processes that will be allowed to go into construction. The Energy Commission has licensed other plants that are essentially waiting to be picked up and

through long-run power purchase agreements with the utilities, so we have at least a significant amount of the replacement capacity already in the pipeline.

CHAIR HOPPIN: Thank you.

MR. JASKE: Thank you. Do you have any other questions? Thank you very much.

CHAIR HOPPIN: Nancy?

MS. YOSHIKAWA: Good morning, I am Nancy Yoshikawa and I am here today representing the United States Environmental Protection Agency's Water Division in San Francisco. And I am here today to commend staff on their work on this once-through cooling policy, and also to encourage the Board to try to proceed toward the December adoption date. EPA Region 9 sincerely believes that the approach staff has taken, particularly with the incorporation of the advisory committee and this adaptive management approach is a very robust approach, and will provide beneficial protection for coastal marine life. While we understand that there may be a few minor changes needed prior to adoption of this policy, we are optimistic that the policy can be adopted on schedule, and we hope the Board will support adoption. Now, as you know, to date, EPA has not promulgated national regulations for the cooling water intake structures at its existing power plants. If the State Board adopts this policy on schedule, though, we

are committed to working with the regulatory development team in our headquarters in Washington to coordinate the EPA rulemaking with your California policy. We understand that developing the state policy obviously has not been easy, particularly with the holistic approach that you guys have taken to include other site priorities such as, obviously, the needs of the energy grid. Now, if you are successful in finalizing this policy, I truly believe that California will be seen as a leader in this field and the policy will inform the national efforts to minimize the impacts of cooling water intakes on the environment. Now, as far as the schedule for the EPA rulemaking, I believe it is still fairly far into the future. Now, the current estimation I am getting from our headquarters folks is that they are planning to publish a rule somewhere mid 2010, you know, somewhere a year from now or so, and then hopefully to finalize the rule within the next three years or so. I believe that moving forward with the policy is vital, not only for providing regulatory certainty and minimizing impacts of once-through cooling, but also to support the NPDES Permits program. And the policy will provide a consistent framework for the Regional Boards to move ahead, and they will be able to permit these facilities. As you know, keeping NPDES Permits current is important to us, and we think it is important to ensure permit quality and also

statewide consistency with the requirements of the NPDES Permits. Now, according to EPA's records, one-quarter of the California NPDES Permits that expired during or prior to 2006, and are still expired, are once-through cooling power plants listed in the draft policy, so we think this will help the numbers in terms of backlog, as well. If the policy is adopted, the Regional Boards can obviously move forward and go ahead and re-issue these long overdue permits. In conclusion, EPA supports the State Board's work on this policy and believes the policy will provide environmental benefits. Thank you.

CHAIR HOPPIN: Thank you, Nancy. Any questions? Thank you very much. The next three speakers will be Joe Dillon -- is John Moore here? John said he had to leave by 9:45, and we were not ready for speakers by 9:45. Are you here, John? Would you like to speak? Okay, we have Joe Dillon, John Moore, and Sarah Sikich.

MR. DILLON: Good morning, Board members. My name is Joe Dillon; I am the Water Quality Coordinator for Southwest Region of the National Marine Fishery Service. We also want to express our support for the proposed policy. We think it strikes a good balance between benefits for the environment that are needed, lessening impacts to the ocean resources, as the Governor has expressed he desires to happen, and makes some concessions to the industry that will

help make this transition easier. The policy reflects years of participation by various state and federal agencies, as well as industry, this has been developing for longer than you folks have been on the Board, and we would like to recognize that there is a long record. The proposed policy, the fact that a policy is even being developed, is already having a positive impact in this field, we are already seeing power plants that are near the end of their natural lives at the 40, 50-year-old range for some of these generational facilities, choosing to repower with a dry cooling technology, or a cooling tower. We are seeing other plants which are currently operational either used as peakers, or not, putting projects before the Energy Commission that will basically replace their existing power plants with a new power plant that uses a cooling tower with water supplied by waste water treatment plants. And I do not believe that any of these things would have happened if we were not pushing these older facilities toward upgrading their technology. We will be turning a letter by the comment date, it is half-way done in my computer right now. I just want to specifically mention that we support the compliance schedule provisions of the draft policy, the large organism exclusive devices seem to be common sense, turning off the pumps when electricity is not being generated seems to be a common sense best management

practice, mitigation for interim impacts, while we do not view mitigation as a substitute for eliminating an impact, we do think that it is needed in the mean time, as we do not know, as you have heard already, and I am sure you will hear a lot more from the industry representatives, we do not know how long this process will take. We have a good solid goal put forth in the policy, but there could be delays. We approve of the use of a habitat equivalency analysis methodology such as the habitat production foregone to estimate the required mitigation. The other methods that have traditionally been used such as the empirical transport model, etc. look at certain species which we have some data for, they make an estimate of the value of those species largely based on their commercial value, they have uncertainties built upon uncertainties in the model, so in the end the estimate you are getting is kind of iffy to begin with. We believe a biologically based model is a superior alternative and models such as that are used now for projects which go through a Natural Resources Damage Assessment Analysis. We do think there is some wiggle room in the policy that will mean that regulatory agencies such as ours will continue to pay attention to the process, particularly when we are looking at the "wholly disproportionate" cost claim, which we would prefer that costs not really be factored in, but we recognize that this

is something that is reasonable for the small subset of plans, that it can be looked at. The remaining impacts between the difference of what they could do and what they think the costs make sense to do is required to be mitigated, and we think that is a positive impact, or a positive development. The policy could be strengthened by requiring mitigation for all remaining impacts from all plants up to 100 percent of the organisms that they take in. We have advocated for this in the past, we will continue to advocate for it, it will be a recommendation in our letter. Track 2 monitoring provisions, it is good to have a baseline monitoring requirement and require a confirming study, however, we feel that section -- we strongly feel that section needs a backstop provision put into it, that the biological study should be repeated a minimum of every 10 years, or something like that. If you look at the L.A. Basin and some of these power plants have never done an analysis, and in other places the analyses are three decades old. The biological component in the ecosystem can change rapidly, as we know from what is going on in the Delta, so we think there needs to be a backstop provision in the study times. I am looking over my notes, and those are the main things. As I mentioned, we will be turning in a comment letter. And I can try to answer any questions, if you like.

CHAIR HOPPIN: We have a question for you, Joe.

MR. DILLON: Sure.

MS. DODUC: Not a question, but a request. In your written comments, if you could provide any details in your suggestions to allay, I think, the concerns that you express, as well as concerns that I express, with the "wholly disproportionate" impact provision, especially the determination of benefits and costs. I would welcome any suggestions that you have in that area.

MR. DILLON: Certainly.

CHAIR HOPPIN: Thank you very much. John Moore.

MR. MOORE: My name is John Moore. I am representing the Sierra Club. Withdrawal of water for OTC causes very significant damage to marine and estuarine ecosystems. For example --

MS. DODUC: I am sorry could you get closer to the microphone? I can barely hear you.

MR. MOORE: All right. I will start again. Withdrawal of water for once-through cooling causes very significant damage to marine, estuarine, and ecosystems. For example, the withdrawals by the Antioch and Pittsburgh plants affect migrating salmon and threaten species in the Delta. Phasing out OTC will encourage modernization of OTC plants. This modernization will reduce the emissions of criteria air pollutants and greenhouse gases. Modernization of these plants is the goal of California's Energy Action

Plan and AB 32. Modernizing OTC plants or substituting other generation transmission will obviously take years. The proposed immediate and interim requirements should be implemented to reduce OTC impacts as soon as feasible. While we think most provisions of the policy are satisfactory, but a few details need improvement. Track 1 is obviously a much better compliance alternative, its flow reductions and intake velocity limits would achieve the required impact reductions without the uncertainties introduced by data collection interpretation. Compared to Track 1, facilities complying by Track 2 are allowed to comply by achieving smaller reductions and impacts, and no justification for this lowering of standards is stated. Track 2 should require the same reductions and impacts as Track 1. The proposed policy would allow operators of high efficiency thermal plants and of nuclear plants to claim that the costs of compliance are "wholly disproportionate" with the benefits. At first, the "wholly disproportionate" is not defined and I really cannot imagine how it could be defined. Secondly, the cost of compliance could be straightforwardly estimated, as many have noted, but estimating the ecosystem benefits of reductions is uncertain and difficult, and the results will be hotly disputed. This exemption could lead to interminable litigation; I think it should be deleted from the policy. Many provisions of the

policy unavoidably require the exercise of professional judgment by Board staff. The evidence and reasoning of supporting these professional judgments must be thoroughly and clearly documented and available to the public. Planning for substitute generations should consider the potential benefits of a large increase in power from distributed photovoltaic solar in air load centers. Photovoltaic solar power would not require difficult to obtain air pollution credits. The Sierra Club urges the Board to make the suggested modifications and promptly adopt this policy to provide the benefits of a consistent, technology-based, statewide regulation. Thank you.

CHAIR HOPPIN: Thank you, John.

MR. MOORE: And I would like to say that I am coughing, but I do not think I am contagious.

CHAIR HOPPIN: Well, you are the only one. Everybody else is contagious.

MR. MOORE: That would be surprising.

CHAIR HOPPIN: Thank you very much for your comments. Sarah?

MS. SIKICH: Good morning, members of the Board. My name is Sarah Sikich. I am the Coastal Resources Director for Heal The Bay. I was also the Environmental Member of the Expert Review Panel informing this policy. I truly appreciate the work that State Board staff has done to

bring this policy before you. It is obviously, in our minds, a long overdue policy, and it is needed to protect our marine ecosystems, and to move California towards cleaner, more efficient energy production by phasing out once-through cooling. The State Board has done a commendable job working with all of the relevant energy agencies to ensure that this policy will not interrupt grid reliability, and that the policy already has a built-in mechanism to continue to coordinate efforts to maintain grid reliability throughout the policy implementation. Phasing out once-through cooling has multiple benefits. By phasing out this destructive technology, the state will better protect its marine and estuarine ecosystem, while advancing into more green energy technologies. This is of particular importance in enclosed bays and estuaries, which we have many of in the Los Angeles area, one of particular note is Alamitos Bay, which by looking at the volumetric relationships of the water in that Bay, it is turned over about every five days by the power plants on it, and so we have concerns about not just the water being turned over, but the marine life that is within that water being damaged due to once-through cooling. There will be many people from the environmental communities speaking later on today, so I concur with lots of the comments that they will be saying, but one thing that I wanted to bring up that may not get

much attention is the interim requirements, and we do support adding the tetrapod exclusion devices and things like that, but one thing we are a bit concerned about is the mitigation requirement as an interim requirement, not that that is something that does not need to be done, but because it is an interim requirement, we fear that it will receive lots of focus and will lose our eyes on the goals of the actual policy, which is to transition to other technologies and reduce impingement and entrainment. So we encourage staff to look to a way to simplify that. We have seen with other agencies like the Coastal Commission dealing with restoration for impingement and entrainment is very difficult and can take years to figure out the appropriate restoration measures, and we do not want to lose the eye on the prize of really getting to our compliance deadlines. So we would appreciate a little bit more clarity there and simplification. We are also concerned about -- yes?

MS. DODUC: Actually, I need a little bit more clarity on your comments. So is Heal the Bay suggesting that we remove mitigation as an interim requirement?

MS. SIKICH: No, we are not suggesting it be removed, just that it is giving a little bit more detail. Right now, it seems very general, and we do not want the focus to be shifted to how we are going to meet this interim requirement, rather than how are we going to meet the

compliance deadlines of Track 1 or Track 2.

MS. DODUC: I guess, then, my request is I would appreciate more details in your written comments with respect to the clarification that you are seeking in this area.

MS. SIKICH: Absolutely. We will provide those in written comment. We also have concerns about the "wholly disproportionate" clause which will be raised later on today, and I guess that is it for now. Thank you so much for my comments.

CHAIR HOPPIN: Thank you, Sarah. The next three speakers will be Dr. Gold, Leah Moore -- oh, no, excuse me, the next three will be Angela Kelley, Steve Fleishli, and Joe Geever. Will you come forward, please, so we are prepared here?

MS. KELLEY: Good morning, Chair, Board members. I am Angela Kelley, Program Director for California Coast Keeper Alliance, which is an alliance of 12 water keeper programs spanning the state from the Oregon border to San Diego. We applaud the State Board for moving forward with this important policy, and we commend the staff for their diligent work, for coordinating with other agencies to craft a policy and implementation plan that will not only protect marine life, but will ensure grid reliability. Numerous state and federal agencies have recognize the significant

and ongoing impacts of once-through cooling, including the Ocean Protection Council, State Lands Commission, California Energy Commission, and the Federal EPA. This Draft Substitute Environmental Document also articulates the needs for this policy, including both protecting marine life and ensuring consistent implementation across the Regional Boards. We fully support these goals. However, there are a few sections where, as written, the policy has loopholes that will undermine these important goals. My colleagues will go into more detail today about the specific loopholes, and we of course will submit extensive written comments, as well. I just want to touch on three of them that I find particularly important. The first is Track 1, and while it would apply to each unit of the plant, which we support, it contrasts sharply to Track 2, which would allow the calculation for the plant as a whole, thereby creating a loophole where a plant could convert some of its units away from once-through cooling and still run once-through cooling on the remaining units. This undermines and is contradictory to the technology-based and technology-forcing policies of the Clean Water Act. Second, Track 2 would allow plants to reduce their intake by only 83 percent, a standard which falls measurably short of the clear directive of the 90-95 percent reduction, which was laid out by the Ocean Protection Council's 2006 resolution regarding once-

through cooling. And, third, the policy would allow a plant to follow Track 2 if it can show to a Regional Board's satisfaction that it is [quote] "not feasible" for them to comply with Track 1. However, as was discussed earlier, the policy does not define the term "feasibility." The 2008 version of the policy did include a definition, but one is absent from this version. Without clear guidance on how to determine feasibility, Regional Boards will likely differ in their application, thereby undermining the goal of statewide consistency, as Board member Doduc mentioned earlier. Again, we will submit written comments explaining these and other concerns we have with the policy. But before closing, I would like to highlight the importance of the immediate and interim requirements set forth in the policy. As we all know, we cannot stop using once-through cooling right away, it is going to take a phased-in approach; however, we can and should institute measures as soon as possible to stop the ongoing destruction of our marine and estuarine habitats. Thank you for your consideration of our comments.

CHAIR HOPPIN: Thank you, Angela.

MS. DODUC: Quick question, Angela. Your first concern, I am interpreting that to mean your recommendation will be that Track 2 will be based on a unit, rather than facility basis?

MS. KELLEY: Yes, I am sorry, I thought -- if I

was not clear -- yes, that is correct. Thank you.

CHAIR HOPPIN: Steve?

MR. FLEISCHLI: Thank you. I do have a PowerPoint real quick if you can pull it up, it is just one slide to help guide my discussion. Good morning, Mr. Chairman, members of the Board. My name is Steve Fleischli; I am the former President of Water Keeper Alliance, which is one of the plaintiff organizations in the Riverkeeper 1 and Riverkeeper 2 cases. I also personally was a plaintiff in the consent decree that resulted in the schedule for EPA to set these standards for both new and existing power plants. I have a number of comments I want to go through today and I appreciate the effort that staff has put forth in this matter. Obviously, they put a lot of time and energy into this, and I think this Substitute Environmental Document shows a lot of that. There are a couple places where I think the Substitute Environmental Document conclusions could reflect it better in the final policy, or in the draft policy. In the meantime, I want to go through what I view as a 5-Track approach to this regulation of existing power plants through best technology available. Obviously, there is Track 1 and Track 2 that are enumerated in the policy, but I see that there are other exceptions that I think make it very difficult for this Board to achieve the goals that have been set forth, at least in the draft documents,

particularly making it easier on Regional Boards and not forcing them through this Best Professional Judgment that we have seen, and that the Substitute Environmental Document recognizes is very difficult for them to do and to do consistently across the regions. On Track 1, we do see a 93 percent reduction in there and, in general, and the reason I have it in the green is because I personally am in support of that, and I am here today speaking on my own behalf, not on behalf of anyone else. I personally think that is a good goal if it stood by itself and there were not all these other exceptions. I think it is very important that we understand that that, itself, is a compromise, that 93 percent is a compromise, and when you look at the ranges that closed cycle cooling can achieve, as well as when you consider dry cooling, and so when you think about best technology available and what you are adopting with closed cycle cooling, I think it is important to recognize the compromise there. I also think, from an economic standpoint, and as the SED points out, there were economic considerations both by this Board staff, as well as by EPA in rejecting dry cooling. None of that is really thoroughly flushed out in the documents, but to the extent that you are considering the economics in that, I think it is important to explain that and to explain why dry cooling has been rejected. The SED document does not provide a complete

analysis of why Track 1 alone, without Track 2, was rejected. And, again, it does not provide a complete analysis of why dry cooling was ejected. So without that analysis, it is kind of hard for me to comment more on those. Again, I think I personally could live with that, but for some of the problems with some of the other sections. As has been mentioned, Track 2, the reason it is in yellow is because I am cautious about it, again, no definition of "feasible." I think you are going to hear that repeatedly today. And yet, I have seen studies, the Tetra Tech study, and some conclusions in the SED, that say that that study found that closed cycle cooling is technically and logistically feasible at most facilities. I think that should be flushed out and explained a little bit more in terms of who qualifies for Track 2, and who does not. My personal opinion is that "feasibility" should be based on technical impossibilities as opposed to economic or other considerations. I also agree that it should be unit by unit. In terms of the nuclear exception, I think it is important that this Board, in particular, understand that it is good to have an exception for nuclear facilities from a safety standpoint. You know, I do think that personally we need to put people first in that context. We need to protect our citizens from the problems of nuclear power. What I have a problem with in the nuclear section is the

special study exception, for two reasons, 1) it seems to presume the need for alternatives to Track 1 and Track 2, and it seems to do more than just give extra time, it seems to provide an opportunity for alternatives considering economics and other sorts of things, which I think is already in the ""wholly disproportionate"" test, which I do disagree with, I do not think that test should be in there. There is a whole host of reasons. I think, one, economics has already been considered in the rejection of dry cooling. I do not think it promotes your goals of relieving the burden on the Regional Boards, as Board member Doduc pointed out. The Regional Boards are going to have to go through this whole process about what the costs are, what the economic benefits are. I think it invites litigation at the local level. I think it invites some litigation at the State Board level because those facilities that are not allowed to take advantage of this exception, I believe some of them would be upset with that, as you might hear today. The benefits are typically undervalued. And is it really the intention of this Board to allow more time and more opportunity to avoid closed cycle cooling than even Justice Scalia requires under the Supreme Court's decision in River Keeper? And I would say a couple reasons why it should not be, if I may, 1) under the EPA rule, there were 500 facilities that they were dealing with, you are only dealing

with 19 here, you should be able to make a definitive statement about what is important in California in terms of the economic benefits and the costs. It is not an uncommon practice in California, as the SED points out, to consider a cost benefit analysis or even a "wholly disproportionate" test in state policy. And I do think it is far easier for this State Board to decide and make a definitive statement for everyone in California about the value of our coastal resources, as opposed to relying upon the over-burdened staff at the Regional Board level and, again, creating inconsistencies. If I might, I did want to respond to a couple of questions that you had, member Doduc, particularly with regard to where we might find guidance on "wholly disproportionate." There is a permit that I hope the Board staff have looked at, it is the Braiton Point Permit in Massachusetts, and that is probably the most robust cost benefit -- or economic analysis -- they did not do a cost benefit analysis, but they talk about "wholly disproportionate" and they talk about it in comparison to the BPT test under the Clean Water Act. And in there, they make a couple observations that I would like to just read to you really quickly, but I do think staff should look at this and take some --

CHAIR HOPPIN: Steve, we are a couple minutes over our five minutes, so really quickly is not in your

vocabulary.

MR. FLEISCHLI: Well, maybe if member Doduc could ask me a question and I could respond to that question?

MS. DODUC: I would request a copy of that, so if you could please share that with Jonathan?

MR. FLEISCHLI: Yeah, I will, and it is on their website, it is on Region 1's website, there is the Eli Lilly case that talks about how important it is to not get into the nitty gritty, there are also some great comments about qualitative versus quantitative data, and monetizing and non-monetized benefits. And I really think it is critical that the State Board staff look at that and learn from that decision.

CHAIR HOPPIN: Thank you very much.

MS. DODUC: I would agree, so please share with us all the information you have.

CHAIR HOPPIN: Absolutely. Thank you.

CHAIR HOPPIN: I am not going to admonish Steve here, my colleagues are going to admonish me, I went from three minutes to five, so everybody would have a chance to talk, and my idea of five is not seven or eight. So --

MR. FLEISCHLI: I understand -- you can admonish me, I am fine with that.

CHAIR HOPPIN: I am not pounding on you because you had important things to say, and the reason we extended

it is because we want to hear what everybody has to say, but please do not take advantage of me or my colleagues are going to get me in the back room and just beat the crap out of me for ever giving you five minutes to start with. Okay?

MR. FLEISCHLI: I appreciate it.

CHAIR HOPPIN: And they can do it.

MR. FLEISCHLI: But Angela only took three minutes, so I was stealing some of her time.

CHAIR HOPPIN: Joe.

MR. GEEVER: Thank you, and thanks for that visual there. I will hope to try to keep you from getting the crap beat out of you. I am Joe Geever and I am the California Policy Coordinator for Surf Rider Foundation. Thanks for holding this hearing and allowing these comments and the extended time. I am also a retired commercial fisherman and I have served on advisory committees implementing the Marine Life Management Act or drafting Fishery Management Plans. Surf Rider, as you know, is a grassroots environmental organization of roughly 50,000 members, all dedicated to restoring our coasts and ocean. I will thank the staff, as others. You know, I think there has been an enormous amount of work put into this thing, and we certainly appreciate the idea of working with the Energy Agencies in ensuring grid reliability, and think that they have accomplished that by everything I have heard today. Like others, we will be

submitting more detailed written comments, but I am going to probably repeat some of the things that you have heard, only from a little bit different perspective about the loophole that we see in the rule. Not only is there a lot of ambiguity and room for disagreement that it is easy to predict it is going to result in inconsistent enforcement by the Regional Boards, and probably unlimited litigation. But I think it is also the case that this could go so far that the implementation schedule will be impacted and could, you know, if this thing is dragged out, and fought out, and it is not clear enough in the policy that you can limit all those challenges, then the implementation policy starts to fail, as well, and we do not want to see that. So I want to start out by making the really clear statement that once-through cooling is not the best technology available. That was true when Congress enacted 316(b) and its common use three decades later is probably a testament to the industry's ability to forestall implementing this law. So where are the loopholes? First, I think it is important to state that Track 1 is not the best technology available, dry cooling is, everybody accepts that. And so we understand why staff chose wet cooling as the standard, at least I think we understand, and if I am correct, it may well be the staff interpreting the justification that the second circuit used, that they described as cost-effectiveness, and if that

is the truth, that that is kind of the justification for wet cooling over dry cooling, then they should state that in the policy. But setting that bar low makes Track 2 even more disturbing. First, as everybody has said, there is no definition for feasible and this opens up a huge new debate, and so, at Mr. Bishop's request, we will offer some definitions that we think are acceptable. Second, the draft allows facilities operational changes to meet the performance targets, and this just cannot be the rule. This law is about best technology available, so much like the strikes or the court striking down after-the-fact restoration as not being technology, changing the way you operate without changing the technology to reduce entrainment and impingement is not a technological change. The cost benefit exemption or this "wholly disproportionate" rule raises huge concerns, some of that you have already identified, about trying to somehow compare apples and oranges. You know, it is easy to monetize the costs, it is virtually impossible to convert the benefits into something that will easily compare. I know from experience with fishery management that, even the species that we target in the fisheries, we do not have accurate population assessments, we do not have thorough survival strategies, we do not know all the things we need to know to manage those fisheries, and we are talking about species that are not

caught, and we have even less data on. It is impossible to -- and I will tell you that, you know, habitat production foregone is not going to resolve those difficult challenges of getting your hands around that. I am running out of time here. The other thing about the "wholly disproportionate" rule is that there is this idea that what is left over we will use after-the-fact restoration to compensate for, that, I mean, that debate is over; there is no after-the-fact restoration. You cannot have that in the rule, do not do that. We have already litigated that, and it is done. You know, that is different than using restoration for the interim rules, which we support. I think I would make just one comment about the interim rules that I do not know it is necessary to have the power industry get into the business of wetlands restoration project, or restoration projects. I think that a good suggestion may be to just charge a fee in the interim, and let the Coastal Conservancy do what they do best. Now I have completely run out of time and I do not want you to get beat up --

CHAIR HOPPIN: No, I do not want to kick you off --

MR. GEEVER: No, I will end there and answer any questions if you have any.

CHAIR HOPPIN: Thank you very much.

MR. GEEVER: Thank you.

CHAIR HOPPIN: The next three speakers, Dr. Gold, Leila Moore, and Bill Powers.

DR. GOLD: Hello, my name is Mark Gold. I am the President of the environmental group, Heal the Bay. And I am going to be focusing specifically on the issue of baseline impingement and entrainment impact assessments, something that you guys talked a little bit about earlier, so it is going to be a little in the weeds, I apologize for that. There is a document in relation to a question that Chair Hoppin had asked earlier on the proposed Water Quality Control Policy on the use of Coastal and estuarine waters for power plant cooling, which you guys are obviously familiar with. On page 33 in Section 2.3.1, it says "a study performed by NBC and Tenera in 2005 estimated that, for 12 coastal power plants in the Southern California bite, there is an overall cumulative entrainment mortality of 1.4 percent of larval fishes in the bite. In the same study for 11 coastal power plants in the same area, the estimated cumulative impingement was approximately 3.6 million fish. Considering only recreational fish species, impingement was somewhere between 8 -- large variability here -- 8 to 30 percent of the number of fish caught in the Southern California bite, so that answers the questions that you were asking earlier. A perfect example of what staff brought up earlier on the baseline impingement and entrainment impact

assessment was the 19 billion entrained larvae annually, as well as the 2.6 million fish impinged annually. So let's talk about that a little bit. So the shifting baseline issue, in particular, is what I want to talk about. Today's impacts are not reflective of the 40-50 years of marine life impacts due to once-through cooling. And example that you have heard earlier from Sarah was Alamitos Bay, which I know you guys are familiar with, where you have the Haynes and Alamitos generating stations taking in the entire volume of the bay every five days. This has been going on for decades in this small, enclosed bay. So ecological impact assessment based on current impingement rates is nonsensical, and rewards power plants that have caused larger ecological impacts, so you have to keep that into account from the standpoint of what the impacts are today versus what the resources might have been 40, 50 years ago. So obviously we cannot go back in time, but we can do regional reference location studies to better determine ecological productivity, to more accurately assess implementation and entrainment impacts. These studies must be multi-year studies because of seasonal and annual variability. Just monitoring for a year, as this policy requires, makes no sense with La Niña, El Niño, and other potential factors that impact variability so strongly. So getting accurate monitoring studies and biological resource

impacts accurately assessed, is critical. But this information must be used correctly and not abused, to provide larger impingement and entrainment allowances for compliance under Track 2. The use of a more accurate baseline characterization over multiple years, at least four years, and repeated at least once every five years thereafter, an impact assessment is critical for quantification of interim impacts. If you use the current impacts with current degraded fisheries and marine life conditions, then the impacts of once-through cooling will be vastly under-estimated. Referenced baseline conditions are needed for accurate characterization of interim impacts. They are also needed for more accurate cost benefit analysis under the wholly disproportionate impact section of the policy, which as you heard earlier, the environmental community opposes. But if you do go forward, you have got to make sure that the baseline is done correctly. These sorts of studies have been completed for years by coastal sewage treatment plants as part of their NPDES permit requirements, and when they apply for Section 301h waivers under the Clean Water Act for waivers from the full secondary treatment requirements of the Clean Water Act. These have been going on for more than 25 years, this sort of work looking at reference conditions and trying to compare it to impacted areas. And great examples of that

are the Hyperion Treatment Plant and the Joint Water Pollution Control Plant in Carson. This type of monitoring needs to be required within this policy. If you have any questions, I would be more than happy to entertain them. Thanks for the opportunity to speak.

CHAIR HOPPIN: Thank you for your comments, Dr. Gold. Fran, do you have anything? Thank you very much. Leila?

MS. MONROE: I think you said Leila Monroe, is that right, not Leah Moore? I just want to make sure I am not speaking for -- Leah Moore? Oh --

CHAIR HOPPIN: Or Monroe, excuse me.

MS. MONROE: Yes, Leila Monroe.

CHAIR HOPPIN: Yeah, yeah, that is you.

MS. MONROE: That is me.

CHAIR HOPPIN: Good.

MS. MONROE: My name is Leila Monroe; I am with the Natural Resources Defense Council. So on behalf of NRDC, I would like to first thank the Water Board for its considerable effort in drafting this much needed policy, including this and other opportunities to present diverse stakeholder input. NRDC, as well as our resources agencies, many other organizations you have heard from today and concerned citizens throughout the state, work very hard on various efforts to improve the health and management of our

embattled oceans through, for example, implementation of the Marine Life Protection Act, the Marine Life Management Act, and other efforts. The negative impacts of once-through cooling, which are well known to the Water Board, and have been well discussed today, are not only intrinsically harmful, they also undermine the intensive investment that our state is making to improve the management and protection of our healthy oceans, which are also of course a vital component of our economy. Additionally, old once-through cooling plants also undermine achievement of the AB 32 goals because of their inefficiency and higher greenhouse gas emissions compared to newer plants. To support California's efforts to protect our oceans and reduce greenhouse gas emissions, we strongly support the December adoption of the draft policy, subject to changes to close some of the loopholes which undermine implementation, and those loopholes, I think, have been well reviewed today. I will not take up any of your time, but we will submit written comments and certainly agree with our colleagues who have spoken before on loopholes such as the "wholly disproportionate impact." Additionally, I would just like to point out that we would recommend that the mitigation measures included in the draft policy be required as soon as possible, rather than within five years. So thank you very much for considering our comments. And we look forward to

seeing the final version of the policy.

CHAIR HOPPIN: Thank you, Ms. Monroe. Bill Powers.

MR. POWERS: Good morning, members of the Board. Bill Powers, Engineering Consultant to California Coast Keeper on this issue. I am going to need every second of my five minutes, so I will --

CHAIR HOPPIN: Then get with it.

MR. POWERS: I will get going. Nine points, the water withdrawals from the two nuclear plants at 2.5 billion gallons per day of sea water each dominate power plant water withdrawals along California's coast, I am very glad to see they are in the scope of the regulation. Retrofitting nuclear plants with cooling powers is technically straightforward. The entire cooling tower and piping construction process can take place where reactors continue to operate using the once-through cooling system, shutdown is only required for the tie-in. The April 2008 ICF Jones & Stokes Reliability Report prepared for the State Board states that the properly scheduled conversion shutdowns, including those for the nuclear plants, should have no effect on overall grid reliability in the state. Point 3, retrofitting the nuclear plants with cooling towers will not jeopardize nuclear safety in any way. No modification is required of the core components of the reactor or the plant. Many U.S. nuclear plants already use wet cooling towers. A

number of these plants are equipped to switch between wet cooling towers and once through cooling. One U.S. nuclear plant, 800 Megawatt Palisades Nuclear in Michigan, has already been retrofit to cloud cycle cooling. Nuclear Regulatory Commission participants in the CEC's June 2007 Workshop on California Nuclear Plants identified no nuclear safety requirements that would preclude retrofitting California's nuclear plants. The cooling tower is when they were specifically questioned on this topic by CEC Commissioners. Point 4, retrofitting the nuclear plants with cooling towers is cost-effective and would have very little impact on the cost of power generated by these plants on the order of 2 percent increase. I am a consultant on a proposed nuclear plant cooling tower retrofit in Connecticut. The retrofit cost estimate prepared by the owner, Dominion Nuclear, is similar to the public interest estimate. This is equivalent to approximately $160 million in 2009. The reactor in question is slightly bigger than reactors at Diablo Canyon and SONGS. This is consistent with the manufacturer's estimate of the cost for the same type of tower, however, PG&E's public comments that a cooling tower retrofit at Diablo Canyon would cost $4 to $4.5 billion is unsupported and contradicts available industry cost estimates. Diablo Canyon generates more than $2 billion per year in revenue from PG&E. The annualized

cost of the cooling tower retrofit, assuming a plume abated tower, would be on the order of $40 billion per year. This is approximately 2 percent of the annual revenue generated by the plant. We have the information new need to make a determination on "wholly disproportionate" cost, in my opinion. Retrofitting cooling towers to nuclear plants will not result in long plant outages, those plants that have been retrofit, typically the tie-in takes less than four weeks, the nuclear plants undergo refueling outages every year and a half to two years, 30-40 day outages, at least 100 days in length every three to five years. There are plenty of opportunities to schedule a tie-in of the cooling tower. Far more invasive and expensive retrofits are currently taking place at both Diablo Canyon and at SONGS; hopefully we will see those in the slides. The difference in the cost estimates between the public interest estimate, which I am representing with mine, the manufacturer's, and industry, are not related to the core cooling tower, they are related to assumptions about where you site the tower, you put it at a bad site, you have a tremendous amount of ancillary and avoidable costs, and faulty assumptions about outage duration. The conversion will have little effect on efficiency, a 1-2 percent impact on the efficiency of the plant with the cooling tower. And the issue of particulate emissions, in the case of Diablo Canyon, the particulate

emissions from the cooling tower could be offset by paving dirt roads. In the case of San Diego County, cooling towers are exempt from air permitting requirements. Two recommendations, 1) the study in nuclear plant retrofit options the Board is proposing should be independent of the utilities. And if Tetra Tech, Ocean Protection Council's contractor looking at cost of retrofits, both have indicated indefensibly high costs for nuclear plant cooling retrofits; 2) not advisable to have the affected parties wholly disproportionate analyses. The state has paid for analyses; there is sufficient public domain information to review, to identify any remaining gaps, and to make decisions. And with the remaining 10 seconds, I would like to point out, this is the reactor type at SONGS and Diablo Canyon. This is the steam generator inside the reactor core. That retrofit was just completed at Diablo Canyon and is being done now at SONGS. This is the secondary loop, this is where the sea water comes in and goes out for the cooling system we are talking about. A cooling tower would simply be tied in to these two pipes where currently we have the ocean, it would have no effect on the core operation. Next slide. These are photos of that retrofit, Unit 1, Diablo Canyon, cutting out the steam generator inside the containment dome, and rolling it out. Next slide. Diablo Canyon. Next slide. This is what the Ocean Protection

Council's contractor identified as a site for the cooling towers. I have no quibble with the basic cost of the tower, but they are putting it right on top of existing structures, such that demolishing all of these existing structures is going to cost far more than the cooling towers themselves. This is a non-starter, yet this was the only design looked at for siting the towers at Diablo Canyon. Next slide. My suggestion is one tower to the south and one tower to the north in an area that has already been developed with a road. These sites require no demolition and not only eliminate hundreds of millions of unnecessary estimated costs for siting the towers, but eliminate any basis for an outage that is anymore than the outage durations we have seen of a few weeks. Next slide. In San Onofre, one area that was not identified in that analysis where a cooling tower could go is leasing more land from the Marine Corps to put it to the Northeast. Next slide. This, putting it in the parking lot, good idea. Next slide. Another good idea, putting another tower over to the right, however, the contract identified conflict with the Coastal Commission as one reason that that could be a non-starter. That is why more alternatives have to be looked at for these sites. Thank you.

CHAIR HOPPIN: Thank you, Mr. Powers. The next three speakers, if you would come forward, Steve Castaneda,

Tatiana Gaur, and Laura Hunter.

MR. CASTANEDA: Thank you, Mr. Chair and members of the Board. I want to thank the staff for the presentation. That was quite informative and something that I personally support. I am here representing the City of Chula Vista. The City of Chula Vista, when we talk about South Bay, is probably the unfortunate icon of our city as you travel from North to South, what you see right on I-5. I have been on the City Council for nearly five years now, and I started to work on looking at alternatives for South Bay the minute that I was elected. We tried working with the developer and with the power producer at that time to site another power plant, to just demolish South Bay and then to site a new power plant that would be air cooled, and therefore no once-through cooling would be required. What we have been informed by SDG&E is that a power plant in that location was not needed and was not going to be supported by that utility. And consequently, Dynegy, who now operates South Bay, has indicated officially, not only to the City of Chula Vista, but to the utility and to the Energy Commission, that they will no longer be looking at a re-power of South Bay or building a power plant anywhere else in San Diego as the Port District who owns the land under South Bay has allowed Dynegy to do. So when we talk about this once-through cooling policy in the rules, and we talk a

lot about consistency with respect to all of the sites up and down the State of California, I would submit to you that Chula Vista is a bit different. We are a bit different because there is no -- and there will be no -- effort to upgrade South Bay. So I am curious as to how, if this plant is implemented, how Dynegy or LS Power, or whoever is operating the plant, would submit a six-month implementation plan, because there would be no implementation. The fact is that the other thing I am quite curious about is, who determines when we look at the wholly -- the provision that would allow them to continue to operate based on a cost benefit analysis -- who would be the arbiter, or who would be the final determination as to whether or not this power plant is needed. The fact is, that what we are hearing now is that San Diego Gas & Electric, who is the investor-owned utility supplying power in our region, has basically said with the generation and the transmission that we have now at our disposal in the San Diego Region, that their calculations show that South Bay is no longer needed. The CEC, who is now putting out there estimates for demand and load requirements for the South County and the San Diego Region has downgraded the amount of demand and power that will be needed in San Diego. So there are all kinds of things that basically are coming into play here when your board and the regional board will start to look at whether

or not South Bay can comply with the new rules. And the fact is that what we have been trying to do in Chula Vista, and the City Council is unanimously in support of decommissioning that plant and removing it. Let's talk about the 600 million gallons of water, bay water, that is removed each day to cool that plant, the 390,000 fish that are destroyed annually because of the operation of that plant, and the fact is, because South Bay sits at the very south end of San Diego Bay, which is a very very small ecological system there, it is not comparable to the Pacific Ocean, it is not comparable to virtually anything because it is so small, that the impacts are significant. And I am not sure that a consistent review of South Bay as it relates to all the other facilities up and down California is adequate, and I do not think that it basically speaks to the environmental degradation that plant has on our ecosystem each and every day. So there are a number of issues relative to South Bay that, quite frankly, are unique to our community, and really do not apply to most of the power plants that you will be reviewing and the Regional Boards will be reviewing. So I would hope that there would be some specific attention paid to the situation in Chula Vista and South County, San Diego, and the fact that it is and it can be argued that South Bay is not needed for grid reliability in San Diego County, and the fact is that we have unanimous

support from the City de-commission and we also have virtually every official, elected official in South County, both from the federal, the state, and the local entities, that are all supporting the decommissioning of the power plant and have gone on record as opposing the extension of the renewal of the discharge permit from the Regional Board. So there are a number of issues here that I believe are unique to South Bay, and we would hope that the rules that would be ultimately recommended by your staff, and adopted by you, would look at that and consider our unique position. Thank you.

CHAIR HOPPIN: Mr. Castaneda, if you would, please include in your written comments to staff your concerns. And obviously they are too lengthy to address here today.

MR. CASTANEDA: We will and, in fact, it is my intention to be bringing a draft letter to the City Council next week and we will have it to your staff in time to be entered into the comments. Thank you.

MS. GAUR: Good morning, Chair Hoppin and members of the Board. My name is Tatiana Gaur. I am here on behalf of the Santa Monica Baykeeper, and just like my colleagues, I would like to first express our appreciation to State Board staff for their hard work on the policy, and the significant amount of interagency and group coordination involved. We support -- the Baykeeper supports the ideas

and the goals of the policy. We agree that a uniform guidance should be provided to the Regional Board as to how to apply professional judgment to permitting decisions of power plants, however, we also believe the policy, once-through cooling policy, should be forward thinking, and take power plants and environmental protection to the future, not give more extensions, exceptions, and so forth, to implement technologies to protect our environment. For that reason, we think that dry cooling is the technology that is the best technology available, both because it is widely available and also it is feasible, as is evident by the recent switch to dry cooling in El Segundo, Units 1 and 2, the El Segundo Power Plant down in Los Angeles. So, in some sense, we think that the State Board has selected the second best technology available for this policy and, under the policy, there are two tracks, the BTA is closed cycle wet cooling with a minimum of 93 percent reduction in intake flow rate, that is not as bad, however, when coupled with Track 2, which effectively guts Track 1, we are really concerned about having those two tracks, and it is unclear to us what it is providing. And, more importantly, even as an exception, there is still more guidance needed as to what is feasible and all the additional factors that were addressed by my colleagues. We are concerned that this will result in confusion at the Regional Board, it essentially does not

provide them with a clear guidance. So also, on a related note, it is unclear with respect to Track 2 and Track 1 who decides which track should be applied to a particular power plant. Initially, it looks from the language of Track 1 that it will be the Regional Board because it is the Regional Board that should be satisfied by the evidence provided by the specific plan, however, later in Sections 3(a)(1) and section 3(6)(3), we read that it will be actually the owner and operator of a power plant that will select the policy, so I think we need more clarification. It is also unclear why Track 1 applies on a unit-by-unit basis, and Track 2 applies on a facility basis. We also do not support the other unjustified exception such as "wholly disproportionate," which is not required by 316(b), and for the same reasons stated by my colleagues earlier. The special studies exception is also unjustified in our view and we believe that Track 1 and Track 2, in addition to the additional time given to nuclear power plants, should take care of any concerns. We support the other exceptions in the policy such as the grid reliability exception to the Schedule of Compliance in Section 3b, however, we do not believe it should be open-ended; in other words, the implementation deadlines should be kept. And, of course, the nuclear power plant security exception, that makes total sense. And I would like to raise two additional issues, one

is the compliance deadlines for the different power plants and, specifically, I was more concerned with the El Segundo power plant, which, in the policy and the table provided in Section 3, states it is 2015. However, and with the caveat that that may be outdated information, but based on a press release on Energy's website, the power plant should be online in June of 2011. That may have changed, you know, and that may be the reason why 2015 is the deadline, but we would like to have more clarification as to how the deadlines are actually selected. And another side note is the mitigation provided for in Section 263. That section states that mitigation should start five years after the effective date of the policy, and I am just wondering why wait five years to begin mitigation. With that, I would like to thank you for the opportunity.

CHAIR HOPPIN: Thank you, Ms. Gaur.

MS. HUNTER: Good morning. My name is Laura Hunter with the Environmental Health Coalition. We are a 30-year-old environmental justice organization working for community and environmental health in the San Diego - Tijuana region. We are intimately involved with the issue around the South Bay Power Plant, and we really welcome the opportunity to provide comments on the policy to you today. In short, I will just summarize our key points first, and then I will just give some details that have not been

presented before. The South Bay Power Plant in the Southern end of San Diego Bay should be scheduled for a much quicker compliance date than you have in the current draft policy. Second, we would ask that environmental justice be a strong factor in how you prioritize the removal of these plants, and certainly for South Bay, environmental justice is a very very huge issue. The State Board, frankly, should make your own assessment about the need for these plants. You are kind of taking the word of the ISO about what the reliability and the infrastructure is, but you should be looking at do we need the thing or not. And I totally endorse Council Member Castaneda's comments on that. We would also agree that BTA should be dry cooling, that is off the shelf, our Otai Mesa energy station is using it, it is running fine, and it is going to be on next month. And so, just to get to more of the specific points, we understand the phased compliance and think generally that is a good idea, but our primary concern is the unnecessarily long horizon that you have allotted for the South Bay Power Plant and the draft. We appreciate the reason for the phased compliance, but there is no reason why it should be given until the end of 2012 to come into compliance. There are very significant water quality issues associated with South Bay, and their permit expires in three months. And the problem is, if they were to do their normal process and

evaluate, 1) the commitments that were made five years ago that this plant would be shutting down at the end of this permit term, and if they were to look at the water quality impacts of the plant, then they would move to terminate this discharge very very soon. Now, because of this policy, the Water Board is of the mind that they have to let it go on until 2012, and there is really no reason for that at all. I mean, it was also made very clear -- and thank you so much for coming to our hearing on Wednesday -- that, you know, according to the joint agency paper that you have, and the excerpt is in your packet, that when the Otai Mesa Plant, which is our replacement infrastructure, it is up, it has been testing now, it is ready to go on line next month, your own joint agency paper says that 85 to 90 percent -- their case -- that could be eliminated, so why would something that could be eliminated in Quarter 4, which is when they said it could be eliminated, why would we let that extend to 2012? It does not make any sense. And we would really like a chance to make our case because, frankly, when Otai Mesa goes on line, we do not need the South Bay Power Plant anymore at all. South Bay Power Plant is an exceptionally bad case, and I have a number of hand-out's, I know that the time is very short, but it is shallower, it is a fish nursery area, we have hard numbers about Mission Bay has 66 percent more juvenile Halibut per hectare than South Bay

does, even though South Bay is a very good habitat, should be for them, we have less than one per hectare, even though South Bay is five times as large as Mission Bay. So there are devastating impacts that the power plant is operating on. We think elimination, in terms of the environmental justice issue, I guess, I have really got to run fast, you have a map in your packet of where, you know, that maps the Metropolitan statistical areas from the federal government, the darker colors are the higher percentages of people of color, and the Megawatts per 10,000 people you see below that. Well, South Bay has 64 Megawatts per 10,000 people, and far higher than any other statistical area in the region. I know air quality is not your concern, but your environmental justice policy does say you should look at cross media impacts; our youth asthma hospitalization rates are the highest right down wind of the power plant. Our overall hospitalization discharge rates from the related asthma are in the highest there. So there are very very significant impacts with this power plant. Now, this document maps the permitted and the operating, so right now, even though the South Bay has been targeted for a disproportionate burden of power plants, because Otai is not operating at full capacity yet, we are actually not breathing the pollution from all of that, but if you let South Bay continue to operate after Otai comes on line, then

you will be creating this environmental injustice. So here is the good news, we can prevent this from being the worst case scenario, and we really can get rid of the South Bay Power Plant. I have a lot to say about the ISO and their process. It is not transparent. They are not the same as you are, they are not a public agency, they do not have the same processes, and you should just -- I mean this respectfully -- but you have an obligation to come to your own conclusion about what those facts say, what those numbers are. And thank you for mentioning that. It is simple math, but it matters what the assumptions that you put into that simple mathematic equation. We have a lot to say about that, and we would -- we are going to welcome the opportunity to do that. I have --

CHAIR HOPPIN: Laura?

MS. HUNTER: Yeah, okay. Well, I have a number of materials in the packet that are all relevant to this. We will be submitting comment letters. And I thank you.

CHAIR HOPPIN: Thank you very much. We are going to go ahead and break for lunch until 1:00. The first three speakers when we come back will be Marco Gonzalez, Livia Borak, and John Harrington. If I do a little bit better job of keeping everyone to their time, given the number of cards I have got here, unless we get a bunch of surprises after lunch, we will be done somewhere between 2:00 and 2:30, so

we will adjourn until 1:00. Thank you.

[Off the record at 12:00 p.m.]

[Back on the record at 1:00 p.m.]

CHAIR HOPPIN: People will be dragging themselves back in here on a short basis here, but let's get going. Marco Gonzales, Livia Borak, and John Harrington. Good afternoon.

MR. GONZALEZ: Good afternoon, Mr. Chair.

CHAIR HOPPIN: If you all would remember to come up to the front here, I know it seems petty, but it saves time.

MR. GONZALEZ: I believe Ms. Borak is in the restroom. I would actually prefer if you would entertain waiting for the other two members. I would like to speak to some of the issues that they have raised in their prior comments. I am more than happy to begin, but it will be --

CHAIR HOPPIN: I can take three more if you like and you can come after them.

MR. GONZALEZ: That would be fine.

CHAIR HOPPIN: Is that all right? Henrietta Groot, David Nelson, and Theresa Mueller.

MR. NELSON: If I may, I will go first. Henrietta is in the restroom.

CHAIR HOPPIN: Okay.

MR. NELSON: Hi. My name is David Nelson and I am

here to ask that you do not adopt this draft as it sits because it is too complicated. I am co-president of a group called CAPE, Coastal Alliance on Plan Expansion, and we were Interveners in the Morro Bay Power Plant issue starting in 1999. And I have been active ever since then. So if I may, I will just go over a few of the things wrong with this document and I will bring up some of the points that some people have already made. One of the things that really bothers me about the document are the different numbers that are being used in here. When they figure out how much energy coastal power plants are producing, they are using generic numbers. I mean, they have Morro Bay listed here as -- and I will speak about Morro Bay and Moss Landing, those are the two plants that I have been involved with, indirectly or directly, and like Morro Bay is listed here as 1,002 Megawatts. Morro Bay has not been 1,002 Megawatts in so many years, I cannot even count. Two of the units are mothballed and the other two are such polluters that you can see from the charts that are in this document, per Megawatt, Morro Bay pollutes so much that it should not even be used. And we, as Interveners through the California Energy Commission, got a finding of adverse impact on a new combined cycle power plant, and I would point out that the Regional Board -- and Morro Bay is a 60-year-old plant, or a 50-year-old plant, and in the whole time of the Clean Water

Act, has never had a 316(b) done on that power plant in the estuary. We, unlike Moss Landing or Diablo Canyon, draw water directly from the narrowest channel in the estuary. It is a national estuary and it has been abused, and our Water Board was one of the abusers because the 316(b) is supposed to be done every five years and, like I say, the first 316(b) that was done was for the new combined power plant. And what they did was they used data from other sites, Moss Landing, Diablo Canyon, and called it Morro Bay. So over the course of time, we have no baseline, we have no research data that supports one way or the other what has been going on there, but we did get a significant impact finding on a new, more efficient power plant, which was starting. It was 16-33 percent take on our estuary, and that is renewed plant. Now we have Morro Bay being proposed to run until 2015. Now, our group has not protested the fact that they got a new power contract with Southern Edison until 2011, but to extend this plant past 2011 is nearing on criminal. I mean, we have not had the protection that the Clean Water Act gave us, and it was because people were not involved, people were not educated. Well, our group got educated and we brought in people from all over the world to show that -- unfortunately, we had to bring in foreign people to show the impacts where it is taking place on our estuary. So that said, I, like the people from South Bay,

would ask that these deadlines be adjusted, and Morro Bay is near and dear to my heart, should be adjusted to 2011, once their contract is fulfilled. And they are only running 6 percent, but what you have got to understand is that 6 percent is coming at the height of our season of productivity in the estuary. So by only running 6 percent, it looks great on paper, but in reality, it is massacring at the highest point in its season. So, none of this is taken into consideration with these dates. And also, Morro Bay, in this document, CAISO says that it is not even relevant to the grid. So there is no reason to run it more than after that date, and let's let our estuary start healing again. And the other thing that I really have a problem with, and I have been to most -- I have known Dominic and Jonathan, I have been to almost all of the Scoping things since UCLA, the first ones, so I have been with this thing, and the Ocean Protection Council, I was there, and from the time they were formed and through the time that they put through the regulation, they were really clear that they wanted this ended. They wanted once-through cooling, you know, totally wiped off the board, and do it another way. And Dominic was taken to task at one of their meetings, saying, "Look, we want a minimum standard to this Second Circuit Court no matter what the Supreme Court says. We want that as a minimum standard for our state." Now, we have heard today

testimony that, you know, people from all over the country are going to look to us for guidance. Well, I have read this document many times and I have a lot of comments about it, but the problem with it is that it is too complicated, there are too many loopholes, as many people have already pointed out, not to make it easy. This should be easy. This is a no brainer. We have alternative energy coming over the horizon and this is impairing it. It is stopping it from happening because it is easier to keep up doing what we are doing now, as opposed to start shutting these down right now. I mean, these plants have been -- Morro Bay has been on extension for a long long time, and it is killing -- unmitigated. I mean, we go on extension and they get away with it, and instead of -- they have to stop doing it. And I am sorry I cannot go more, but our group will put in written testimony.

CHAIR HOPPIN: I allowed you an extension, David. What is different?

MR. NELSON: Thank you. I have only got 30 seconds. Thank you.

CHAIR HOPPIN: Thank you. Henrietta, are you here?

MS. GROOT: Yes. Hi. My name is Henrietta Groot. I am affiliated with Mothers for Peace and with Eco SLO, that is the environmental council in San Luis Obispo. I am

not speaking for them, but I hope that I will be able to get them to write some letters before the deadline. A quick comment about your question, Chairman Hoppin, about the proportional entrainment, how do we know how much of the total population is entrained? The figures that we got in Morro Bay, and I was previously with CAPE in Morro Bay, the figures we got was 17 to 33 percent over a bunch of species that were studied, and that information should be available easily from the Regional Board in Area 3. Okay, my big comment that I would like to make to you is --

CHAIR HOPPIN: That microphone is a little taller than you are, why don't you bend it down there just a hair. That a girl. Thank you.

MS. GROOT: Okay. When you get to having review committees on the nuclear plants, and it calls for environmental groups, I hope you will take into account which environmental groups have been active on those nuclear plants, and I am speaking of Mothers for Peace, which has been working on that issue for years and years, and the Alliance of Nuclear responsibility, as well, a more recent group, but also working very hard. The reason I give you that caution is that, in Morro Bay when Duke started its plans for a new power plant, and CAPE was questioning that, all of a sudden there were a multitude of so-called environmental groups that were recognized by Duke, some of

them we had never heard of, and they were all very friendly towards Duke's plans. So you cannot just accept that anybody who calls themselves an environmental group is actually that concerned with the environment. That is why I am putting that in. One thing I do not understand is why the nuclear power plants were included in this "wholly disproportionate" option. There was no explanation of that. I think it should be explained. Now, if we do have restoration and I do not quite personally understand how can we let restoration in the back door, I thought it was killed and gone, but if we do have that, then whatever model we pick might not -- habitat production forgone might not be the best model, or the most rigorous model. We heard some interesting papers at the 2008 workshop of CEC where they were talking about scaling methods and trying to match more of the restoration efforts to the species that actually had been impaired. Okay, a parting shot -- it seems to me that I have heard very little recognition here of the fact that local generation is a good way to go. Why do we have to be so centralized? Centralized generation requires long transmission lines with a lot of loss of power; local generation does not have that disadvantage. In other words, think about renewables, photovoltaics, etc. Thank you for listening to me.

CHAIR HOPPIN: Thank you, Henrietta. Theresa?

MS. MUELLER: Good afternoon, Mr. Chairman and Board members. My name is Theresa Mueller. I am a Deputy City Attorney for the City and County of San Francisco. The City appreciates the work of the Water Board staff and also the work of the energy agency staffs in developing this policy. The City has been active before the Regional Board in San Francisco on the issue of the Potrero discharge permit for many years. Recently, we have filed two sets of comments on the recommendations of the energy agencies that are included in your policy. We support the adoption of a clear aggressive policy at the earliest possible date. The wait for such a policy has been long. And as you have already heard, the plants, most of them, are many decades old, many of them are operating without permits, without current permits, and they have been expired for quite a long time. I would first like to address the Potrero 3 situation and then I will make some general comments about the policy if I have time, after that. The proposed policy timeline for Potrero provides that it should be in compliance one year after adoption of your final policy. We would like to suggest that a more specific date is necessary here and is justified under the circumstances. The City would propose a date of December 31st, 2010, after which Potrero is not allowed to use once-through cooling. I think that is reasonable under these circumstances. First thing, in the

May 2006 permit adopted by the Regional Board, the Board stated that it intended to preclude the use of once-through cooling at Potrero after 12/2008, unless the company could show that the once-through cooling was not harming the Bay. There was not any such showing, there has not been any action on the permit, and there has just been a delay. The second thing, the ISO has indicated that Potrero Unit 3 will not be needed to ensure electric reliability after another proposed project comes on line. It is expected to be on line in the first quarter of 2010. The ISO has agreed to work with the owner to see if they can arrange for a mid-year closure, mid-2010. The third thing, the owner has recently entered an agreement with the City that states that they will close the plant, Unit 3 and Units 4, 5, and 6, when the ISO allows. The Agreement also assumes that 2010 is the closure date for the entire plant and the owner states its intention not to run the plant after 2010. So if you can provide a date in your policy of 2010, and it makes it clear, then we will all finally be lined up to end the once-through cooling at Potrero. A couple of more general comments. The adaptive management approach that is proposed in your policy supports adoption of earlier timelines than the ones you have in there. Once you adopt this policy and move forward, it is going to be very easy to extend those deadlines, it is going to be very difficult to make them

anymore aggressive, so you should start out with more aggressive timelines than what you have there. Similarly, in terms of the need for electricity, one of you already commented that it is very difficult for the energy agencies to let go of Megawatts, it is. And it would be for all of us in their situation. So we can understand it. But looking at the current studies from the ISO on the need for electricity, at least in the Bay Area, there are more plants that can be closed or taken offline to be brought into compliance with the once-through cooling policy. So we urge you to take another look at that. And I also refer you to a study that PG&E submitted in May 2009, which sets forth some of that information. Finally, I think the environmental groups today, and in our previous discussions with, them have identified some significant problems with the proposed policy that are going to threaten its effectiveness and I urge you to listen to those and make changes in the policy, and I expect that the City will be addressing some of those issues more specifically when we file written comments. Thank you very much.

CHAIR HOPPIN: Thank you, Theresa. Marco Gonzalez, Livia Borak, and John Harrington.

MR. GONZALEZ: Thank you Chair, members of the Board, my name is Marco Gonzalez. I am an attorney with Coast Law Group in Encinitas and I represent today the

California Environmental Rights Foundation -- the Coastal Environmental Rights Foundation, excuse me. We are a relatively new organization formed to aggressively pursue coastal advocacy through litigation when necessary, and I am here to ask you to absolutely not adopt the policy, as written, and only consider doing so with substantial revisions. I am mostly here to provide the unpopular position that I do not believe it is your job to balance grid reliability against acceptable marine life mortality, but rather, it is your job to provide for the orderly phase-out of admittedly dinosaur technologies that have devastated marine life in California for more than the last 50 years. Now, that being said, the start point is to bolster the policy's reflection of these devastating impacts of once-through cooling, both on a facilities basis, but also on a cumulative basis. And in doing so, it begs the question of whether we are really talking about cooling water intake vs. straightforward open ocean intakes, because we have desalination projects which are seeking to co-locate with once-through cooling power plants throughout this state, and we have those being approved at the Regional Board level. As a matter of fact, an appeal will be coming before you on roughly the same timeline as this once-through cooling policy is being approved. And for us to believe that we can consider the devastation of marine life through once-through

cooling without also considering the absurdity of allowing the co-location of an entirely new set of infrastructure with this devastating technology, it is absurd. It makes absolutely no sense for you, as a Water Board, to say that we are going to separate them in any way, shape, or form when we know, at least in Carlsbad, the desalination plant will require 300 million gallons per day of open ocean intake in order to provide 50 million gallons per day of drinking water, and in doing so will create exactly the same impacts. And, in fact, they are seeking to mitigate those impacts based on exactly the same outdated theories that the power plants used with the exact same consultants that are no longer getting this work from power plants because we have all gone beyond the mitigation paradigm. That being said, I would simply say, with respect to the OTC policy, you cannot make it in a vacuum, you have to consider the health of our oceans from all infrastructure that would be tied to these open ocean intakes. Now, with respect to the establishment of best technology available, we have to look not just at 316(b), but also to the Water Code. It is given mention in the presentation by staff, but you need to go to counsel and look at the nuance; 316(b) says we are able to regulate cooling water intakes, and that is how we get to the notion that only closed-cycle wet cooling can be adopted as best technology available, and dry cooling gets set

aside, because that is how EPA approached it. But the reality is, as soon as you require once-through cooling technologies to go away, you are not in an expanded or revised facility, you are in a new facility. And as soon as you are in a new facility, your Water Code kicks in because 13142.5(b) says that you have to use best technology available for all new power plants, and all new power plants can use dry cooling. So you have to talk to your counsel and get them to explain this because I think it is falling under the surface as a nuance. There is no legal way for you to establish wet closed-cycle cooling as best technology available if a once-through cooling power plant has to essentially repower in a new facility. And I think this tension that underlies this policy is the reason why we have Track 2 in the first place, is because the "wholly disproportionate" approach is a mechanism for allowing the perpetuation of this idea that we are actually upgrading plants, as opposed to forcing them to repower. Now, that being said, there are some issues that have been touched on like mitigation and HHPF, and the ability to monetize the so-called benefits and costs with respect to natural resources. As Joe Geever mentioned, we are well beyond that with respect to the law. And I would turn to you and say, the Riverkeeper 2 2nd Court of Appeal analysis, while it may not be binding, it provides the framework upon which you can

build this OTC policy. The Supreme Court may have resolved that you could use cost benefit, but you do not have to. All we know is you have to be at least as stringent as federal law, but both the Supreme Court and that 2nd Court of Appeals say there is that framework for you to interpret these provisions such that you never do mitigation, and you do not allow once-through cooling ever again, or the perpetuation of it. With respect to the temporary aspects of mitigation that might be a piece of this puzzle, let's stop calling it "temporary mitigation," let's call it "penalty." Let's use those provisions of the Water Code that say, "Once-through cooling? We are going to establish it as an existing non-conforming use, and so long as you are going to continue with a non-conforming use, you are going to pay a substantial penalty in the form of funds that will go towards the regulatory agency establishing mitigation," if it is really mitigation, if it is wetlands restoration. But let's call it a penalty because that financial pressure should be part of the puzzle that takes these dinosaur plants and pushes them into a true best technology available scenario. Thank you. And we will include these in our written comments.

CHAIR HOPPIN: Thank you very much, Marco. Livia?

MS. BORAK: Good afternoon. My name is Livia Borak. I am here on behalf of San Diego Coastkeeper. We

are a local nonprofit in the San Diego area. We focus on water quality. We are also part of the California Coast Keeper Alliance and we would like to reiterate and agree with basically the comments that came before from all environmental groups, and specifically California Coast Keeper Alliance. First, I would also like to thank the Board for moving forward with this policy, but also reiterate the fact that there are many loopholes that need to be closed. The impacts, as many of my colleagues and environmental activists have stated, are evident. The marine ecosystem is not working, we have the MLPA being implemented, and we are trying to create reserves all over the state. It is evident that fisheries are in decline. We are negatively impacting the coastline constantly. We cannot afford to continue it and to perpetuate it. And therefore, any impact is bad, any impact is too much. As specifically to Track 1, the design intake flow language, it should be clear that this refers to instantaneous flow. This could be worded as "flow per Kilowatt hour." "Design maximum" would inflate the amount of flow currently being used, as opposed to reality. For example, at Encino Power Station, they are, I believe, permitted in their NPDES permit over 800 million gallons per day, but they actually have been using much less. And in June, they actually used 178 million gallons per day, so you can see that that is

more than four times less what they are permitted, and if you do calculations based off the 800 number, instead of the 178, you do not get as much reduction. And, in fact, if you do the math, if you base it off 800, you actually only get a 70 percent reduction in entrainment and impingement. And related for impingement, the .5 feet per second velocity cap does not address the fact that there is heat treatments that need to be utilized, which cause lots of impingement impacts and many fish kills that should be taken in account because once-through cooling technology needs that kind of maintenance and heat treatments are part of that closed-cycle or dry cooling does not require that kind of maintenance, so you would not have that many impingement impacts. And this leads to interim requirements. There is a provision, the C2 provision about allowing intake flows only when there is energy generation, that language is a little bit vague and, as I am sure you know, Carlsbad has proposed a desal plant co-located with Encina, and that will perpetuate the use of once-through cooling through desal. Now, that is going to use the same intake. Alternative intakes are possible for desal, but this policy will allow once-through cooling to continue if there is no clear language in that provision about interim requirements simply because there is a co-located desal plant. It is not clear what critical system maintenance or minimum flow necessary

means, and I guarantee you there will be an argument made by the desal plant operators that the flows should continue for desal operations. So that is another loophole that should be closed, especially if you are worried about consistency at Regional Boards, because this is not the first plant, and it is not the last one. It is the first plant -- it is not the last one, you are going to see this statewide, and if you wait for a policy for desal plants, in the mean time, you are going to have them pop up all over the place and perpetuate this technology, and that consequence, I do not think, is intended by leaving this language open. I would just like to close with the fact that we also will be submitting written comments and go into more detail on this. And thank you for your consideration of what we said today.

CHAIR HOPPIN: Thank you, Livia. John?

MR. HARRINGTON: Good afternoon. My name is John Harrington. I am a certified student clinician with the Environmental Law and Justice Clinic at Golden Gate University School of Law. I am here today on behalf of Bayview Hunter's Point Community Advocates and Communities for a Better Environment. I am here to comment on this policy, particularly as it relates to the Potrero Plant and Southeast San Francisco. I am going to try to avoid repeating a lot of what Theresa has mentioned in her statements with the City of San Francisco, but I would like

to say that Bayview Advocates -- it is a local grassroots community organization whose members rely heavily on the San Francisco Bay for subsistence fishing, as well as other things, and Communities for a Better Environment is a regional environmental justice organization, that have been advocating for nearly a decade now to close the Potrero Plant. At this point, these communities of Southeast San Francisco have obviously been joined by the City of San Francisco in their efforts to close this plant, and so we, in conjunction with the City, believe that the time has come for Mirant to retire the Potrero plant with support and guidance from the State Board and from this policy. We would like to commend all the various agencies for the cooperative efforts in drafting this policy, however, we believe that the State Board must adopt an aggressive position regarding specific goals and implementation plans set forth in the policy. Specifically, we believe the policy must include explicit and unambiguous provisions that consider local reliability concerns and ensure the prompt and responsible closure of the Potrero facility. Without these specific provisions, the policy will simply be inadequate with respect to the Potrero plant. Basically, it looks like Theresa has more or less covered all of the other points, so I would just like to thank you guys for your time in letting us have the floor.

CHAIR HOPPIN: Thank you for your timely presentation, John. The next three speakers will be Carina Daniels, John Steinbeck, and Eric Miller. Won't you come forward so we are ready for you here? And, Mr. Steinbeck, I do not want any comments about the OTC's of Wrath, either.

MS. DANIELS: Hi, my name is Carina Daniels and I am representing the San Francisco based organization, Pacific Environment. We deeply appreciate the hard work that the Water Board has put into drafting of this policy and in following through with this complicated matter. We realize there is some concern among power companies and utilities about the cost of phasing out once-through cooling, in addition to the cost of compliance with AB 32 and the renewable portfolio standard. It is important to remember that complying with all of these are not mutually exclusive. A few month ago, the California Energy Commission passed a landmark decision regarding a proposed new peaking power plant in Chula Vista. The Commissioners examined the local potential for solar power, the current low price of solar power, and the visibility of solar as an alternative peak time power source over a new natural gas power plant. In their rejection of the power plant, the Commission concluded that solar power can, indeed, replace natural gas during times of peak demand. The Chula Vista decision is one that this board should seriously consider as

it considers, among other things, whether or not we can phase out once-through cooling without impacting grid reliability. According to our analysis, which we will submit to you with off the shelf solar and efficiency measures, these plants can be cost-effectively decommissioned in the next six years without any need for additional natural gas generation. Indeed, given that California law may mandate a 33 percent renewable portfolio by 2020, and a dramatic reduction in greenhouse gases, a phase-out of once-through cooling technologies can be the course of action that brings this state closer to these goals while, at the same time, protecting and restoring our marine environment. The solar technology recognized by the CEC is showing the most promise for peak power replacement as locally distributed photovoltaics. Pv is more cost effective than both natural gas-fired gas turbine power plants and solar thermal, and it can be implemented without large additions to the existing transmission system. In addition, limited Pv storage technology now exists to deliver peak Pv output during the late afternoon, summertime demand peak. With the addition of energy management and battery storage, urban Pv systems can provide the same output as peaking gas turbine plants. Pacific Environment supports the current policy proposal with the amendments as called for by our colleagues at California Coastkeeper

Alliance. We look forward to seeing its passage and implementation in the coming years. Thank you for your consideration.

CHAIR HOPPIN: Thank you, Ms. Daniels. Mr. Steinbeck?

MR. STEINBECK: Mr. Chairman and Board members, my name is John Steinbeck, I am with Tenera Environmental and I have been involved in most of the IM&E studies that have been conducted at the coastal power plants throughout the state. I am glad that you brought the issue of ecological significance because I was expecting to read something in the document that kind of documented the benefits of the policy, and that really was not provided, and there has been a lot of studies done at almost all of the plants over the last few years, and those reports actually address the issue of ecological significance directly. And really, the only benefits that were provided in the document were just a documentation of the levels of entrainment and impingement, well, addressed today is entrainment, and it kind of documented a couple of cases that were benefits from reducing entrainment are probably going to be really limited and only applied to only a few narrow set of conditions. Next slide. What is not given in the document is the fact that there, at the plants, there is a large composition of different species at each of the plants that are entrained,

but overall, throughout the state, various species of gobies, which you have heard about previously, make up about 40 percent of the total entrainment throughout the state. Next slide. So here is what a goby looks like, and this is actually an Arrow Goby, it is entrained, has the highest entrainment of probably any fish in the state, grows to about two inches, has a lifespan of less than three years, and it inhabits burrows and sand and mudflats throughout the state. Next slide. So impingement impacts on this species are minimal because it lives on the bottom, but they are entrained in high numbers. Next slide. So what evidence do we have for ecological effects and potential benefits of the policy for gobies? Well, at the South Bay Power Plant, we did an entrainment study and the estimates of entrainment that we came up with were almost identical to a study done almost 20 years previously, both really high, almost like 2 billion goby larvae. But that indicates that the spawning population is fairly stable and this was verified by independent studies that showed that populations of gobies in the bay were fairly stable and actually increasing over the course of the five-year study. The other example, next slide, is from the Encina Power Plant, and if there is any location -- people mention Alamitas, well, the Encina Power Plant is located on Agua Hedionda Lagoon and when it is operating a full power, it draws in the volume of Agua

Hedionda Lagoon in roughly 36 hours, so if there is any location where you would expect to see impacts, it would be at that location. But what we found, next slide, is, again, the concentrations we measured compared with a study 20 years previously showed actually much higher, five times higher, concentrations of goby larvae in the entrainment. The fish composition in the lagoon is similar to other embayment's that do not have power plants, and then some sampling we did in mudflats actually showed strong recruitment of cute little gobies to adult habitat, and actually adult densities that were similar to areas where there is no power plants. So why do you get these results? Next slide. Well, it is well documented that many fishes are limited by available habitat, in other words, you can only fit so many goby burrows into an area mudflat, therefore increasing the supply of larvae will not affect the population in these and many other fish, not just gobies. So benefits of these fish from reducing or eliminating once-through cooling will be limited. And the last thing I would say is changes in policy to encourage habitat restoration and preservation will provide much greater benefits because it is really habitat that is limiting these populations, not larval supply. Thank you.

CHAIR HOPPIN: I think there is a question, Mr. Steinbeck.

MS. DODUC: I have a question. Do you have any studies or results that are older than 20 years, like 40 or 50 before the plants were put in place?

MR. STEINBECK: No, we do not. And it has actually been kind of frustrating because there is not a lot of historical data, and we have proposed some more studies that we feel would get at the actual ecological significance and impacts, and we have not been able to get those off the ground. But I think the fact that you have got fairly stable larval production occurring, at least some evidence for that occurring in a couple of locations where you have power plants, indicates that -- at least, it begs the question, you know, where are the impacts occurring?

MS. DODUC: But we really do not know what the impacts were the previous --

MR. STEINBECK: No, I totally agree with you, and you need to track -- the one way we have done it at power plants looking at discharge effects is tracking the abundances in areas with and without discharges, or you could switch that to intakes, over time, and seeing do they track over time. But, again, it still does not get to the question of what was the abundance before. And we just do not know.

CHAIR HOPPIN: Thank you very much for your comments. Eric?

MR. MILLER: Thank you. My name is Eric Miller. I am with MBC Applied Environmental Sciences. I am going to discuss -- my PowerPoint is coming up -- I am going to discuss some datasets that address some of your questions that you had earlier today, as well as some other comments that have been made previously. Specifically, I want to talk about the evaluation of historic data and how that can help possibly answer the question of what are the benefits of this policy. And I also want to talk a lot about some of the points I feel are key in this policy that were not addressed in some of the staff presentations, most importantly, the greenhouse gas effect. This is something that has been overlooked, it seems like, for a lot of points today, and the comment was made earlier that you cannot execute this policy in a vacuum, that you need to evaluate all the environmental effects of this policy. And greenhouse gas emissions for this context are somewhat important in that you have several state, federal, international agencies that have all attested to the fact that greenhouse gas emissions do cause climate change, or contribute to climate change, which is accelerating the rise of sea water temperatures, and that will be very pertinent to this discussion.

The data you see before you is a long-term data set, collected by the power plants. This is a 37-year

timeline. These are the top 24 species collected in impingement sampling from 1972 to 2008. These are cumulative data across five power plants that have offshore velocity capped intake structures. This time series encompasses some severe changes in the OTC flow regime of Southern California, namely the onset of operations at SONGS Units 2 and 3. The interesting point in looking at all the figures is you cannot tell by looking at the figures when any change in OTC occurred over this entire time period. Most importantly, you will notice that all the blue species began their decline at or before 1980, and this is in association with the regime change that occurred in 1977. This is a well-documented scientific event. When you look at the red species, these are all species that have been increasing since 1980, and they are all species that are commonly occurring at the power plants today. And to kind of drive home a bigger point, the blue species are all those associated with cooler water, or more northern distributions, while the red species are all associated with warmer water and more southerly distributed species. For instance, you have Pacific Sardine in red, and Northern Anchovy in blue. This is a classic case of oceanographic regime shift that has been documented several times by numerous authors, including several papers and science. And that has occurred over the last millennia based on Santa

Barbara Basin sediments. Furthermore, the blue species are all significantly negatively correlated with the rising sea surface temperature we have here in Southern California, globally, while the red species are all significantly positive correlations, meaning they are increasing with the rate of increased and sea surface temperatures. Those in black do not have a statistical relationship between the datasets. Next slide, please. Now, the big question about impacts and benefits is best characterized by examination of the gill-net fishery, that it was closed in 1995. This is the data for the Southern Common Coastal Science species, these species are the most predominantly taken by impingements at the coastal power plants, as well as most of them are significant contributors to entrainment, specifically, species like queen fish and white croaker. What I have highlighted in yellow is the period that the near shore white croaker Gill Net Fishery was actively fishing. It was closed in 1995 by state legislation, Proposition 132, and as you can see, while it was fishing, all seven populations were at a near baseline level and almost gone. Since they have closed the fishery, the oceanographics have continued to work on these populations; five of them have remained near their base levels, minimal levels, while two species have dramatically increased, those two being spotfin croaker and yellowfin croaker, both of

which are southerly distributed species and are positively correlated with sea surface temperature. Furthermore, I would like to point out that these increases have occurred while OTC is currently operating at its standard levels. Next slide, please. These are data from several papers that have recently been published, as well as historically published. The two large figures you see there are taken from a recent paper on queen fish, just published a couple months ago, and the top figure is the mean annual larval density in King Harbor, where it is sampled right next to Redondo Beach Generating Station Unit 7 and 8 intake, and the line is the annual flow at the power plant. These two lines are significantly positively related. In a paper by Miller, et al., it is a CEC report that is currently in press, has been for two years now, he analyzed seven species. Four of those seven species exhibited this same trend, meaning the larval densities declined at the same rate as flow, cooling water flow. Taken at face value, that means that the cooling water was increasing the larval densities. Now, I am not going to actually portray that, but I think it clearly demonstrates that the question of entrainment is not as has been portrayed. Entrainment does not negatively impact the coastal populations, it may impact a few individuals. And the question has been asked, do we have any data before all the power plants started. The two

figures there on the right are from CalCOFI Atlas 34. CalCOFI is the gold standard of monitoring. It has been in existence since 1951, it continues today. These data are only through 1998 because that is all they published in CalCOFI Atlas 34. As you can see, the population for cianids [Phonetic], which includes all the croakers, and northern Anchovy, these are just two that I grabbed at random, are increasing at the time that all the power plants are starting up, and they increased until they declined in the warm regime. These are characterizations made by CalCOFI and other scientists, most of which are at Scripps and not by myself or any consultant. It is important to note that the first figure that I presented, those data where there is comparable data are in agreement with CalCOFI. Some of the species that I presented in the first figure do not have a larval stage, or their larvae are not taken in the CalCOFI time series, but those that are, we have a similar pattern between the two datasets. And with that, I would like to take any questions.

CHAIR HOPPIN: Thank you, Eric.

MS. DODUC: Actually, I have a question for Jonathan and Dominic. Did you have access to this information and was this considered in developing your proposal?

MR. GREGORIO: So this very specific information,

we had access to some of it. The workshop that was referred to as a CEC workshop was actually joint with the State Water Board, and some of this information was available then. I cannot say that I remember this particular information here that is on the slide now. But, as with all the comments we receive, we will take this into consideration in producing our final draft.

CHAIR HOPPIN: The next three speakers will be Dave Bailey, Bob Lucas, and Mike Hertel.

MR. BAILEY: Good morning, Chairman, and Water Resources Board, my name is Dave Bailey. I am Senior Project Manager with the Electric Power Research Institute. I served on the expert review panel, and EPRI has played a leadership role in terms of alternative fish protection technology research and done several projects in conjunction with EPA. My comments today are of a technical nature. I will touch on three topics and in terms of the draft policy. First, in terms of the draft policy benefits, the draft policy impacts 19 generating facilities in California, and is expected to result in a combination of closed-cycle cooling retrofits, repowering, and replacements with wet or dry cooling. There will also be the potential need for new transmission lines, or transmission line upgrades, however, the benefit of the policy is much less clear, and in terms of impacts to California's coastal fisheries. While the

assumption of 100 percent mortality during periods of generation is reasonable and consistent with what EPA said, it is less reasonable during periods of low capacity when pumps may be running, but no heat is being rejected into the cooling water. And there is virtually no information on impacts to entrainable zooplankton, 200 microns or larger, that are also covered by the policy. There is also no consideration for the net benefit as a result of water circulation that results from cooling water flow at some facilities. Examples would include LADWP's two-mile intake canal, or the Los Cerritos River and Wetlands near Alamitos. Also, analysis conducted for some facilities such as those discussed by John and Eric, suggest that no measureable change in California's fisheries in those areas would result from the draft policy. Many of these issues are discussed in detail in an EPRI report funded by California's once-through cooling facilities to inform the policy, yet the SED does not mention the report, or even include it as a reference. The second point is in terms of Track 1 performance. The draft policy assumes a 93 percent reduction can be achieved by all affected once-through cooling units. However, EPRI has determined this may not be the case for units such as LADWP's Scattergood Station. The reason is, the higher condenser cooling system temperature rises at a given load. When designed, a once-through

cooling system has the option of using more water and heating it less, or using less water and heating -- putting a lot more heat into it. The break point is about 20 degrees Fahrenheit, so facilities such as Scattergood with a 30 degree rise, and associated reduction in once-through cooling flow, the flow reduction achievable with wet closed cycle cooling is something less than 91 percent, rather than 93 percent. If the 93 percent reduction for a unit is not achievable, it is not clear whether Track 2 would be based on a reduction from what is actually achievable for the facility, or the 93 percent. It also should be noted that EPA in the Phase 1 rule, which is referenced in the SED, assumed a 90 percent reduction for wet closed cycle cooling retrofits, rather than a 93 percent. And, thirdly, Track 2 availability. The draft policy allows facilities to use the Track 2 if they can demonstrate that Track 1 is not feasible. However, the draft policy provides no real Track 2 option due to some of the specific Track 2 requirements. Primarily, the problem is due to the requirement to protect the 200 micron and larger zooplankton. EPA excluded zooplankton in the remanded Phase 2 rule due to their short lifespan and rapid regeneration rate. There are significant implications for including zooplankton protection in the draft policy that include four of the six entrainment reduction options rely on screening to collect entrainable

organisms. A 200 micron mesh size is not considered feasible due to biofouling and debris clogging. No one has ever used a screen of that fine a mesh anywhere in the country. At the Lovett Station, which was mentioned in the policy, they did attempt a small mesh micron size like that when they initially deployed the net, but it turned out to be totally impractical, it clogged, and they ended up using a 500 micron equivalent in their final design. Also, due to the significantly greater number of zooplankton compared to fish, zooplankton species will become the focus for achieving compliance rather than Ichthyoplankton. And while the draft policy allows facilities to use recent entrainment studies conducted at the majority of once-through cooled facilities, new facilities will be required for any facility using Track 2 since none of the current studies included zooplankton. Neither the SED or draft policy provides information on why zooplankton are included in the policy, or the basis for setting the 200 micron size for their protection. Additional comments will be provided on the SED discussion of fish protection technologies, and other issues in the written comments. Thank you very much for the opportunity.

CHAIR HOPPIN: I think we have a question for you here, Dave.

MR. BAILEY: Sure.

MS. DODUC: No, I just want to thank you for those very specific comments and look forward to reading them for the study, to understand them. I do want to follow-up on one of your issues with staff, and it is an issue that has crossed my mind, too, and that is the speaker mentioned the wetlands at San Onofre and other areas. Obviously, when these power plants were approved by various agencies, there were studies done, there were mitigation requirements as part of the permits that they received, and some of those mitigation that they have committed money, resources, and have put in place were intended, I believe, at the time, to mitigate for the lifetime impact of the operation. And please correct me if that is not so. My question to staff is, how or did you consider that in terms of developing the policy, because my understanding of Track 1's and 2 is that it would not take into account all the previous mitigation, and upgrades, and things that have been completed by the plans, but start a new baseline based upon adoption of the policy.

MR. GREGORIO: I believe that is correct. The place where we considered the previous mitigation was in the interim measures where we considered any mitigation that had been done up to now would be basically fair game for the power plant operators to include as mitigation to satisfy that requirement.

MS. DODUC: And just a heads up to Marleigh, I think at the end of the hearing today, after the speakers have been completed, I do want to hear from you because we have had several people raise the issue of restoration and how, under Riverkeeper 2, it was their understanding that restoration has been ruled out, and now we are trying to put it back into the policy. So towards the conclusion of this hearing, I would like to hear your legal opinion on that, but not right now since we have a speaker standing up here. Thanks.

CHAIR HOPPIN: And in consideration of Mr. Lucas, I did say before lunch that we would be done by 2:00, but having been involved in bureaucracy now for over three years, I may or may not have meant 2:00 today. Mr. Lucas, would you please go forward.

MR. LUCAS: Okay, thank you. My name is Bob Lucas. I am here today representing the California Council for Environmental and Economic Balance. Our members include, by the way, the owners and operators of all of the facilities affected by this draft policy, and so over the last several years, we have spent a lot of time working on similar issues as you and your staff. And we want to thank you for the time that you have devoted to this, and the time the staff has devoted to this, and most particularly to making themselves as available as they have over this time,

and I appreciate the candor of John Bishop, in particular. However, all of that being said, we still have some rather serious concerns about this specific version of the draft policy, and believe that these can be addressed through some modest modifications if the Board and staff are willing at the end of the day. Overall, we are concerned that, for most plants, there does not appear to be a reasonably foreseeable compliance path. And by that, I mean a path by which, if the plant were to follow it, it would be in compliance with this policy. We are concerned that the way the policy is constructed, it is going to inadvertently create a pool of facilities that cannot meet Track 1, cannot meet Track 2, do not qualify for disproportionate cost analysis, and therefore they comprise a pool of facilities that are on the verge of noncompliance, depending on when their compliance date comes up, and as to what this new committee may decide to do about this situation. But perhaps even more important, we believe that the plants that might find themselves in that situation, as they are sitting down and working out their plans for how they might comply, might realize that the handwriting is on the wall, that they will not be able to comply, and then they will be faced with the issue of, "Okay, now what do we do?" And these are the ones that I think we should all be concerned about because if there is not a reasonable next step, some of these plants

could take a look at their business plans and, you know, they could make decisions to do things earlier than they might otherwise have done as a result of the policy. So please be cognizant of that. We think that Track 1 is largely a difficult, if not impossible to meet, and we do not regard it as a feasible mechanism, and that is largely because of the acknowledged difficulties of permitting closed cycle cooling towers on existing power plants. And this is in part because of the air permit situation in the South Coast, or it is because of other limitations in the permitting because they plants are located on the coast, and we deal with the Coastal Commission and we see how many cooling towers the Coastal Commission has permitted to date, right? Or there are problems with the infrastructure of the plants; since it is already an existing plant that would make it difficult either to find the room for one, or to actually install it on site. So we think that, at the end of the day, even though Tetra Tech, it says that some of these plants might be engineeringly feasible to design a cooling tower, we believe at the end of the day, we will see very few, if any, maybe one or two, if that, that will actually be permitted and would become feasible at that point. Track 2, you know, we have the same reservations as the speaker before us had just mentioned about it. This is not to be derogatory towards the staff, but we think the

Track 2, although it is well meaning, is largely illusory. The details that have been put in there, the special conditions for compliance, make it difficult, if not impossible, to comply without going back to Track 1 and installing closed-cycle cooling. So we find ourselves with Track 1 that may not be possible because we cannot permit it, and Track 2, which may not be possible to meet the requirements without going back to Track 1. And so we are back into the circle. Now, the disproportion of cost test offers some opportunity for relief, if it were available, to more facilities. But it is so restricted, right now to the two nuclear facilities and possibly to the facilities that have the three combined cycle units, that the other 17 facilities in the state may end up in this pool of facing non-compliance. I do not think that that is what you wanted to create with this policy, but we think that is where we are going to end up at the end of the day, which means that all these plants are going to be facing some sort of -- they are going to be facing a decision as to whether to repower if they have the long-term contract and can afford to do it, or whether they are going to shut down. And if they face the decision that they are going to have to shut down, then the question is who makes that decision, do they make it, or does somebody else make it, and when is that decision made. We do believe that the policy can be modified. What we are

suggesting is that the policy not specify closed cycle cooling as best technology available for the reasons that I just stated. And, instead, that best technology available be considered to be a range of technologies and operational controls similar to what I believe was intended for Track 2, that can exhaust all the technology potentially possible ways to reduce entrainment and impingement, and to the extent that the entrainment and impingement goal cannot be met through that technology at that point, I think, in concern with the court rulings, at that point you have exhausted technology, you are not going to call restoration technology, at that point you consider the allowance of investment to some type of a marine protection fund, preferably something that is controlled locally by the Regional Boards that could be used for some type of restorative purpose, some unspecific restorative purpose. We also think that the disproportionate cost comparison should be made available to office facilities. We fail to see -- we understand what the staff is trying to do by limiting the use of the disproportionate cost, but let's face it, we are talking huge amounts of money here, and it is only reasonable to take a look at what the implication of that cost is, compared to the benefits. If I may, there are two things that Justice Breyer happened to include in his brief during Riverkeeper 2. One was "the thought of

avoiding an inherent unreasonableness of requiring actions that are absurd or unreasonable, in light of extreme disparity between cost and benefit," and that is in the Breyer decision. And he also notes, "We are in an age of limited resources available to deal with grave environmental problems where too much wasteful expenditure devoted to one problem may well mean considerably fewer resources available to deal effectively with other perhaps more serious problems." Two final points, we have -- CCEEB has commissioned a study by NERA, the National Economic Research Associates, as to the conduct of a cost benefit analysis for once-through cooling. NERA is a nationally recognized firm and they have conducted quite a few of these studies over the years under 316(b), and I would like to -- Commissioner, you raised the issue of, well, what methodologies and standards do you use for these studies. There are established methodologies and standards under the EPA Methodologies, and I understand that there are over 150 studies in the EPA database on this. We are hoping that the NERA study, when it is completed, and it should be done before the end of the comment deadline, will help inform the Board as to how to conduct these studies, and it will also give a preliminary estimate of what the overall cost benefit relationship may be of this policy as a whole, so we think this could be very informative for you. Finally, yes, CCEEB

did request a 30-day extension for the written comment deadline, considering the potential cost of this policy, and the complexity of the issues raised by the policy and by the SED, and by the things that may not yet be in the SED that ought to be in the SED, we believe that this additional time is warranted. Thank you very much. I am sorry I went over my time.

CHAIR HOPPIN: Thank you, Mr. Lucas. Jonathan, Mr. Lucas raises an interesting point and that is, with a power plant switching to new technology, they may not be able to get permitting from the Coastal Commission or the various air boards' concern. I would add another dynamic to that, that will make our policy even more difficult not to impugn the integrity of Mr. Lucas or his clients in any way, shape, or form, if we are tooling on something like that, it would be very easy for an applicant to design a plant that they knew was not going to be permitted. And so, you know, there hopefully is, in everything, a sweet spot in the middle where we will be able to provide consideration of an applicant being precluded by agencies that are beyond our control, one of which seems to be beyond anyone's control, and yet to preclude the possibility of having someone scam the system by just designing something that could not possibly be permitted. So hopefully at some point, we can have that discussion, as well.

MR. BISHOP: Yeah. Would you like me to respond for a minute? The couple things that you should be aware of, the issues that Bob was raising there are couple-fold, one is that we may be putting people in a position where they have to repower their plant, or shut it down. And we agree that is essentially what we are doing. These plants are 40, 50, 60 years old, and in most instances, we would expect them to repower and, at that time, put in different cooling technology, and that is a reasonable approach to the solution. That is what you heard from the Energy Commission already this morning. That is a policy of the state, to move away from these inefficient power plants. We are not trying to promote the slapping on a cooling tower to all of these. But in track, we do allow it because there are instances we are not the all-knowing in terms of the power grid. In terms of unforeseen circumstances where somebody might not be able to get their permits to put in cooling towers, that is part of why we put a Track 2 in there as an infeasible to do Track 1. They cannot get it permitted. That would be in my mind a reasonable infeasibility to us. So then, we would allow them to go to another solution. Go ahead.

CHAIR HOPPIN: I mean, that seems like a reasonable approach if, in fact, we have a functional alternative in Track 2, which has been raised by, you know,

we have parties that do not like the idea of Track 2 at all, an we have parties that are faced with dealing with Track 2 that do not feel it is an alternative, so, I mean, I am not going to go over that today, but --

MR. BISHOP: I would agree that it is -- we would have -- many plants would have trouble if their approach is to continue using once-through cooling on an inefficient boiler steam plant, and figure out a way to comply with these rules. They are going to have trouble doing that.

CHAIR HOPPIN: Thank you. Mike Hertel.

MR. HERTEL: Thank you, Mr. Chair and members of the Board. My name is Mike Hertel, and I am Corporate Environmental Policy Director for Southern California Edison. And, as you probably know, Edison is the majority owner and operator of the San Onofre Nuclear Generating Station, or SONGS. I wanted to point out that SONGS has a 30-year plus regulatory track record in acting, we think, responsibly to minimize the effects of once-through cooling at that plant. In addition to the $200 million state-of-the-art fish return system that is 95 percent effective in the plant, we also have looked at a wide variety of potential new control technology as required by this Board's policy and its comprehensive demonstration studies, and by Coastal Commission requirements, as well. And speaking of my favorite regulatory agency, the Coastal Commission, the

Commission, as a condition of our permit to begin constructing the plant, required us to fund an independent scientific study at a total cost of about $45 million that took place over 14 years, completely independent, complete peer reviewed, study the plant environment before the plant was built, during the plant construction, and after the plant construction, with particular attention on planktonic organism intake and destruction, and model those effects to determine which species would be affected. As a result of those studies, and extensive public hearing process, the Commission decided that cooling towers were not justified, and instead required us to continue to provide reports on technology improvements, but when those were not sufficient, ordered us to mitigate that remaining impact by restoring wetlands near Del Mar, California, and those wetlands are now restored and are beginning to function, and the independent monitors that are also required by the Coastal Commission have shown that that is working extremely well. So I give you that by way of saying that, in the San Onofre case, we have looked at this before and after -- not we, but the Coastal Commission -- and we have looked at the issues of zooplankton and other entrainment fish eggs and larvae entrainment, and I think it qualifies us, we hope, to make some what we hope are constructive criticisms and, in light of -- I know the Board Chair's predilection -- to offer some

suggestions for how those might be solved. And I want to go through four of those. First, we think the policy does not adequately look at the environmental downsides of following it and presuming to install or meet closed-cycle performance as BTA. The remedy that we think should be there is that the staff should look at this and revise the draft policy under the obligations the Board has under CEQA, to look at mitigating or avoiding those significant adverse effects. We think there are a number of those that have not been adequately looked at. The greenhouse gas increases that would occur just at San Onofre, about 700,000 metric tons per year, as a result of this, there would be 830 tons of PM10 or particulate matter at 10 microns, harmful emissions, and I do not know where this idea of we would not have to deal with that under the air laws comes from, but I can assure you, we would. There would be habitat laws for the extra land consumed, there would be degradation due to about 170 tons annually of salt deposition that would occur in the region where there are some protected species of plants, and those salt depositions would also affect electric arching at the high voltage switch yard nearby, so there are some safety issues. Second, the policy fails to employ this cost benefit test that you talked about so much today. I do not want to go over that anymore than necessary except to say that we agree that it would be wise for the Board to conduct

such a policy, or examination, to determine whether the overall policy is reasonable. I do not think you want a policy that puts people in the position of having to try to meet something whose cost is way out of proportion to the environmental benefits, and that is why we support the CCEEB study that was talked about with the NERA Associates, and we hope it will give us some guidance. We think especially that one of the problems here is that the policy fails to deal with whether this issue of feasibility has been adequately addressed. You have heard a lot about that, I will say two things, one is that the feasibility has to be inclusive of physical barriers, and it has to be inclusive of the regulatory outcome, and then, finally, fourth, the policy, I think the staff has done a great job on looking at the interconnection and potential tension between many of the legally required things that the state is trying to do -- greenhouse gas reduction, renewable portfolio standards, and, ironically, we need these power plants, at least in Southern California, to be able to bring in more renewable power. It is not a question of being able to do more renewable power without these plants in place, and that has been underscored by CAISO studies. So, with that, to keep within a little bit of the over-time, I have submitted a letter today to the Board. We will, of course, cooperate with the Board and the staff, they have done a great job.

We are going to provide some written comments and will continue to work with you on this very important policy. Thank you.

CHAIR HOPPIN: I like the way you cleverly slipped in the over-time comment. I thought that was only allowed in football and basketball games, but now it is policy of ours, as well?

MR. HERTEL: Well, we have done this before, Mr. Chair.

CHAIR HOPPIN: I see, very clever. Very well done. Thank you, Mr. Hertel. The next three speakers will be Eric Pendergraft, Susan Damron, and Katherine Rubin. Would you come forward, please, and be ready to speak?

MR. PENDERGRAFT: Good afternoon, good to see you again. My name is Eric Pendergraft and I am the President of AES Southland. With over 4,200 Megawatts of generation and 14 individual units, we own actually the largest footprint of once-through cooled generators in the state, all of them happen to be in the L.A. Basin Local Reliability Area. I do want to thank the staff for their work on this, I think it is improved certainly from the original scoping documents, although I think we still have some concerns with many aspects of it, which I want to highlight a few right now. We do support completely the comments made by CCEEB and colleagues with Southern California Edison, especially

the need, we think, to do a more robust economic analysis and evaluation of the benefits. Second, you know, Track 1 is essentially infeasible for our facilities given their location, some real estate constraints, and what we think is the inability to get any retrofit permitted. In addition, we do not even think it is practical to be retrofitting conventional thermal plants of this vintage. In Track 2, as many have commented today, as defined, it is really not possible for us to achieve, as well. So essentially this is a policy that really forces the shutdown of many of the units in the state, including all of our generating units. You know, Mr. Bishop actually, I think, acknowledges that that is a compliance path that he thinks many generators will undertake. And, you now, that to me makes it clear that industry cannot reasonably bear the cost of this policy, and we recommend, as others have stated, that the use of the "wholly disproportionate" test be expanded to lower capacity factor units, as well. You know, the original Phase 2 rule at the federal level actually exempted low capacity factor units from meeting the entrainment standard because it was clearly understood that the cost of doing so was completely out of proportion with the benefits achieved. Now, if the use of the "wholly disproportionate" test is not expanded, then the compliance schedule, as it is outlined now, is not sufficient for our portfolio, because

the only logical path for our compliance is to replace or repower our units, and, you know, in order to maintain a sufficient supply of electricity, as well as allow for the orderly replacement of many of the generating plants, that schedule needs to be extended for generators that choose to repower, particularly owners of multiple plants that have a large number of units that cannot be replaced simultaneously and need to be phased in over time. We also think that the requirement to mitigate or offset for impacts for facilities that are not in compliance within five years essentially forces us to comply twice, once by funding a restoration project to mitigate for impacts that are really going to be short-term in nature, and the second by shutting down and replacing our facilities. You know, when the units are shut down, the impacts are eliminated, however, the benefits of a restoration project extend indefinitely, as long as that restoration project is maintained. So we think, unless restoration can be combined with the "wholly disproportionate" test and used to allow units to run indefinitely, that it should be eliminated as an interim measure, or there needs to be a lot more clarity on how to scale a restoration project that is either temporary in nature or somehow, you know, adjusted so that it is now compensating for the overall total impacts of a facility that will only be operating for a few more years. Finally,

I want to comment briefly on desalination, it has been mentioned here a couple times, I think, as it relates to power generation. We actually agree with the staff that the 316(b) policy is not the appropriate place to have requirements for desal and it is probably best done in a separate policy, however, we do strongly believe that the policy for OTC needs to consider the possibility that a power generator can use either the intake or even the brine discharge of a desal plant, without requiring any additional flow, or incurring any incremental environmental impacts beyond what the desal plant is already incurring, and therefore, we would suggest that the policy needs to consider that possibility, and that if a generator can use only the minimum flow required of a desal plant, and when that desal plant shuts down, the generator ceases to use the OTC flow, that that should be allowed. And we are concerned that if we are not mindful of that potential, and the joint use of the minimum flow required for desal, that we are not maximizing overall environmental benefits. Thanks for your time.

CHAIR HOPPIN: Thank you, Mr. Pendergraft. Susan Damron. We are going to adjust that microphone, aren't we, Susan?

MS. DAMRON: My name is Susan Damron. I am with Los Angeles Department of Water and Power. And I want to

express our appreciation for the opportunity to come and present comments today, and for what we think are the great strides that staff has taken in developing the current policy, and really taking an interagency, kind of a holistic look at this whole issue, and I think that is perhaps unprecedented, and we recognize that that is a great effort and we appreciate that. I want to spend just a little bit of time talking about DWP because, you know, we are a different kind of animal. We are municipally owned, 10 percent of the state's load is DWP -- DWP's load represents 10 percent of the state. We are vertically integrated, which means we do not rely on the market, we are our own generators, we have our own transmission system, we have our own distribution system, we are not part of CAISO, CAISO does not tell us how to use our system. So that means that the power plants and how we use them, and the transmission system that we have to deliver energy, we are kind of like in our own little island, and it is critically important, the existence and the continued use of those power plants. I just wanted to go over real quickly where we have been, where we are going. The Department has undertaken three repowering projects already, two of which are at coastal plants, so as far as coastal plants are concerned, we started with 14 units, we now have nine units on once-through cooling, and two units have actually reduced their

flow and usage of once-through cooling. We expect to do two more repowerings between now and 2017. But that will leave five units still to be accounted for and one of our concerns is that, as you heard the previous speaker say, if you have your own units and your own generation, if we are going to be looking at repowering or some kind of a retrofit technology, we cannot afford to take a lot of Megawatts off, it has to be done in a very sequential fashion. We cannot do it in parallel path, we cannot afford to take that much Megawatts off, if we try to do two at a time, it has to be one right after another after another. We support, therefore, the goal, what we think is the goal of the policy, which is to minimize adverse environmental impacts and to reduced, to the extent practicable, our usage of once-through cooling. Those are our goals, as well. And I am going to speak just briefly about two obstacles that I see that impact our ability to meet our mutual goals. One is one which you have already heard of today, which has to do with the zooplankton issue. With having the zooplankton in the policy and the small micron size, it basically means that we do not have a means of compliance with the policy, there is not a technology out there that has been designed, constructed, implemented, that we can install in our facilities, that will meet compliance. And what it essentially does is it redirects our focus because

zooplankton, you know, if you look at a food pyramid in the ocean, it is going to be the bottom pyramid. It is the most -- it has got the highest density, it has got the most critters. So, if our focus is on trying to protect zooplankton, then it is going to divert us away from protecting fish eggs, and shellfish eggs, and larvae, it is going to -- the fish eggs and the larvae are going to be, then, impingeable organisms, they are going to get stuck to these very small screens and their survivability is going to drop to zero. So we are foreclosing on the ability to protect fish and shellfish eggs and larvae at the expense of protecting zooplankton, and the technology is not there, so effectively that means that there is no reasonable way to comply with Track 2. And DWP has looked at a number of its facilities as far as a Track 1 compliance for installing closed cycle cooling, exclusively, not talking about repowering, and for those five remaining units that I mentioned, we do not think that Track 1 is going to be feasible for us, as well. The other issue that I wanted to bring up real quickly is the "wholly disproportionate" test and the 8,500 Btu for repowered generating units, and clearly we have heard today that it is the State Board's intent to drive this policy towards being a policy about repowering. And that is a concern to the Department. We understand that the energy supply and reliability is a

component, just like, you know, air quality impacts and economics, and the whole host of things that you have to evaluate in the SED, but evaluating the supply and reliability impacts should not transform the OTC policy into an energy policy. We would like the State Board to stay focused on a water policy and let the energy policy be dealt with by the energy agencies. So for that reason, we think that the "wholly disproportionate" should be available to all facilities. Notwithstanding that, our concern, then, would be, if you have done repowering at a facility, that the "wholly disproportionate" be applied to the entire facility, not just any particular unit. And it should be available regardless of heat rate. Thank you.

CHAIR HOPPIN: Thank you, Ms. Damron. Katherine?

MS. RUBIN: Chair Hoppin and members of the Board, my name is Katherine Rubin. I am from the Waste Water Quality Group at Los Angeles Department of Water and Power. And my comments today are going to cover three areas, one is the schedule stipulated in the draft policy for the LADWP facilities, the committee schedule, then, finally, the implementation plan. The in-basin plants for LADWP make up 30 percent of our power and they are critical to meeting our daily grid stability, as well as our peak summer loads. And as Susan mentioned just a few minutes ago, LADWP cannot remove hundreds of Megawatts of power from our system for

long periods of time to retrofit a repower. During the recent fires, we had all but one coastal unit in operation for several days to provide energy and grid stability to the city, and the fires affected our transmission lines' ability to import the power from outside the L.A. Basin, making reliance on our in-basin critical for us. The dates as stated in the draft policy place LADWP's grid reliability at risk, and the repowerings, as Susan had mentioned, are going to -- or will need to be phased over time to avoid this grid instability, and so LADWP will need more time to comply. As mentioned, also, we are our own balancing authority, and we do not rely on CAISO, and in the SED it states that further studies would need to be undertaken to identify and plan for the retirement and retrofit of repowering of aging generation plants, and LADWP commits to working with the State Board and the energy agencies on any further studies regarding LADWP's systems. With regard to the committee schedule, we believe that it needs to be more fluid and responsive to the changes that can impact the policy's compliance dates. Currently, as Dominic mentioned, we hand in our implementation plan six months after the effective date of the policy, and then they meet one year after. Subsequently, they then continue to meet two years after that. We do not believe that it is frequent enough to meet the needs of both the Regional Board and the power plants.

There needs to be a more fluid process that allows flexibility to meet more often should an issue arise that would impact the grid reliability, or impact the schedule, such as obtaining environmental permits, licenses, and approvals, which could also impact compliance dates. So LADWP recommends that the committee meet quarterly, with a requirement to report semi-annually to the State Board and, alternatively, if the committee requests, and the Regional Board concurs, the State Board should be able to change the policy at any time. Finally, regarding the Implementation Plan, it is our understanding that the plan is conceptual in nature, in order for the committee to have some sense of the facility's compliance pathway and to begin assessing the viability of the compliance dates and the state policy. It is important that the revisions or changes to this plan and re-submittals to the Regional Board be allowed, whenever new or updated information presents itself, otherwise, the six months as stipulated in the draft policy is not a reasonable time, we would need at least two years to conduct biological and engineering pilot studies, as has been mentioned previously, as well as an economic analysis to support any type of LADWP's detailed resource and project planning. Thank you.

CHAIR HOPPIN: One question, Katherine.

MS. SPIVEY WEBER: You mentioned that you think

you are going to need more time, and Susan mentioned it, as well. How much more?

MS. RUBIN: I will let Eric Tharp, our Director of Generation, come up and answer that. Eric, do you want to come up here?

MR. THARP: I do not know that we have definitively figured out how much more time it is going to take us. We will submit that information in our written comments. We are doing the best we can to try to phase all of these projects and get them done as quickly as we can, but it will take more time.

MS. SPIVEY WEBER: Okay, but please do include your best guess, or tell you when you will have your best guess so we can check back in when you do.

MS. RUBIN: Okay, yeah. We will be submitting something in our written comments.

CHAIR HOPPIN: Thank you, Katherine. The next three speakers will be Mark Krausse, Chris Ellison, and Chris Sanders.

MR. KRAUSSE: Good afternoon, Mr. Chairman, members, I have a PowerPoint presentation, there. Mark Krausse, Director of State Agency Relations with Pacific Gas and Electric. I think all of you probably know that, with the repower of the Humboldt Bay facility, taking it off of once-through cooling by the end of 2010 next year, PG&E will

have just the Diablo Canyon Nuclear facility, like Edison with SONGS, in terms of owned generation that uses once-through cooling. We are still very concerned, of course, about the application of the rule on the merchant generators, some of whom we contract with, and I wanted to use that opportunity to let you know that we just, two weeks ago, signed a contract with Mirant to repower -- well, it is sort of a repower -- it takes two large combined cycle OTC units off the river, and we will replace those with four 200 Megawatt peakers that are exactly the kind of generation that, when folks talk about we can solve this problem with solar, well, you need a little back-up, you need -- you know, when the sun goes down, when there are other problems, when there is a cloud that rolls over the Mojave, you need that kind of back-up, so that is what that will provide. I just want to start off with general comments, the next slide, just to observe we are very pleased with some improvements in the draft policy, most as we have been urging, and I think Steve has been urging, the involvement of the energy agencies is a very positive development, we are glad to see that, of course, for grid reliability. The specific treatment of nuclear plants, I think for two and a half years, at least, I have been saying nuclear plants are different, we need to talk to you about that, and we finally see that show up in this policy. I think there are things

that need to be improved in that area, and I will tough on those in just a bit. Still needed, real alternatives, as many have pointed out, and I will not go into that any further, that Track 2 really is not an option in terms of what technology is available, and then the reflecting that the policy needs to better reflect the flexibility in the schedule itself that the unique nature of the -- and it is not just the grid is special, the unique nature of that, it is the contracting process. That Mirant story that I told you about, that we just signed a contract on, began in really prior to 2004, first determining what is your need going forward, the long-term plan at the PUC, an RFO that was issued, negotiations, and that was -- now, that plant has not been built yet, it will come on in about 18 months, so there still could be permitting problems and other problems, that is a best case scenario of about 7 years. So that is the reason it is very important to revisit your schedule as time goes on. Next slide. I just wanted to touch on the Tetra Tech study, the study has been quoted a few times, absolutely not adequate to talk in terms of whether Tetra Tech's finding of feasibility is useful. They never visited Diablo Canyon, so I do not know how you talk about -- or called any employees of PG&E to get any data, anything like that. So they did this off a kind of desktop review. I do now know about the other plants, but I would

urge you not to rely on the Tetra Tech study for feasibility, and that -- there was mentioned Track 2 already -- mentioned the compliance schedules, so I will not go any further into that -- oh, we urge that the energy agencies be those that you consult, you have got a subset within SACCWIS of the energy agencies. I do not know that the Coastal Commission or the State Lands Commission is going to have a lot to tell you about grid reliability, so when you are looking at schedule slippage, I think it is the energy agencies you should rely on. Recognition that air credits and permits are unavailable in many areas, the gentleman -- Mr. Powers -- who came up and said we could pave roads in San Luis Obispo County to offset the air impacts of cooling towers at Diablo Canyon, there is a letter from that air district to Morro Bay on the occasion of their trying to do a modernization project, saying there are not adequate air credits available, and we would not permit it anyway. And we can get you a copy of that letter. I just -- facts need to be in the record, I think. Shifting to nuclear specific issues, Jonathan's -- pardon me, not Jonathan, but Dominic's comment about a letter from the NRC, that is just not a reality. That is not the way the NRC works. If you want a pronouncement about nuclear safety -- and we are the first to admit, our engineers are saying, "We think, with enough money, you could engineer your way around just about any

issue." So I am not saying there is not a nuclear safety issue, but you have to go through a license amendment to get the NRC to give you an answer on that, they do not just give you an advice letter, okay? Required additional feasibility studies may not be necessary. Certainly, Edison, as the Energy Commission recommended to you, Edison and PG&E have spent lots of money, have detailed studies, I urge that the policy first peer review those studies and determine if any further study is necessary. And then, you know, I am not going to belabor the others. I want to move on real quickly to -- let's flip to, first of all, the first visual slide, because I know I am out of time here, if you can flip to the slide that shows the visual of Diablo Canyon, that is what the cooling towers would look like at the current placement. Mr. Powers, and we have another PG&E representative, an engineer, who can speak to this, but the placement Mr. Powers talks about is problematic from two perspectives, both Indian burial grounds at the northern end, and the fact that, if you place them to the north, the salt drift would cause salt deposits on the 500 Kv lines, the power going out, and we would have arching that would trip the units constantly in certain weather conditions. Those plumes that you see will be visible from San Luis Obispo about 18 percent of the time, based on weather conditions, and will deposit about 7 million pounds of salt particulate in that

area. So in terms of environmental, if we could switch two more slides, that is just a different view, and the very next one, in terms of environmental impacts, major GHG impact -- and Edison talked about, pardon me, the down rate, the amount of power you are not able to produce because you are using it for fans, and moving water, and other things when you move to closed cycle cooling. The biggest impact on GHG is, during your down time, that power has got to come somewhere else, and though Mr. Powers, again, says four weeks is a reasonable down time, even Tetra Tech said eight months, our engineers, after a detailed study that we will be submitting as part of our comments, had a 17-month down time, that was actually shaved from earlier estimate. The replacement power there, the assumption is, would be natural gas back-up, so that is the GHG impact of that. That is significant in terms of what AB 32 is trying to reduce, 174 million metric tons, I believe it is, a year. That is a big hit. You see some of the other impacts here. So if we can move on, I want to just show you, then -- oh, Mr. Powers mentions the costs, again, he is talking about that middle item there, you see cooling towers, $242 million, we concede, if you were only talking about the cost of cooling towers, yes, this would not be a $4.5 billion retrofit. What you see there are all the other pieces of work necessary. Where the Tetra Tech -- I will agree with Tetra

Tech to this extent -- where they think you should place your cooling towers is the only place on our site you can place cooling towers, and there happen to be a couple of warehouses there that need to be moved, and hills that need to be excavated, so it is substantial cost there. If you are looking -- also, his replacement notions about showing you our steam generator plants project, that is a part-for-part, like-for-like, replacement, and it cost $800 million. This is a new design -- the plant was never designed to have this cooling technology, and we are going to have to put a diffuser out into the ocean to diffuse the much saltier, much warmer discharge. So that is the reason, I think, $4.5 billion is really the reality, and not the lower figures he quotes. And finally, if we could slip just to the last -- I think maybe it was Board member Doduc said why a cost variance; why, you know, have this variance, and "wholly disproportionate." I think this puts it into context for you. These are numbers coming right out of your Substitute Environmental Document. Diablo Canyon moves 22 percent of the water of all the OTC units, yet has 1 percent, this is your data, not ours, 1 percent of the impingement and 8 percent of the total entrainment. So, in terms of impact, and then turn around and say we are going to -- for $4.5 billion, for 8 percent of the entrainment, I would urge you that that is why we need a variance. Thank you.

CHAIR HOPPIN: Mark, if you could stay up there. Mr. Hertel, if you would come up, I did not pick on you, and I do not want to pick on Mark, but I want to ask a question that I think the two of you can answer. As I have tried to educate myself in this process, some of the energy generators that sell to the two of you, when they are making their reasons why they are not going to retrofit, and why they are not going to do it before they have to, they say, "We don't have contracts, we can't show our investors that we have a return on investments." Obviously, you have business reasons for doing that, and I am not going to question that. Is there an avenue that can be explored for these independent generators to see a path to a return on investment?

MR. KRAUSSE: The rookie is going to try a shot at it, and then the doctor will respond. But part of that is, of course, it is a contract, it is a contract negotiation, so that is always difficult. A big part of it, as you may have heard, we would have heard at the CEC's workshop on this, it is not a one-for-one replacement in many instances, there may be a transmission work-around, there may be -- you need a peaker here where you used to have a base load unit, or it was originally base load. So I do not think it is as easy as just saying, "I will negotiate with every one of these parties and we will replace each one of those units."

And that is why that Mirant deal that I told you about was so critical. We may not have struck that deal, it was hard coming, there were time when we did not think we were going to be able to do that.

MR. HERTEL: Chairman Hoppin, we are subject to the Public Utilities Commission, the Energy Commission, and the CAISO in terms of how we go out and procure power under competitive contracts. So, first we have to get an authorization for new capacity additions from the CPUC, and then we have to go through a competitive bidding process to fill that capacity need. We actually have done that in our service area with respect to one of the plants that is presently once-through cooled, and is trying to get a permit to go to closed cycle cooling, it is really more to repower with combined cycle. In that instance, it is literally taking an act of the Legislature to overcome litigation between the environmental community and the AQMD over whether offsets are available for this PM10 that I talked about. So we have got a number of complex things. If we were able to have the PUC take a look at what capacity additions are necessary, that would be great. If we were able to contract for it and get competitive prices, that would be great. If those people were able to get in the future PM10 offsets in this offset starred region, that would be great. But those things are pretty difficult to

accomplish.

CHAIR HOPPIN: But you are saying that the competitive bidding process or stipulation would preclude you from negotiating with an individual energy generator that was being forced to shut down an OTC plant that was willing to, with a contract, put in a new, more environmentally efficient --

MR. HERTEL: It would not preclude us from doing such a negotiation, but under the rules of the competitive marketplace that the state has also put into effect by law, as administered by the PUC, that has to be a competitive bidding process.

CHAIR HOPPIN: That is what I am saying, that competitive bidding process would preclude you from -- it would require --

MR. HERTEL: -- a contract.

CHAIR HOPPIN: A competitive bid, if you will.

MR. HERTEL: We could not do that.

MR. BISHOP: Chairman Hoppin, the reason that we have this schedule combined -- that worked with the PUC, the Energy Commission, and the CAISO, was to actually deal directly with this issue. We heard repeatedly that there is no way we can repower without long-term contracts, and so the whole schedule is built on the assumption that, for the merchant plants, that there will be an analysis by the CAISO

on the needs for that power, and then a determination of how much power is needed now and in the future, and then a procurement process would be then initiated through the PUC to allow for that to move forward. So that is why the schedule is the way it is.

MR. HERTEL: And we are going through that, as Jonathan correctly points out. The PUC, in its long-term power procurement process, is doing that. All I am saying is really two things, 1) it is difficult to get permits to build a repowered facility in the South Coast Air Basin, very very difficult; second, we need those once-through cool plants that are there now to continue to operate if we have any hope of meeting the 2010 RPS goal and, certainly, if we are going to meet a 33 percent by 2020. There is just no way around that physically.

CHAIR HOPPIN: Thank you, Mr. Hertel. Chris Ellison?

MR. ELLISON: Thank you, Mr. Chairman. Chris Ellison, Ellison, Schneider and Harris, on behalf of Dynegy. Let me first begin by thanking the Board and its staff and joining all the prior speakers in appreciating the hard work that has gone into this policy. As you know, Dynegy is the owner of the Moss Landing Plant, the Morro Bay Plant, and the South Bay facility. Dynegy appreciates the improvements in the proposed policy from the 2008 version of the policy,

but we do share many of the concerns that you have heard from some of the other owners, and I am going to go through those concerns in a moment, hopefully without repeating what you have already heard. But I want to begin by saying a couple of things, first, there has been a suggestion that it is the state's energy policy through the Energy Commission and others to shut down these coastal power plants because they are old technology. I think that is a mischaracterization of the Energy Commission's policy. I think the policy is that these are valuable sites to the grid, but that the Energy Commission would like to see them repowered and modernized. And in response to that, all three of Dynegy's plants have either been modernized, or been attempted to be modernized, in the very recent past. And I am going to touch upon this a little further, but the Moss Landing plant was recently modernized, Units 1 and 2 are essentially brand new units, the intake structure for the once-through cooling system, that was approved by the Energy Commission and the Regional Water Board, and I am going to touch more on that in a moment, was reconfigured substantially to move it out of Elk Horn Slough, and to address some of the impacts. So that facility is not a dinosaur facility at all, and I am going to say a little more about that. The South Bay facility was proposed for a modernization that would have eliminated once-through

cooling, but that proposal failed for lack of support from the city. And the Morro Bay facility was proposed for a modernization, that was reviewed at great length by the Energy Commission, a well as a wide variety of other agencies, and that proposal remains dormant at this time. The Energy Commission approved it, and I am going to touch upon that, again, in a moment. But I think it is important to understand that the Energy Commission's policy is not that these plants should go away, but rather that they be modernized, and certainly there has been a response to that policy on the part of the owners of at least these three plants, as well as others. Now, to address some of the concerns that Dynegy has about the policy, first and foremost, we would ask the Board to clarify that the wholly disproportionate provision applies to all units at an OTC plant that has a facility-wide heat rate of 8,500 Btu's per Kilowatt hour, or less, is particularly important to the Moss Landing facility. Moss Landing does have a heat rate below that, as a facility-wide, but two of its units have higher heat rates than that. But those two units are extremely important. These steam boiler units are extremely dispatchable and they have very rapid ramp rates, 30 Megawatts per minute, from 200 Megawatts all the way up to 730 Megawatts, and that makes them extremely important for meeting the state's renewable energy goals. And we have

talked about that -- other speakers have talked about that. So in order to enable those plants to perform that function, we think it is very important that the Board clarify that provision and the way that is described. Secondly, we share the concerns that have been raised by others that the one-size-fits-all closed-cycle wet cooling proposal is a vast over-simplification. And it is not supported, really, by any real scientific data, and let me just say that, in the Morro Bay proceeding at the Energy Commission, as well as in the Moss Landing proceeding, the Energy Commission, with input from the Regional Boards, and the Coastal Commission, and many people who are in this room, took a very deep dive on these questions and concluded that closed-cycle cooling is not feasible, is not cost-effective, and approved once-through cooling at both of those sites. In fact, at the Morro Bay site, the Commission went on to say that, even if closed-cycle cooling were feasible and cost-free, that it would have approved once-through cooling as the most environmentally beneficial alternative in conjunction with habitat restoration. And I think the importance of those proceedings, and I urge you to look at those records because they were under oath, with extensive hearings, and a wide variety of input, is that there is real science here. There is also a lot of rhetoric. And I would urge you to base your policy on the science. Third, we share the concerns

that have been raised, I am not going to repeat them, about the fact that the policy does not allow real compliance alternatives, the Track 1 and Track 2, in some cases are simply unachievable and we all have a concern that Track 2 also may not have a definitive end to it, that there is sort of not a clear compliance path under that, that a company can know when they commit the funds that that is going to be sufficient. Fourth, we have a concern that the draft policy fails to provide enough flexibility to accommodate unforeseen circumstances. We would urge the Board to allow the Regional Boards to amend the plants' implementation schedule as determined by the advisory group, without a rulemaking. And lastly, I want to say, and we are certainly going to put this in our draft comments, that the Substitute Environmental Document, we believe, is not in compliance with the California Environmental Quality Act, it does not examine some of the negative environmental impacts of the proposed policy, and Mr. Hertel and others have discussed some of those issues, we share those concerns, and we will be putting that into our written comments. Thank you. If you have any questions, I would be happy to answer them.

CHAIR HOPPIN: Thank you, Mr. Ellison. Mr. Sanders?

MR. SANDERS: Good afternoon, Mr. Chairman, members of the Board. My name is Chris Sanders and on

behalf of RRI Energy, I would like to reiterate the comments earlier and thank the Board members, staff, for the opportunity to comment, the hard work that has been put in by staff, that has been put in by the other agencies and stakeholders to develop this policy. RRI remains concerned, however, that the proposed policy is unnecessarily restrictive and does not adequately reflect the site specific flexibility requirements in Section 316(b) of the Clean Water Act or the previously proposed EPA regulations. We also think it departs from the California Court of Appeals decision in Voices of the Wetlands. In its current form, the proposed policy, we believe, would inappropriately shift final decisions concerning a substantial portion of the state's power reduction and electrical grid reliability from the agencies responsible for those decisions to the State and Regional Boards. RRI specifically recommends that the State Board modify the proposed policy to more specifically account for, first, a site-specific feasibility criteria, including cost benefit considerations that realistically account for the practical implications of the policy at the affected facilities. All facilities affected by the policy must be allowed to demonstrate that the cost of compliance is unreasonable and/or wholly disproportionate to the benefits derived from compliance. By way of example, the Substitute Environmental Document recognizes that

cooling towers are infeasible at one of RRI's plant sites, yet the policy would provide no option for RRI to comply, much less comply to costs that are not significantly above the benefits of compliance. We believe this scenario is inconsistent with the requirements and purpose of the Clean Water Act. Second, site specific environmental criteria, including consideration of the environmental implications of various compliance options, for example, the environmental impact for RRI's plants is an insignificant fraction of the total anthropogenic impact to coastal fish and wildlife resources, yet the policy would require the expenditure of an excess of $200 million to comply with the proposed policy. The policy should be tailored to address and minimize environmental impacts, as required by the Clean Water Act. Third, fair and reasonable thresholds and compliance options that allow facilities to implement economic, feasible technologies to minimize environmental impacts should be considered. And, finally, avoidance of rigid timelines that do not reasonably reflect electric grid reliability needs. RRI submits that the proposed framework of EPA's Phase 2 regulations are probably a good starting point for the state's once-through cooling policy. RRI is concerned that the substitute environmental document supporting the proposed policy does not adequately comply with the requirements of CEQA. Specifically, the

environmental document fails to analyze the reasonably foreseeable impacts from the proposed policy, including but not limited to greenhouse gas and other emissions, use of fresh water supplies for make-up water, lack of reclaimed water infrastructure, available air credits, visual, aesthetic, and other impacts of large cooling towers. The environmental document does not consider reasonable range of alternative policy options that could feasibly be implemented under Section 316(b). The environmental document does not consider the feasibility regulatory hurdles or the economic impacts of constructing replacement transmission and generation necessary to offset the loss of the affected facilities. And the environmental document does not fully consider the importance of low capacity factor units to grid reliability in achievement of California's renewable portfolio targets. The statewide and local implications of the proposed policy are significant. CAISO has determined that billions of dollars in transmission would have to be built to provide reliability if the affected plants are shut down, with $4.5 billion needed for the Los Angeles area, alone. Statewide costs of replacement has been estimated to exceed $11 billion. CAISO has suggested that the transmission build-out would take five to 10 years, while Southern California Edison has indicated it may take decades in the Los Angeles area. The

policy does not account for regional impacts in the policy in Southern California. There would be significant impact to electric supply reliability should 30 percent of the state's generation capacity be retired prematurely, as could result from implementation of the policy in its current form. The policy moves to reduce the use of sea water for power plant cooling creates potential conflicts with other state policies designed to reduce use of fresh water and other sources of water. And the policy relies on an untested advisory committee involving multiple agencies and regulatory objectives. Given the policy --

CHAIR HOPPIN: Mr. Sanders, you are not buying into this overtime rule somebody mentioned, are you?

MR. SANDERS: Slightly. Last comment. Given the significance of the policy, it is critical that the State Board thoroughly consider all relevant factors in the development of the policy. We understand the State Board has been discussing this for a number of years, and recognize that, however, this policy was released about two and a half months ago, the environmental document was released just two months ago with significant revisions from previous versions. The owners and the operators of the facilities affected by the policy have not had adequate time to evaluate the policy, or the environmental document associate with it. And considering the effects of those

policies, we would request that a 30-day extension be granted so that we can more fully provide adequate comments and very precise comments and proposed changes to the policy.

CHAIR HOPPIN: Thank you, Mr. Sanders.

MR. SANDERS: Again, thank you very much for all your efforts on this policy and if you have any questions….

CHAIR HOPPIN: Thank you. The last three speakers, Peter Landreth, George Piantka, and Brian Cunningham. Would you come forward, please? We wore them out? It depends who comes up. We are not taking anymore cards. Getting the last word in here does not necessarily mean you have done anything, though. Right?

MR. PIANTKA: Well, good afternoon. I am George Piantka of NRG. I am the Environmental Director in our West Region and I am here representing the El Segundo and Encina Power Station. And I would also like to start by saying I would like to thank the State Water Board and the state inter agencies on their efforts on this policy. I would also like to acknowledge all the efforts of those that have collaborated on the South Coast moratorium resolution and the efforts that some have spoke of today. The CEC's February 2009 paper, I felt it addressed the issues very well with the potential impacts of the South Coast Air Credit limitations. It linked the delays of contracted new

generation like what we have proposed at El Segundo, and also once-through cooling policy, and those facilities that may not be able to comply with Tracks 1 or 2, and the overall resulting impact on the grid. Overall, the delays in permitting should be considered in the draft policy. A couple other quick points. I feel that the "wholly disproportionate" criteria should be restricted to the 8,500 heat rate, and also support comments that a comprehensive study of the costs of compliance with the state policy should be considered as well, and conducted. Thank you.

CHAIR HOPPIN: Brian Cunningham.

MR. CUNNINGHAM: Thank you, Mr. Chairman and Board members. My comments are in specific response to some of the assertions that have been made regarding the difficulty or, in some assertions, the ease of retrofitting a nuclear power plant, and comparisons that are made to existing facilities that may have gone through that, or the potential for Diablo Canyon specifically, or even SONGS in California to do so. What I am intending to do is implore that, as we move through this process, we are using sound and thoughtful engineering and construction evaluations, and that consider the site specific needs and natures of the facilities, and this would include the fossil plants, as well. Once size ultimately does not fit all. Specifically, one of the things that has come up and is also included in the

documentation for this issue is the retrofit of the Palisades nuclear facility. The Palisades facility is a single unit, relatively small at 780 Megawatt, nuclear power plant that sits on a large site of very low rolling hills right next to an enormous freshwater body, which is the Lake Michigan. Diablo Canyon, for instance, is a two-unit, 230-Megawatt site, sitting on a very narrow coastal bluff -- 2,300, excuse me -- thank you, Mark -- with a saltwater resource, and not to go into the details of Diablo Canyon's original siting, but it is really not all that amenable to the initial construction, or the ease of construction of the existing power plant. Power plants are built around their thermal dissipation system, and these facilities were designed around the once-through cooling systems that we use. Really, the relationship to Palisades is that is a site that was amenable to retrofitting with closed-cycle cooling, and that was actually done in the early '70s during the initial start-up, and shake-out of that, before it actually began to run at high capacity factors. Diablo Canyon now runs at 90 plus percentage of capacity factor, and it would be extremely difficult to retrofit that facility. The analysis that we have done regarding the feasibility of retrofitting the facility, we believe, is a very thoughtful and thorough engineering and construction analysis, that should form the basis of reviewing whether or

not it would be justifiable or reasonable to retrofit that facility to closed-cycle cooling. So, again, what our request is, is that we use that as a basis for a thoughtful evaluation of the reality and cost of doing such an enormous construction and engineering undertaking at one of these facilities, and that should be taken into consideration when we look at the ultimate benefits of implementing a policy that could require these facilities to be retrofitted, and that would be an absolutely significant undertaking in any reasonable engineering and construction evaluation. Thank you.

CHAIR HOPPIN: Thank you, Brian. Any questions of Brian? I assume Mr. Landreth left, I noticed it said "if necessary," I assume we have answered any question anybody could have possibly have had today. With that, that is the end of our speakers. I know Board member Doduc has questions of counsel and staff, as does Ms. Spivey Weber.

MS. DODUC: Marleigh, my question earlier, we heard from several of the commenters about our inclusion of restoration litigation in the proposed policy -- I will just say staff's inclusion -- when Riverkeeper ruled that it should not have been included in EPA's Phase 2 rules, at least that is my understanding. Will you please comment on that?

MS. WOOD: Yes. They are correct that the

Riverkeeper 1 and 2 decisions did state that restoration is not a technology, so it cannot use it as a substitute for achieving the Best Technology Available for these plants --

MS. DODUC: And not use it as a substitute?

MS. WOOD: It cannot use restoration measures as a substitute for best technology available. So you have to reach BTA and then restoration measures are something else, something further that you would do. That determination in Riverkeeper 2 was undisturbed by the Supreme Court's determination in Entergy. The Supreme Court, however, did change the playing field a bit by saying that costs are allowable in a broader way. Previously, costs could only be considered in making Best Technology available determinations in a very limited way. You could use it as cost-effectiveness, what is the least cost to achieve a particular benchmark of a standard, or to determine what could be reasonably borne by the industry, what costs. The Supreme Court said that the agency has discretion to use a cost benefit analysis, both in making its BTA determinations and in allowing variances from BTA, both of those aspects would be allowable considerations by the agency in going forward with complying with Section 316(b). Having said that, once you have complied with Section 316(b), restoration measures would be available. So if the agency determines that you are going to meet BTA in a particular

method, then restoration measures could be used to bring additional environmental benefits.

MS. DODUC: So in the case of the proposed policy, staff is proposing Track 1 as Best Technology --

MS. WOOD: Track 1 or Track 2 are comprised of BTA, and the wholly disproportionate variance is that, a variance.

MS. DODUC: Oh, so the mitigation restoration feature comes in not as part of Track 1 or 2 --

MS. WOOD: Right.

MS. DODUC: -- but it comes in only in the event that the agency determines that, through the cost benefit analysis -- Jonathan is shaking his head --

MR. BISHOP: It comes thorough in two places.

MS. DODUC: Okay.

MR. BISHOP: The first is that it comes in after five years and until full compliance with Track 1 or Track 2 is met.

MS. DODUC: Okay. I am comfortable with the five year because it is the interim --

MR. BISHOP: Right, from the interim.

MS. DODUC: But I think some of the commenters, and I am sure we will hear back from them in writing, some of the commenters are saying that the policy as proposed would allow for restoration in lieu of meeting --

MR. BISHOP: No, what it does is it says -- it allows -- once you have met the requirements of 316(b) -- I am going to try to say it again for you -- so -- and where this would come into effect is, if you met the requirements through the variance of the "wholly disproportionate" --

MS. DODUC: So what you are arguing is, meeting the requirements of 316(b) does not necessarily mean meeting the requirements of Track 1 or Track 2?

MR. BISHOP: It could include also the whole -- you have satisfied the "wholly disproportionate" test, and that you cannot meet the specific requirements of Track 1 and Track 2, but you are doing everything the Regional Board required under best professional judgment. That could, at that point, also include additional mitigation to offset any additional impacts. Because you are outside, now you are really outside of 316(b).

MS. DODUC: Well, I am not sure the Coastkeepers are here, but since they were a pivotal party to that Riverkeeper lawsuit, I am sure we will get written comments from them on this matter.

MS. SPIVEY WEBER: I have a related question and someone brought it up, under Track 2, we say using operational measures -- or controls -- and are we getting ourselves into a litigation situation where "operational" is not a technology?

MR. BISHOP: I would not like to speculate on are we getting ourselves into litigation trouble. I think that every time we open our mouths, we are. But what I would like to say is that we did consider operational in here on purpose, so that we could allow for as much creativity and flexibility in complying with these rules as we could come up with. That may be something that, after looking at comments, the Board wants us consider changing, but we did that purposely. We recognize that operational changes at the facility are different, but you can still get reductions by having operational changes at the facility. One of them is what we use in the interim, which is reducing the flow when the power is not being used. That is an operational change that would reduce impacts. You could also have an operational change which is to only allow the facility to run for 10 percent or less of the time, that unit of the facility, so that you have a whole -- the way you operate your facility in conjunction gives you the reduction that you need. It still allows you to have a once-through cooled unit that comes online and ramps up quickly for a short period of time. If you do not have the space to repower all the units, that may be something we want to allow. We did not want to preclude that, at least in our draft.

MS. SPIVEY WEBER: And then I had one question, I think, for Dominic. He mentioned that we would get a letter

from the NRC and then we heard from others that a letter is not feasible. So do we know, for sure, what the NRC will or will not do?

MR. GREGORIO: So when I said "letter from the NRC," letter or some other documentation. And if that did involve a more complex process like, you know, a license activity, that instead of a letter, we would get some response through that license activity. But we need some documentation, rather than just the Permittee saying, "You know, NRC says we can't do that." We need something more tangible than that. So that is what I meant by that.

CHAIR HOPPIN: What if they request it and NRC does not give a document that is acceptable?

MR. BISHOP: I suspect if NRC is not willing to say that it is a safety issue, then I do not think we should consider it a safety issue --

CHAIR HOPPIN: By default. And I can remember letters that have been written to USEPA that had 20 pages of non-commitment -- I just use them for an example. Now that Fran has successfully stepped in front of the former chair to ask her questions, I will return to the first person here. She is using the overtime rule there.

MS. DODUC: I always defer to the Vice Chair. And speaking of Vice Chair, Mr. Lucas, please give my regards to your boss, Mr. Secundy, the former Vice Chair who abandoned

us.

CHAIR HOPPIN: Yeah, we cannot figure out whether he left after Boeing, or after he launched this rocket, it was one of the two. If you could ever let us know, it would help on the portrait that we have of him in the washroom.

MS. DODUC: Yes, and after he launched this particular rocket, I had the opportunity to learn a lot about the power generating industry and about this issue, and my thanks to all of you for helping to educate me, and some of you for hosting very informative educational site visits. I think, as a result of that, I am going to share with the staff, mainly, some of my thoughts in terms of the issues that I still have concern about, and if in doing so I can solicit some of you in providing additional comments and recommendations in your written submittal, I would be grateful. With respect to the Track 2, I am -- I like Track 2 for the operational flexibility and the potential for, you know, creativity and innovation, but I will tell you that I am extremely uncomfortable with the way it is right now, the open endedness with respect to how feasibility is determined, what that means, so I would be looking for staff's recommendations to tighten up that particular aspect if we were to retain Track 2. With respect to the "wholly disproportionate" provision, same goes. I am extremely uncomfortable, again, with the idea of cost benefit

analysis, especially since, to me, it seems to be tipped towards the cost, and it is extremely difficult to calculate benefits and to give some sort of guidance to the Regional Board on how they should be making that determination so that we do it in a somewhat consistent manner throughout the state. One aspect that has not been discussed today is the special studies for the nuclear facilities. In the staff proposal, it just says that within I think 30 days or 60 days or something --

MR. BISHOP: One year.

MS. DODUC: No, no, that the Executive Officer will make a request for these studies. And my suggestions to you would be -- I notice that later on in that same passage staff is proposing forming a special committee that includes various folks, including the two nuclear plants, the environmental community, Regional Water Board. I would suggest that you convene that group earlier and solicit from them parameters for the studies so that, when the Executive Officer or when the Executive Director requests those studies, that the review committee that will later on review those studies also have a role in shaping those studies.

MR. BISHOP: Excuse -- you know, maybe we were not clear in the policy -- we envisioned that the Executive Director would send out a 1367 letter requesting the studies, and then we would convene the group the first year

the group would define the scope of the study.

MS. DODUC: Okay, great.

MR. BISHOP: And there would be a two-year period for the studies to actually happen.

MS. DODUC: Then please make that clearer, because I think that would be very helpful to have their input in shaping the studies. There was a lot of discussion today about the role of the advisory committee, I wholly support the advisory committee and know that, you know, obviously there are areas of expertise that we do not have, and therefore we would be looking for their input. I am a bit concerned with any advisory committee that we very clearly spell out -- and I think you do -- but I think we could make it clearer in terms of the roles and responsibilities of the advisory committee. I mean, certainly the Board, at least I -- I should just speak for myself -- I would certainly take any recommendations or concerns raised by the advisory committee extremely seriously, but in no way do we abdicate our responsibility and authority with respect to when, where, how to update the policy, and I do not want to give any misconception that, for whatever reason, that the Board would be obligated to update the policy per the advisory committee's recommendation. I think it has been pointed out to us recently, Fran and I know, that the Board is an independent board, and so we have always taken into account

input from our advisory committee from the Ocean Protection Council, is another, but it is still our policy and our decision-making authority. And a couple -- three more -- I will say that I was disappointed that, at least my understanding, there is that -- regardless of the great job staff has done in putting this policy together and coordinating with the other agencies, I was disappointed to hear that apparently we have not solicited the same level of comment and participation from our Regional Boards, specifically since we are delegating so much of the responsibility to them on some really key issues, and I would encourage you to take the opportunity to get their input, and not treat them just as another stakeholder providing public comment through the public comment process.

MR. BISHOP: I am sorry to hear that is what you have heard. I have had three meetings with the EO's from the regions and their staff over the last three years to give them updates on where we are and to solicit their input, and their input has gone into this policy.

MS. DODUC: Good, then I am glad. I was mistaken. The one issue that was brought up today is with respect to Environmental Justice. I very quickly glanced through the environmental document and, if I missed it, then I apologize, but I do not know that we included that discussion and, you know, certainly with two of the power

plants having tremendous environmental justice implication, I would encourage staff to take a look at that. And finally, I will just provide my two cents to the issue of the extension of the public comment period. I think, you know, 90 days is a very long period of time to provide already for public comment, and my expectation is that, after the staff review the comments, and after the Board members review the comments that are submitted that there will be some revisions made to this proposed policy, and that it will go out for yet another round of public comment. And so my recommendation would be that we stick to the current deadline for submitting comments for this round, and then recognize that, based on whatever changes staff proposes, there will be yet another round, and another opportunity for providing comment. And with that, I do want to thank everyone who participated today and who participated throughout this long process, longer than I have been on the Board, because I found today's comments and all of our interactions to be extremely helpful, as this policy develops, and I look forward to reading your written comments.

MR. BISHOP: I would like to clarify one thing. I agree with you totally about the comments, except that once we close the comment period on this, we will then review all the comments, make appropriate changes based on those

comments, and then we will allow folks to comment on those changes, not on the rest of the document.

MS. DODUC: Yes.

CHAIR HOPPIN: Fran, did we intimate you into not talking anymore?

MS. SPIVEY WEBER: Absolutely not intimidated. I agree on the no time extension. I think from just the wide range of extremely helpful comments that came in today, I think people are very prepared to turn in their comments at the end of the month. And if there is an enormous amount more to be brought to us, then it is hard to imagine. So with that being said, I think the time laid out is good. I do think several people mentioned specific plants that were identified for elimination or had very short time frames, I think, in San Francisco it was the end of 2010, and in the South Bay, it is in just a few months. And so I urge you at your next meeting of your group, ask the energy people there who helped set up the schedule to address specifically those individual plants that were identified as being on the chopping block, I guess if you could say, or for change, earlier. And because, you know, I guess the way I envision this committee is that there is a give and take between us and them, and their role will be largely to be moving forward and essentially helping to give signals and contracts and clear guidance to the power plants as to what

they can envision, as quickly as possible, not to drag it out. So if they can get out earlier, or if they are not going to get out at all, and they are going to be there forever, we need to know that, as well.

MR. BISHOP: Sure. I would like to clarify on the Potrero and the South Bay plant, because those were the two that were brought up today. We did add six months onto the Potrero because the expectation is that, some time in the first or second quarter of this year, it would be closed. We put one year from the effective date, which would be essentially -- is a little bit of a cushion. We just thought since it is taking us -- we are not sure exactly when we are going to adopt it, that seemed reasonable, but that is something we could look at tightening up a little. The issue with South Bay is a little more complicated. There are four units, is my recollection, three of which will no longer be needed as of the end of this year, one of which will be needed until 2012. And that is the reason that the plan, as of now, includes it until 2012. We do not mean that means they can run all their other units up to 2012, but there are other conditions on that plant.

MS. SPIVEY WEBER: Well, if you could review that, and be quite clear, I think that would be important. And I think, overall, what we are doing here is we are adopting a policy in the midst of a transition, an energy transition.

We do not truly know exactly what we are going to have in 10 years in terms of energy production, and that is being decided as we speak. Nevertheless, we have a policy that we are going to be putting in place, and so I think the -- I definitely want us to put the policy in place and I think that our relationship with the other power agencies is a good one, as well as the permitting agencies, I would say, as long as we add the South Coast, because I think that came out pretty clearly that we needed to have -- that that is going to be a sticking point in Southern California, at least. On the "wholly disproportionate cost" issue, while we are in this transition, what I would hate is that everyone start to focus on "wholly disproportionate cost." And I see what you have done; you have limited it to the five. And so I agree with you on not having a large group. But even for the five, it just seems to me that, at the beginning, that should -- we should not be urging people to start at the "wholly disproportionate cost" point, that we should be absolutely crystal clear that they cannot do Track 1 or Track 2, and they should have some time to think about that. They should not just instantly say, "It's just not possible," or, "not feasible," particularly since we do not define "feasible," so…. It just seems to me that, you know, I would like to think through the "wholly disproportionate cost" issue more because I got the sense that a lot of folks

are just going to go straight there, and that makes me nervous. I do think some kind of definition of "feasible" is important, I am not saying where you should get it, but I do think we need it. And also, this definition of "critical maintenance" because, clearly, for at least some power plants, that is going to be important. And we should be clearer that dry -- where dry cooling fits in the technology scheme, we may not want to call it Best Available Technology for those using water to cool their systems, but it is important and it should be there. And we should have a conversation with NRC to see what their procedures are. And I think those were -- oh, on mitigation, if we do not have "wholly disproportionate cost" at the beginning, then we do not have to worry too too much about mitigation, but I thought one recommendation that came through here, that if we did have mitigation in some form, serving some purpose, other than technology, the idea of making it simpler through a fee or some sort of a fund, that could be handled by those for whom restoration is -- or monitoring, as with the MPA's, it is their job to do and they can do it efficiently and effectively. I think we should think about that as an approach. So those are my main comments. And I, too, thank you very much and particularly for setting up the committee to help us as we move through this change in -- both change in terms of climate change requirements, and change in terms

of energy use requirements. And there is a lot going on. And if we can fit in, and adjust with these changes, that in and of itself is going to be putting us in a leadership position, I think, not only in California, but nationwide.

CHAIR HOPPIN: And, Jonathan, that magic wand that Vice Chair has just ordered will be here any day now. Without expressing anymore of my concerns than I have already today, I would like to thank you not only for being here, but for engaging in this. And those of you who have heard me say it before need to listen to me say it again, one of the most gratifying things about what I do here, and there are not always a lot of gratifying things, other than the colleagues that I am able to associate with, is the fact that parties have the ability to engage in policy, in this case whether it is an environmental group, or an energy provider, certainly at the end of the day it is not a perfect world and nobody gets -- well, sometimes you get everything you want, but that does not always happen. But the fact that there is legitimate means for stakeholders to engage with staff. And I realize it is fraught with all kinds of frustrations and difficulties, but just the fact that there is a process there means a lot to me, instead of sitting up here in some autocratic way and jamming something down everyone's throat, I mean, at least you have the ability to participate. So I appreciate that. I appreciate

the fact that, when people come into a room that have such divergent interests that they sit together, they are civil to each other, they do not stand up and call everybody a liar, or a fool, or things like that, and the civility goes a long ways with me. It helps make me want to come back in here day after day -- and day after day -- and listen to all of this, and try and do something in a sensible environmentally responsible way that still leaves us with a functional economy in the State of California. So with that, I will thank you and I am sure we will all see you later.

(Whereupon, at 3:30 p.m., the hearing was adjourned.)

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CERTIFICATE OF REPORTER

I, TAHSHA SANBRAILO, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing State Water Resources Control Board Public Hearing; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said meeting, nor in any way interested in outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this _____ day of September, 2009.

_____
Tahsha Sanbrailo