From: Michael Boyd <michaelboyd@sbcglobal.net>
To: Karen Mitchell <kam@eslawfirm.com>, <margentine@calpine.com>, <steve4155@astound.net>, Gregg Wheatland <GLW@eslawfirm.com>, <rich.buikema@ci.sj.ca.us>, <mtollstr@arb.ca.gov>, <jch@rb2.swrcb.ca.gov>, <jmiller@caiso.com>, <ddavy@ch2m.com>, <dratliff@energy.state.ca.us>, <mdjoseph@adamsbroadwell.com>, <ljaimes@scvwd.dst.ca.us>, <sarveybob@aol.com>, <gfay@energy.state.ca.us>, <GRubenstein@sierraresearch.com>, <NMatthews@sierraresearch.com>, <docket@energy.state.ca.us>
Date: 6/22/2006 5:21:54 PM
Subject: 03-AFC-2 LECEF - CARE's Exhibits on Staff's Motion for Override
please download from links provided

Below are CARE's exhibits for the hearing on the CEC Staff's Motion to Override the City of San Jose on CEQA mitigation for the impacts of Nitrogen deposition on protected species in serpentine habitat like the Checkerspotted Butterfly.

The issue being contested is the mitigation being offered up in the form of off-site mitigation (land) for the impact of Nitrogen deposition from NOx emitted by the project on serpentine habitat.

The City of San Jose was charged with preparing their own CEQA review to determine if the mitigation was feasible and adequate to mitigate the impacts of the project from NOx deposition. Apparently the CEC Staff and Calpine are not satisfied with the City's progress because on May 30, 2006 Staff counsel filed a Motion to Override the City offering up pre 1985 ERCs for CEQA mitigation instead.

"Banked ERCs are Recognized as Valid Mitigation for Air Quality Impacts Under Federal Law, State Law, and BAAQMD Rules.

Were the issue merely whether, in fact, offsets/mitigation have been identified, the above confusion could easily have been corrected. However, the April 18 letter goes on to state that "the City of San Jose Planning Staff is not supportive of the use of Emission Reduction Credits, from discontinued uses that are outside the project area, to mitigate the project's impact . . . ." This statement is indicative of a conceptual misunderstanding of federal and state law requirements for mitigating stationary source emissions with ERCs, and how such ERCs are regarded under CEQA.

1. Under Both State and Federal Law, Offsets are an Integral Mitigation Measure for Large Stationary

Sources such as Power Plants.

Offsets were recognized as an important measure for air pollution control in the federal Clean Air Act of 1970, and subsequent amendments of that statute have emphasized their importance. (See generally, Grad, Treatise on Environmental Law, §§ 2.03[13][a] et seq.) Over time they have become a cornerstone of the federal New Source Review rules which are used to regulate stationary sources. (Manaster & Selmi, California
Environmental Law and Land Use Practice, § 41.23[4][d].) Offsets are enforceable emission reduction credits that 1) offset all anticipated emission increases from a new stationary source, and 2) result in a net air quality benefit. (Ibid.) Offsets are likewise a required device of the California Clean Air Act, and are adopted into the rules of the various regional air districts. (Id. at §§ 41.01 et seq.)."

At a recent evidentiary hearing on the San Francisco Energy Reliability Project, 04-afc-1 Bob Sarvey got the BAAQMD witness to admit on the record that ERCs are not CEQA mitigation for NO2 or nitrogen deposition

impacts. CARE exhibit 1 - See page 312 line 4 to 10 for BAAQMD witness SFERP May 22, 2006 evidentiary hearing at

http://www.energy.ca.gov/sitingcases/sanfrancisco/documents/2006-05-22_TRANSCRIPT.PDF

"4 BY MR. SARVEY:
5 Q In your response to my comment number
6 five on the PDOC you state that the District's
7 offset requirements are not intended to mitigate
8 local impacts such as NO2 and nitrogen deposition
9 impacts, is that correct?
10 MR. BATEMAN: Correct."

CARE exhibit 2 - Dr. Smallwood's CARE Metcalf Testimony on Nitrogen Deposition is at

http://www.energy.ca.gov/sitingcases/metcalf/documents/intervenors/2000-06-30_BIO_RESPONSE.PDF

Respectfully,

Michael Boyd President, CARE

--- Karen Mitchell <kam@eslawfirm.com> wrote:

> Attached is Applicant's Brief in Support of Staff's
> Motion for Override
> as filed today with the CEC. Thank you.
>
>
>
> Karen A. Mitchell, Paralegal
> Ellison, Schneider & Harris LLP
> 2015 H Street
> Sacramento, CA 95814-3109
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>
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CC: Jeffery Harris <JDH@eslawfirm.com>

EVIDENTIARY HEARING

BEFORE THE

CALIFORNIA ENERGY RESOURCES CONSERVATION

AND DEVELOPMENT COMMISSION

In the Matter of:	)	
	)	
Application for Certification	)	
San Francisco Electric	)	Docket No. 04-AFC-1
Reliability Project	)	
_____	)	

CALIFORNIA PUBLIC UTILITIES COMMISSION

HEARING ROOM A

505 VAN NESS AVENUE

SAN FRANCISCO, CALIFORNIA

MONDAY, MAY 22, 2006

9:02 A.M.

Reported by:
Peter Petty
Contract No. 170-04-001

COMMITTEE MEMBERS PRESENT

James D. Boyd, Presiding Member

John L. Geesman, Associate Member

HEARING OFFICER, ADVISORS PRESENT

Gary Fay, Hearing Officer

Peter Ward, Advisor

STAFF AND CONSULTANTS PRESENT

Dick Ratliff, Staff Counsel

William Pfanner, Project Manager

Michael Stephens

Mark Lindley

Vince Geronimo

Tuan Ngo

Alvin Greenberg

Brian Bateman
Bay Area Air Quality Management District

APPLICANT

Jeanne Sol,, Deputy City Attorney
City and County of San Francisco

Emilio "Gene" Varanini, Special Counsel
California Power Authority

John L. Carrier, Program Manager
CH2M HILL

Karen Parker

Karen Kubick

Randall Smith

APPLICANT

Steve DeYoung

Tom Lae

Lester Feldman

Susan Gallardo

Robert Cheung

Steve Long

Matt Franck

Gary Rubenstein

INTERVENORS

Robert Sarvey

Michael Boyd
Californians for Renewable Energy

Lynn Brown
Californians for Renewable Energy

ALSO PRESENT

Francisco DaCosta, Director
Environmental Justice Advocacy

I N D E X

I N D E X

P R O C E E D I N G S

9:02 a.m.

HEARING OFFICER FAY: We're on the record. This is a continuation of the evidentiary hearings for the application for certification of the San Francisco Electric Reliability project; docket number 04-AFC-1.

To my left is Presiding Commissioner James Boyd; and to my right is Associate Commissioner John Geesman. And to Commissioner Boyd's left is his Advisor, Peter Ward. I am Gary Fay, the Hearing Officer on the case.

Before we begin I'd like to just review a few things. As per a request from the staff and all the other parties who were scheduled to present evidence on biology, we will delay taking up the topic of biology until, at the earliest, the end of day, at which time we'll discuss what the needs of the parties are for proceeding on that.

I think many questions that may appear to concern biology will come up to the panels that will address waste management and soil and water resources. So, much of that may be taken care of by then.

I'd also like to do a quick run-through for people who are keeping score of the documents that have been filed since our last evidentiary hearing.

On May 1, CARE filed a motion for leave to file additional testimony. And that same day, filed objections and a protest to the May 1 evidentiary hearing.

In addition, the applicant filed supplementary testimony on May 1. And the same day the Commission put out the notice of today's hearing.

May 2nd there was another motion to file leave for additional testimony under site contamination and soil and water management; that was from CARE.

May 5, notice of evidentiary hearing -- I'm sorry, some of these dates seem to be repetitive. May 5, staff response to CARE's objections and a protest regarding the May 1 evidentiary hearing.

On May 8 Mr. Sarvey filed a response to staff's previous filing. And also on May 8 the Commission issued a notice regarding a full Commission hearing on CARE's appeal of a Committee

ruling. And that will be heard on May 24th at the normal business meeting.

On May 11th there was a request from CARE to subpoena Mr. Manho Yeung of PG&E. And there was also a request that day or the following day by CARE for a subpoena of Nancy Katyl of the Regional Water Quality Control Board.

On May 16th the Water Board objected to the request for subpoena of Nancy Katyl.

On May 17th the applicant filed its errata to its supplemental testimony. A page or two was missing, and so they corrected that. Also, May 17th the Committee ruled denying the request for the subpoena of Manho Yeung.

May 17th also, the Committee issued an order granting leave for CARE to file the requested additional testimony. May 17th the Committee ruled against CARE on its request to recall witnesses.

May 19th, the Committee ruled regarding the subpoena of Water Quality Board witness Katyl. That request for subpoena was denied. May 19th the tentative exhibit list, revised May 2nd, was sent out to all the parties. And we do have extra copies of that that were here on the table.

And as I said, May 24th business meeting will take up CARE's appeal of the denial of their motion challenging some of the prior hearings.

So, I just wanted to cover those items. There are other things filed in the docket, but these are documents and motions, et cetera, that are more involved with the hearings.

I understand that the staff is still waiting on some of their people, but I'll ask if there's any preliminary matters and then we'll get started with the applicant's panel on waste management and soil and water resources.

Ms. Sol,, do you have anything preliminary?

MS. SOL : The one preliminary matter that I wanted to bring up is, as I noted in an email sent out to the parties, our soil and contamination witnesses are here and they're prepared to answer questions about soil and contamination.

So I just wanted to bring to the attention of parties that if they have questions related to contamination, including biology questions or other questions, these are the witnesses who are addressing that topic.

You know, it's always hard to parse out what goes where. We submitted these witnesses to cover that topic. And so questions on that topic should be directed to them.

HEARING OFFICER FAY: I think you can imagine that this could be difficult if somebody thinks of contamination in the Bay, for instance, as a biology question. But in the process of materials getting into the Bay, or potentially getting into the Bay, might be more appropriately addressed by a soil witness or a waste management witness.

So, I think everybody would be best served to try and ask these questions of the panels that we have here today and see if they feel comfortable. I think if they don't they'll inform the record.

MS. SOL : Right. And if they don't, we can bring these witnesses back to be available when biology is taken up. They are the witnesses who are addressing this topic.

HEARING OFFICER FAY: Okay. Great. Thank you for that offer.

MR. RATLIFF: Mr. Fay, related to that, the staff biology witness is Susan Sanders, and

she was unable to attend today as we had previously notified you. She is available next week if there is a continued hearing.

But my request to the Committee and to the parties is that she not be required to testify. There's nothing, I think, in her testimony that is at issue in this proceeding. And to the extent that the parties are interested in contamination and its effects on the Bay, those questions should be addressed to our soil and water witnesses, Mark Lindley and Michael Stephens. Her testimony doesn't address that at all.

And so I would ask the Committee not to require her to attend because I simply don't think there is good reason for her to do so. She is a private consultant, and she's very busy right now working on the bird kill study, avian mortality study related to wind projects. And it would be very inconvenient and probably expensive to have her come down here for a day for what I think will be probably not a very productive session.

HEARING OFFICER FAY: Okay. Well, I'll just re-emphasize my suggestion that people try to take full advantage of the witnesses who are here

today to ask any questions regarding their concerns about contamination harming the biological resources around the project.

MR. RATLIFF: What should I tell her, though, with regard to that? I mean, she will need to know if she's supposed to attend, and I will have to tell her --

HEARING OFFICER FAY: Well, I think --

MR. RATLIFF: -- before the end of the day.

HEARING OFFICER FAY: -- I think we're going to wait on that until later in the hearing.

MR. RATLIFF: Okay.

HEARING OFFICER FAY: We'll see how it unfolds and we need to be sure that all the parties can get their questions answered by the panels and witnesses that are here.

Yes, Mr. Sarvey?

MR. SARVEY: I haven't seen any biology testimony from any of the hazardous waste people or the water people, so I'm a little confused how they're going to be -- how they're going to represent biology.

HEARING OFFICER FAY: Well, I think it depends on what the question is. And they're just

going to have to play it a question at a time.

MR. SARVEY: Because we --

HEARING OFFICER FAY: But there are questions that they may be able to address, if it has to do with the transfer of pollutants into the Bay, that type of thing.

MR. SARVEY: Without prefiled testimony, I mean, it's pretty much at a disadvantage if they're going to start testifying to biological impacts. So, that's my only concern.

HEARING OFFICER FAY: Well, I think, in a way this may be helpful to you, if they are willing to answer questions within their expertise, and we'll get this on the record.

My understanding is that the biologists, because of the limited nature of the analysis of this brownfield site, have a fairly limited scope in their testimony. And many of the contamination issues might be beyond their understanding and comfort level in testifying.

So, I think we should take full advantage of this set of panels today and just see if that can address our needs. And if there's no need to cross-examine witnesses on biology, then that testimony can come in on declaration. But

we're going to withhold the ruling on that.

MR. SARVEY: Okay, well, that's a major bone of contention for me that they haven't performed the analysis that would allow us to take a good look at biology and uncover all the significant impacts.

And that's, like I say, I've been objecting all along to not having the ecological risk assessment performed and the health risk assessment. In fact, I filed a data request over two years ago that remains unanswered.

So, you know, I've got a problem with the way we're approaching this. I just wanted to get that on the record. Thank you.

HEARING OFFICER FAY: Sure. What I'd like to do is withhold the ruling on this until later, until this panel's addressed these concerns. And then we'll have a discussion about it after that.

MR. RATLIFF: Mr. Fay, this raises an issue that I think we're going to address shortly, and in answer to Mr. Sarvey, I guess I could say that our testimony is that the project has no impacts on the Bay. And that is going to be the testimony of our soil and water witnesses.

Therefore, for that reason, our biology witness has no testimony regarding impacts on the Bay.

There is a related issue of whether the existing contamination of the site, which is a preexisting condition, is having any effect on the Bay. And that will also be addressed in our testimony. But that is not an impact of the project according to our testimony. And that is something that has to be addressed, if at all, by the Regional Board, through its oversight of all remediation efforts at the site.

HEARING OFFICER FAY: Okay, thank you. All right, is the applicant prepared to go forward then? And how would you like to do this? Is your panel on waste any different from your panel on soil and water? Or is all together?

MS. SOL : There are slight differences to address the noncontamination issues. We can go forward with our waste panel and they include all of the witnesses who can address contamination, as well as any questions that might arise about the treatment of waste.

It would be optimal if the contamination issues or questions were addressed to that panel.

But we will have our contamination witnesses available also when soil and water comes up.

For soil and water we have in addition witnesses who are familiar with the water processes and how water is going to be treated, as well as our witness on soil.

But again, the contamination panel is here. And I will not dismiss them until we're done with soil and water, as well.

HEARING OFFICER FAY: Great. Okay, why don't we go ahead with your panel on waste management.

MS. SOL : Okay. Then I will go ahead and call Karen Parker, Karen Kubick, Randall Smith, Steve DeYoung, Tom Lae and Susan Gallardo, Robert Cheung and Lester Feldman.

(Pause.)

HEARING OFFICER FAY: Let's go off the record.

(Off the record.)

HEARING OFFICER FAY: Could the court reporter please swear the witnesses.

Whereupon,

KAREN PARKER, KAREN KUBICK, RANDALL SMITH
STEVE DeYOUNG, TOM LAE, LESTER FELDMAN

SUSAN GALLARDO and ROBERT CHEUNG
were called as witnesses herein, and after first having been duly sworn, were examined and testified as follows:

THE REPORTER: Now, could you each individually go down the line and just state and spell your full names, please.

MR. SMITH: Randall Smith, R-a-n-d-a-l-l S-m-i-t-h.

MS. KUBICK: Karen Kubick, K-a-r-e-n K-u-b-i-c-k.

MS. PARKER: Karen Parker, K-a-r-e-n P-a-r-k-e-r.

MR. FELDMAN: Lester Feldman,L-e-s-t-e-r F-e-l-d-m-a-n.

MS. GALLARDO: Susan Gallardo, S-u-s-a-n G-a-l-l-a-r-d-o.

MR. CHEUNG: Robert Cheung, R-o-b-e-r-t C-h-e-u-n-g.

MR. DeYOUNG: Steve DeYoung, S-t-e-v-e D-e-Y-o-u-n-g.

MR. LAE: I'm Tom Lae, T-o-m L-a-e.

HEARING OFFICER FAY: Thank you.

MS. SOL : Okay, Your Honor, I would like to move for the introduction into the record

of a series of documents. I'm going to have Ms. Parker deal with the documents that were submitted prior to the May 1st testimony, so why don't we start with her.

I'm also going to have the witnesses give introductory statements, but why don't we start with the documents.

DIRECT EXAMINATION

BY MS. SOL :

Q So, Ms. Parker, on behalf of the panel, do you have before you the April 17th testimony of the City, section on waste management?

MS. PARKER: I do.

MS. SOL : And under 1C there are a list of documents. Are you familiar with those documents?

MS. PARKER: Yes, I am.

MS. SOL : Do you have any changes to make to that list of documents?

MS. PARKER: I have one to add to this list of documents. It is appendix 8.13A, the final risk management plan, site management plan for the Muni site.

MS. SOL : And that was the appendix to supplement A filed on volume 2 of supplement A,

dated March 24, 2005, is that correct?

MS. PARKER: That's correct.

HEARING OFFICER FAY: That's a portion of exhibit 1?

MS. SOL : I believe -- yes --

HEARING OFFICER FAY: The AFC?

MS. SOL : Yes. Would you like me to read through each of the documents, Your Honor, or does --

HEARING OFFICER FAY: Yes. And please reference the exhibit numbers.

MS. SOL : Okay. So that would be exhibit 3, a portion -- or sorry, a portion of exhibit 3, applicant's response to CEC Staff request data response set 1A; responses to data requests 88 through 90, dated July 6, 2004.

Exhibit 9, applicant's response to CEC Staff data request informal data set 3, response to data request 145, dated August 20, 2004, supplement A to the application for certification for the San Francisco Electric Reliability project, volume 1, dated March 24, 2005, section 8.13, waste management. And that's exhibit 15. And I apologize, the reference to the document was actually exhibit 50, isn't that correct, Ms.

Parker?

MS. PARKER: Yes.

MS. SOL : Okay. So, it would be also exhibit 15, supplement A to the application for certification for the San Francisco Electric Reliability project, volume 2, dated March 24, 2005, appendix 8.13.

Then a portion of applicant's response to CEC Staff data request, data response set 3A, response to data request 184, dated June 3, 2005. That's exhibit 19.

Applicant's response to CEC Staff data request, informal data response set 6A, responses to data requests 6 through 11, dated July 11, 2005. And that's exhibit 29.

Applicant's response to Sarvey data request set 1A, dated July 25, 2005, responses to data requests 1-16 through 1-18; and that's exhibit 27.

Applicant's comments on the preliminary staff assessment set 1, comments 43, 44 and 70 through 74, dated October 12, 2005; and that's exhibit 39.

Applicant's response to CEC Staff data request, informal data response set 6D, responses

to data requests 6 through 10, dated October 14, 2005; and that's exhibit 32.

Applicant's response to CEC Staff data--

HEARING OFFICER FAY: Excuse me, exhibit 40 -- 4-2?

PRESIDING MEMBER BOYD: 32.

HEARING OFFICER FAY: 32.

MS. SOL : 32.

HEARING OFFICER FAY: All right.

MS. SOL : Applicant's response to CEC Staff data request, informal data response set 6D, response to data requests 6-10; it's an addendum; it's dated October 22, 2005; and that's exhibit 33.

Applicant's comments on the preliminary staff assessment set 2, comments 70 through 73, dated October 31, 2005; that's exhibit 40.

Applicant's comments on the preliminary staff assessment set 3, comment 71, dated November 2005; that's exhibit 41.

Applicant's comments on the preliminary staff assessment set 4, revised comment 70, dated December 30, 2005; that's exhibit 43.

Supplement B to the application for certification for the San Francisco Electric

Reliability project dated January 11, 2006, section 3.4 on waste management; that's exhibit 16.

Applicant's response to CEC Staff data request, informal data response set 9A, responses to data requests soil and water resources; that's 9-13 -- sorry, 9-13 and 9-21, dated January 13, 2006; that's exhibit 36.

Applicant's final field sampling plan dated February 14, 2006; that's exhibit 44.

Applicant's comments on the final staff assessment, set 1, comments 19 through 23 and 25 through 32, dated March 17, 2006; that's exhibit 45.

And the applicant's draft field investigation summary report dated March 30, 2006; that's exhibit 42.

HEARING OFFICER FAY: Thank you. Go ahead then with your testimony.

BY MS. SOL :

Q So, Ms. Parker, do you have any corrections or additions to make to these documents?

MS. PARKER: Not in addition to the one that I already gave you.

MS. SOL : Okay. And with these changes are the facts contained in these documents true to the best of your knowledge?

MS. PARKER: Yes, they are.

MS. SOL : And with these changes, to the extent there are opinions set forth in these documents, do they represent your professional judgment?

MS. PARKER: Yes, they do.

MS. SOL : And with these changes do you adopt these documents as your sworn testimony here today?

MS. PARKER: Yes, I do.

MS. SOL : Okay, I'd like to turn now to the supplemental testimony that was filed on May 1st of Ms. Gallardo on behalf of the panel.

Do you have before you the testimony that was filed by the City on May 1st that is exhibit 88?

MS. GALLARDO: Yes, I do.

MS. SOL : And do you have, as well, the errata that was filed on May 17th?

MS. GALLARDO: Yes, I do.

MS. SOL : Do you have any changes or corrections to make to those documents today?

MS. GALLARDO: No, I don't.

MS. SOL : And to the extent there are facts in these documents, are they true to the best of your knowledge?

MS. GALLARDO: Yes, they are.

MS. SOL : And to the extent there are opinions set forth in these documents, do they represent your professional judgment?

MS. GALLARDO: Yes, they do.

MS. SOL : And do you adopt these documents as your sworn testimony here today?

MS. GALLARDO: Yes, I do.

MS. SOL : Okay, Your Honor, I would like to proceed with an opening statement by Ms. Parker and an opening statement by Mr. Feldman to address waste management and soil contamination issues.

HEARING OFFICER FAY: Proceed.

MS. PARKER: Thank you. Construction of the facility will produce primarily nonhazardous wastes such as wood, paper, plastic and metal. In addition, small amounts of hazardous waste will be generated from welding, painting and cleaning of newly installed piping.

Stormwater runoff and water from

dewatering of excavations will likely be nonhazardous wastes, but will be collected and tested prior to disposal to determine whether they are hazardous.

Excavated soil will be assessed to determine whether it can be reused onsite or must be shipped offsite for disposal.

A variety of solid and liquid wastes will be generated during operation of the San Francisco Electric Reliability project. Some of the wastes will be nonhazardous material like paper, wood, cardboard, glass, plastic and metal, including packaging materials, broken parts requiring replacement and office and lunchroom wastes generated by the workers.

A lesser amount of waste produced will be hazardous waste that will consist of lubricating oil, used oil filters, oily rags and spilled cleanup sorbents, spent catalyst units and possibly cooling tower sludge if it is tested and found to be hazardous. These wastes are similar in nature to those produced by many other industrial and commercial business operations.

Wastes will be reused and recycled whenever possible in compliance with the City of

San Francisco's stringent recycling goals. In the event that they may not be reused onsite, the wastes will be shipped offsite to one or more commercial waste management operations for recycling or disposal.

Possible locations where waste could be shipped for recycling or disposal were evaluated for compliance with state and federal regulatory requirements, the ability to accept and manage the waste, and for future capacity for continued acceptance of the waste.

The evaluation of waste to be produced and available options for managing the waste concluded that the SFERP project would not have a significant impact on waste management capacity in the state.

In addition, it was determined that the waste would be managed in compliance with all federal, state and local requirements.

HEARING OFFICER FAY: Mr. Feldman.

MR. FELDMAN: Thank you. Good morning, Commissioners, Staff and members of the public. My name is Lester Feldman; I'm a Principal Scientist with Geomatrix Consultants. And I'm here today with my colleagues, Susan Gallardo and

Robert Cheung, to address questions pertaining to waste and soil and water, as they relate to soil and groundwater impacts reported at the proposed San Francisco Electric Reliability project site.

I have more than 30 years experience in the development, implementation and consultation related to water resources and toxics and hazardous materials control programs.

Prior to my last 12 years at Geomatrix I was the Senior Environmental Specialist at the California Regional Water Quality Control Board, the San Francisco Bay Region, for 20 years, where I was responsible for directing staff in developing and implementing toxic and hazardous materials assessment and control programs covering the nine San Francisco Bay Area Counties.

This experience included being the senior board staff liaison on toxic matters with the City and County of San Francisco.

And as I stated, I'm here with Susan Gallardo, a registered engineer with considerable Bay Area experience in toxic site assessments; development and implementation of cleanup plans, and risk management measures.

I'm also joined by Robert Cheung who has

considerable experience in the development and the review of health risk assessments and risk management plans. Robert is highly skilled in the practice of obtaining relevant environmental data in order to best quantify and mitigate the human health and environmental risks.

I would like to take this opportunity to briefly describe the major points of the Geomatrix supplemental testimony which was filed on behalf of the City and County of San Francisco on May 1, 2006.

The areas of our testimony include, one, the regulatory process of the California Regional Water Quality Control Board for toxic site redevelopment; two, the activities that have been completed at the subject site, including our opinion that the human health and environmental issues are manageable.

Three, a description of the actions that the City has committed to complete with Water Board and City Department of Public Health oversight; and lastly, fourth, a description of how these specific actions by the City will be designed and implemented to be protective of the offsite and the onsite public to workers and to

the San Francisco Bay environment.

As to the regulatory process, the regulatory process at the Water Board is well established. And by the state's AB-2061 process, the Water Board is the designated lead oversight and that is administering agency for this particular site.

As the lead agency, the Water Board's responsibilities include administering all state and local laws that govern site cleanup; determining the adequacy and extent of cleanup; issuance of necessary authorizations and permits; and following the determination that an approved remedy has been accomplished with the issuance of a certificate of completion.

All of these activities are administered after consultation with other regulatory agencies having jurisdiction over cleanup activities at the site, such as the San Francisco Department of Public Health.

As the lead agency the Water Board will coordinate with and receive input from the San Francisco Department of Public Health to incorporate article 22A requirements.

The City has discussed the process with

staff of the Water Board and DPH, and has developed, through AB-2061, the overall regulatory process has been deemed acceptable.

Lastly, this process provides the Commission for Commission verification that the requirements of the conditions of certification have been implemented in a manner that is satisfactory. That what has been done and are issues manageable at the site.

Substantial environmental investigation has been conducted at the site thus far. The investigations have indicated the character of the environmental impacts at the site. And the site conditions are similar to those found at other fill and industrial properties that front the San Francisco Bay, such as Mission Bay, PacBell Ballpark and numerous other Bay sites with which Geomatrix has had considerable experience.

In light of our knowledge from the investigation that has thus far been conducted, we know that there are readily available and commonly applied engineering technologies and controls that can be utilized to address environmental issues at the site. These technologies and controls can be applied following the guidelines of the agencies

such as the Water Board, the Department of Toxic Substances Control, the Bay Area Air Quality Management District, and the Department of Public Health at the City.

What is the City committed to do: The City is committed to working through the regulatory process that's outlined in our testimony. The City will abide by the existing Muni RMP/SMP, that's risk management plan and site management plan, until a site-specific risk management plan and site management plan are developed for the site.

The City will undertake a site-specific health risk assessment and an ecological screening exercise using the USEPA and CalEPA recommended risk assessment methodologies.

Ultimately the City will recommend that appropriate and acceptable combination of remedial measures and/or engineering or administrative controls that will be taken to protect workers and the public from the potential exposure to chemicals known to exist in soil and groundwater at the site.

These measures will be incorporated into a site cleanup plan, a risk management plan that's

applied prior to and during construction, a site cleanup plan during construction, and a site management plan to be implemented into the project's operations on an ongoing basis.

These plans will be developed in consultation with the Water Board and Department of Public Health, and will be subject to the approval of the Water Board, and certified by the Commission Staff as to compliance with the Commission's conditions of certification.

A timetable for cleanup and other administrative controls would be prepared at that time.

More specifically, the site cleanup plan. That will present site-specific cleanup goals and remedial alternatives that are considered and then selected to address incremental human health and ecological impacts identified in the human health risk assessment and the screening level and ecological risk assessment to achieve a less than significant level of impact.

The site cleanup plan which is equivalent to the Department of Toxic Substances Control removal action workplan, or RAW, will be

developed in compliance with the Water Board and Article 22A, and will detail the program and schedule for implementation of the selected remedies prior to construction.

These measures will be reviewed and verified by the Commission Staff as part of the conditions of certification prior to any soil disturbance and prior to any site mobilization.

Now, depending on the site conditions the City will update and revise the current Muni risk management plan and site management plan, specifying site-specific management measures that will be taken during construction. And these management measures include, but are not limited to, items such as fencing of the areas with exposed soil; dust control and dust monitoring; soil stockpile management; soil reuse procedures; contingency protocols; construction worker health and safety guidelines; groundwater dewatering procedures; erosion control measures; and stormwater management.

The City will enter into a covenant and environmental restriction with the Water Board, bound by the terms specified in the site management plan for long-term operation. Such

restrictions in the covenant may include, but are not limited to, restrictions on the use of groundwater for drinking water; preclusion of residential use at the site; and any criteria that are applicable for any future subsurface intrusions after the project is constructed and in operation.

The City has agreed to comply with the performance standards of the Commission for human health that are outlined in the Commission Staff's proposed conditions of certification. These conditions address potential health risks to construction workers and offsite receptors during construction; the potential health risk to site workers and the offsite public during future operations of the facility.

Any identified threats to San Francisco Bay will be mitigated in accordance with the United States Environmental Protection Agency and the State Water Resources Control Board's approved water quality control plan, and that is the basin plan for the San Francisco Bay that is administered by the Water Board.

How will the City's actions be protective of the public, be protective of onsite

workers, and be protective of the environment: The City is dedicated to the protection of human health and the environment by prescribing to a set of conditions that would entirely be protective of public health and the environment.

The City will prepare a site-specific human health and a screening ecological risk assessment that will be based on standards that are set forth to protect human health, to protect ecological receptors and to protect the environment.

These risk assessments will be scientifically based and will provide the basis to evaluate whether remediation, site restrictions and/or construction or design guidelines are needed to insure that the redevelopment of the site protects human health and the environment.

The City will follow pertinent state and local ordinances that regulate hazardous materials and potential soil and groundwater impacts. These regulations provide for the safe handling of hazardous materials and hazardous waste during construction and during remedial activities.

The various plans described within the Commission Staff's conditions of certification and

adopted by the City, and the City's adopted proposed conditions of certification will certify that the project's remediation and management measures will protect workers and the public from exposure to contaminants identified at the site.

The Commission's review process will insure that the City complies with these responsibilities that are outlined in the conditions of certification.

Thank you for your time in considering the Geomatrix' testimony. Susan and Robert and I are available to answer any questions related to this testimony. Thank you.

MS. SOL : The witnesses are available for cross-examination. I think what we'd like to do is have Mr. DeYoung direct the questions to the appropriate witness, since this is a pretty big panel.

The contamination obviously needs the contamination witnesses sponsoring the May 1st testimony, so such questions would certainly go to them. But, I think that having Mr. DeYoung manage traffic might be helpful.

HEARING OFFICER FAY: All right, fine. Mr. Ratliff, any questions from the staff?

MR. RATLIFF: Yes. And, again, I'm not sure who the question goes to, but I suggest it might be Mr. Feldman.

CROSS-EXAMINATION

BY MR. RATLIFF:

Q Because, Mr. Feldman, you just mentioned that there is -- you mentioned the term certificate of completion, which is a final document that the Regional Board can issue. Do you know if the City will seek a certificate of completion from the Regional Board for this property?

MR. FELDMAN: The certificate of completion essentially from the Regional Board is something that's granted after activities --

HEARING OFFICER FAY: Excuse me, Mr. Feldman, you'll have to speak into the microphone.

MR. FELDMAN: The certificate is generally issued after measures are completed, according to the AB-2061 process, the lead agency actions have been accepted -- that lead agency's proposed actions have been completed and are acceptable to the agency. So it's at the completion.

MR. RATLIFF: I understand that, but I'm

asking do you know if the City intends to seek that certificate of completion at the conclusion of that process?

MR. FELDMAN: Yes, the City intends to seek that certification.

MR. RATLIFF: The testimony from the applicant also mentions the discovery of hexavalent chromium on the site. Do you know what further activities the applicant -- oh, it's just chromium, I'm sorry, corrected, it's only chromium of undesignated type. Can you tell us what activities the applicant's going to take to try to determine the hazard represented by that chromium?

MR. FELDMAN: Let me give the microphone to Robert Cheung to answer that question.

MR. CHEUNG: That's all right, I have one down here. To address that question with respect to chromium, the plans are to collect additional data to see if hexavalent chromium is present at the site.

MR. RATLIFF: Will that involve further speciation?

MR. CHEUNG: I'm sorry, that's correct, that would involve further speciation whether the chromium exists in the hexavalent form.

MR. RATLIFF: Has that work been done yet, or is it still to be done?

MR. CHEUNG: It has not been done at this time.

MR. RATLIFF: Okay. Mr. Feldman, in your discussion you mentioned the performance standards that the staff has proposed. Do you foresee any difficulty in meeting the performance standards that staff proposed in its conditions of certification which the City appears to have mirrored in its proposed conditions of certification?

MR. FELDMAN: No, I don't see any problems with meeting those conditions.

MR. RATLIFF: Thank you. I have no other questions.

HEARING OFFICER FAY: Okay.

PRESIDING MEMBER BOYD: I have a question. Mr. Ratliff, I don't know what the appropriate time is, but when will staff -- or will staff respond to the suggested changes in the conditions that the applicant has put before us in this supplemental testimony?

MR. RATLIFF: You mean --

PRESIDING MEMBER BOYD: Soil and water

and waste.

MR. RATLIFF: Well, I think I'd like to have the witnesses address that when the panel is up. And I would also like to address it in the statement of counsel before we get started with our presentation.

But, yes, we should address that.

PRESIDING MEMBER BOYD: Thank you.

HEARING OFFICER FAY: All right, anything further, Mr. Ratliff?

MR. RATLIFF: No.

HEARING OFFICER FAY: Okay. Then we'll move to Mr. Sarvey cross-examining the panel.

CROSS-EXAMINATION

BY MR. SARVEY:

Q A question about the process that you're proposing here, how will the public and intervenors like myself who are involved in the CEC process know the impacts of the soil contamination and that adequate remediation will be provided? What's the public process for our participation as intervenors in the CEC process? This is the CEQA process.

MR. FELDMAN: Let me address the question of public participation. It actually

occurs at three levels, as I see it. One here at the Energy Commission; two, at the City and County of San Francisco when decisions are made in front of the public.

And three, and this particular process that we are discussing today at the Water Board, there are essentially three different approaches to public participation. One is the public forum at the regular regional board meetings where every month the board opens up the meeting to any questions or concerns from the general public about any site. And I believe this site has already been before the Regional Board under the public forum where questions were asked of staff about their participation in this project.

Too, at the Water Board there's the ability to have direct contact with Regional Board Staff. The Board Staff has a public telephone number and an email and they are responsible to listen to questions and provide answers, and invite people, the public or concerned agencies, to meet with them and discuss with them their review of certain documents that have been provided to them for review.

And thirdly, and I think this is the

most important, the evolving public participation program of the Water Board with regard to several items, and the first being that the Water Board has been issuing fact sheets mailed to the public within, I think they use a several-mile radius of the site, and they have the project proponent prepare a fact sheet and prepare a mailing list; and send that fact sheet to the public so that the public is aware of what the Water Board's view of these activities are. And what the Water Board's process will be in these matters.

And then also, as far as the Water Board's evolving public participation policy, the Board has been requiring a 30-day review, public review, agency review prior to approval of any of the documents that we talked about today. And those include the site cleanup plan, the human health risk assessment, the ecological risk assessment, the risk management plan and the site management plan which would be, obviously, in effect for the ongoing operations at the facility.

So the Board has an elaborate public participation program, as well as public participation programs existing at the City and also at the Commission.

MR. SARVEY: Are you familiar with the CEC process?

MS. GALLARDO: Who's that -- Steve, do you want to address that?

MR. SARVEY: I'm asking the --

MR. DeYOUNG: Bob, can you be a little more specific? Who --

MR. SARVEY: I'm asking the gentleman that asked a question how myself, as an intervenor in the CEC process, who became involved, to know the impacts of this project. You're going to postpone the knowledge of the impacts of this project till after this license is granted, according to your proposal.

My question --

HEARING OFFICER FAY: Is that a question, Mr. Sarvey?

MR. SARVEY: My question is how am I, as an intervenor, who's allowed to present witnesses and to participate in this process and prove my case, I can't even present a witness because I don't know what the impacts of this hazardous material is.

So, my question is how, in the CEC process, am I supposed to participate and know

that you're going to fully mitigate this hazardous materials?

MR. DeYOUNG: I'll answer the CEC portion of that. As with any condition of certification it'll be handled during the compliance phase of the project. And there is the opportunity for the public to be involved in the compliance phase of the project.

MR. SARVEY: Once the license is granted the --

MR. DeYOUNG: Correct.

MR. SARVEY: -- intervenor status is gone. Now I'm a member of the public. I want to know how, as an intervenor, I'm going to influence the cleanup of this project through the CEC process.

MS. SOL : Your Honor, I believe the question has been asked and answered.

HEARING OFFICER FAY: Well, it may be beyond the ken of this panel. And, you know, you might want to direct that to staff counsel when staff makes its presentation.

But I think the short answer is that, as you know, there's a public process, public access to the compliance process. But, as you point out,

it's different than your status as an intervenor. But it is not without access, and you do have recourse to file challenges to the work being done by the compliance staff.

MR. SARVEY: How much longer will it be before the health risk assessment and the environmental risk assessment will be completed for this project?

MS. GALLARDO: We haven't outlined a specific schedule yet, however there is a schedule with respect to the certificate of certification. And the schedule we will need to meet with the regulatory agencies to kind of work out specifically how we will meet the requirements of our certificate of certification with respect to completing the certain steps in the process.

MR. SARVEY: Can you provide me a general date?

MS. GALLARDO: I don't have one at this time.

MR. SARVEY: Okay. You intend to have this health risk assessment and environmental risk assessment in place before you move soil, is that correct?

MS. GALLARDO: That is the process. And

the way that we've outlined it in our testimony, basically, you know, the listing of the documents is basically the order of the process.

MR. SARVEY: My question is are you going to move soil before you perform this health risk assessment? Are you going to rely on the health risk assessment that's being conducted on the Muni site? Or will you specifically conduct this assessment on this particular piece of property before you move forward?

MS. GALLARDO: We will specifically perform the risk assessment and the eco risk assessment on this property before we move forward.

MR. SARVEY: But you have no timeline?

MS. GALLARDO: I do not have a timeline.

MR. SARVEY: Okay. I want to draw your attention to exhibit 27, page 13.

MS. SOL : Would you please give us a minute to get that before us?

(Pause.)

UNIDENTIFIED SPEAKER: What's the page number, again, Mr. Sarvey?

MR. SARVEY: Number 13, please.

I want to draw your attention to data

request 1-17. And I want to ask this question to the Project Manager.

Ms. Kubick, over a year ago I issued a data request for a site management plan and a risk management plan for this project. The site management plan and the risk management plan, according to the testimony, still hasn't been conducted.

Staff's also been requesting the same information since May 2, 2005; that was over a year ago.

Was the delay of this risk management assessment and site management plan a deliberate action by you on behalf of the applicant to avoid full disclosure of the project's environmental impacts to the public and to the Committee as required by CEQA?

MS. SOL : Objection, Your Honor, that's argumentative.

HEARING OFFICER FAY: Want to rephrase that, Mr. Sarvey, and let's --

MR. SARVEY: What's the delay in providing this risk management and site management plan? We need this information for full disclosure.

MR. DeYOUNG: Mr. Sarvey, I'll respond to that. Again, we're up here as a panel.

MR. SARVEY: Well, she's the project manager, she's responsible for --

HEARING OFFICER FAY: Mr. Sarvey, that was laid out ahead of time. They're testifying as a panel and let's let them do so --

MR. SARVEY: Well, Mr. DeYoung isn't responsible for making --

HEARING OFFICER FAY: -- and then we can rule -- Mr. Sarvey, I'm speaking.

MR. SARVEY: Okay, I'm sorry, Mr. Fay.

HEARING OFFICER FAY: Let's let them testify as a panel and then the Committee can decide --

MR. SARVEY: I'm sorry.

HEARING OFFICER FAY: -- if it's appropriate.

MR. DeYOUNG: In answer to your question the issue surrounding waste management and potential contamination at the site is an evolving issue, has been an evolving issue. We currently have conditions of certification that require the human health risk assessment and ecological risk assessment to be performed prior to the start of

construction at the site. And we will comply with those conditions.

MS. KUBICK: I could just add, the Muni RMP/SMP is in effect.

HEARING OFFICER FAY: Okay, thank you. Go ahead.

MR. SARVEY: That leads to another question. I believe that the other witness said that the Muni RMP/SMP would not be used on this project. They were going to develop their own site mitigation plan and risk management assessment, is that correct?

MS. GALLARDO: I'm sorry, --

MR. SARVEY: Contradictory to what I heard earlier.

MS. GALLARDO: If I can clarify. The RMP/SMP is in effect right now. And I believe, as we mentioned in our testimony, that that will continue to be in effect until we complete the human health risk and ecorisk assessment process. And at that time we will revise as appropriate. And we are calling those our RMP and then the subsequent SMP.

MR. SARVEY: And I want to go back to the question I asked you earlier, are you going to

move soil before you complete your own specific site management plan and risk management plan at this site, or are you going to use the Muni RMP/SMP?

MS. GALLARDO: Yes. If you look at the conditions of certification specifically, we have a timeline that says before mobilization to the site or movement of any soil these documents will be completed.

MR. SARVEY: So you don't intend to use the Muni RMP/SMP, correct?

MS. GALLARDO: The Muni RMP/SMP are in effect for basic things like keeping the site secure at this time.

MR. SARVEY: Okay. Now, calling your attention to page 3 of your May 1st submission, supplemental testimony. I'd like to know who prepared the site background on page 3.

MR. CHEUNG: That would be me, Mr. Sarvey.

MR. SARVEY: And what sources did you consult in the preparation of the site background?

MR. CHEUNG: The AGS report, the final risk management plan, as well as the Dames and Moore 1987 site characterization report.

MR. SARVEY: And have you disclosed all environmental damage known by the applicant on this site?

MR. CHEUNG: I'm not sure what environmental damage refers to.

MR. SARVEY: Well, your site background is purportedly listing all the environmental damage that's occurred on the site, you know, who's occupied it, what activities have taken place on it. Have you disclosed?

MS. SOL : Your Honor, I think the question merits some clarification. Are you asking whether we've disclosed the site history as we know it?

MR. SARVEY: Exactly.

MR. CHEUNG: That is correct, Mr. Sarvey, to the best of our knowledge.

MR. SARVEY: Okay. Now, in the last paragraph on page 3 of the site history, you discuss a cement batch plant. The owner of that plant wouldn't happen to be named Pacific Cement, would they?

MR. DeYOUNG: Yes, they are.

MR. SARVEY: They are?

MR. DeYOUNG: Correct.

MR. SARVEY: Mr. Fay, I'd like to introduce an exhibit, if I could, please?

HEARING OFFICER FAY: You may not do so at this time. This is your time to cross-examine. What is the purpose?

MR. SARVEY: The purpose of the exhibit is to disclose additional contamination that the City is not revealing to the Committee and the public.

HEARING OFFICER FAY: To ask questions regarding the document?

MR. SARVEY: Not ask questions, as an offer of proof that there's contamination on the site --

HEARING OFFICER FAY: Okay, --

MR. SARVEY: -- that the City has not disclosed.

HEARING OFFICER FAY: Then when you offer your direct case you may try to do it at that time. This is you time to cross-examine witnesses.

MR. SARVEY: I am going to cross-examine him on the contamination listed in this.

HEARING OFFICER FAY: Well, show it to counsel and we'll see if we can make use of it.

(Pause.)

MR. SARVEY: I would request that I could mark this as an exhibit and ask the witness some questions about it, please.

HEARING OFFICER FAY: Okay, you want to describe --

MS. SOL : Could I have a minute to review it, please?

HEARING OFFICER FAY: Yeah, give counsel a chance to review it, and then we'll have you describe it, Mr. Sarvey.

(Pause.)

MS. SOL : Actually, would it be possible to have a second copy here, please, for my co-counsel.

(Pause.)

MS. SOL : Your Honor, I've reviewed this document, and I don't have a problem with its being used for purposes of cross-examination. It's a public document. But, I would like to -- it involves more properties than just our property, and many more issues than just the uses on that property.

And I'll point out that our testimony does indicate there is a cement batch plant on the

property.

HEARING OFFICER FAY: Okay. Thank you. Then we will -- if Mr. Sarvey will identify the document, we'll give it an exhibit number.

MR. SARVEY: The document is -- the cover page is a news release from City Attorney Dennis Herrera, dated July 21, 2005. It's entitled, Herrera sues defiant polluter on behalf of Port of San Francisco. And attached to that is the City of San Francisco's brief to the Superior Court of the State of California, County of San Francisco.

MS. SOL : If I could just correct for the record, it's a complaint.

HEARING OFFICER FAY: Okay. That will be marked for identification as exhibit 90.

Okay, Mr. Sarvey.

MR. SARVEY: I'd like to draw your attention to page 8, paragraph 28, line 10. It's entitled, Pacific Cement's environmental offense at the Pier 80 property.

It reads: In the course of conducting operations at the Pier 80 property, Pacific Cement has committed a large number of environmental offenses and legal violations. These include,

without limitation, depositing concrete spoils, waste, allowing releases of waste oil diesel fuel, antifreeze, hydraulic oil and other fluids. These violations are further described in paragraph 50."

Did the City disclose this information to you, as part of your examination of the site history?

MR. DeYOUNG: The Pacific Cement site was addressed in supplement A as either being handled through the proceeding related to the document in front of us, or to be handled as cleanup during the compliance phase of the project prior to the start of construction.

And furthermore, the summary that was prepared as part of the additional testimony that you're referring to was a very brief summary. And all of these issues will be, and each of the reports will be further addressed as we prepare documentation to comply with article 22A.

MR. SARVEY: Can you show me in supplement A where you revealed this contamination and this issue?

MR. DeYOUNG: Can I show you in supplement A where we --

MR. SARVEY: Where you revealed the fact

that Pacific Cement has been accused of environmental offenses at the Pier 80 property.

MS. GALLARDO: While people are trying, thumbing through documents I'd like to just make a statement that the constituents that are listed here, when we did our review at the site we looked at the general data. We didn't look to see if it was generated by Pacific Cement or if it was generated from some other use of the site.

We looked at the analytical data. All the constituents that are mentioned here are actually part and parcel to the petroleum hydrocarbons that have been identified at the site. We have considered it and it doesn't really change our approach to the site.

HEARING OFFICER FAY: Excuse me, and when you say listed here, you mean in exhibit 90?

MS. GALLARDO: Yes, I'm sorry. Item 28 on page 8 that's being pointed out. So, I'd just like to clarify that we weren't specific to who created the issue there. We know that it exists.

MR. SARVEY: So, I'll ask again, did the City disclose to you that there was contamination by Pacific Cement at that site?

MS. GALLARDO: I'm sorry, can --

MR. SARVEY: Did the City disclose to you in the site background in your analysis that there was contamination on the site from Pacific Cement?

MS. GALLARDO: We have the analytical results that have been generated at the site.

MR. SARVEY: But they didn't disclose this to you, correct?

MS. GALLARDO: I had not seen this document until now.

MR. SARVEY: Okay. All right.

MS. KUBICK: I think I'd just like to clarify that it's visible to the eye that Pacific Cement is there and does have stockpile of materials. Our sampling program included boring locations throughout the four acres to really well categorize and characterize that. So we didn't avoid that area; we did sample where Pacific Cement is.

PRESIDING MEMBER BOYD: While you weren't aware of this specific complaint, were you aware that there was an issue at the Pacific Cement site involving various kinds of materials?

MS. KUBICK: We were aware that the Port was in the process of getting Pacific Cement off

the property, and that there had been some issues with how they were maintaining their site and keeping the site, because it's a large area and that they were not pleased with how Pacific Cement was maintaining the location.

But other than that, a lot of this was privileged, and there had been some other work ongoing through the Port.

HEARING OFFICER FAY: Did the Pacific Cement lease preclude any access on the City's part for taking samples?

MS. KUBICK: No. We were allowed to sample where Pacific Cement is.

PRESIDING MEMBER BOYD: Let me go on to another question. So going on that site and knowing, as I heard you say, that the Port had problems with the tenant and their operations there, were you aware that there was possibly petroleum products wasted on the soil that could be a problem?

MS. KUBICK: Not from the Pacific Cement usage, no.

PRESIDING MEMBER BOYD: Okay. No other questions.

HEARING OFFICER FAY: Go ahead, Mr.

Sarvey.

MR. SARVEY: Yeah, I have a question about your sampling technique here. According to what I read here you started your soil samples at six inches below the surface, is that correct?

MS. SOL : Mr. Sarvey, could you point us to the document that you're referring to?

(Pause.)

MR. SARVEY: If you'd like we could move on to CARE's questioning while I locate that, if that pleases the Committee.

(Pause.)

MR. SARVEY: I'll have to find that testimony. If you'd like to move on to CARE's questioning I'll come back.

(Pause.)

HEARING OFFICER FAY: Do you have other questions, Mr. Sarvey?

MR. SARVEY: Just related to the last question I asked. Could you describe your soil sampling procedure that occurred where the construction trailers were? There was an impermeable layer over that. My understanding is you scraped off four inches, then went three inches under it and sampled dirt, is that correct?

MR. DeYOUNG: I'd ask Mr. Lae to respond to that.

MR. LAE: Yes, that's correct. There was a layer that was placed by the contractor staging materials there, and clean fill was placed on top of that.

MR. SARVEY: And that was the Pacific Cement --

MR. LAE: No, that's on the south side of the -- south part of the property.

MR. SARVEY: Okay. And did you sample the top four inches of the --

MR. LAE: No. We went below that first layer into --

MR. SARVEY: So you didn't sample the surface where the --

MR. DeYOUNG: I believe the area that you're referring to has construction trailers associated with the Muni project.

MR. SARVEY: Um-hum.

MR. DeYOUNG: What they did for the Muni project was to place a gravel layer, a permeable membrane to differentiate existing soil from the gravel. We went through the gravel layer and took surface samples of the existing, the pre-Muni

soil. And that's at the other end of the facility; that's not in the Pacific Cement area.

MR. SARVEY: Throughout the site, though, you started your sampling like six inches below the surface, is that correct? You analysis of your samples, your borings started six inches below the surface?

MR. LAE: That's correct, nominally about six inches below the surface.

MR. SARVEY: And did you analyze the top six inches of those borings?

MR. LAE: No.

MR. SARVEY: No. And did you analyze the top six inches of the borings in Pacific Cement area?

MR. LAE: It was the same process.

MR. SARVEY: Did you take any samples at the Pacific Cement area?

MR. LAE: Did we take any samples at the Pacific Cement area?

MR. SARVEY: Um-hum.

MR. LAE: Yes, we did.

MR. SARVEY: Okay, that's all I have.

HEARING OFFICER FAY: Okay, thank you. Mr. Boyd, does CARE have cross-examination?

MR. BOYD: Yes, Mr. Brown is --

HEARING OFFICER FAY: Okay. Mr. Brown? You'll be asking the questions for CARE.

CROSS-EXAMINATION

BY MR. BROWN:

Q Good morning. Dr. Goldberg, --

UNIDENTIFIED SPEAKER: These guys just --

MR. BROWN: Okay. Do you have a San Francisco --

(Laughter.)

MR. BROWN: Okay, do you have a San Francisco Bay Regional Water Quality Control Board-approved cleanup plan or remediation investigation report in which there is necessary data to perform an ecological risk assessment on disturbance of onsite contamination of water and soil associated with this project?

MR. DeYOUNG: No, we do not yet have an approved plan.

MR. BROWN: Are there any other agencies you represent in this proceedings, the CEC, the City and County of San Francisco, the agencies that are subject to requirements of the California Environmental Quality Act, CEQA, for meaningful

and informed public participation in this project approval?

MS. SOL : Your Honor, I'm not sure I understand whether there's a question, or what it is.

MR. BROWN: Are there any CEQA agencies -- are you a CEQA agency?

HEARING OFFICER FAY: You mean is the City subject to CEQA?

MR. BROWN: Yes.

HEARING OFFICER FAY: Okay. Mr. DeYoung, do you --

MR. DeYOUNG: Yes.

HEARING OFFICER FAY: The answer's yes.

MR. BROWN: Why is the CEC and the City deferring public participation in this project, San Francisco Bay Regional Water Quality Control Board approved cleanup plan or remedial investigation report until after the CEC approves this project development in my low-income neighborhood? Is this because my neighborhood is predominately African-American and Samoan? How will the public participate in this process?

MS. SOL : Your Honor, the question of how the public will participate in the project has

been answered. It's been asked and answered.

HEARING OFFICER FAY: It has been asked and answered. And what I'd like to do, Mr. Brown, is see if you may have another chance to get your questions answered when staff counsel goes through the review process and the authority process, the question of where the authority lies, with which agency, that type of thing.

So, you'll have to move on.

MR. BROWN: Why is the CEC and the City deferring the participation in this project, the human health risk assessment and the ecological risk screening assessment using site-specific groundwater contamination compared to the San Francisco Bay Regional Water Quality Control Board, 203 ESLs, a revised site-specific risk management plan, and a site-specific site management plan? How will the public participate in this process?

MS. SOL : Your Honor, I believe that's the same question.

HEARING OFFICER FAY: Well, Mr. Brown, by deferred do you mean why are the answers to that question going to be determined after the CEC has acted on the license?

MR. BROWN: Yes.

HEARING OFFICER FAY: Okay. I think it has been asked and answered, but, Mr. DeYoung, can you briefly give the applicant's position on why some of these tests and analyses will take place after CEC action?

MR. DeYOUNG: As we previously stated, as with many of the conditions of certification there are requirements that they be conducted prior to the start of construction. And during that phase, during the compliance phase any of the documentation that is filed with respect to this issue will be available to the public as part of the CEC compliance process.

HEARING OFFICER FAY: Okay.

MR. BROWN: In the City's March 30, 2006 draft field investigation summary report at page 7 it states, at section 5.1.9, pH. pH in the soil reported from all samples collected across the site range in the value from 7 to 12.6. The highest value, 12.6, was reported from the SB-25, at five feet below ground surface, BGS.

Other values greater than pH of 10 was reported across at both surfaces and subsurface sample locations. The majority of high pH values

were reported at surface or of 5 feet BGS samples.

Is this high pH material naturally occurring?

MR. DeYOUNG: I'd ask Mr. Lae to respond to that.

MR. LAE: I think just given the nature of the fill material that is at the site, it's quite possible that it was -- it's from the fill, itself.

MR. BROWN: Is that your answer?

MR. LAE: Well, whether or not it's naturally occurring or not, I can't really say.

MR. BROWN: Why hasn't the City been required to perform a complete characterization of the site with a grid map of more than -- more through a thorough bore and soil vapor samples? Do you agree the whole site needs characterization?

MR. DeYOUNG: Could you please rephrase the question?

MR. BROWN: Does the site where they want to -- the City wants to put the peakers at, does it need a site characterization, a more thorough site characterization of the site?

MS. KUBICK: I can respond to that.

This was our site characterization process, and it was very thorough; and it was multiple depths and multiple locations. The answer, this was our site characterization process.

MR. BROWN: Is it because Pacific Cement is located on the property, what is the City alleging they have discharge and what is the pH on this material?

MS. SOL : Could you -- which material are you referring to?

MR. BROWN: The material that was discharged, quote-unquote, by Pacific Cement, including cement material.

MR. DeYOUNG: We sampled in the area of Pacific Cement; those results are contained in our final investigation study.

MR. BROWN: Okay. About this pH 12.6 material, don't you consider it caustic material, a form of soil contamination?

MR. DeYOUNG: it's high pH, and I think as Mr. Lae indicated, we don't know if it's naturally occurring or as a result of the fill.

HEARING OFFICER FAY: But do you characterize it as caustic? Does this trigger a different handling requirement?

MS. GALLARDO: If I may answer that. The information that's been provided through the site characterization, again will be evaluated through the process that we've laid out.

So if there's any special handling of materials such, that will be laid out as we work through this process. And 12.6 is caustic.

MS. KUBICK: And the purpose of our investigation was to categorize the site, characterize the site for the purpose of construction of the SFERP, not looking at Pacific Cement's activities.

HEARING OFFICER FAY: Okay. Go ahead, Mr. Brown.

MR. BROWN: Okay. Oh, yeah, isn't this considered a hazardous waste under the Federal Resource Conservation and Recovery Act?

MR. DeYOUNG: Actually, soil in situ is not considered a waste. It's not considered a waste until it's destined for disposal.

MR. BROWN: Why isn't the pH 12.6 material considered the primary contaminants of concern for this area?

MS. GALLARDO: I'm not actually sure why you reached that conclusion. In our testimony we

point out that there have been many constituents of potential concern at that site, or at this site, that will need to be evaluated.

MR. BROWN: What is being done to determine the extent of this contamination?

MS. GALLARDO: Again, the site has been characterized; we understand what the constituents are at the site. And we are going to evaluate those through our human health risk assessment and through the eco risk assessment, in conjunction with the regulatory agencies as we march through here.

And, again, you know, we're committed to meeting the requirements that, from the Regional Water Quality Control Board, as well as Article 22A.

MR. BROWN: In the City's May 1, 2006 supplemental testimony it states at page 14, chromium 6 is present, would be expected to be reduced to chromium 3 in the soil where anaerobic condition exists. What are the areas of contamination where the soil contamination exceeds pH -- what about the areas where the contamination, where the soil contamination exceeds pH 12.5?

MR. CHEUNG: Well, I first want to clarify that we don't have specific information collected from the site whether or not chromium 6 is present at the site. That appears to be some additional information that would be required for us to deal with site-specific risk analysis.

I had indicated earlier that we would, on behalf of the City we would be collecting additional data to speciate whether or not hexavalent chromium is present at the site. And if it is, then we would carry that through the risk assessment process.

In addition, there are mitigation measures to address chromium 6.

MR. BROWN: A complete site characterization and -- do you expect anaerobic bacteria to consume any of the hydrocarbons to where they reduce the pH down to below 12.5?

MS. GALLARDO: We've not studied that issue at this point.

MR. BROWN: A complete site characterization and speciation for chromosome (sic) 6 must be done, do you agree?

HEARING OFFICER FAY: Is that chromium 6?

MR. BROWN: Yeah.

MS. GALLARDO: As stated in our testimony we're planning to conduct additional sampling to speciate chromium at the site.

HEARING OFFICER FAY: Mr. Brown, we need a brief morning break. What would be a good time? You just have a few more questions?

MR. BROWN: Yes.

HEARING OFFICER FAY: Okay. Go ahead.

MR. BROWN: Is the site property part of the Port property?

MR. DeYOUNG: Yes.

MR. BROWN: Is the site considered public trust land held in trust for maritime use only?

MS. GALLARDO: No.

MR. BROWN: Is the proposed project a maritime use?

MS. SOL : Objection, Your Honor, that calls for a legal conclusion.

HEARING OFFICER FAY: Okay, that's sustained.

MR. BROWN: Okay.

HEARING OFFICER FAY: We don't have a panel of legal experts here.

MR. BROWN: Okay.

HEARING OFFICER FAY: You can argue that in your brief, although the answer to the question makes your followup question irrelevant, since they said it's not limited to --

MR. BROWN: Okay, thank you.

HEARING OFFICER FAY: -- maritime use. Anything further?

MR. BROWN: No.

HEARING OFFICER FAY: That's it. Okay.

MR. BROWN: Thank you.

HEARING OFFICER FAY: We're going to take a ten-minute break, and we will be back on the record in ten minutes.

(Brief recess.)

HEARING OFFICER FAY: All right, we're back on the record and CARE has indicated that they have concluded their cross-examination of the panel.

Ms. Sol,, do you have any redirect?

MS. SOL : I have a few questions, Your Honor.

HEARING OFFICER FAY: Okay.

MS. SOL : Your Honor, shall I proceed?

HEARING OFFICER FAY: Yes, please do.

MS. SOL : Okay.

REDIRECT EXAMINATION

BY MS. SOL :

Q Is the high pH that is present on the site unusual in industrial sites?

MS. GALLARDO: The high pH isn't necessarily unusual, and given the fact that there is a cement plant at this site, it's not unusual that you would find the high pH there.

Additionally, this is a fill site that has materials from various sources. So, you can have naturally occurring soil, you could have limestone; it's got a high pH.

So, again, the high pH isn't necessarily an unusual situation.

MS. SOL : And are there mitigation measures available to address any concerns that would arise from high pH?

MS. GALLARDO: Yes. And, again, what I want to emphasize is that the high pH isn't necessarily a detrimental condition. However, if you're, let's say for instance your goal is that you're concerned about sediment with high pH running off the site, then there are measures that you could take to prevent that from occurring.

And those measures could include maybe some soil removal; they could include some capping; they could include, you know, other management issues for stormwater.

MS. SOL : Okay. And if hexavalent chrome were found to be present on the site, are there mitigation measures available to achieve the health-based standards that the City is proposing in its conditions of certification?

MS. GALLARDO: Again, with hexavalent chromium it's relatively unstable in the environment, particularly in a reducing environment that we likely have at this site due to the existence of petroleum and because you're in a marine environment.

So, naturally it's likely that if hexavalent chromium is present at the site that it is reducing to trivalent chromium. However, you can enhance those conditions so that you can reduce it. And, of course, there is always the option of removing impacted soil if necessary.

MS. SOL : And so there are mitigation measures available to address the condition if there happens to be?

MS. GALLARDO: Absolutely.

MS. SOL : Thank you. I have no further questions.

HEARING OFFICER FAY: Okay. Any recross, Mr. Ratliff?

MR. RATLIFF: No.

HEARING OFFICER FAY: Mr. Sarvey? And that is, of course, limited to the scope --

MR. SARVEY: Right, right.

HEARING OFFICER FAY: -- of the redirect.

RECROSS-EXAMINATION

BY MR. SARVEY:

Q What level of hexavalent chromium would render this site unusable?

MS. GALLARDO: That's actually a health risk assessment question, although I have to say that because there are mitigation measures that are available, I don't think that there's likely any level of hexavalent chromium that would render it unusable.

MR. SARVEY: There's no level that would make it unusable, is that what you just stated?

MS. GALLARDO: Again, there are mitigation measures that are available for which we would address the hexavalent chromium, if

present.

MR. SARVEY: If you decide that there is a sufficient amount of hexavalent chromium on the property to excavate, where would that soil be taken to?

MS. GALLARDO: It depends on the characterization of the soil for disposal purposes. And depending on the profile of that material, there are facilities, class I, class II and III facilities where it potentially could go.

MR. SARVEY: Thank you, that's all.

HEARING OFFICER FAY: Okay. And, Mr. Brown, any recross?

MR. BROWN: Yes.

MR. BOYD: This is Mr. Boyd

RECROSS-EXAMINATION

BY MR. BOYD:

Q On the pH question you were saying that the chromium would tend to change from chromium 6 to --

MS. SOL : Objection, Your Honor, that mischaracterizes the testimony, I believe.

MR. BOYD: I thought I heard her say that it would change because of the presence of reducing, reduction at the site.

HEARING OFFICER FAY: Why don't you phrase it as a question. Just --

MR. BOYD: Okay. The question is what mechanism would result in a reduction of chromium 6 to chromium 3 that's present at the site?

MS. GALLARDO: In a reducing environment chromium 6 becomes trivalent chromium. And in most environmental conditions, and by that I mean not at an environmental site, but in environmental conditions, chromium 6 in soil is relatively unstable and naturally reduces to trivalent chromium.

MR. BOYD: And when you say reduction, does that mean because there's some sort of acidic property of the soil that reduces it?

MS. GALLARDO: No, it's not an acidic property; it really has to do with the presence of electron receptors or not.

MR. BOYD: In a high pH soil over 12.5 would that occur?

MS. GALLARDO: Again, at this particular site we have petroleum in the soil which creates a reducing condition, so, yes, it could occur.

MR. BOYD: Even where it's 12.5 pH or greater?

MS. GALLARDO: Yes.

MR. BOYD: Okay, thank you.

HEARING OFFICER FAY: Anything further? Okay, anything further, Ms. Sol,?

MS. SOL : No, Your Honor.

HEARING OFFICER FAY: Okay, then does the Committee have any questions?

PRESIDING MEMBER BOYD: No questions.

HEARING OFFICER FAY: Okay, I just have a couple things.

Is it clear to the applicant which agency will have the final authority in approving of your site handling plan?

MR. DeYOUNG: Mr. Feldman.

MR. FELDMAN: Excuse me? I didn't hear, excuse me.

HEARING OFFICER FAY: Is it clear to the applicant which agency will have the ultimate authority in approving your site cleanup plan?

MR. FELDMAN: The site cleanup plan will be approved ultimately by the Water Quality Control Board, but ultimately it has to meet the condition of certification and thus verified by the Commission as being appropriate to meeting those conditions of certification.

HEARING OFFICER FAY: Okay. And can you tell us why, if it's true, it appears from the testimony that borings were not sampled within the first six inches on the site, why is that?

MR. LAE: That's a typical sampling method to not take just the specific surface, just below surface. That's a typical sampling approach.

HEARING OFFICER FAY: And what is the reason for that being a typical sampling approach?

MR. LAE: Just, that's just -- I'm not sure to tell you the truth, sir.

HEARING OFFICER FAY: Okay. Anybody else have a response?

MR. CHEUNG: The primary purpose of the sampling plan was to collect representative data of site conditions. Typically near-surface from zero feet to six inches below grade you may be getting other stuff that may have it early deposited from, wind, erosion or other operations.

And going back to the purpose of the sampling was to try to assess the conditions of soil impacted from historical use.

HEARING OFFICER FAY: From historical use?

MR. CHEUNG: From historical operations for soil uses.

HEARING OFFICER FAY: Now, what if you wanted to know the condition of the soil that would be disturbed during construction? Wouldn't you need information on the first six inches for that purpose?

MR. CHEUNG: Yes, you do. We have data collected at multiple depths that would be representative of what construction activities will dig, go into.

MS. GALLARDO: If I may add to that.

HEARING OFFICER FAY: Sure.

MS. GALLARDO: Typically when you do a sampling program and I don't know the specifics of the protocols that were used on this sampling program, but when you take your sample it's from zero to six inches. Or, you know, maybe it's from two to eight inches, or something like that.

And that is intended to give an idea of what the conditions are in the surface soil. It doesn't necessarily mean it's right at that, you know, air-to-surface interface.

And when you're going through and you're doing site construction activities, you know,

typically you need to grade the site. You are going to be, you know, moving that top six inches of soil.

So to represent it in that soil column is appropriate.

HEARING OFFICER FAY: So, you anticipate that information about that soil will be available prior to soil disturbance?

MS. GALLARDO: The information about that soil is already available based on the sampling program that was conducted.

HEARING OFFICER FAY: Thank you. That's all I have. Anything further, Ms. Sol,?

MS. SOL : No, Your Honor.

HEARING OFFICER FAY: Okay. I thank the panel for your testimony and you are excused for the moment. And it's up to you and your counsel how you want to physically change your situation, but, Mr. Ratliff, are you situated so you can testify and present your panel?

MR. RATLIFF: I'm not going to testify.

(Laughter.)

HEARING OFFICER FAY: So your panel can --

(Pause.)

HEARING OFFICER FAY: While the witnesses are getting settled, Mr. Ratliff, are you initially going to give us an overview of the legal situation --

MR. RATLIFF: I do want to make a statement of counsel. It is not testimony. It is an attempt to explain, I think, the legal context for the testimony that follows.

And in doing so I hope to answer some of the questions that have been asked this morning.

HEARING OFFICER FAY: Okay. Please go ahead.

MR. RATLIFF: Well, let me get my witnesses up here first. Let me see, do we have Vince here?

(Pause.)

HEARING OFFICER FAY: Would the court reporter please swear the panel.

Whereupon,

ALVIN GREENBERG, MICHAEL STEPHENS, MARK LINDLEY and VINCE GERONIMO

were called as witnesses herein, and after first having been duly sworn, were examined and testified as follows:

COURT REPORTER: Would you please

individually state and spell your names for the record.

DR. GREENBERG: Alvin Greenberg, last name spelled G-r-e-e-n-b-e-r-g. And I have been previously sworn in these proceedings.

MR. STEPHENS: Michael Stephens, last name S-t-e-p-h-e-n-s. And I haven't been sworn in previously.

MR. LINDLEY: Mark Lindley, L-i-n-d-l-e-y. I haven't been previously sworn in.

MR. GERONIMO: Vince Geronimo, V-i-n-c-e G-e-r-o-n-i-m-o.

MR. RATLIFF: Mr. Fay, these are the witnesses that we have today in this panel. They're for the issue of soil and water and also for waste management.

Three of the witnesses are for soil and water; Mr.Greenberg is for waste management. Mr. Lindley, Mr. Geronimo and Mr. Stephens are for soil and water.

Before I ask the preliminary questions and we hear the summary of testimony I would like to briefly go into the legal background for what we're doing here today. And that is that

basically the issue of sight cleanup and remediation involves two statutory overlays. They are, like I say, they overlap but they're not entirely consistent, or they aren't entirely, I should say, coincident.

The first one is the Energy Commission's Warren Alquist Act, by which the Commission is designated the lead agency for CEQA purposes; and by which one of the duties of the Energy Commission is to disclose and to provide mitigation for any significant impacts to the environment.

And we're used to thinking, I think, at the Energy Commission that that's pretty much the end of it, because our statute has got very preemptive language which makes the Energy Commission a permit in lieu of all in lieu permits, or all other state and local permits. And so typically the Energy Commission provides the only mitigation and the only requirements that go along with any aspects of the things that pertain to impacts on, and the mitigation of impacts that have to do with power plant licensing.

But when we get to site remediation we

have another statute which is also very sweeping in its preemptive nature, and that is the unified agency review of hazardous materials release site statute. That's in Health and Safety Code; it was referred to earlier by the previous panel as the 26260 or 2601 statute, 26260 and the statutes that follow are the statutes that address the concept of an administering agency for site cleanup.

And in this case, and I think this is unusual in our case, we do have a CalEPA-designated administering agency. Administering agencies under the statute can be either the Department of Toxic Substances Control or they can be the Regional Boards. And there are criteria in the statute determining which of these agencies, when the Regional Boards are so designated.

In this particular situation the Regional Board was designated by CalEPA in 1999 to be the administering agency.

When you have an administering agency its powers are very preemptive. It's supposed to, notwithstanding any other state or local law, it's supposed to manage the remediation of the site and the characterization of the site. It is the final authority with regard to all of those issues.

And so you have two statutes which purport to be preemptive which apply here. And we're trying to make them work, and I think we have. Keep in mind that the differences that the Energy Commission's role and its attempts here are to explain project impacts and project mitigation. And this is permit related. CEQA is triggered by the application for permit in our case.

With regards to the administering agency there is no permit relationship requirement. When you have had a toxic release on land it creates a duty for cleanup, and the administering agency has authority whether or not there is a permit application. This is an ongoing, preexisting duty to address impacts on property or pollution on property that may be entirely preexisting of any permit application.

And that is the case here, as well, where you have had, over a long period of time, industrial pollution of a brownfield site. You have existing pollution and potentially existing impacts which, for instance there could be seepage from this site to the Bay that exists now. We don't know that. That's one of the things that we're requiring an assessment to determine.

But in any case, for those preexisting impacts the authority for that kind of remediation and the authority for addressing those issues is entirely with the Regional Board.

Now, for the issues that have to do with project impacts such as public health and such as worker safety, the Energy Commission does have a role. It has to make sure that any impacts from that project are addressed such that public health is protected. And we think we've done that.

So the duty of the staff here, and the purpose of our role so far, is to provide complete disclosure of the site and its characteristics. It's to require mitigation that protects public health and worker safety. And it's also to try to make -- to sort of respect the remediation role of the administering agency, but while working with that agency to make sure that any performance standards that we adopt for environmental protection are observed.

And what we've done to achieve this is as follows: We have required further site characterization of the existing site in consultation with the Regional Board.

We have -- and that's the draft sampling

plan that was referred to earlier today. That was a plan where the Regional Board and the Energy Commission, in consultation with DTSC, agreed upon a site characterization plan to more fully characterize pollution on the site.

Secondarily, we've collaborated with the Regional Board on discussing the menu of potential mitigations that may be required for the site. And these are mitigations that we don't know if they will be required, but we at least know the range of those mitigations; and they're discussed in our testimony. These are not exotic or new things. Things such as hot spot removal or the treatment of pumped water.

In addition to that we have proposed conditions that require the documents that will be used by the Regional Board for its site cleanup plan. That includes the health risk assessment, the screening ecological risk assessment and a site management plan.

And we've also required, before there can be any disturbance of soil or site mobilization we've required that the applicant receive a site cleanup plan, what is called a site cleanup plan, by the Regional Board, which will

set forth the mitigation that will be required to fully clean up the site.

Or alternatively, if based on all of these studies the Regional Board determines it appropriate, a no-further-action letter.

Finally, we have required performance standards which are protective of public health and worker safety, and we have basically gotten consent from the Regional Board, an agreement with the Regional Board that those standards are ones that they would have enforced.

Finally we have proposed a memorandum of understanding with the Regional Board to make sure that we can participate with the Regional Board, and along with other agencies, such as the Department of Toxic Substances Control, in making sure that the site cleanup plan, if required, will include all of the necessary mitigation to protect public health to the performance standards that we are requiring.

Finally, I also want to address the issue of nomenclature. And I think, Mr. Fay, you referred to that earlier. If you look at the staff's conditions they look rather different than the applicant's conditions. And there's a reason

for that. The terms used are different. I think that's the biggest difference.

And I don't think that there is a substantive conflict between any of those conditions, and the witnesses can address that. But when we wrote our conditions we were still trying to figure out what the terms -- what the different documents are called.

And unfortunately, there's no consistency within the different agencies as to what different documents are called. DTSC has its own terms; the State Board has its terms; and each of the Regional Boards apparently have their own terms.

And so when we wrote it we were using DTSC terms and State Board terms; terms that we had gotten through discussions with the State Board about what these documents should be called.

I think the applicant, having the possibility of filing their testimony, their supplemental testimony at a later date, was able to use the nomenclature which is more familiar to the Regional Board. And I think that's the more appropriate set of terms.

And what we propose to do is file a

document which melds the applicant's conditions of certification with our own so we can get those terms consistent.

And finally, we requested that the Regional Board, Mr. Steve Hill, participate in today's hearing. He had conflicts with other meetings that prevented him from participating. But I will attempt to solicit written comment from the Board about the awareness of the Board's -- the Board Staff's awareness of what the Energy Commission has done and is doing. And a statement that it agrees with our approach.

HEARING OFFICER FAY: Mr. Ratliff, you indicated that you've entered an MOU with the Regional Board and DTSC, is that --

MR. RATLIFF: We have not entered one. We have proposed one and we're still working out the details.

HEARING OFFICER FAY: Okay. Well, if and when that is completed would you make it available to the record?

MR. RATLIFF: Certainly.

HEARING OFFICER FAY: But in the meantime I think it would be very helpful to get a statement from a responsible representative of the

Water Board as to their support of the approach that the staff and applicant are taking.

In addition, you characterized the differences between your conditions of certification and those of the applicant. Is the difference in terms the only difference that remains? In other words, if we adopt verbatim the language of the conditions of certification in these areas that applicant has proposed, is staff in agreement with that?

MR. RATLIFF: My understanding, and I think this is really best addressed to our witnesses, is that they are the same. We had some discussions about that trying to determine whether or not they were the same as the staff witnesses'. We discussed this together.

We believe they are. We don't believe there's any difference. But I would rather have our witnesses address that.

HEARING OFFICER FAY: Okay. Anything further, then?

MR. RATLIFF: No. I perhaps should do some preliminary questions before we start.

HEARING OFFICER FAY: Mr. Boyd, what's the nature of your question?

MR. BOYD: We would like to object to the fact that you're not producing the Regional Water Quality Control Board witness. We had requested a witness, and the Committee directed a witness to appear. We'd like to object and request that that witness be called at a later date when he is available. Perhaps we could deal with the biological resource issue at that time since the witness wasn't available today, and we did have some questions on biological resources.

So, --

HEARING OFFICER FAY: I'm not sure of the relationship with those two questions.

MR. BOYD: There's no relationship.

HEARING OFFICER FAY: Okay, but I do understand --

MR. BOYD: I'm just saying --

HEARING OFFICER FAY: -- your --

MR. BOYD: I'm just saying I'm objecting to the fact that you guys requested a witness, and apparently they're not here. And we have questions that we can't ask now. And really, something in writing isn't going to give us an opportunity to do that, since, you know, we would like the real person here. And we thought that

was going to be the case.

HEARING OFFICER FAY: Okay, do you want to -- are you prepared to indicate the nature of the things you would ask the Water Board witness if they were here?

MR. BOYD: I have a list of questions if you want me to go over what the questions, some of the questions were.

HEARING OFFICER FAY: Are you willing to submit that to the record? Rather than take time now I think if you've got the questions written out, that would help us. Or you can file it, if you plan to file an objection and a request to have that witness present, you could --

MR. BOYD: Well, I'd rather have the witness present. And I understand that biological resources, the reason I brought up the biological resources question, my understanding their witness wasn't available today for that --

HEARING OFFICER FAY: That's correct.

MR. BOYD: -- issue, as well. So if we're going to have to come back, possibly come back --

HEARING OFFICER FAY: And we may have to come back for a number of other topics, too.

MR. BOYD: For other reasons, why not, you know, --

HEARING OFFICER FAY: But I want to hone in on your reason for the --

MR. BOYD: -- I'd rather have the real body here, is what I'm saying, than to do it in writing.

HEARING OFFICER FAY: Are you willing to submit the nature of the questions you would ask the Water Board if the Committee were to require a Water Board witness to be here?

MR. BOYD: Certainly. If you require him to be here, I'm totally willing to provide you the nature of the questions that we're going to ask.

HEARING OFFICER FAY: Why don't you file that.

MR. BOYD: I will after today.

HEARING OFFICER FAY: Okay, good.

MR. BOYD: I'd be happy to file that.

HEARING OFFICER FAY: Good, thank you.

MR. BOYD: Do you want me to file a formal written objection, too?

HEARING OFFICER FAY: The objection you don't need to file. I would just like to

understand what exactly you would like to ask the witness if a witness for the Water Board was produced, so we understand exactly the nature of your concerns.

MR. BOYD: Well, our concern is basically the same as we've been raising which is basically our understanding is that the Regional Board, like the CEC, are all CEQA agencies. And that CEQA requires a meaningful and informed public participation in whatever the process is that's going before that agency.

In this case it's the remedial investigation and the remedial action plan. And associated reports of human health risk assessment, ecological risk assessment and so on. We want to know what -- that's why we asked the witness to be there so they could talk about their SLIC (phonetic) program, how the public participation is involved in that. And then to ask specific detailed questions about the project site and what the role of the Regional Board has been.

And basically based on the objection they filed, it appears that they're saying that they don't have anything to review yet from the

applicant. And I was planning on asking Dr. Greenberg about that in a little bit.

But, in any case, that's the same questions we're basically asking all the witnesses were the ones that we were going to ask the Regional Board witness, except for specific details that apply to the Regional Board.

HEARING OFFICER FAY: That's fine. I don't need anything further, thank you. All right, any --

MR. RATLIFF: Mr. Fay, if I may, we would like -- we agree with Mr. Boyd, we would like to have Mr. Hill here, as well. But, as Mr. Hill pointed out when I asked him to come, he doesn't really want to be cross-examined and he doesn't have any testimony for this agency. So he was afraid that he would be cross-examined, I think, because he asked that question.

His idea, his notion of the role here is that they're an advisory sister agency. And that when they get the documents that we're requiring they'll have something to say about them. But those documents have not yet been provided. In fact, they have not yet been required. They're in our conditions of certification.

So, they feel like it would be premature to try to give conclusions about documents that don't exist yet, or that they haven't seen yet. They're probably -- I hope they're forthcoming soon from the applicant.

But I also want to emphasize something else, though, that may have gotten lost in my statement, and that is that I think you'll hear our witnesses testify today that there is no impact from this project on the Bay. And, in fact, the construction of this project would probably be ameliorative to any existing impact on the Bay because the applicant is proposing to cap it.

In other words, that is not a CEQA impact that we are proposing to either examine or mitigate. That is a preexisting impact that has got to be addressed by the Regional Board. And they will do so based upon the results of the ecological risk assessment that we are requiring.

So we haven't got any testimony about impacts on the Bay because there is, according to our witness, no impact on the Bay from the project.

So that's what I'm trying to emphasize,

our biological witness isn't going to be very useful on this because she hasn't provided any testimony about an impact on the Bay from the project.

So, if she were to come, that kind of question would not be within the scope of her testimony.

HEARING OFFICER FAY: Shifting back to the Water Board, I think that it would be helpful to have input from the Water Board, one, to establish their support of the approach that the staff and the applicant are pretty much in agreement with.

And, two, to clarify what some of the parties have raised, what is their access to the process by which the Water Board would approve various steps for this site, when all the information is available.

Now, there may be other ways to do that, but obviously having somebody from the Water Board with authority answer the question would help.

We're not going to decide that right now, so we can move ahead. But I think those two points are the most valuable to the Committee.

So, why don't we go ahead and present

your witnesses.

MR. RATLIFF: Okay.

MR. SARVEY: Can I make a comment, Mr. Fay? Mr. Fay, can I make a comment?

HEARING OFFICER FAY: Very briefly, Mr. Sarvey.

MR. SARVEY: Yeah. Mr. Ratliff here said that the Regional Water Quality Board witness didn't want to appear because they didn't have the studies and they didn't want to be cross-examined. And this is the same dilemma that we're facing as intervenors.

We can't even present witnesses because we don't have any ecological risk assessment; we can't present a biologist; we don't have a risk management assessment, so I can't bring in my experts.

And once this license is granted all this is going to be determined outside the CEC process. And that's not the nature of the CEC process, to get full disclosure of all significant impacts. And we have nothing but speculation here. We're saying, oh, we don't know if there's damage to the --

HEARING OFFICER FAY: I understand your

position. All right, let's go ahead with the witness panel.

MR. RATLIFF: Yes.

DIRECT EXAMINATION

BY MR. RATLIFF:

Q Mr. Greenberg -- Dr. Greenberg, did you prepare the testimony, I believe it's exhibit 46, which is in the final staff assessment, titled, waste management?

DR. GREENBERG: Yes, I did.

MR. RATLIFF: And did you also contribute to the staff supplemental testimony on toxics and waste management, soils and water, filed April 10th, exhibit 47?

DR. GREENBERG: Yes, I did.

MR. RATLIFF: And also the errata to that testimony filed April 17th, exhibit 49?

DR. GREENBERG: Yes, I did.

MR. RATLIFF: Is that testimony all true and correct to the best of your knowledge and belief?

DR. GREENBERG: Yes, it is.

MR. RATLIFF: Do you have any changes to make at this time?

DR. GREENBERG: Not at this time.

MR. RATLIFF: And, I'll ask collectively of our three soil and water witnesses, Mr. Geronimo, Mr. Lindley and Mr. Stephens, did you collaboratively contribute to the final staff assessment, exhibit 47, in the area of soil and water.

MR. GERONIMO: Yes.

MR. LINDLEY: Yes.

MR. STEPHENS: Yes, I did.

MR. RATLIFF: And is that testimony true and correct to the best of your knowledge and belief?

MR. STEPHENS: Yes, it is.

MR. GERONIMO: Yes.

MR. LINDLEY: Yes.

MR. RATLIFF: And do you have any changes to make in your testimony?

MR. STEPHENS: No, I don't.

MR. LINDLEY: No, I don't, but I think Vince may have.

MR. GERONIMO: I do have one change. It's kind of a matter of soil and water. It's in exhibit 46.

MR. RATLIFF: Could you tell us the page?

MR. GERONIMO: On page 4.9-11, first full paragraph following the soil and water table 2. I ask that it be removed, including the table that it contains, which is the constituent and effluent table.

MR. RATLIFF: Okay, we're talking about page 4-9 -- 4.9-11, and that's at the lower half of the page, the last full paragraph plus the table that follows it?

MR. GERONIMO: That's correct.

MR. RATLIFF: Okay. And can you briefly state why you're deleting that?

MR. GERONIMO: The Electric Reliability Plant will not use steam generated approach that's applicable to the boiler facilities in 40CFR423. So it's no longer -- it's not needed.

MR. RATLIFF: Okay, would that change -- is your testimony true and correct to the best of your belief?

MR. GERONIMO: Yes, it is.

MR. RATLIFF: Okay. I would ask Mr. Greenberg to first go through, I think he has a short presentation that he will make about waste management, and I would ask him to do that at this time.

DR. GREENBERG: If it's okay, Mr. Ratliff, I'd like to also give about a 30-second rendition of some of my qualifications that are certainly pertinent and relevant to upcoming questions perhaps by intervenors.

I have a PhD in chemistry and three years of post-doctoral work in toxicology. I served for three and a half years in CalOSHA in the enforcement branch, and two years on the CalOSHA Standards Board, appointed by the Governor of California.

I served on the initial site mitigation advisory committee to the then toxic substances control program which developed the methodologies for site characterization and for human health risk assessment.

I then was appointed by the first CalEPA Secretary Jim Strock to the DTSC overview committee, where we conducted over a nine-month to one-year period in overview of all programs within the newly designated Department of Toxic Substances Control.

I've conducted site mitigation and health risk assessment at over 50 sites, both federal Superfund, state Superfund, in and out of

the State of California.

With that we'll go forward to my presentation and the conclusions in waste management, which also involve the generation of solid and hazardous waste during construction and operations, not just the contamination on the site, is that any of this waste, including site contamination, would not result in significant impacts to either workers on the site, or to the general public offsite if the proposed conditions of certification are implemented.

During operation impacts there mitigation involving nonhazardous solid waste and hazardous waste and there are some conditions of certification that would require the applicant to prepare solid waste and hazardous waste management plans as per SB-40.

One of the noteworthy public benefits is that the applicant has committed to recycling goals that far exceed SB-14 requirements. And this not only decreases the impact on landfills, but it also decreases the impact in the community by obviating the need to have any type of waste trucks going to and from the facility.

Requirements in the proposed conditions

of certification require regarding site contamination initially included waste management-6, which was a request by staff that the applicant provide full site characterization. The applicant has already done this, according to a sampling and analysis plan that was reviewed and approved by staff and by the Regional Board Staff; and with comment from Department of Toxic Substances Control.

This sampling was conducted during February of 2006. The sampling and analysis plan had been docketed, was on the Commission website at least three weeks prior to the start of sampling analysis. So it was available for comment by the public.

We are now requiring in an existing proposed conditions of certification a site-specific human health risk assessment and an ecological risk screening assessment. These two things the applicant has agreed to, and this is what will drive any remediation.

I would like to briefly mention some of the waste management and other conditions of certification that will insure protection of the public. There are a total of ten conditions of

certification found either in air quality section, worker safety section or in waste management that will address protection of workers and the public due to the subsurface contaminants and surface contaminants on this site.

Waste-1, for example is that a registered professional engineer or geologist will have full authority by the project owner to oversee earth-moving activities that have a potential to disturb contaminated soil.

Waste-2 will allow that individual to inspect any potential hazardous waste encountered on the site, or at linear facilities. So this addresses the waterlines and gaslines, et cetera. And designate or describe and require any sampling to confirm the nature and extent of any contamination that somehow escaped during the -- or escapes the notice during our site characterization. So this is an additional layer of insurance that after the site characterization, after site mobilization has already occurred, the site has been remediated already, we still are requiring scrutiny of this site to prepare against any contingency.

Moving on then, let me briefly mention

the four air quality conditions of certification. That's AQSC-1 and -2, AQSC-3 and AQSC-4. These add construction mitigation manager and mitigation plan. The applicant must have somebody out there as a construction mitigation manager. They have to develop a plan.

Air quality SC-3 is the construction fugitive dust control approach -- or plan. And then AQSC-4 is the response that is required if any visible plume is noticed under certain parameters. And that would mean if it gets too far from the location where the plume is being generated, but yet stays onsite. Or if there's any plume visible at all that is starting to go offsite. This plan will detail what has to be done, such as additional dust control methods including shutting down activities.

Finally, there is also the worker safety condition which is proposed condition of certification number 4, where the CEC will have its own observer onsite during site remediation, during construction. This is a safety monitor reporting to the CBO, chief building official, who, of course, reports to the Commission's compliance unit.

And that individual, the safety monitor, will ride herd on worker safety and make sure that all the conditions of certification that would protect workers and the offsite public are indeed being implemented from our perspective, and not just the perspective of the applicant's monitor.

So waste-6 will require that human health risk assessment, an ecological risk screening assessment, a site cleanup plan and a site-specific risk management plan. This is consistent with the applicant's proposal for changing waste-6. We've gotten rid of old waste-6, which required site characterization; so this is now new waste-6.

And I will provide for the Committee a written writeup after the end of this hearing today that will meld these two together. Basically I am accepting everything that the applicant has --

HEARING OFFICER FAY: Excuse me, Dr. Greenberg, by these two, you mean the applicant's language and the staff language?

DR. GREENBERG: Yes. I'm sorry for that. The applicant's language is something that I accept. Right now the only thing that I would

change is just some editorial words to make sure something is abundantly clear. But other than that, it will be word-for-word with what the applicant is proposing.

They have, I think, presented it in a very logical format. And so there will be a waste-6, a waste-7, the site management plan, and the certification. And they'll add in waste-9 is the -- these are the risk management goals, the cleanup goals, the protection of workers and offsite public during remediation and during construction that counsel Ratliff alluded to earlier.

The Regional Water Board has accepted these, also. These are consistent with CalEPA risk management goals.

With that, then I'll entertain questions.

MR. RATLIFF: Well, Mr. Greenberg, maybe I can be the first to ask some. If there is remediation at the site, it will be required by the Regional Board in what's called a site cleanup plan, is that correct?

DR. GREENBERG: That is correct.

MR. RATLIFF: And could you tell us what

kinds of measures might be taken to clean up that site?

DR. GREENBERG: Right, --

MR. RATLIFF: Assuming they are required.

DR. GREENBERG: Yes. In my experience this site does not present anything unusual as far as hazardous waste sites go around the state or even some of them I'm familiar with around the country.

There can be only a limited number of remedial actions that can be taken. And I have catalogues some of those and mentioned some of those, not only in supplemental testimony, but in the original final staff assessment.

And these would include removal of some hot spots. What we term a hot spot is an area of soil that contain particularly high levels of say PAHs, polynuclear aromatic hydrocarbons, or arsenic. And that soil then would be removed, transported to either a hazardous waste treatment facility or a disposal facility.

Confirmatory sampling would then be taken at the edges of the removal area to confirm that you've got the whole hot spot.

Alternatively, there can be soil gas remediation. There has been some toxic substances in vapor form found in soil gas at the site. This could be a soil vapor extraction referred to as SVE.

There's also contaminants in the groundwater, principally polynuclear aromatic hydrocarbons. And those can be removed by pumping and treating.

You can have a combined system where you're pumping and treating the groundwater, removing contaminants, and at the same time removing contaminants from the soil gas.

I'm not saying at this time which one the Regional Board will choose. But there are a limited number of remedial actions that can be proposed. They are aware of them; we're aware of them. We have discussed those as companion agencies, and we're all pretty much onboard as to what they might come up with.

MR. RATLIFF: And if those remedial actions are used, is it your opinion that you would expect public health to be protected?

DR. GREENBERG: Yes. I not only expect it, but it would be required. And as I mentioned, the City's going to have its monitor there, and

we're going to have our monitor there.

MR. RATLIFF: And that would be true for worker safety, as well?

DR. GREENBERG: That is correct.

MR. RATLIFF: Okay, thank you. I also would like to ask Mr. Lindley to summarize for the soil and water witnesses his testimony.

I think Mr. Lindley may also have a brief --

MR. LINDLEY: I have actually some slides I can put up.

MR. SARVEY: Are we addressing soil and water and hazardous materials at the same time?

MR. RATLIFF: Yes, this panel is addressing both.

MR. SARVEY: We didn't do that with the applicant, did we?

HEARING OFFICER FAY: No, we didn't, and we'll be returning to the applicant's --

MR. SARVEY: Oh, okay.

HEARING OFFICER FAY: -- testimony on soil and water.

MR. SARVEY: Thank you.

HEARING OFFICER FAY: And I'm sorry for the confusion. Staff preferred doing it this way.

And we'll just have to see. It may be a challenge for the record, but --

MR. SARVEY: Because I needed to ask the applicant some questions on soil and water, and then address the staff. So maybe the staff can still be available after --

HEARING OFFICER FAY: Mr. Ratliff, is that --

MR. RATLIFF: I'm sorry?

HEARING OFFICER FAY: Can the staff continue to be available?

MR. RATLIFF: I haven't consulted with them. You mean available --

HEARING OFFICER FAY: All right, well, that's --

MR. RATLIFF: When do you mean?

HEARING OFFICER FAY: Let's see what your needs are later. Why don't you go ahead.

MR. RATLIFF: Our decision to combine these witnesses, it was, I think, for everyone's convenience because they're all addressing the issue of remediation, which I think is the principal issue of concern to the intervenors. And it's certainly the issue that goes to the issue of public health.

MR. BOYD: We don't object, we just want our opportunity to do soil and water on the applicant, that's all.

HEARING OFFICER FAY: We understand.

(Pause.)

MR. LINDLEY: I'm Mark Lindley. Michael Stephens here, and Vince Geronimo and I prepared the testimony, the final staff assessment for soil and water resources. Based on the information that was provided by the applicant, and that we've gathered from sister agencies, we have determined that potential soil and water impacts from the proposed project will be mitigated to less than significant levels provided that the conditions of certification that we recommended are implemented.

The proposed project will comply with all laws, ordinances, regulations and standards related to soil and water resources.

Just a quick overview of our staff assessment, the project's proposed for a site on Port of San Francisco property. This site is comprised of fill material and historic Bay lands. This site is very close to San Francisco Bay. And surface water and groundwater currently flow towards the Bay.

Historically, the site was used by the Western Pacific Railroad, as we know, for maintenance, lubrication fueling. Currently it's being used, or I guess it's in the process of being vacated by a concrete batch plant.

We know that the site is impacted by petroleum hydrocarbons, polynuclear aromatic hydrocarbons, VOCs, metals from these previous land uses. And there's the potential that this existing contamination could be migrating towards San Francisco Bay. And it could pose an impact to marine life.

In our staff assessment we examined potential impacts to soil and water resources. We looked at wind erosion, water erosion and sedimentation and determined that through the use of BMPs that are required in the drainage erosion sediment control plan and SWPPPs that are included in soil and water conditions 1 and 2, that those impact could be mitigated.

We also, due to the existing contamination at the site, we wanted to be sure that San Francisco Bay would be protected, so we have asked for a treatment control BMP that will enable the applicant to collect construction

stormwater, that runoff before it leaves the site. And test that water to make sure that it meets certain standards before it's discharged to San Francisco Bay.

Potential soil and groundwater contamination from leaks during construction or leaks of chemicals during operations can be mitigated through the use of spill prevention BMPs.

What that is pumped from excavations on the site during construction will be treated and -- - well, treated if necessary. It'll be tested and discharged to the combined sewer system under limitations by the San Francisco Department of Public Works.

Post-construction stormwater from the site will be discharged to San Francisco Bay and it'll go through a vegetative swale, which is a BMP under the Port's NPDES permit and their existing stormwater pollution prevention plan.

We looked at water supply and treatment, although I'm not sure -- I'm sure we're going to have a discussion with the applicant and then with staff, as well, on water supply and treatment. I know right now we're getting into the soil

contamination issue.

I'm not sure if Dick thinks I should go through this at this point, or wait till our next --

MR. RATLIFF: Why don't you summarize it just very briefly.

MR. LINDLEY: Okay. We looked at water supply and treatment at the project. The primary water source for the project is going to be reclaimed water from the Southeast Water Pollution Control Plant.

This wastewater is treated to secondary standards. It's going to be used for process water, equipment rinse water, that kind of stuff. It's reclaimed water will be treated through a tertiary treatment process onsite to Title 22 standards.

The project is proposing to use a system that includes ultra-filtration, disinfection and reverse osmosis.

These plans will be reviewed by the Department of Health Services, the Regional Board, to determine their adequacy.

The site's also going to include a dual plumbing system that will prevent mixing of

treated wastewater with the potable supplies. That plan will be reviewed by the Department of Public Works.

This site will use potable water as a backup supply. The use of this potable water supply will be limited to 50 acrefeet per year -- excuse me, 50 acrefeet over any three-year period.

A compliance project manager is going to monitor water use, both the potable water source and the reclaimed water source.

And wastewater discharge will be to the combined sewer system under limitations set forth by SFPUC.

We've included conditions of certification that covers each of these requirements.

So now the issue of the day seems to be the existing soil and groundwater contamination. We had the applicant do some initial testing in 2005 and then they followed that up with a more complete characterization of soil and groundwater in February 2006.

We've determined that the soil and groundwater is impacted by TPH, polynuclear aromatic hydrocarbons and metals at levels that

greatly exceed the Regional Board's screening levels. PAH levels at the SFERP site in one particular hot spot are considerably higher than they were at the neighboring Muni site.

And the results of the investigation show that groundwater is contaminated by petroleum hydrocarbons throughout the site and also at the down gradient monitoring boring hole that's located closest to San Francisco Bay. This indicates that this contamination could be moving towards the Bay and could pose significant ecologic risk.

Remedial measures beyond the cap and maintain approach that are being used at the Muni site may be required. These measures could include, as Alvin described, hot spot removal. If it goes beyond that it could potentially include groundwater and/or soil vapor extraction and treatment. That kind of a measure may extend into the operation of the plant.

Staff has provided supplemental testimony and the applicant has also followed up with their supplemental testimony. And I think that the two parties have pretty much reached an agreement to an approach.

The applicant has provided language in their soil and water-6 which is also concurrent with waste-6, that it requires a human health risk assessment, an ecological assessment, a site cleanup plan and a risk management plan. And staff has reviewed that, and from the soil and water side we are okay with the language that the applicant has proposed.

The applicant has also proposed a long-term site management plan and certification report as part of soil and water-7. And risk levels to protect human health in soil and water-13.

The bottomline with this issue is that remedial actions will include measures to limit impacts to soil and water resources both during like implementation of these remedial actions and looking out into the future. These remedial actions are going to address environmental/ ecological risks. And they would be protective of the health of the onsite workers and the offsite receptors.

And I'm available for questions. Michael Stephens here to help out, and Vince, as well.

HEARING OFFICER FAY: Okay. Mr.

Ratliff, before we allow cross-examination of the panel, did you want to move any of the testimony and other documents into evidence?

MR. RATLIFF: Yes. I would move that those portions of waste management and soil and water portions of exhibit 46, as well as exhibit 47, and exhibit 49 go into evidence.

HEARING OFFICER FAY: Is there objection? All right, hearing none, so moved.

And, again, before we go on, I'm jumping back now, but I'm not sure, Ms. Sol,, if you moved all the exhibits that you named in your long list. And just to be safe, do you want to do that at this time?

MS. SOL : I would like to move those documents into evidence.

HEARING OFFICER FAY: Okay. And I heard no objection earlier. Is there any objection to the documents and exhibits that the applicant moved?

MR. SARVEY: I object to the May 1st submission as incomplete and misleading by the applicant in the site description.

HEARING OFFICER FAY: What part of it?

MR. SARVEY: In the site description.

HEARING OFFICER FAY: In the site description.

MR. SARVEY: Misleading and incomplete by the applicant. I'd like to have --

HEARING OFFICER FAY: And what is the basis for that?

MR. SARVEY: I'd like to have that stricken. They didn't disclose the Pacific Cement violations that they're alleging to the Commission or to the public, so I'd like to have it stricken.

HEARING OFFICER FAY: Okay, do you want to respond, Ms. Sol,?

MR. BOYD: We'd also agree with that.

MS. SOL : Your Honor, we indicated that Pacific Cement is present at the sampling that was done on the site was done in February 2006. The complaint was filed in July of 2005. And so our sampling indicates the contaminants that are present in the soil.

We did not list, you know, what releases could have happened by each of the uses on the property because there was to be a sampling plan. And a sampling plan was undertaken which shows what, in fact, is on the property.

HEARING OFFICER FAY: Okay. We're going

to overrule that objection because the critical aspect is the constituents in the soil that are being sampled, not who caused it to happen.

MR. SARVEY: What about the top six inches?

HEARING OFFICER FAY: Well, you have your ruling.

MR. BOYD: They didn't sample.

HEARING OFFICER FAY: That's --

MR. BOYD: Gary, would you have the record reflect that CARE also objected for the same reasons as Mr. Sarvey?

HEARING OFFICER FAY: Okay, the record reflects we have objections from CARE and Mr. Sarvey on that issue and the Committee's overruled it.

All right, any other objections to the list of applicant's exhibits? All right, then we will accept all those as listed in applicant's testimony.

Okay, I'm sorry for the interruption, Mr. Ratliff. Let's go ahead. I just wanted to be sure we had that in.

MR. RATLIFF: If I could ask one last direct question before I turn over the panel to

cross-examination.

BY MR. RATLIFF:

Q I'd like to ask Mr. Greenberg if he could answer the question that was just asked, what is the importance of the first six inches of surface material, and whether failure to sample that creates a problem for the site characterization.

DR. GREENBERG: Thank you, Mr. Ratliff. Because I would like to reassure the public that when doing site characterization sometimes you do sample at the surface and sometimes you don't. This is a clear case where you don't.

Because I did inspect the site. I was there several times, and I was there during the initial first day of sampling.

We know what's on the surface. It's cement dust, old cement dust and it's, in fact, there's a lot of it there and there's piles of it there. It would serve no useful purpose to analyze the surface because we already know what's there, and it has to be dealt with.

What we wanted to know was what was below that artificial layer. There is fill there. We want to know what's in the fill, the historical

fill. This was an artificial placement as a result of very sloppy conditions at that cement plant.

So, it would have served no useful purpose. We really wanted to know what was below that. And we already know the answer, there's cement there. And the borings certainly bore that out, pardon the pun.

MR. RATLIFF: Okay, with that I would like to make the witnesses available for cross-examination.

HEARING OFFICER FAY: Okay. Ms. Sol,, any questions for the panel?

MS. SOL : I had one question for Mr. Greenberg.

CROSS-EXAMINATION

BY MS. SOL :

Q Mr. Greenberg, you testified that with the remedial measures that you gave as examples, you would be assured that there would be no significant impacts from this project.

If the City commits to a health-based standard, and it is shown that something less than the remedial measures that you listed are what's needed to achieve that standard, would that

similarly make you comfortable that the project would have no significant impacts?

DR. GREENBERG: Yes, indeed, Ms. Sol,. I only gave a few examples, not all of them. And certainly if the health-based decision were to include a remedial action different from what I had mentioned, I would be still very comfortable with what it was that you selected.

And the CPM does have -- the compliance project manager will have the opportunity to review it and approve it.

MS. SOL : Thank you, Mr. Greenberg.

HEARING OFFICER FAY: Is that all you have, Ms. Sol,, for the panel?

MS. SOL : Yes.

HEARING OFFICER FAY: Okay. Then we'd move to Mr. Sarvey but he has stepped out. Is CARE prepared to go forward with cross-examining this panel?

MR. BROWN: I'm going to ask the same questions.

CROSS-EXAMINATION

BY MR. BROWN:

Q Mr. Greenberg or any other CEC witnesses, do you have -- Mr. Greenberg, I'm

asking the same questions I asked before, so do you or any other witnesses, CEC witnesses, do you have a San Francisco Bay Regional Water Quality Board-approved cleanup or remedial investigation report in which there is necessary data to perform and ecological risk assessment on disturbed, on onsite contamination of water and soil associated with this project?

DR. GREENBERG: This is Alvin Greenberg responding. No. There is no Regional Board decision on this or opinion yet, other than, of course, informal advice given to us as a sister agency.

MR. BROWN: Are any of the agencies you represent in these proceedings, the CEC or the City and County of San Francisco agency, that are subject to the requirements of the California Environmental Quality Act for a meaningful and informed public participation in this project approval?

DR. GREENBERG: This panel represents the California Energy Commission, and yes, it is, indeed, under the CEQA laws. And this is the functional equivalent of a CEQA EIR. That is, the staff assessment is the functional equivalent of

the EIR.

MR. BROWN: Why is the CEC and the City deferring public participation in this project, San Francisco Bay Regional Water Quality Board approved cleanup plan remedial investigation report until after the CEC approves this project development in my low-income neighborhood? is it because the neighborhood is predominately African-American and Samoan? How will the public participate in this process?

DR. GREENBERG: The Energy Commission process does not discriminate against any group. And we are not deferring all of this to after certification. I think that it would be appropriate to point out that this is not a precedent where some of the activities involving site contamination at a proposed power plant site are deferred until after certification.

A applicant sometimes needs to know whether they have a project in order to go forward, which can be very expensive, depending on the site, activities. It would not be prudent, certainly, to go forward if there was no project. So first there really should be a project.

Second of all, there has been ample

opportunity for the public to participate in this process through staff workshops, through the posting of the sampling and analysis plan on the Commission's website.

Third of all, post-certification for conducting remedial activities has been done in previous siting cases, most recently the Morro Bay case with Duke Energy.

Fourth, the Regional Water Board's own public participation process is extensive and will give the public ample opportunity to comment on the site cleanup plan, the human health risk assessment, certification, et cetera.

MR. BROWN: Okay. Why is the CEC and the City deferring public participation in this project's human health risk assessment and ecological risk screening assessment using site-specific groundwater concentrations compared to the San Francisco Bay Regional Water Quality Control Board, 2005 ESL a revised site specific risk management plan and a site management plan. How will the public participate in this process?

DR. GREENBERG: My previous answer also applies to this question.

MR. BROWN: In the City's March 30,

2006, draft field investigation summary reported at page 7 it states in section 5.1.9, talks about pH. pH in the soil reported from all samples collected in the area across the site range in a value from 7 to 12.6. The highest value, 12.6, was reported from SB-25, five feet below ground surface BGS.

Others value greater than pH of 10 were reported across at both surface and subsurface sample locations. The majority of the high pH values were reported at the surface of -- or five BGS samples.

Is this high pH material naturally occurring?

DR. GREENBERG: The question is, is it naturally occurring. And the answer is probably a mixture of natural occurring and also some of the cement that is certainly at the northern portion of the site, and may also have migrated or drifted to the middle and central portions of the site.

Quite frankly, I'm surprised not that there is some alkaline materials on this site, but that it wasn't more extensively found on the site, and that the pH wasn't even a little bit higher than 12.5.

This is commonly found at many cleanup sites. It is not really a primary concern, as we certainly know how to deal with these types of soils.

MR. BROWN: Just to go back on that, now you said cleanup sites pertaining to for example. What type of cleanup would you be referring to?

DR. GREENBERG: Well, the cleanup plan, sir, could be a mixture of leaving it in place and capping. Could also include removal of hot spots. It could include some onsite treatment or offsite treatment. It also could include some soil vapor extraction and groundwater treatment.

MR. BROWN: Why hasn't the City been required to perform a complete characterization of the site with the grid map and more thorough bore and soil vapor samples? Do you agree the whole site needs characterization?

DR. GREENBERG: It was at my urging and request and with a proposed condition of certification that has since been removed that the City did, indeed, conduct this sampling and analysis. I believe this is a very thorough site sampling plan. It was reviewed and approved by myself. It was reviewed and approved by the

Regional Water Board Staff.

This is only a four-acre site. And if one were to just combined the number of samples, the analytes, those are the contaminants, sampled for and the various depths, add those up and compare it to other sites of much greater size, you'll find that this site is more than adequately characterized.

And it was not necessary to put a grid down and sample on 100-foot or greater grids because there was already some preliminary data from the soil borings that were taken in August of 2005 for soil characterization for construction. And those were analyzed as both some discrete samples and some composites.

So, we already had some existing site information and one of the tenets of site characterization is to utilize that data to determine where you want to place additional samples. So, it's known as directed sampling as opposed to a random sampling.

And we wanted to make sure we had groundwater sampled that would be down-gradient of the site, and we wanted to make sure that we had some other samples near some previously identified

hot spots, and we wanted to make sure we had samples in the southern portion of the site where soil borings for construction purposes had not been obtained.

So I think it's a very well characterized site.

MR. BROWN: Okay. And is it because Pacific Cement is located on that property? What is the City alleging they have discharged and what is the pH of that material?

DR. GREENBERG: Well, I can't speak to what the City is alleging in that case. Samples were obtained from the northern portion of the site where Pacific Cement exists. And regardless of whether Pacific Cement is in violation of air pollution rules, or of other hazardous waste requirements, I wanted to make sure the entire site, including that portion with Pacific Cement, was adequately characterized. And it was.

MR. BROWN: About this pH 12.6 material, don't you consider the caustics -- this caustic material a form of soil contamination? Isn't this considered hazardous waste under the Federal Resource Conservation and Recovery Act?

DR. GREENBERG: Yes, I consider it

caustic. And, yes, if it's going to be removed and placed in a landfill, it is considered a (indiscernible) of waste.

MR. BROWN: What is being done to determine the extent of this contamination?

DR. GREENBERG: The extent of the contamination has been determined with adequate precision to propose remedial action. If it turns out that a proposal to remove some soil from the site, there will be additional what we term confirmatory sampling to insure that the hot spot has been removed.

But there is enough information for the applicant to prepare a soil cleanup plan after producing a human health risk assessment.

MR. BROWN: In the City's May 1, 2006 supplemental testimony it states on page 14, chromium-6, CR6, if present, would be expected to be reduced to CR3 in the soil of anaerobic conditions exist. What about areas of contamination where the soil contamination exceeds pH 12.5?

DR. GREENBERG: Well, first of all, when it comes to chromium-6 we don't know that there's any chromium-6 there. And I do agree with the

analysis, the written analysis, conducted by the applicant that there is most likely what we call reducing conditions there.

And chromium-6, hexavalent chromium, is so very reactive that particularly under reducing conditions it will be reduced to chromium-3. In other words, plus 6 to plus 3 is a reduction; it's a gain of three electrons.

Under these alkaline conditions I would guess that those are -- that's helping reducing conditions as opposed to it being an oxidizing condition. There's other evidence on the site that shows that it's under anaerobic conditions.

But nevertheless, because I pointed out to the City that a few values of chromium, total chromium, were above the average for the site, they sort of stuck out as higher levels, outlyers, if you will, and was concurrent with some high values of nickel, as well, that maybe some past plating operations that involved plating of chromium, which would be hexavalent chromium at the time, and nickel could possibly result in some chromium being in the hexavalent form.

Now, the City, or the applicant rather, has two options. They can go and take some

additional samples, because the original samples are long past the shelf life for reanalyzing and speciating for chromium. So take some additional samples and speciate to see what's hexavalent chromium and what's trivalent chromium.

Or they could make an assumption consistent with Office of Environmental Health Hazard Assessment and Department of Toxic Substances Control methodologies that a certain percent is hexavalent chromium, and include that value in their human health risk assessment.

They've chosen the proper path, and that is to go back and take a few more samples and analyze the chromium present and speciate it for hexavalent chromium or trivalent chromium.

And so I really don't expect to find hexavalent chromium, but nevertheless we want to make sure. And I asked the City to do this and they agreed to it.

MR. BROWN: I'd like to ask you about the soil vapor extraction and the use of the soil vapor extraction. Where has it been used and how long did it take to clean the contaminated soil?

DR. GREENBERG: Soil vapor extraction has been used extensively and is ongoing. I

worked on several sites in the Bay Area. One most recently up in Santa Rosa. It's used extensively in Silicon Valley. It's used as Superfund sites in southern California. And just about every state of the Union.

It depends on how long it takes to reach your risk management goal, which in this case would be a 10 to the minus 5th cancer risk for workers on the site, and a hazard index less than 1.0.

Given the relatively low levels of soil gas, or of constituents found in the soil gas, and the localization of that, which is primarily in the southern part of the site, I would expect this not to last very long at all.

But it would be conjecture at this point for me to say that it would last six months or a year, but I doubt if it would last more than a year.

MR. BOYD: Okay, this is Mike Boyd. I have a couple questions.

CROSS-EXAMINATION

BY MR. BOYD:

Q Dr. Greenberg, I have in front of me a copy, which was docketed, of the objection to the

request for subpoena of Nancy Katyl, California Regional Water Quality Control Board. Did you see a copy of that?

DR. GREENBERG: Yes, I have it in front of me.

MR. RATLIFF: I'd object to any questions that are outside of the witnesses' testimony. If they are within the witnesses' testimony and they relate to that, that's fine; but, --

MR. BOYD: Well, that's what I'm asking about.

MR. RATLIFF: Okay, sorry.

HEARING OFFICER FAY: Let's let him ask the question.

MR. BOYD: Go ahead?

HEARING OFFICER FAY: Go ahead.

MR. BOYD: On the bottom of the page they're talking about materiality and then it says, CARE argues that supplemental testimony is identified and need to identify and implement the specific remedial and/or risk management measures that should be applied to the site through the appropriate regulatory process, but defers the performance of the human health risk assessment

screening level, ecological risk assessment, development of a site cleanup plan and risk management plan until after the project's development approval is granted by the CEC."

And the Board, in response says, However the Water Board has not approved a cleanup plan or identified any measures to be applied at the site. The Water Board has not received the pending remedial investigation report. Ms. Katyl has only reviewed raw data that are inadequate to allow any determination about corrective action measures."

And this is the important part: Her testimony regarding cleanup at this point would be purely speculative."

Dr. Greenberg, is your testimony also purely speculative?

DR. GREENBERG: Mr. Boyd, no, it is not.

MR. BOYD: So, how can you say that? What evidence do you have that it isn't speculative. Do you have any specific evidence that you can point to? I mean if they don't have a plan that they've reviewed and you've already stated that you don't have a Regional Water Quality Control Board-approved remedial investigation or a, you know, action plan, what

evidence do you have that it isn't speculative?

DR. GREENBERG: Well, first of all, Mr. Boyd, the Regional Board is entitled to its own opinion on this. And sometimes the Commission Staff will disagree. Certainly the Department of Toxic Substances Control sometimes disagrees with the Regional Water Quality Control Board. You can have difference of opinions.

Right now I am testifying, and I specifically took 30 seconds out in the beginning to talk about my experience and training to point out that it's my years of training that allow me to make this -- to give this testimony. And it is not speculative unless I come out and say that I feel that it would be speculation.

This is not an unusual site, Mr. Boyd. There is nothing here that is so special. The contaminant levels are not extraordinarily high, certainly when you compare them to other sites that I have been involved in.

And, again, you know, I'm certainly not going to criticize the Regional Board. I don't think the Regional Board would criticize us.

MR. BOYD: So when you say it's not unusual, do you mean it's not unusual for a site

containing hazardous waste?

DR. GREENBERG: Oh, yes, that's what I mean.

MR. BOYD: Okay, --

DR. GREENBERG: An industrial brownfield site. Just about all of them have some hazardous waste. I've worked on a number of sites in San Francisco and this does not stand out as anywhere close to being really really bad.

MR. BOYD: And which agency has jurisdiction over the site characterization, the remedial investigation and the remedial action plan? Is it the California Energy Commission or the Regional Water Quality Control Board?

MR. RATLIFF: Object on the grounds that this is a question that calls for a legal conclusion. And I've already offered that conclusion. So my feelings are hurt, as well.

(Laughter.)

MR. BOYD: I apologize. At least I got your name right.

HEARING OFFICER FAY: Well, notwithstanding Mr. Ratliff's offended feelings, that objection is sustained.

MR. BOYD: Okay, my other question is I

had filed a motion to file additional testimony on May 11th on the topic under site contamination of soil and water and waste management. Did you see that, Dr. Greenberg? It's the one with the pictures in it.

My understanding is the Committee approved that, accepting that testimony that I filed with this, is that true?

HEARING OFFICER FAY: The testimony filed with it, was you were allowed -- you were given leave to file it.

MR. BOYD: Okay, thank you; just wanted to confirm that.

HEARING OFFICER FAY: Yeah, that's correct.

MR. BOYD: Okay, Dr. Greenberg, I brought an extra copy for you in case you want to look at it.

(Parties speaking simultaneously.)

DR. GREENBERG: Did Mr. Sarvey do that?

MR. BOYD: Yeah, no, Mr. Brown, I think.

(Laughter.)

HEARING OFFICER FAY: Mr. Ratliff, do you need a copy?

MR. RATLIFF: I'd like a copy if I

could, please.

MR. BOYD: Okay, if you look on the second picture, -- no, it's the third picture. It has a caption below. It says: Toxic conditions surround workers." You could look at that?

DR. GREENBERG: Yes, I see it.

MR. BOYD: Do you see in the background there, there's like tanks that kind of look like an upside down capsule.

DR. GREENBERG: Yes, I do.

MR. BOYD: To your knowledge is that the Pacific Cement facility?

DR. GREENBERG: Seeing as how I have been on the site, this photograph does appear to include those structures that are on the Pacific Cement site.

MR. BOYD: Okay. Now, you said in your testimony I thought I heard that you did take samples there?

DR. GREENBERG: I did not specifically. I observed --

MR. BOYD: Or the City, the City took samples there?

DR. GREENBERG: The applicant's experts did, indeed, take samples of the Pacific Cement

site.

MR. BOYD: Was that sample below or above six inches?

DR. GREENBERG: They started at six inches.

MR. BOYD: Okay.

DR. GREENBERG: Below ground surface.

MR. BOYD: To your knowledge is there any sort of plastic cap on the property?

DR. GREENBERG: That part of the power plant site, I believe there is not a plastic liner, a plastic cap.

MR. BOYD: Is there a plastic liner on other portions of the site that you're aware of?

DR. GREENBERG: Of the power plant site, yes.

MR. BOYD: Okay. Now, also you notice, mainly these pictures were of the Muni site. You're aware that there's a project going on at the Muni site, too, aren't you?

DR. GREENBERG: Yes, I am aware.

MR. BOYD: Do you know -- and in this picture here it's pretty obvious that they're moving soil, isn't it? At least you see standing water in the pictures, too, don't you, present?

DR. GREENBERG: I would say yes.

MR. BOYD: Okay. Do you know whether or not the City has a permit from the Regional Water Quality Control Board to discharge surface water to the Bay?

DR. GREENBERG: Yes, I'm aware.

MR. BOYD: Do they? Yes or no?

DR. GREENBERG: My understanding is no, they do not.

MR. BOYD: Okay, thank you. That's all my questions.

HEARING OFFICER FAY: Okay, that concludes CARE's questioning of the staff's panel. We still have to get to Mr. Sarvey's questions, but we'd like to take a break for lunch.

Mr. Sarvey, can you give us an estimate of how long your --

MR. SARVEY: About an hour.

HEARING OFFICER FAY: Well, all right, we will take a one-hour break for lunch and return at 1:15.

(Whereupon, at 12:17 p.m., the hearing was adjourned, to reconvene at 1:15 p.m., this same day.)

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AFTERNOON SESSION

1:18 p.m.

HEARING OFFICER FAY: All right. Please take your seats, we're back on the record. And we're going to continue with Mr. Sarvey's cross-examination of the staff panel on waste management and soil and water resources.

MR. BOYD: Okay, Gary, would this be the time, before we start to talk about Martin Homec. He's here, and I was going to hand out this stuff.

HEARING OFFICER FAY: Oh, yeah, why don't you state your concern about Mr. Homec's testimony.

MR. BOYD: Okay. I have Mr. Martin Homec here. He was going to provide testimony which we prefiled on the alternatives section. He provided testimony on the airport alternative. And he --

HEARING OFFICER FAY: When was that filed, Mr. Boyd?

MR. BOYD: It was posted on the 27th on the website. I submitted it on the 23rd. Of April.

HEARING OFFICER FAY: Okay, why don't you pass that out. Mr. Ratliff, did you receive

that?

MR. RATLIFF: Yes.

HEARING OFFICER FAY: Okay. Ms. Sol,?

MS. SOL : Yes.

HEARING OFFICER FAY: Just go ahead and pass it out. Mr. Sarvey, you can begin.

MR. SARVEY: Okay.

CROSS-EXAMINATION

BY MR. SARVEY:

Q Mr. Lindley.

MR. LINDLEY: Yes, sir.

MR. SARVEY: Have you done any of your own groundwater sampling at the site?

MR. LINDLEY: No, I have not.

MR. SARVEY: So you strictly relied on the applicant's data?

MR. LINDLEY: Yes, I have.

MR. SARVEY: Okay. And in your direct testimony you stated that as long as the applicant follows the conditions of certification you believe that the project won't have any significant impact, is that correct?

MR. LINDLEY: Yes, that is correct.

MR. SARVEY: Dr. Greenberg, Mr. Boyd asked you previously if the City had a permit to

discharge water to the Bay, and I believe you answered they did not, is that correct?

DR. GREENBERG: That is correct.

MR. SARVEY: Does the City, acting as Muni, have a permit to disturb soil on that site?

DR. GREENBERG: I think you -- Mr. Sarvey, if you could clarify a permit from whom?

MR. SARVEY: Do they have a permit from the Regional Water Quality Board to disturb soil at that site?

DR. GREENBERG: Not to my knowledge.

MR. SARVEY: Do they need one?

MR. RATLIFF: Object on the grounds the question calls for a legal conclusion.

HEARING OFFICER FAY: Sustained.

MR. SARVEY: From the pictures that Mr. Boyd gave you is it obvious to you that they are moving soil on that site?

DR. GREENBERG: Yes, it is obvious.

MR. SARVEY: Okay. And in your contact with the Regional Water Quality Board are you aware of any dust mitigation measures that the applicant has violated on the Muni site, as an agent of Muni?

DR. GREENBERG: I am not aware of any

violations by the City PUC or Muni on that site, you know, as found by any other agency. No, I am not aware.

MR. SARVEY: Are you sure?

HEARING OFFICER FAY: Asked and answered. Move on, Mr. Sarvey.

MR. SARVEY: Okay. Are you aware if the applicant, as Muni, has violated any risk management plan or site management plan on that site contained in the waterfront EIR, the southern waterfront?

That's a different question.

MR. RATLIFF: The question relies on facts which are not in evidence.

MR. SARVEY: I'm asking Dr. Greenberg if he has any personal knowledge.

MR. RATLIFF: No, you said are you aware that.

MR. SARVEY: Do you have any personal knowledge, Dr. Greenberg?

HEARING OFFICER FAY: I'll allow the question; go ahead.

DR. GREENBERG: Mr. Sarvey, I want to make it very clear that, you know, what you're asking me. Are you asking me of personal

knowledge that an agency has found a violation?

MR. SARVEY: Yes.

DR. GREENBERG: Then my answer is I'm not aware of any agency finding any violation at the Muni site.

MR. SARVEY: Are you aware of anybody that's reported a violation at that Muni site?

DR. GREENBERG: No, I'm not aware of anybody that has reported a violation at the Muni site.

MR. SARVEY: Okay, thank you. Dr. Greenberg, in your testimony on page 2 of exhibit 47 it states: No fate (phonetic) and transport analysis of onsite contamination has been conducted as yet by the applicant, therefore it is uncertain if soil and groundwater contamination poses a significant risk to San Francisco Bay, is that correct?

DR. GREENBERG: That is correct.

MR. SARVEY: So at this point, any conclusion that there's been contamination would be speculative, is that correct?

DR. GREENBERG: That there's been contamination in the Bay?

MR. SARVEY: Um-hum.

DR. GREENBERG: I wouldn't term it as speculative. We are asking that a ecological screening assessment be conducted that may or may not, depending on the outcome of that, include some fate (phonetic) and transport modeling.

MR. SARVEY: Your conditions state that the project owner will be required to prepare a health risk assessment and a site risk management plan to estimate the risk to workers.

Have you conducted a cumulative assessment of the soil, or the PM impacts from both the San Francisco Electric Reliability project and the Muni site in combination?

DR. GREENBERG: No, I have not.

MR. SARVEY: Okay. Do you plan on placing any conditions in the conditions of certification to insure that there is no overlap of those emissions?

DR. GREENBERG: Yes, there are already conditions of certification that will insure that there will be an insignificant contribution to risk from the SFERP site. The Commission does not have authority over the Muni site.

MR. SARVEY: There's several other Port projects that are being constructed near the

SFERP. Have you done a cumulative analysis of the dust concentrations and their assessment to worker health and public health?

DR. GREENBERG: No, I have not.

MR. SARVEY: How long, on the average, does it take for a applicant to provide you with a risk management plan and a site management plan after you've requested it?

DR. GREENBERG: Mr. Sarvey, it varies. I'd say sometimes we get that within a month or two after a data request.

MR. SARVEY: And is it true that you filed a data request I believe it was on May 2, 2005, over a year ago, requesting this information?

DR. GREENBERG: That is correct.

MR. SARVEY: Earlier we were discussing the Regional Water Quality Board was supposed to appear and they chose not to because they don't have the information that we possess or have a health risk assessment or a site management plan.

MR. RATLIFF: I object, Mr. Fay, on the grounds that the Regional Board has told me that they had conflicts that kept them from attending today.

HEARING OFFICER FAY: Sustained.

MR. SARVEY: I guess I'd have to cross-examine Mr. Ratliff here to get to the bottom of that, so how do we proceed, Mr. Fay?

HEARING OFFICER FAY: Well, why don't you just ask the question instead of making a statement?

MR. SARVEY: To Mr. Ratliff? He's the one who provided the testimony --

HEARING OFFICER FAY: Well, you started making a statement as to why the Regional Board did not --

MR. SARVEY: Well, Mr. Ratliff provided -- I don't want to characterize the testimony earlier, but he said the Regional Water Quality Board, one of the reasons they declined to come is because they didn't have enough information to determine whether the proposed mitigation --

HEARING OFFICER FAY: I don't think that accurately characterizes it, but if that's the nature of your question, I'm not -- I don't know if Dr. Greenberg knows the answer.

MR. RATLIFF: Well, yeah, I guess I'd just object on the grounds of relevance. I don't

see where this is relevant to anything in Mr. Greenberg's testimony.

HEARING OFFICER FAY: Do you want to tie it in?

MR. SARVEY: Sure.

Dr. Greenberg, in my hand here I have a letter from the Department of Toxic Substances Control; it's dated November 22, 2005. And it's addressed to Bill Pfanner. And it's on the website; it's part of the docket.

I'd like to hand it to you and have you read comment number three on page 2 of that document, please.

MR. RATLIFF: Mr. Fay, I'm not going to object because I don't know what the question is yet, but I would point out that this is the same letter, I believe, that was introduced at the last hearing about which questions were asked. And I would just like to not have a bunch of questions that have already been asked, asked again of the same witness.

MR. SARVEY: It's a different letter.

MR. RATLIFF: Can I get a copy of the letter?

MR. SARVEY: You bet.

HEARING OFFICER FAY: Go ahead and ask your question.

BY MR. SARVEY:

Q Could you read that, comment number three there, Dr. Greenberg?

DR. GREENBERG: Comment number three of a letter dated November 22, 2005: The preliminary staff assessment references documents not in DTSC's files. These include a risk management plan and safety management plan. As DTSC does not have a copy of the risk management plan or safety management plan, we cannot evaluate whether these measures would be sufficient for this site."

MR. SARVEY: You don't have a risk management plan or a safety management plan prepared, do you, Dr. Greenberg?

DR. GREENBERG: For this site, no. But I believe, Mr. Sarvey, please excuse me for elaborating, but I would like to clarify, that I believe they're referring to documents that were provided to us by the applicant that concerned the Muni site.

Because at the time of this letter the applicant was proposing to essentially piggyback the SFERP site on the existing Muni risk

management plan and site management plan.

And I believe the DTSC was referring to those plans that are in existence. They have since received copies of those plans.

MR. SARVEY: Regarding the soil contamination on the proposed waterline, do you know if that proposed waterline has any portions of it that are Bayward of the high tide?

DR. GREENBERG: This sounds like a question for one of the soils and waters men.

MR. SARVEY: Okay.

MR. LINDLEY: Mark Lindley here. And the water supply line does cross properties that are Bayward of the historic high tide.

MR. SARVEY: And does that subject the recycled water pipeline to the Mayor ordinance?

MR. LINDLEY: Yes, the linear -- that linear would be subject to the Mayor ordinance.

MR. SARVEY: And what are the requirements of the Mayor ordinance for that?

MR. LINDLEY: It would be similar to the requirements for the existing site, in that -- and I think this has been brought up by the applicant in their AFC, that you would have to produce a human health risk assessment, the ecological risk

assessment, site mitigation plan that would be part of the site cleanup plan.

And I believe it would apply if more than 50 cubic yards of material was to be disturbed, which I'm not -- it's not clear to me that that would be the case Bayward of the high tide line.

But I do think the applicant is planning on covering linears in their SMP/RMP documents.

MR. SARVEY: So if it is, then those requirements will be -- they'll have to meet all those requirements of the Mayor ordinance, is that correct, if they move over 50 cubic yards?

DR. GREENBERG: Yes.

MR. SARVEY: Okay. Mr. Lindley, it's your testimony on page 4.9-18, it states that the applicant estimated that soil loss due to wind erosion during construction would result in approximately 6.7 tons of PM10 emissions. But with best management practices the PM10 emissions could be lowered to 2.6 tons per year.

In your professional opinion do those estimates seem reasonable?

MR. LINDLEY: Yes, they do.

MR. SARVEY: Dr. Greenberg, we had a

discussion on worker safety. And I believe that you had taken the position that PM emissions will be negligible or insignificant. Does that 2.6 tons per year sound negligible or insignificant to you?

DR. GREENBERG: No, it doesn't. But, once again, the combination of the air quality conditions of certification, the waste management conditions of certification that are proposed, if adopted by the Commission, will result in no visible emissions.

And if there is a visible emission it will be immediately attenuated or operations would cease. And there will be monitors on the site from both the applicant and from Commission Staff.

MR. SARVEY: But you do believe there will be emissions, is that correct?

DR. GREENBERG: Negligible. Below a level of significance. So, yes, there will be some. They will be few and far between. And they will be immediately addressed.

MR. SARVEY: So do you believe that the 2.6 tons is an over-estimate that the applicant has modeled here?

DR. GREENBERG: The applicant has

modeled 2.6 tons from the site during remediation and construction activities?

MR. SARVEY: That's correct.

DR. GREENBERG: That's an over-estimation.

MR. SARVEY: And do you have an estimate?

DR. GREENBERG: No, I don't have an estimate.

MR. SARVEY: Okay. Mr. Lindley, your testimony on page 4.9-7 states that the 100-year tide has the potential to impact the current SFERP site, is that correct?

MR. LINDLEY: What page is that on?

MR. SARVEY: 4.9-7.

MR. LINDLEY: Could you repeat that question, please?

MR. SARVEY: Your testimony on page 4.9-7 states that the 100-year tide has the potential to impact the current SFERP site, is that correct?

MR. RATLIFF: Which paragraph are you talking about?

MR. LINDLEY: I'm not sure that that --

MR. SARVEY: -- flooding and tsunami on --

MR. GERONIMO: Yeah, I see the section. So I guess I could answer this. It could be affected because of the high tide with wind and wave, which hasn't been determined for the site.

What we do know about the area is there's a recorded high tide at 9.25. That measurement did not include wind and wave runup.

Because the site, itself, lies at -- I know it's in here somewhere -- 13 feet above sea level at its lowest location, I believe, maybe, it's a corner property, there's the potential that a high tide in combination with wind and wave and the sheer proximity of the site, itself, could be affected by adverse Bay conditions.

MR. SARVEY: Would a rise in sea levels have the potential to exacerbate this problem?

MR. GERONIMO: Would a rise in sea level, as determined by? I guess if you're just saying that sea level rise into the future could make these conditions worse, that's true.

MR. SARVEY: Okay. In your professional opinion is there any reason to believe that sea levels may be rising globally?

MR. GERONIMO: Well, from what I've read, I believe that the scientists who have

determined that there will be sea level rise know more than me. And if I agree with them, then I guess I do believe that sea level will rise.

MR. SARVEY: Okay.

MR. LINDLEY: I'd like -- could I make a quick point here?

MR. SARVEY: Sure.

MR. LINDLEY: I think what you have going on here is you have a couple of things. One is that the 100-year high tide, including the effects of wind/wave runup can be as high as 13 feet above mean sea level.

However, at the SFERP site you're several hundred feet from the shoreline of San Francisco Bay. And wind/wave runup cannot propagate that far into the shoreline of San Francisco, off of San Francisco Bay.

When you look at the effects of wind/wave runup, I mean that would be immediately adjacent to the Bay. But once water gets up above that shoreline, that's, I think, protected by rip-rap there, those wind waves would be dissipated by the rip-rap at the shoreline.

So that's why we've come to the conclusion that we don't expect that 100-year high

tide to affect the site.

Sea level rise, it's basically between the 20-year epoch that ended in 1988, and then the most recent 20-year epoch. It was measured at about two-tenths of a foot at the Golden Gate.

So we have a measurable increase in sea level rise over the past 20 years at two-tenths of a foot. It's not clear how quickly whether that sea level rise will accelerate or continue at that rate, but based on the last 20 years you're looking at about two-tenths of a foot.

MR. SARVEY: So considering those facts would it be prudent to locate this project at another site and provide some sort of mitigation like building up the property to prevent flooding?

MR. LINDLEY: I don't think at this time that would required. I suppose if sea level rise accelerates that would be something that we would look at on down the line. But at this point in time, and with the levels of sea level rise that we've measured in the last 20 years, it's not something that I would require.

MR. SARVEY: On page 4.9-17 of your testimony, you state that the applicant believes that soil loss from water erosion during

construction at the SFERP site, with mitigation, could be reduced to .6 tons per year.

In your professional opinion, is that reasonable?

MR. LINDLEY: Yes, that is.

MR. SARVEY: Okay. Your testimony has also been -- it also states that given the existing contamination at that site, transport of eroded sediments could lead to significant water quality impacts to the San Francisco Bay, is that correct?

MR. LINDLEY: Yes, that is correct.

MR. SARVEY: Have you done any sampling between the site and the -- any groundwater sampling between the site and the Bay to determine how far that contaminated water has migrated from the site?

MR. LINDLEY: There was the -- the applicant collected one soil boring that is at the far northeastern corner of the site. And the intent of locating that soil boring at that location was to get a feel for whether or not contamination was migrating towards the Bay.

Could I back up and add one point to the previous question?

MR. SARVEY: Sure.

MR. LINDLEY: When it comes to soil loss from the site, that estimate of .5 to .6 tons per year was based on using BMPs along the site at, you know like straw bales, mulch, those kinds of things. Typical BMPs that you would use to treat erosion at the source.

And to mitigate for any potential impacts from soil migrating from the site, we've also asked and included in our conditions of certification that the project employ a treatment control BMP that would be at the downstream end of the site that would allow for samples to be collected; and to determine whether or not there are any adverse impacts to that water before it's released to San Francisco Bay.

So that's how we covered the potential for if some soil leaves the site, it would be captured in this ultimate treatment control BMP. And we're thinking of like a medium filtration type BMP, or potentially a sediment basin that would only discharge to the Bay and under some kind of a pumping condition.

MR. SARVEY: The Muni metro site that's adjacent to the SFERP, and construction will be

occurring at the same time as the SFERP. Have you done a cumulative analysis to determine impacts to water quality from both of these projects together?

MR. RATLIFF: I think that, again, is -- if Mr. Sarvey wants to put on evidence that construction will occur at the same time, he can do so. But I'm not going to ask our witnesses to assume that that's the case. I don't know, certainly, that that's the case.

It's my understanding the Muni site is currently under construction and that the project will be built next year, so.

HEARING OFFICER FAY: Well, yeah, let's let the witnesses answer, if they know about the timing of the project.

MR. GERONIMO: And is this just a stormwater question, a stormwater runoff question?

DR. GREENBERG: I believe it's a construction question. Mr. Sarvey, you haven't directed it to anyone here, so there may be multiple answers.

But my information is that there will not be concurrent site mobilization and soil movement; that the Muni site will be done with

their site preparation activities and soil movement by the end of the summer. And then it will be just building construction on the site.

And that certainly site mobilization or any remediation prior to site mobilization on the SFERP site will be months after that. So there will not be concurrent soil disruptions on the sites.

HEARING OFFICER FAY: Anything further, Mr. Sarvey?

MR. SARVEY: Yes. On page 4.9-34, under agency comments, it states that the Department of Toxic Substances Control sent you a letter quite awhile ago requesting an evaluation of impacts from dewatering activities related to groundwater contamination disposal.

Have you performed that analysis?

MR. LINDLEY: As I understand it, the applicant has proposed to test this water, the water that's pumped from excavations at the site during construction, to test that water. If necessary, treat that water. And it will be ultimately discharged to the City's combined sewer system.

There are standards in Public Works

Code, Article 4.1 that defines peak concentrations or constituent levels for that water before it can be discharged to the combined sewer system. And the City is required to meet those standards.

MR. SARVEY: On page 4.9-35 of your agency comments, it says, the Bay Conservation and Development Commission sent a letter requesting that the CEC include a requirement that the SFERP accommodate public access across the proposed vegetative swale. What mechanism have you provided to accommodate public access across the swale?

MR. LINDLEY: We added a condition of certification; that's condition of certification soil and water-12. The applicant has agreed to this condition of certification. If BCDC decides to extend the Bay Trail across the future vegetative swale, the City and County of San Francisco have agreed to work with BCDC to either build some kind of a bridge or provide a culvert crossing at the end of that swale through the BCDC jurisdiction to facilitate a Bay Trail crossing.

MR. SARVEY: And could you provide a condition that insures that that bridge will accommodate access for handicapped individuals?

MR. LINDLEY: We haven't at this time. I'm sure there will be, you know, -- I'm not sure, I would imagine that any plans for a bridge crossing would be reviewed by BCDC. I think that's even included in our condition of certification. I imagine there would also be reviewed by the building department of San Francisco. And I would assume that ADA access would be included in that plan.

MR. SARVEY: So you're not familiar with their requirements?

MR. LINDLEY: I'm not sure that we've included that directly in our condition, but I think that it would be covered. I'm sure BCDC would, I think BCDC has to approve any plans, and I'm sure that they would consider that a --

HEARING OFFICER FAY: Mr. Sarvey, all this is right in front of me in black and white. Let's not ask questions that are literally answered in the testimony.

MR. SARVEY: Well, it doesn't say anything about handicapped access, Mr. Fay.

HEARING OFFICER FAY: Well, okay, but --

MR. GERONIMO: The grassland swale's a pretty low profile --

MR. SARVEY: I'm just trying to insure that, you know, --

MR. GERONIMO: Well, you're not going to need a lot of cover to go over a grassland swale. So, the bridge, itself, can be relatively flat. It doesn't need to arch or not meet the ADA standards that the Bay Trail even has for their requirements.

So, you know, it's a Bay Trail issue and it's also probably something that needs to be discussed with the Board as far as what their requirements are for ADA. It's outside of my expertise, but I can at least assure you that the swale, itself, is relatively shallow and not very wide, and a low-profile bridge can probably go over the top.

MR. SARVEY: Thank you. That's all I have.

HEARING OFFICER FAY: Okay, thanks. Mr. Ratliff, any redirect?

MR. RATLIFF: No.

HEARING OFFICER FAY: Okay. Then does the Committee have any questions? Okay. Well, we thank the panel. And ask Ms. Sol, if she's ready to put on her witnesses on soil and water

resources. I think we'd better go to that.

MS. SOL : Sure.

HEARING OFFICER FAY: Actually, before we do that, let me ask Mr. Sarvey, we have you listed under waste management for having testimony. Do you have testimony?

MR. SARVEY: My expert would not appear without a risk management and a site management plan, so, no, I don't have one.

HEARING OFFICER FAY: Okay. Just wanted to confirm that.

All right, Ms. Sol,. Now, is this the same panel that will be returning, or much the same?

MS. SOL : Much the same. In addition there's Mr. Matt Franck. I will object to the extent that the same question that's already been asked is asked again. But to the extent that there are questions relating to water, this panel is prepared to address them.

HEARING OFFICER FAY: Sure.

(Pause.)

HEARING OFFICER FAY: We have a few witnesses who have not appeared before. Please swear them.

MS. SOL : Yes, there's two new witnesses, Mr. Matt Franck and Mr. Steve Long.

Whereupon,

MATT FRANCK and STEVE LONG

were called as witnesses herein, and after first having been duly sworn, were examined and testified as follows:

Whereupon,

KAREN PARKER, KAREN KUBICK, RANDALL SMITH
STEVE DeYOUNG, TOM LAE, LESTER FELDMAN
SUSAN GALLARDO and ROBERT CHEUNG

were recalled as witnesses herein, and having been previously duly sworn, were examined and testified further as follows:

COURT REPORTER: Please individually state and spell your full names.

MR. FRANCK: Matt Franck, M-a-t-t F-r-a-n-c-k.

MR. LONG: Steve Long, S-t-e-v-e L-o-n-g.

MS. SOL : And the qualifications of these witnesses were provided as attachment to the City's prehearing conference statements.

I'm going to begin with the soil testimony. We have soil and agriculture testimony

sponsored by Mr. Long; and then we have the water resources and water supply pipelines testimony sponsored by a panel.

DIRECT EXAMINATION

BY MS. SOL :

Q So, Mr. Long, let me begin with you. Do you have before you exhibit 15, which is -- no, sorry -- the testimony of the City that was filed on April 17th?

MR. LONG: Yes, I do.

MS. SOL : Okay. And under agriculture and soil introduction C, there are a number of exhibits listed which I'm going to read to you.

The first is applicant's response to CEC Staff request data response set 1A, response to data request 53, dated July 6, 2004; that's exhibit 3.

Second is supplement A to the application for certification for the San Francisco Electric Reliability project volume 1, dated March 24, 2005, section 8.9, that's agriculture and soils; that's exhibit 15.

Applicant's response to CEC Staff data request, data response set 3A final, responses to data requests 185 through 187, dated June 3, 2005;

and that's exhibit 19.

Applicant's response to CEC Staff data request, data response set 3C, response to data request 187, dated July 19, 2005; and that's exhibit 21.

Applicant's comments on the preliminary staff assessment set 1, comment 53, dated October 12, 2005; that's exhibit 39.

Applicant's response to CEC Staff data request, data response set 3F, response to data request 187, dated January 11, 2006; that's exhibit 24.

Supplement B to the application for certification for the San Francisco Electric Reliability project, dated January 11, 2006, section 3.9; and that's exhibit 16.

And applicant's response to CEC Staff data request, informal data response set 9A, responses to data requests soil and water resources 9-21, which is dated January 13, 2006; and that's exhibit 36.

Are you familiar with those documents?

MR. LONG: Yes, I am.

MS. SOL : Do you have any changes or corrections or updates to make to any of those

documents?

MR. LONG: I provided revised tables for the supplement A, application for certification. Those are the revised calculations for wind and water erosion.

MS. SOL : You have those available today, I believe?

MR. LONG: Yes, I do.

MS. SOL : And can you explain what the reason is for those updates, and what the result is?

MR. LONG: The revised unified soil loss equation, the model was revised -- the online models were revised to allow for site-specific conditions to be input. And so I used the newer model to see if there was any differences from my original analysis.

And for the wind erosion I discovered an error in my calculation related to the effectiveness of mitigation, and so I revised those numbers.

But the changes in both these tables did not alter my conclusion as to the overall effect of the project.

MS. SOL : Can I distribute those

corrected tables?

HEARING OFFICER FAY: Please.

(Pause.)

BY MS. SOL :

Q Okay, and with those corrections, to the extent there are facts set forth in these documents, are they true to the best of your knowledge?

MR. LONG: Yes.

MS. SOL : And to the extent there are opinions set forth, do they represent your professional judgment?

MR. LONG: Yes, they do.

MS. SOL : And do you adopt those documents are your sworn testimony here today?

MR. LONG: I do.

MS. SOL : I'd like to move to introduce those documents into the record.

HEARING OFFICER FAY: Including this revised estimate of soil loss by water and wind erosion?

MS. SOL : Yes, Your Honor.

HEARING OFFICER FAY: And that will be identified, that revision will be identified as exhibit 91. Is there objection to receiving all

those exhibits? Mr. Boyd, you're objecting?

MR. BOYD: No, I have a question on -- clarify what change, from what? Because I didn't have it in front of me when she was -- when he was talking about what he changed.

HEARING OFFICER FAY: The exhibit 91 revises his tables that are referred to. And he said he did not change his conclusion as to significance of impacts, but it does update, based on recalculation.

MR. BOYD: Right. I just wanted to know what the previous numbers were that changed. What it went from to --

HEARING OFFICER FAY: Well, when he testifies we'll ask him to --

MR. BOYD: I can ask him that then?

HEARING OFFICER FAY: -- clarify that. Any objection to receiving these? Okay, hearing none, they're entered into the record at this point.

MS. SOL : Okay, I'm going to move along then to the water sections.

BY MS. SOL :

Q Mr. Franck, I'm going to ask you on behalf of the panel on water to review with me the

documents listed under water resources, water supply pipelines prior filings. Do you have that list before you?

MR. FRANCK: Yes.

MS. SOL : Okay, and that includes supplement and response to data adequacy comments on the application for certification for the SFERP, questions on water resources, dated April 16, 2004; that's exhibit 2.

Applicant's response to CEC Staff request data response set 1A, responses to data requests 50, 53 and 55, dated July 6, 2004; that's exhibit 3.

Applicant's response to CEC Staff request data response set 1B, responses to data requests 92 through 95, 97 through 106 and 112, that's dated July 12, 2004; exhibit 4.

Applicant's response to CEC Staff data request, informal data response set 3, responses to data request 131, 133, 137 and 139 through 144, dated August 20, 2004; that's exhibit 9.

Supplement A to the application for certification for the San Francisco Electric Reliability project, volume 1, dated March 24, 2005, section 7, that's the water supply pipeline

section, and section 8.13, that's the waste -- no, sorry, there's a correction there, is that correct? It should be section -- which section number is that?

MR. FRANCK: I'm sorry, it's water supply pipelines 8.14 --

MS. SOL : Okay, --

MR. FRANCK: Excuse me, water resources.

MS. SOL : -- water resources, so it should be the water resources section, which is section 8.14; and that's exhibit 15.

Then applicant's response to CEC Staff data request data response set 3A, final responses to data requests 185 through 192, dated June 3, 2005; that's exhibit 19.

Applicant's response to CEC Staff data request informal data response set 6A, responses to data requests 6-1 through 6-11, dated July 11, 2005; that's exhibit 29.

Applicant's response to CEC Staff data request data response set 3C, response to data request 187, dated July 19, 2005; that's exhibit 21.

Applicant's response to Sarvey data request set 1A, dated July 25, 2005, data requests

1-19 through 1-22; and that's exhibit 27.

Applicant's response to CEC Staff data request informal data response set 6B, response to data request 6-9, dated August 10, 2005; that's exhibit 30.

Applicant's response to CEC Staff data request informal data response set 6C, response to data request 6-12, dated August 25, 2005; exhibit 31.

Applicant's comments on the preliminary staff assessment set 1, comment 43 through 61 and 71 through 72, dated October 12, 2005; exhibit 39.

Applicant's response to CEC Staff data request informal data response set 6D, response to data request 6-10, dated October 14, 2005; that's exhibit 32.

Applicant's response to CEC data request informal data response set 6D, response to data request 6-10 addendum, dated October 22, 2005; that's exhibit 33.

Applicant's comments on the preliminary staff assessment set 2, comments 45, 52, 54, 57, 60, 70, 71 and 72, dated October 31, 2005; and that's exhibit 40.

Applicant's comments on the preliminary

staff assessment set 3, comments 45 and 71, dated November 11, 2005; that's exhibit 41.

Amendment to the project description, vegetative swale, dated November 18, 2005; that's exhibit 17.

Amendment to the project description, process and cooling water supply, dated December 20, 2005; that's exhibit 18.

Applicant's response to CEC Staff data request data response set 3F, response to data request 187, dated January 11, 2006; that's exhibit 24.

Supplement B to the application for certification for the San Francisco Electric Reliability project, dated January 11, 2006; that's exhibit 16.

Applicant's response to CEC data request informal data response set 9A, responses to data requests soil and water resources 9-1 through 9-12 and 9-14 through 9-21, dated January 13, 2006; that's exhibit 36.

Applicant's response to CEC Staff data request informal data response set 9B, revised responses to data requests soil and water 9-2 and 9-17, dated January 19, 2006; exhibit 37.

Applicant's final field sampling plan dated February 14, 2006; exhibit 44.

Applicant's comments on the final staff assessment set 1, comments 19 through 26, 29 through 32, dated March 17, 2006; that's exhibit 45.

Applicant's comments on the final staff assessment set 2, comments 2-1 and 2-2, dated March 24, 2006; that's exhibit 13.

And applicant's draft field investigation summary report, dated March 30, 2006; that's exhibit 42.

Do you have any changes or corrections to make to those documents?

MR. FRANCK: No.

MS. SOL : To the extent there are facts in those documents, are they true to the best of your knowledge?

MR. FRANCK: Yes.

MS. SOL : To the extent there are opinions, do they represent your professional judgment?

MR. FRANCK: Yes.

MS. SOL : And do you adopt those documents are your sworn testimony here today?

MR. FRANCK: Yes.

MS. SOL : I'd like to move to have the documents identify by Mr. Franck introduced into the record.

HEARING OFFICER FAY: Is there objection? Hearing none, so moved.

MS. SOL : Okay, I would like to have Mr. Long and Mr. Franck give the opening statements on their topics.

MR. FRANCK: Thank you. We have prepared this opening statement to briefly summarize and clarify key points regarding the water supply and disposal system and potential impacts to water resources.

The project requires water for cooling towers, NOx emission control and other processes. The source of this water will be the City's southeast water pollution control plant, one of the City's major wastewater treatment plants.

Following treatment at the wastewater plant a portion of the treated effluent would be diverted to the SFERP site rather than flowing to the Bay.

At the site the source water would be further treated to meet the State Department of

Health Services standards for recycled water. Also known as Title 22.

The onsite treatment process would consist of ultra-filtration, disinfection and reverse osmosis, all within a fully enclosed facility that would be operated in accordance with state standards for such facilities. There would be an onsite storage tank for treated water.

Following use for plant processes, the water would be discharged into the City's combined sewer system and treated at the southeast water pollution control plant.

In our analysis we have demonstrated that the plant's discharge into the combined sewer system would meet City water quality standards for wastewater disposal.

We have letters from the City authorizing diversion of the treated effluent and subsequent disposal back into the combined system.

MR. LONG: The SFERP would be constructed on previously developed urban land that had been originally filled along the margin of the Bay. Subsequent geotechnical investigations have indicated that the fill on that site ranges from about 21 to 30 feet in

thickness over the site.

Preliminary estimates of soil losses by wind and water erosion were prepared. However, it is expected that actual soil losses will be addressed by the proposed mitigation measures that include construction BMPs and proper planning documents such as the stormwater pollution prevention plans.

Water erosion estimates have been revised to reflect the latest model updated. And the wind erosion table has been revised to correct a mistake in the spreadsheet related to the efficiency of the mitigation measures. The changes and the results of the new analysis did not alter the conclusion about the significance of the impacts.

MR. FRANCK: Stormwater runoff from the project site would be routed into a vegetative swale that would treat the surface runoff prior to discharge to the Bay. Plant runoff from equipment drains would be routed through an oil/water separator and discharged into the combined sewer system.

Good housekeeping practices to minimize onsite pollution would be implemented in

accordance with the Port of San Francisco stormwater quality program.

During construction of all project features the plant and its linear facility, stormwater quality would be maintained by implementing an erosion and sediment control plan, which is part of the state-required stormwater pollution prevention plan.

The erosion and sediment control plan will include required best management practices such as filter fabric fences, fiber rolls and onsite detention to insure that no contaminated runoff reaches the Bay. We have prepared a preliminary erosion and sediment control plan dated January 2006 which will be updated and refined by the construction contractor.

Thank you.

MS. SOL : And with that, the witnesses are available for cross-examination.

HEARING OFFICER FAY: Okay. The entire panel? I assume the entire panel?

MS. SOL : Yes, the contamination witnesses are also available, and if a question comes up that is appropriately addressed in soil and water, they will be available to answer

questions.

HEARING OFFICER FAY: Okay, fine. Mr. Ratliff?

MR. RATLIFF: No.

HEARING OFFICER FAY: No questions, okay. Mr. Sarvey.

CROSS-EXAMINATION

BY MR. SARVEY:

Q The new table 8.9-5, which one of you prepared that table?

MR. FRANCK: Just a moment.

MR. SARVEY: Okay, now you've concluded that wind erosion from this project is going to increase to 3.4 tons, is that correct?

MR. FRANCK: Let me ask one point of clarification. Table 8.9-5 -- okay, there we go.

MR. LONG: That would be the table that I prepared.

MR. SARVEY: And you've concluded there's going to be an increase in PM emissions, is that correct?

MR. LONG: Actually, the increase is in the total suspended particulates, not just the PM fraction.

MR. SARVEY: Well, did you do an

analysis to decide what portion of it would be PM10?

MR. LONG: The assumptions are stated in the text. It is assumed that PM10 makes up a proportion of the total suspended particulates. So there wasn't a specific analysis for onsite conditions. But those assumptions were stated in the AFC.

MR. SARVEY: And you provided this information to the applicant's air quality witness so he could revise his construction impacts, is that correct?

MR. LONG: My understanding is that the air quality experts prepared their own separate analysis using a different method all together.

MR. SARVEY: Okay. In section 8.14.9 under cumulative impacts, stormwater --

MR. LONG: Mr. Sarvey, could you direct me specifically to the document you're referring to?

MR. SARVEY: It would be the AFC.

MR. FRANCK: That's in supplement A, the water resources section.

MR. SARVEY: Supplement A, section 8.14.9.

MS. SOL : Mr. Sarvey, I'm sorry, I didn't quite hear; is that 8.14-9?

MR. SARVEY: Yes.

MS. SOL : Okay.

MR. LONG: I'm sorry, I'm still trying to locate where you're directing my question.

MR. SARVEY: I can just read it to you if that would help.

MR. LONG: Once again, just the section number, if you please?

MR. SARVEY: 8.14.9.

MS. SOL : Okay, so that would be on page 8.14-21? Is that --

MR. SARVEY: Yeah, it would be on page -- - the part I'm referencing is 8.14-22 under stormwater there.

MR. FRANCK: Yes.

MR. SARVEY: It says the project would not change the volume rate of stormwater generated from the site. As part of the project the site would be covered by 100 percent impervious surfaces and discharge stormwater runoff to the City's combined sewer system.

That's no longer true, is it?

MR. FRANCK: That's correct; this

section was prepared prior to the swale supplement.

MR. SARVEY: So, we need to change your testimony in that respect, is that correct?

MR. FRANCK: Yes. A lot of the water testimony was prepared prior to some of the final changes that were made.

For example, the swale supplement was exhibit 17, which supplements the water supply testimony. I don't know if I needed to mention that earlier.

MR. SARVEY: One of your references listed on page 8.14-25 is the San Francisco southern waterfront supplement EIR.

MS. KUBICK: On which page?

MR. SARVEY: That would be page 8.14-25.

MR. FRANCK: I'm sorry, the last page I have is 8.14-23.

MR. SARVEY: So as part of your references you used the San Francisco southern waterfront supplemental EIR, is that correct?

MR. FRANCK: Yes.

MR. SARVEY: And in that document did you happen to read page 109?

MR. FRANCK: I don't recall that

specific.

MR. SARVEY: It states, at the full buildout in the project area stormwater runoff will increase 29 percent due to the paving of about 60 acres.

Have you done a cumulative analysis to assess the impacts from this increase in runoff for water contamination or any other environmental concern?

MS. SOL : Objection, Your Honor. We would like to see a copy of the document that Mr. Sarvey is referring to.

HEARING OFFICER FAY: Can you help the witness out here? And, Mr. Sarvey, on all these questions, of course this goes for everybody, we really need complete reference to a document so that all the parties, especially the witness being questioned, can go to the document quickly and efficiently.

MR. SARVEY: Well, part of the problem here is this was actually listed as an exhibit, but it hasn't been provided to anybody but myself. So, that's part of the problem.

HEARING OFFICER FAY: You're saying it wasn't served?

MR. SARVEY: Pardon me?

HEARING OFFICER FAY: You're saying it was not served?

MR. SARVEY: This is an exhibit under air quality, under the data responses they only issued me a CD of it, which cost me $100 to have it transposed into this particular document right here. And I would actually like to have it introduced as an exhibit.

HEARING OFFICER FAY: I thought you said it was an exhibit.

MR. SARVEY: But I've only got this one copy, because I only wanted to spend $100 once.

HEARING OFFICER FAY: All right, well, you're going to have to be sure that the witness and counsel have seen this.

MR. SARVEY: Pardon me?

HEARING OFFICER FAY: You ought to make a copy available to counsel and the witness.

MR. SARVEY: Well, shouldn't the applicant be providing these copies, since it's his --

HEARING OFFICER FAY: Well, I mean as to this question.

(Pause.)

HEARING OFFICER FAY: Ar you prepared to respond?

MR. FRANCK: Yes. Can the question be repeated, please?

HEARING OFFICER FAY: Would you repeat the question, Mr. Sarvey?

MR. SARVEY: I said the document on page 109 states that a full buildout in the project area stormwater runoff will increase by 29 percent due to the paving of about 60 acres.

Have you done a cumulative analysis to assess the impacts from this increased runoff for water contamination or any other environmental concern?

MR. FRANCK: We have evaluated cumulative effects in section 8.14-9 of the supplement A, which is exhibit 15. The analysis was qualitative. We looked at the effects on stormwater as referred to in the question, our project along with other reasonably potential future projects in the area, which includes other development of the Port.

We are following the Port's stormwater program, because we are part of Port property. We don't expect individual cumulative stormwater

impacts for this particular project because we discharge stormwater to the vegetative swale. And our impacts are not necessarily cumulative along with these other projects that are discussed.

I do want to mention that the Port stormwater program is designed to minimize the incremental, what might be small effects from all of the individual projects going on at the Port. And by participating in that, I believe that we are participating in a mitigation measure for cumulative impacts.

HEARING OFFICER FAY: Mr. Franck, could you just identify the document that you reviewed before answering that.

MR. FRANCK: This is the San Francisco Southern Waterfront Final Supplemental environmental Impact Report prepared by the San Francisco Planning Department.

HEARING OFFICER FAY: Is it dated?

MR. FRANCK: Yes, it was certified, the supplemental EIR was certified on February 15, 2001.

HEARING OFFICER FAY: Thank you. Okay, go ahead, Mr. Sarvey.

MR. SARVEY: So, this project was not

evaluated under that EIR?

MR. FRANCK: I didn't review the project description for that EIR to determine whether or not the specific project was considered or not.

MR. SARVEY: Okay. On page 8.14-12 of your testimony. It says the Islas Creek is also listed as an impaired water body due to sediment contaminated with ammonia, chlordane, et cetera, et cetera. And then it says that the City has not accepted the list and findings that the source of this impairment is attributed to industrial point sources and combined sewer outflows.

It says the City disagrees with the Regional Water Quality Board. Can you tell us anything about the progress of these discussions or this dispute?

MR. FRANCK: I'd like to defer that question, perhaps, to one of the other panelists.

MR. SARVEY: Okay.

HEARING OFFICER FAY: Mr. DeYoung, are you sorting this out for us? Who will answer that question?

MR. DeYOUNG: We're sorting it out.

HEARING OFFICER FAY: Okay.

MS. KUBICK: I guess the comment is we

don't know the specific nature of that dispute with the Regional Water Quality Control Board. Within the PUC there are groups that monitor outflow and put certain conditions and limitations on dischargers and have worked to do creek restoration and increase the level of treatment of our outflows for wastewater.

But that's a separate -- that's actually having to do with the southeast water pollution control plant and overflows and how that functions, and what's operating when. So, it's out of the context of the project.

HEARING OFFICER FAY: Does that answer your question, Mr. Sarvey?

MR. SARVEY: Yes. They don't know, I understand.

Have you taken any groundwater samples between the site and the Bay?

MR. DeYOUNG: We did not evaluate that for the water resources section. I believe it was evaluated -- I'd like to direct that to Mr. Lae.

MR. LAE: Yes, we did.

MR. SARVEY: And did you disclose that anywhere in your testimony?

MR. LAE: Yeah, the results of those

groundwater samples were presented in the draft field investigation summary report.

MR. SARVEY: Between the site and the Bay?

MR. LAE: There was one location that was just basically at the edge, the northeast edge of the site.

MR. SARVEY: But still onsite, correct?

MR. LAE: Yes.

MR. SARVEY: Okay, so the answer is you haven't taken any, is that correct?

MR. LAE: That's correct.

MR. SARVEY: Thank you. That's all.

HEARING OFFICER FAY: Okay. Mr. Boyd. And we want to be sure that you understand the changes --

MR. BOYD: That's why I'm --

HEARING OFFICER FAY: Okay.

CROSS-EXAMINATION

BY MR. BOYD:

Q Okay, let's start with 8.9-5. I'm looking at your original table 8.9-5 and new revised table.

MR. LONG: Yes.

MR. BOYD: And I noticed that you

increased the amount of mitigation, I mean it's negligible except for where I see the site area, you've increased it .34 to .57. And the laydown area, .73 went to 1.217. And it looks like the trench went up from .0015 to .0125.

Can you explain to me why you increased the amount of mitigation -- why you find the increased amount of mitigation?

MR. LONG: What I've done is I've changed, on the original table inadvertently I had said that the reduction from mitigation effects would reduce the amount of soil generated by .7, so the multiplying factor is actually .31 minus .7 in the first table. That number should have actually been .5. So it changes the multiplier; instead of .3 in the second table, it's .5.

So the mitigated TSP should be exactly half of the unmitigated TSP under that assumption of 50 percent efficiency.

MR. BOYD: Okay, I see it, yeah. Okay, so it was just a mistake in the beginning when you first --

MR. LONG: In those last three numbers, yeah.

MR. BOYD: I got'cha. Okay. The other

table, table 8.9-3, I don't have a copy in front of me of the original. Can you tell me what changed there?

MR. LONG: The model that's available on the National Resource Conservation Service site was updated to allow someone to actually put in site-specific information; in particular, the soil map, the map to soil unit from the NRCS soil survey, they updated their databases so that you could now go in and say, okay, if I'm here at this location and I have this particular mapped soil unit, I can now put that one directly in.

Prior to that, I had to use a generalized soil profile that what I would do is I would use a generalized soil profile that matched the site soils as nearly as possible.

But then when I subsequently had the ability to put the specific unit in, that's why I revised the calculation to see how that changed.

MR. BOYD: Okay, so you just had more current information?

MR. LONG: I had more current information and I just reran the model to double check it.

MR. BOYD: Okay, I don't know

specifically who, which expert to ask, so I'll just leave it up to you guys to decide who wants to answer it. Do any of you know if the City has an NPDES permit, a discharge permit for the Muni site?

MS. SOL : Objection, Your Honor, that's irrelevant to this project.

MR. BOYD: We're talking about water, aren't we? And soil.

HEARING OFFICER FAY: What is the relevant to this project, Mr. Boyd?

MR. BOYD: Well, I'm just trying to find out what permits the City has or doesn't have. I mean if they can discharge to the Bay without a permit, there's nothing preventing them discharging to this site. Or the soil and the contaminated water to move to the Muni site to the project site.

HEARING OFFICER FAY: Well, is there any foundation that this is or could --

MR. BOYD: Well, I was also going to ask the same question about if the City has given that type of permit to the Pacific Cement, the other facility on -- I'm trying to find out what's permitted and what's not.

HEARING OFFICER FAY: We'll allow it if the witnesses know about the permits --

MR. BOYD: That was my followup question, too, was about Pacific Cement. If you're aware of any permits from the Regional Water Quality Control Board for discharging soil or water from either the Muni site or the Pacific Cement site into the Bay.

MS. SOL : Into the Bay or into our site?

MR. BOYD: Well, I was, when I asked about the Muni site I was talking about the Bay. Because I don't believe that you need a Regional Water Quality Control Board permit to discharge from the Muni site to your project site. But I do believe that you need one for discharging into the Bay.

HEARING OFFICER FAY: Let's just see if any of the witnesses know.

MS. SOL : Okay.

MS. KUBICK: The City has discharge permits with the Regional Board for each of the wastewater plants. The Port has a permit with the Regional Board, a blanket permit for Port property.

HEARING OFFICER FAY: And that would include the Muni site?

MS. KUBICK: It would be the Port, all of the Port lands, yes.

MR. BOYD: Okay, my other questions are related to one of the exhibits, the applicant's final field sampling plan dated February 14, 2006.

The first question is the fact it states a final field sampling plan, was there a preliminary field sampling plan?

(Public Address Announcement.)

(Parties speaking simultaneously.)

HEARING OFFICER FAY: Okay.

MS. KUBICK: Again, are we on?

MR. BOYD: I was asking --

HEARING OFFICER FAY: Yes, back on the record. Yeah, you ought to repeat the question, please.

MR. BOYD: Basically the question is you had a final field sampling, but did you have a preliminary field sampling plan?

MS. KUBICK: Yes, there were actually several versions of draft sampling plans that were then generated. After reviewing it with the Regional Board and the CEC, we were able to

generate a final sampling plan.

MR. BOYD: So that sort of led to my second question. You developed this sampling plan in consultation with the Regional Board, you said, and with the CEC Staff, I assume? Is that true?

MS. KUBICK: The sampling plan was developed by our project team as a preliminary. And was submitted to CEC Staff. We then got some feedback, and this was all on the docket. Then we actually were called to a sit-down with the Regional Board and further reviewed the plan. Issued another draft for comment and review. And all of the agencies came to the conclusion that we were on track. And that resulted in the final sampling plan, which then we executed.

MS. SOL : Your Honor, and for the record, the revised summary work plan dated December 23, 2005, was submitted and distributed to the service list. And a draft field sampling plan, dated January 24, 2006, was submitted on January 24, 2006, and served on the service list.

HEARING OFFICER FAY: Thank you.

MR. BOYD: Can you tell me if, or why not, there was no public participation or intervenor participation in the developing of the

field sampling plan?

MS. KUBICK: Our processes are actually quite public; and this particular proceeding is amazingly public. Every document that we generate goes out onto the docket and is available. I don't believe we received any public comments back on either the preliminary sampling plan, maybe the second version of the preliminary sampling plan, or even the final sampling plan. And there were amounts of time after those documents were put out, several weeks prior to when we were actually able to get onto the site, prior to our actual work occurring onsite after the final sampling plan had been issued.

MR. BOYD: Would it surprise you to know that we, as intervenors, and also members of the public, had no knowledge that this sampling plan was being prepared until the prehearing conference in this proceeding?

HEARING OFFICER FAY: Let's take that as a rhetorical question, Mr. Boyd, and move on.

MR. BOYD: That's fine. Just to break up the monotony, -- never mind, I'm done.

HEARING OFFICER FAY: Okay, thank you. And before -- well, any redirect, Ms. Sol,?

MS. SOL : No, Your Honor.

HEARING OFFICER FAY: Okay. Before we leave this topic, and I want to be inclusive and include waste management as well as soil and water, we have a request by Francisco DaCosta to make a public comment. Mr. DaCosta, do you have a microphone? Please spell your name for the record and make your statement.

MR. DaCOSTA: Commissioners, my name is Francisco DaCosta, F-r-a-n-c-i-s-c-o, Francisco, Da, D-a, C-o-s-t-a, DaCosta.

I am the Director of Environmental Justice Advocacy. I also represent the interests of the first people of this area, the Miwok Melone (phonetic).

And I'm going to address two issues. I'm going to address the issues of the community and I'm also going to address the issues of quality of life issues. And I'm going to try to link it to some of the deliberations that took place today.

As much as the City and the San Francisco Public Utilities Commission would like to state that they have involved the community at large, the southeast sector, into this

deliberations, I want to state very clearly that they have not.

And I can say this because I have made every attempt to attend all the critical meetings, including the meetings of the CEC, at great expense.

What's happening in the southeast sector is that some so-called experts who have no compassion and who are not connected with the constituents of the Bay View/Hunter's Point, who are mostly people of color, are really interested in a hidden agenda.

I say this because as the Director of Environmental Justice Advocacy, I have gone at great lengths to participate in every empirical data study connected with transmission lines, with the San Francisco Port Authority, and with other matters that, as I said, address quality of life issues.

You have heard experts here make some very general statements. It is a fact that the Regional Water Board has not addressed the state of affairs as it pertains to our watershed. This particular site has been polluted from the days when there was a Santa Fe, leading to the Southern

Pacific Company, leading to the Cattelus Company, leading to Pacific Cement.

I was once at a San Francisco Port Commission meeting when one of the owners of Pacific Cement came at this meeting and stated that they made a mistake; that they had bulldozed cement and other rubber into the Bay.

So what I'm stating to you, Commissioners, is there's an ongoing process here where toxicity of the worst order is flowing into the Bay. And the Regional Water Board has done nothing about it. And I'm saying this because four years ago, and three years ago I sent in complaints to the Department of Toxic Substances Control. And Charlene Williams and the other directors at the top know exactly what I'm saying.

I have addressed the concerns that have been deliberated here in over 40 articles, in over 40 articles, and will continue to do it on my website and in the media.

In conclusion, Commissioners, this City and the San Francisco Public Utilities Commission have blood on their hands. We do not need this three combustion turbines. Thank you very much.

HEARING OFFICER FAY: Thank you for your

comments, Mr. DaCosta.

Okay, then that concludes our taking of testimony on soil and water resources unless CARE or Mr. Sarvey have affirmative testimony in that. Assuming the same challenge that you had on waste management.

Okay. Let's take a five-minute break, and the parties prepare themselves for presentations on air quality.

(Brief recess.)

HEARING OFFICER FAY: Mr. Ratliff, you raised earlier a concern about having to bring your biology witness in for limited purposes. And we note that there's no issue between the staff and the applicant on biological resources. And that no testimony was filed by any other party, although other parties have indicated an interest in brief cross-examination.

So, why don't you express that again, why you think it's not necessary to have a witness here.

MR. RATLIFF: Well, I'm hoping that with the forbearance of the intervenors we won't be required to call Ms. Sanders. I don't think her testimony is frankly going to be of interest or of

use to them in any way.

And even without the forbearance I would ask the Committee to not require Ms. Sanders to come. She's a consultant. It will cost the state a lot of money and she doesn't really have any -- no one has ever identified at any time, either at the prehearing conference or subsequent to it, any quarrel with her testimony. So I don't think she would be coming to testify on anything that's at issue.

The only related issues which have been raised at any point had to do with the remediation of the Bay and she has no testimony on that issue. And, as I say, that's because our testimony is that the project has no impact on the Bay.

So, I would ask that you not make her come down here because I just don't think it would be productive or a good use of the state's resources.

ASSOCIATE MEMBER GEESMAN: Am I correct in anticipating that you would object to any questions of her under cross-examination that would be on the scope of her testimony?

MR. RATLIFF: Yes.

ASSOCIATE MEMBER GEESMAN: Yes. I guess

I've got a curiosity as to what the intervenors would hope to achieve by crossing her.

HEARING OFFICER FAY: And before we get to that argument can I confirm that, Ms. Sol,, you plan to have your biology witnesses here, is that right?

MS. SOL : I can have my biology witness here; and he's prepared to answer questions about his testimony. But as I clarified this morning, he is not the witness on the contamination and the impact of the contamination.

HEARING OFFICER FAY: Right.

MS. SOL : And to the extent that questions get asked as to that topic, I will object.

HEARING OFFICER FAY: Understood. So if there are questions regarding, for instance, the offsets, regarding the butterfly, et cetera, there will be witnesses here to address those things within the scope of their own testimony.

The question is what need do you have, either Mr. Sarvey or CARE, to have staff's witness here?

MR. SARVEY: Is it possible to have the staff witness available by phone so we don't have

to bring her out here?

MR. RATLIFF: Well, I can't answer that because I don't know if phone is one of the ways the Committee wants to have testimony. But, in any case, again, is there anything within the scope of her testimony that you would question her about.

MR. SARVEY: Well, my basic question, I'll be right up front about it, how was your analysis hampered because you didn't have a fate (phonetic) and transport analysis of contaminants to the Bay, you know?

MR. RATLIFF: Well, she's not going to answer those questions, so there's no point in having her come down here. I mean, she's not going to answer them because it's outside the scope of her testimony.

MR. SARVEY: No, but I mean she can --

MR. RATLIFF: Yeah, I can answer for her, in other words, to that extent.

MR. SARVEY: Well, you testified earlier, Dick, so we're going to try to avoid that.

MR. RATLIFF: No, I didn't. I'm just telling you -- I'm telling you where the border is

for her testimony. It's --

MR. SARVEY: No, I understand. But what I'm saying is, you know, all I want to ask her, and she can submit it in writing, make a declaration out of it, but I just want to know, you know, how can you say that there's no impacts to biological resources when you don't have a fate (phonetic) and transport analysis for the contamination to the Bay.

And obviously all she can say is, I don't have a biological analysis because that's the bottomline.

MR. RATLIFF: Well, look, we'll stipulate we don't have a fate and transport analysis for the Bay. You don't have to have her here to say that.

MR. SARVEY: You're absolutely right.

HEARING OFFICER FAY: And then that's your --

MR. SARVEY: That's the gist of the question.

HEARING OFFICER FAY: -- that's the gist of it, okay.

MR. SARVEY: I just want to know how it hampered her analysis not having --

HEARING OFFICER FAY: That clarifies it.

MR. SARVEY: -- not having the information she needed to make the analysis.

HEARING OFFICER FAY: Okay, that clarifies it.

MR. SARVEY: You know, she's supposed to be identifying impacts, but how can she if she doesn't have the information. So that's the whole crux of my wanting her here. And she can do that under declaration.

MR. BOYD: Gary, can I say something?

HEARING OFFICER FAY: Sure.

MR. BOYD: So, I'm having a hard time understanding what the value of the testimony is if you don't have -- basically I have the same problem with my -- I was going to produce Dr. Smallwood as a witness, but he's basically told me no, he can't provide me any testimony because he doesn't have all the analysis that he needs, the data that he needs to provide me any testimony of value.

HEARING OFFICER FAY: Right, the difference is --

MR. BOYD: What's the difference between him and --

HEARING OFFICER FAY: -- Ms. Sanders had the analysis she needed, in her opinion, to do a complete analysis for the staff's FSA.

The question is does she have to be here in person, or can the record rely on her declaration, as we have in many other subject areas. And based on what Mr. Sarvey has said there's nothing in her testimony that would address his questions.

And so, based on that, I don't see why we need to have the witness here.

MR. BOYD: Okay, now, we're just talking about staff's witness. We're not talking --

HEARING OFFICER FAY: That's correct.

MR. BOYD: -- about the applicant's witness?

HEARING OFFICER FAY: That's correct.

MR. BOYD: And I'm not clear on the applicant's witness' testimony, where is this testimony on biological resources? Is that part of the supplemental testimony?

HEARING OFFICER FAY: No, it was filed with their primary testimony.

MR. BOYD: Or part of the 17th? Can you point me to where the biological resource

testimony is?

MS. SOL : There's two components. The first is the supplement A includes the biology testimony. The second thing is that the testimony on contamination explains how risks to the Bay are going to be addressed.

I made it clear before these hearings that if people had questions about that, about the impact of contamination on the Bay, our contamination witnesses were prepared to address them.

MR. BOYD: Are you stating that your contamination witnesses are qualified to act as biological resource witnesses?

MS. SOL : They are qualified to discuss ecological risk assessments, and how such a risk assessment and the process that we outlined will insure no significant impacts on the Bay. And that is what their testimony does. And they were available here for cross-examination on that topic.

MR. BOYD: I guess what I'm asking is are your witnesses biologists?

MS. SOL : I believe one of my witnesses is a biologist.

MR. BOYD: Okay.

MS. SOL : If you look at Mr. Cheung's r,sum,, he has a degree in biology, and he's also an expert on ecological risk assessments and how you mitigate impacts on ecosystems.

MR. SARVEY: Okay, --

HEARING OFFICER FAY: So it appears that this area is being adequately -- this area being biological resources, as the staff has narrowly conceived it, is being addressed in their written testimony; and that none of the parties have cross-examination that would compel the presence of that witness here on the 31st.

MR. BOYD: Well, I have no objection as long as staff's willing to stipulate, as Dick said, to the fact that their testimony isn't related to the contamination issue.

HEARING OFFICER FAY: Well, yeah, he just made that clear.

MR. RATLIFF: I just said that, and I also said earlier why. We have testified that this project does not have an impact on the Bay. That was what our soil and water witness testimony was. That being the case --

MR. SARVEY: I didn't hear that

testimony.

MR. RATLIFF: -- we don't need to analyze it under biology, because it --

MR. SARVEY: I didn't hear that.

MR. RATLIFF: -- simply doesn't happen.

HEARING OFFICER FAY: Yeah, okay.

MR. RATLIFF: We have tried to clarify that there are such things as preexisting pollution in the site which may be affecting the Bay. Those are not project impacts; they are not subject to our CEQA analysis. They are subject to the Regional Board's cleanup.

MR. BOYD: Well, you're disturbing stuff, so --

HEARING OFFICER FAY: We've spent enough time on this --

MR. BOYD: Okay, that's fine. Thank you.

HEARING OFFICER FAY: -- and staff is saving public resources by being efficient this way. Now we want to save everybody else's time and move forward so we can address air quality.

MR. SARVEY: Will we have the applicant's biology witness available?

HEARING OFFICER FAY: We have -- Ms.

Sol,, there's no change in your plans to provide witnesses on the 31st, is there?

MS. SOL : No.

HEARING OFFICER FAY: Okay.

MR. SARVEY: That's fine.

MR. BOYD: That's fine.

HEARING OFFICER FAY: So, we'll let the applicant go forward with their panel on air quality, then.

MS. SOL : Thank you. I'd like to call Mr. Gary Rubenstein, please.

HEARING OFFICER FAY: Please swear the witness.

Whereupon,

GARY RUBENSTEIN

was called as a witness herein, and after first having been duly sworn, was examined and testified as follows:

COURT REPORTER: Please state and spell your full name for the record.

MR. RUBENSTEIN: My name is Gary Rubenstein, G-a-r-y R-u-b-e-n-s-t-e-i-n.

DIRECT EXAMINATION

BY MS. SOL :

Q Good afternoon, Mr. Rubenstein. Do you

have before you the testimony that the City filed on April 17th?

A Yes, I do.

Q Okay. On the section on air quality, first of all it indicates that Mr. Rubenstein's qualifications were contained in appendix A to the prehearing conference statement of the City and County of San Francisco.

Do you have before you section C which includes a list of documents?

A Yes, I do.

MS. SOL : I'm going to go through those documents beginning with the application for determination of compliance and authority to construct, which was filed with the Bay Area Air Quality Management District dated March 18, 2004; that's exhibit 1.

Supplement and response to data adequacy comments on the application for certification for the San Francisco Electric Reliability project dated April 16, 2004, section 2.1 on air quality; that's exhibit 2.

Applicant's response to CEC Staff data request set 1A, dated July 6, 2004, responses to data requests 2 through 4 and 6 through 11; that's

exhibit 3.

Applicant's response to CEC Staff data request, informal set 6A, dated July 11, 2005, responses 6-1 and 6-2.

Applicant's response to CEC Staff data request, informal set 3, dated August 20, 2004, responses to data requests 148 through 149; that's exhibit 9.

Application for determination of compliance and authority to construct filed with the Bay Area Air Quality Management District, dated March 15, 2005; that's exhibit 14.

Supplement A to the application for certification for San Francisco Electric Reliability project, dated March 24, 2005, section 8.1 on air quality and appendices 8.1A through 8.1F; that's exhibit 15.

Applicant's response to CARE data request set 3, dated June 9, 2005, responses to data request 3.3-1 through 3.3-3.

Applicant's comments and objections to Sarvey data request dated July 5, 2005, comments regarding data requests 2 and 3; that's exhibit 5.

Applicant's response to Sarvey data request set 1A, dated July 25, 2005, responses to

data requests 1-2, 1-3, 1-5 and 1-6; that's exhibit 27.

Applicant's air quality mitigation and community benefits plan dated August 4, 2005; exhibit 38.

Applicant's response to Sarvey data request set 1B, dated October 6, 2005, responses to data request 1-3; that's exhibit 28.

Applicant's comments on the preliminary staff assessment set 1, comments 12 through 23, and comment 38, dated October 12, 2005; that's exhibit 39.

Applicant's comments on the preliminary staff assessment set 2, comment 15, dated October 31, 2005; that's exhibit 40.

Applicant's comments on the final staff assessment set 1, comment 1-11, dated March 17, 2006; that's exhibit 45.

And then there's a series of correspondence and other materials which comprise exhibit 56.

BY MS. SOL :

Q Do you have any changes, corrections or additions to make to these documents?

A No, I do not.

Q Are the facts contained in these documents true to the best of your knowledge?

A Yes, they are.

Q And to the extent there are opinions set forth in these documents, do they represent your professional judgment?

A Yes, they do.

Q And do you adopt these documents as your sworn testimony here today?

A Yes, I do.

MS. SOL : I would like Mr. Rubenstein to give an opening statement, please.

MR. RUBENSTEIN: Thank you.

HEARING OFFICER FAY: Before he does, would you like to move these documents?

MS. SOL : Oh, I'm sorry. Yes, I'd like to move for those documents to be introduced into the record.

HEARING OFFICER FAY: Any objection? Hearing none, so moved.

Go ahead, Mr. Rubenstein.

MR. RUBENSTEIN: Thank you, Mr. Fay.

Good afternoon. I'm going to first summarize my direct testimony and then take just a few minutes to discuss issues that have been

raised by some of the intervenors in various filings since the bulk of my testimony was prepared.

With respect to the San Francisco Electric Reliability project, it's my opinion that in the area of air quality the project will meet all applicable laws, ordinances, regulations and standards.

In addition, I believe that there will be no unmitigated significant air quality impacts associated with the project based on the project design, as well as mitigation measures proposed by both the applicant and the Commission Staff.

Let me explain a little bit further why I have these opinions. With respect to compliance with laws, ordinances, regulations and standards, I believe that SFERP's compliance is evidenced by the issuance of a final determination of compliance by the Bay Area Air Quality Management District. That document goes through in a great deal of detail explaining how the project will satisfy all of the Bay Area District's air quality requirements.

With respect to the lack of any significant unmitigated impacts under CEQA, I

addressed that question looking at both local and regional air quality impacts.

Local air quality impacts are addressed through several different means. First is the use of best available control technology to insure that project emissions are minimized to the extent feasible. In addition, we performed an air quality impact analysis, taking a look at project impacts in the local vicinity. That analysis was reviewed both by the Bay Area Air Quality Management District and by the Energy Commission Staff. All of these analyses reached the same conclusion, that there were no significant impacts.

In addition, we prepared a localized cumulative air quality impact analysis, taking a look at air quality impacts, both of this project, as well as other reasonably foreseeable projects, based on information we obtained from the Bay Area Air Quality Management District regarding projects that were, if you will, in the pipeline. This analysis also demonstrated no significant impacts associated with this project.

We also performed a screening level health risk assessment, looking both at project

construction and project operation, which confirmed that there were no significant health impacts associated with the project, something that will be discussed in more detail in the public health section.

And then finally, we addressed local impacts by a particularly localized focus in the area of air quality mitigation measures, something I'll get into more in just a minute.

In addition to looking at local air quality impacts, we also took a look at regional air quality impacts. Regional air quality impacts were addressed in four different ways.

First was through the use of best available control technology, which in addition to minimizing local air quality impacts, also reduces the burden that a project places on air quality within the air basin.

We also performed a number of cumulative air quality impact analyses that were provided in supplement A, as well as in one or two of the data responses, taking a look at the project impacts in the context of both other sources within the San Francisco Bay Area and in San Francisco. And also specifically in the context of impacts in

combination with Potrero and Hunter's Point Power Plants.

Regional impacts are also addressed through the health risk assessment. When one insures that the local health risk impacts are significant, one can also conclude that there's no significant regional impact, as well.

And finally, regional air quality impacts were addressed through a mitigation program which I'll next discuss.

There are several elements to the air quality mitigation program for this project. First, this includes the provision of emission offsets, as required under the Bay Area District's regulations. Offsets were provided in excess of what the Bay Area District requires to insure that we mitigated increases in emissions of both NOx, oxides of nitrogen, and volatile organic compounds, or VOCs, from the project.

Although this mitigation is mandated by the Bay Area District, we went one step further and because of concerns within the community, we obtained access to emission reduction credits generated locally at the Potrero Power Plant to provide yet a local, or local focus to the

mitigation.

The second element of the air quality mitigation program was an enhanced street-cleaning program. That program was proposed as the result of extensive discussions with community members regarding the issue of air quality impacts and potential mitigation.

The process that led up to this proposal is discussed in the air quality mitigation and community benefits plan, which is exhibit 38. The last page of that document lists all of the different meetings that were held with community representatives and a variety of interest groups in the community in developing the mitigation plan.

The mitigation plan had objectives that were initially designed in consultation with community members. Initially there was a list of 47 potential air quality mitigation measures that were gradually narrowed down through a series of focus groups and community meetings.

The resulting proposed measure, the enhanced street-cleaning program, is just not a matter of moving dust, it involves using enhanced street cleaners certified by the South Coast Air

Quality Management District that are essentially vacuum sweepers. The focus here is on removing dust levels from the street, not cleaning the gutters. And consequently represents a different application of what we see in most urban areas every day, but it's focused on reducing the dust levels.

It provides substantially in excess of one-to-one mitigation, I believe it's close to two-to-one mitigation for the project's PM10 impacts. And I believe that this, in addition, addresses any potential issues that might have been raised regarding the very minor sulfur dioxide emissions from the project, and whether those are adequately mitigated or not.

Finally, this particular mitigation program targets a real ground-level source of health-affecting emissions which is urban road dust. Urban road dust is not just soil; it includes a variety of different compounds, including brake linings, tire tread wear, just almost anything you can imagine that goes into the air in an urban environment will end up on our roadways. Consequently, I believe that this is an extremely effective and beneficial mitigation

measure.

In addition to that, that program, the City went a step further. As I indicated, this program already mitigates the PM10 impacts by roughly a factor of two-to-one. Because there were a number of mitigation measures that the community expressed support for, but which we believe the Energy Commission Staff would not grant us credit for, if you will, this mitigation, the City proposed two additional mitigation measures to address community concerns.

These include an extensive tree-planting program, which is probably one of the most requested mitigation measure during the community meetings. And, as well, an indoor air quality program focusing on reducing potential impacts of indoor air quality, asthmatics, and especially children.

These two measures were selected in addition to the enhanced street-cleaning program. Again, after extensive discussions with community groups. Once again these measures provide a very local focus; they meet the mitigation objectives. But, as I said earlier, because the benefits of these two measures are not quantifiable, and

therefore were not acceptable to the Commission Staff, we're proposing them in addition to the enhanced street-cleaning program because we believe the benefits are very real and are important to the community.

Having made that proposal, the CEC Staff then went another step further, beyond the step further we had already taken, and requested that we provide additional mitigation for PM2.5 air quality impacts.

I would simply point out that the Bay Area District is a designated attainment area for the federal PM2.5 standard. And although it's a designated nonattainment area for the state PM2.5 standard, in fact there had been no exceedances of that standard for the last three years. And the three-year average, which is the basis for compliance, was below the state standard in 2005 for the first time.

Nonetheless, we did work with the Commission Staff. Commission Staff proposed, and we agreed to, a wood stove/fireplace retrofit program. Again, this element of the mitigation program continues to have a community focus. However, based on the work we had done, and the

community discussions we had had, we were concerned about the feasibility of generating sufficient PM2.5 credits using that specific measure.

Consequently, we proposed, and the Commission Staff agreed to, a backup mitigation measure to address PM2.5 impacts, which is the surrender of additional sulfur dioxide emission reduction credits. That backup is completely essential from the City's perspective to provide certainty that we can live up to the commitment of complying with the conditions of certification.

There are several additional issues that were raised in a variety of filings by intervenors. I'm just going to touch on a few of them right now.

One was a question regarding the use of, quote, "old" unquote, emission reduction credits for the project. This concern, in my opinion, misstates EPA policy completely. EPA's policy is that older offsets, and the jargon here is pre-1990 emission reduction credits, are valid provided the credits are properly accounted for in the Agency's air quality planning programs.

Old emission reduction credits are good.

They are not bad. It means that someone reduced emissions a long time ago and we've been reaping the benefit of that cleaner air for a long time. Consequently the notion that there's something wrong with using older emission reduction credits as mitigation, I think, represents a misunderstanding of the incentives that are provided when you have a program like that.

The emission reduction credit program is part of a programmatic mitigation system established by local air districts throughout California. And, in fact, emission reduction credits are kept, if you will, on the books as if the emissions were continuing to be admitted until the credits are surrendered, requiring the air districts to plan and reduce emissions going forward by just a little bit more to make sure they can still demonstrate attainment.

In addition, emission reduction credits have been accepted by the Energy Commission as mitigation in innumerable siting cases.

And finally, the use of these older emission reduction credits, when necessitated by a community-driven requirement for this mitigation, which is that we used local emission reduction

credits.

And so the choice was either address the community's concerns and use local credits, which were older in nature, or ignore the community's concern, go out and find newer credits which may have been from some other part of the Bay Area. The City, in my opinion, properly chose to defer to the community's concerns in this case.

And then finally the community benefits program provides, in my opinion, substantial mitigation, but no credit at all is provided because the reductions are simply not quantifiable using any traditional means.

A second issue that's been raised regarding air quality has to do with the particulate emission rate for the turbines of 3 pounds an hour, as was originally proposed, versus 2.5 pounds per hour, as required by the District's final determination of compliance and staff's proposed conditions of certification.

This issue is a little ironic from my perspective. The reason why the emission rate was reduced was because of a comment letter by one of the intervenors to the Bay Area District on the preliminary determination of compliance asking

that the emission rate be reduced because of a precedent set, in that intervenor's opinion, with another project.

The Bay Area District acquiesced in that request. The City, after reviewing available data, acquiesced in that request. And now that same intervenor is suggesting that the reduction was improper. So I'm not quite sure how we get it right.

But in any event, I believe that the lower emission rate is technically feasible; it is supportable; it has been demonstrated in data provided, in fact, by the same intervenor in his comments to the Bay Area Air Quality Management District last fall. The City and County of San Francisco are comfortable with either particular emission rate. Compliance is not expected to be an issue. Actual PM10 emission levels from these turbines are expected to be much lower than 2.5 pounds per hour.

A third issue that's been raised in several different fora has to do with cumulative impacts from other projects, in combination with the San Francisco Electric Reliability project. Cumulative air quality impacts have been evaluated

in this case any number of different ways.

There was an air quality impact analysis included with supplement A that added project air quality impacts on top of background levels. Also in supplement A was a localized cumulative air quality impacts analysis that looked at additional reasonably foreseeable projects in combination with the SFERP. Those additional reasonably foreseeable projects were identified based on criteria approved by the Commission Staff with data generated by the Bay Area Air Quality Management District.

In addition there was a regional cumulative air quality impacts analysis included with supplement A which evaluated this project in the context of regional emissions of ozone and PM precursors. And also in the context of a variety of alternative operating scenarios for the Potrero and Hunter's Point Power Plants.

And then finally in response to data requests we reviewed additional project EIRs, documenting this in data responses, for potential cumulative construction impacts. And we concluded that because each of these EIRs demonstrated that there would be no significant construction-related

impacts from any individual project, and given the short-term nature of construction air quality impacts in any event, that the timing was too speculative to analyze amy of these impacts quantitatively, but we could draw the qualitative conclusion that since all of these projects were going to be mitigated, in terms of their construction impacts, that there would be no significant cumulative impacts that we could identify as well.

Finally, and in conclusion, I believe that there's no evidence of any significant cumulative air quality impacts with respect to either project construction or operation, and that the mitigation that's being proposed for the project insures that there are no significant impacts either from the project individually, or cumulatively.

One more issue that's been identified has been the question of an appropriate ammonia slip level for the project. As has been discussed in numerous other CEC siting cases within the Bay Area District, this particular District is generally ammonia rich. And consequently any further reductions in ammonia emissions below the

10 parts per million level established by the Bay Area District will not produce corresponding further reductions in ambient PM10 concentrations, or ambient 2.5 concentrations.

Consequently, since there were no significant impacts that warrant additional mitigation, an in any event, reducing ammonia emissions would not reduce those impacts, I don't believe that there's any basis for proposing a lower level.

And then finally there's an issue that's been raised with respect to various local monitoring programs. The City and County of San Francisco have now participated in two different ambient monitoring studies within this community to address community concerns.

Those include the Bay Camp program conducted jointly with the Bay Area Air Quality Management District and the California Air Resources Board, as well as an additional monitoring program recently completed by the SFPUC focusing on specific monitoring locations within southeast San Francisco.

Both studies indicate that in general the Bay Area District's monitoring station at

Arkansas Street generates data which is representative of community impacts. And that while some statistics from some sites on some days are higher than Arkansas Street, on at least as many days they're lower than the Arkansas Street measurements.

In my opinion 5 to 10 percent variations in measured values between one site or another are not indicative of any significant differences given the uncertainties in ambient monitoring of a resolution of the techniques that are available.

And I don't believe that there's any evidence to the contrary in the record so far.

In conclusion, it's my opinion that the project complies with all air quality related laws, ordinances, regulations and standards. The project will not result in any significant unmitigated air quality impacts on either a local or regional level. And that the project will not result in unhealthy air levels under any operating conditions, under any weather conditions, at any location, based on the extremely conservative analyses that have been done to date.

And that completes the summary of my testimony.

HEARING OFFICER FAY: And just to clarify, Mr. Rubenstein, is it correct that with the staff's filing of this errata, exhibit 48, that the applicant is in full agreement with the staff's conditions of certification?

MR. RUBENSTEIN: That's correct.

HEARING OFFICER FAY: Is the witness available?

MS. SOL : Yes, Your Honor.

HEARING OFFICER FAY: Okay. Mr. Ratliff.

MR. RATLIFF: No questions.

HEARING OFFICER FAY: All right, Mr. Boyd, let's go to you first, or to CARE.

CROSS-EXAMINATION

BY MR. BOYD:

Q Okay, first I wanted to ask you, Gary, were you aware that as part of the field sampling report that the applicant prepared that they had disclosed the presence of asbestos on the site?

A Yes.

Q Do you know or do you have knowledge if the applicant has applied to the Air District for a dust control plan to deal with the potential disturbance of asbestos at the site?

A To the best of my knowledge that dust control plan has not been filed with the Bay Area District as of yet.

Q Do you know if they intend to?

A My expectation, based on how this is dealt with in other construction projects, is that it will be filed prior to the commencement of construction.

Q Before they disturb anything basically?

A Before they disturb anything that would be subject to the Air Resources Board's air toxic control measure.

MR. BOYD: Has the Air District got a witness here, too, today?

MR. RATLIFF: The Air District is here, yes.

MR. BOYD: Okay, so maybe that's a better question for them.

HEARING OFFICER FAY: Well, will the staff make somebody available from the Air District?

MR. RATLIFF: Yes. The Air District is present and will testify when the staff witnesses testify.

HEARING OFFICER FAY: Okay.

MR. BOYD: Okay.

BY MR. BOYD:

Q Did I hear you right that the ERCs from the Potrero project are from 1985? Is that true?

A You didn't hear me say that.

Q Well, when is the ERCs created for --

A It was sometime in the 1980s.

Q Okay, sometime in the 1980s. And can you explain to me how that actually will reduce the impact of -- the ERCs are basically to offset the production of certain criteria pollutants from the plant, correct? So, is it PM -- is this for -- what's the ERC mitigating? Which criteria pollutant?

A I was going to ask you what you were talking about. We discussed ERCs in two particular contexts. One is the ERCs that will be surrendered to satisfy the District's offset requirements; and then the second are the ERCs that the City has proposed as a backup mitigation measure to address the CEC Staff's concerns regarding PM2.5 impacts.

Q Okay, so I'm not talking about PM2.5. Is this ERC for, for example, sulfur oxides or -- and NOx? Or that's leaving the PM2.5 issue aside.

A Leaving the PM2.5 issue aside, the ERCs are NOx emission reduction credits that are being provided to satisfy the Bay Area District's requirements for offsets for ozone precursors.

Q Okay, so can you explain to me how, if the plant's going to put out NOx emissions, how ERCs from the 1980s are going to reduce the impact of those NOx emissions on the surrounding community in the region?

A I did explain that in my opening statement. I'll summarize it again. The ERC program is essentially a large-scale mitigation program managed by the Bay Area Air Quality Management District. It is designed to encourage facility operators to shut down sources or retire, reduce emissions from sources before they're required to do so.

And as a result the offset program is designed to stimulate advances in reducing emissions by providing this credit. Those credits are discounted at the time that they are issued, so that, for example, for every 100 pounds of emission reductions that occur, somebody may only get anywhere between 20 and 80 pounds worth of credits.

That incentive program is combined with the District's air quality planning process whereby for every 100 pounds of emission reduction credits the District issues, until that credit is surrendered by someone, the District assumes those 100 pounds of emissions are continuing into the air.

And they still have to demonstrate attainment with state and federal air quality standards with those higher levels.

Consequently those emission reduction credits, as I said, are part of a system that makes sure that as new sources are built that air continues to get cleaner.

And that's the way in which I believe that it mitigates the project impacts.

Q So ERCs are part of federal regulatory program under the Clean Air Act?

A They're part of both the state and federal regulatory program under the Clean Air Act.

Q And how does that reconcile with CEQA's requirements that you mitigate adverse impacts on the environment?

A Well, there are two elements to that.

First, with respect to the ERCs that were surrendered to deal with both the NOx and VOC impacts from the project, in that context I think it's appropriate to look at those mitigation -- those emission reduction credits as a mitigating project feature. Which is to say the Bay Area District's rules require that mitigation's provided and consequently a basic part of the project design results in no remaining significant impacts for ozone precursor emissions.

Looking separately at the question of additional PM2.5 mitigation, clearly the surrender of SOx emission reduction credits to address that concern goes beyond the requirements of the Bay Area District, but it still fits within the same regulatory scheme.

Q But it's up to the Commission, the CEC, to make a determination whether those ERCs mitigate the CEQA impacts, not the Air district, isn't that true?

A That's correct. And as I said earlier, in numerable proceedings throughout California the CEC has, in fact, found that emission reduction credits, being part of this programmatic mitigation program, are sufficient to mitigate

impacts under CEQA.

Q Okay, I was going to ask some questions about selective catalytic reduction versus SCONOx emission control technology.

Ammonia is used as a reactant in the selective catalytic reduction process, isn't that true?

A That's correct.

Q And isn't one of the byproducts of that type of emission control the production of what's called ammonia slip out of the stack?

A I wouldn't technically call it a byproduct, but, yes, ammonia slip does result from the use of selective catalytic reduction systems.

Q And now is there a potential for that ammonia slip to react with other criteria pollutants like NOx, for example, to form what's called secondary formation of fine particulates?

A In theory that's true; but as I indicated in my summary statement a little while ago now, the Bay Area has been shown to be, for the most part, ammonia rich. And as a result, changes in ammonia emission rates from projects such as this are not expected to have any significant impact one way or another on PM10

formation in the Bay Area.

Q Now, the other technology, SCONOx, does it use ammonia as part of the emission control technology?

A It uses other chemicals; it does not use ammonia.

Q And so it wouldn't produce any ammonia slip, right?

A That's correct, it does not produce any ammonia slip.

Q And has there been any reported byproduct like the secondary formation of particulate matter associated with the use of SCONOx technology?

A It's my understanding that the byproducts associated with SCONOx are generally water pollutants rather than air pollutants.

Q And as you stated earlier, -- as you agreed earlier, the Commission's responsible for determining the mitigation for CEQA impacts. If one produces fine particulates and the other doesn't, why didn't the applicants select the more environmentally protective technology?

A First of all, I didn't say, and I don't agree with the statement, that one produces more

particulates than the other. I believe that the particulate impacts in both systems are essentially the same.

The reason why the City selected selective catalytic reduction instead of SCONOx largely has to do with concerns about reliability, particularly for a peaking facility that's designed to be available at a very high level and extremely responsive to demands placed upon the City's electrical system.

Q Now, are you basically making the same argument that Dr. Greenberg made about the long amount of time for maintenance of the facility? Is that what -- I'm not trying to paraphrase what you're saying, I'm just trying to determine if you're in agreement with what Dr. Greenberg's assessment was.

A My concern about reliability may be the same as Dr. Greenberg's; I'm not sure that we ever reviewed the same data.

I'm particularly focused on two elements. One was the inability of a SCONOx system located at a facility near the Los Angeles Airport to come into compliance with its permit limits after several years of trying. I'm not

sure they're in compliance yet. I haven't heard anything about this facility--

Q Is that the Vernon facility?

A No, it's not the Vernon facility. Vernon's not near the Los Angeles Airport.

The second concern relates to a system that's been installed at the City of Redding where, after several years of operation, they have now gotten to the point where the unit has to be shut down and the catalysts removed and cleaned three times per year. Essentially once every four months.

Which is, in my mind, an excessive amount of maintenance for a pollution control system, particularly one that was originally intended to require a shutdown and cleaning only once per year.

And it's those two issues that lead to my concerns about the appropriateness of using the SCONOx system in this particular application.

In addition, I'd point out that none of the facilities operating with SCONOx anywhere in the country, to the best of my knowledge, are simple cycle units operating with the exhaust temperatures that these units have.

Q Do you know how many hours the applicants are projecting this facility to run a year?

A The facility is designed to allow a total of 12,000 operating hours for the three units combined.

Q That's 12,000 out of approximately 36 -- what's the number of hours in a year? It's like a third of the year, right?

A No, it's closer to half the year.

Q Half the year. So you don't think a half a year is enough time for them to regenerate the catalysts, for example on the weekends if they needed to, during offpeak?

A It's not a question of whether that's sufficient time. It's a question of whether you want to take the gamble that the weekend you pick to do the shutdown is going to be a weekend where you're not going to have an upset in the transmission grid leaving you without a reliable backup system.

It's not clear to me that if the SCONOx system were used and that kind of shutdown frequency was required, that a conclusion would be made that having three units would be sufficient.

Q I also heard that they use hydrogen gas as part of the regeneration process, is that true for SCONOx?

A Actually when I said there were other chemicals that were used in SCONOx I was thinking of hydrogen. Hydrogen is used for the continuing regeneration; a small amount of natural gas is put through a reformer; hydrogen is generated and that hydrogen is used on a continuous basis to provide regeneration of the catalyst.

The reason why that's necessary is that without regeneration the SCONOx catalyst literally has a life of on the order of 10 to 20 minutes. And the hydrogen is used to provide continuous regeneration. And that works until the levels of contamination build up and in which case the catalyst physically has to be removed and literally washed and then retreated.

And that's the events that I indicate occurs now with the longest running system in California; and that's a frequency of about once every four months.

Q So does this use a large quantity of hydrogen gas?

A I'm not sure how you would evaluate

whether it's large or not. I'm not sure what kind of number you would be thinking of.

Q Is this, I don't know if you know the answer to this, is this part of the Governor's hydrogen highway program in any way?

A I'm fairly certain it is not.

Q Okay. I wanted -- the next questions are related to the community benefit, the development of community benefit program.

A Yes.

Q Can you tell me what community member groups participated? You alluded to the fact that there were -- consulted with several community member groups. I was just curious about who you're talking about.

MS. SOL : Objection, Your Honor. I'd just like to point out that there is an EJ panel and an EJ community benefits panel that could answer the question. Mr. Rubenstein can answer as far as he knows, but some of the members of the other panel could supplement whatever Mr. Rubenstein has to say.

MR. BOYD: Which other panel?

MS. SOL : When the environmental justice topic is taken up there is going to be a

panel; it's going to include both just straight EJ witnesses and also the people who were involved in the development of the community benefits.

HEARING OFFICER FAY: We'll overrule the objection to the extent that Mr. Rubenstein can speak to --

MR. BOYD: Whatever he knows, --

HEARING OFFICER FAY: -- what he knows.

MR. BOYD: -- that's fine.

MR. RUBENSTEIN: In exhibit 38, which is the air quality mitigation and community benefits plan, the last page of that document, which is attachment A, is a list of the organizations visited in preparing that plan.

I participated in several, but not all, of these meetings. But the list includes open houses held both in Potrero Hill community and Bayview Hunter's Point. It included discussions and presentations to the Bay View Hunter's Point Public Advisory Committee, their health and environment and land use subcommittees, the Bay View Hunter's Point Rotary Club, the Building Owners and Management Association, Central Waterfront environment advisory group; the Department of the Environmental Policy

subcommittee; the District 10 Council; the Dogpatch Neighborhood Association, the Potrero Boosters, the Potrero Hill and Dogpatch neighbors open house, the Power Plant task force at a number of different meetings, the San Francisco Planning and Urban Research Association.

Public presentations before the Port Commission and the Public Utilities Commission; and Public Utilities Commission Energy Citizens Advisory Committee; the Sierra Club, both their energy committee, subcommittee and the Bay Area Energy Committee meetings. Town hall meeting organized by Supervisor Sophie Maxwell. And presentations before the Southeast Facility Commission and the Southern Waterfront Advisory Committee.

Q Can I see those? You talked about that one of the things they were recommending was something about tree planting? Can you describe what actual -- what's being offset by planting trees, as far as the air pollution criteria pollutants, sulfur oxides, PM, anything, what are you offsetting with the tree planting?

A I don't believe I indicated that anything was being offset by a tree planting

program. I simply indicated that a tree planting program was one of the most often requested mitigation programs during the course of community meetings and workshops.

And there are some in the community who believe that the tree-planting programs will provide air quality benefits. But, in any event, the principal reason for the tree-planting program was because it was requested by residents of the community.

Q I guess Ronald Reagan wouldn't have agreed with that. How about the indoor air quality program; is that the same issue, basically several of the community groups recommended that as one of the community benefit programs?

A That was --

Q But on the other hand, you haven't identified that to reduce any actual emissions?

A The indoor air quality program, I think, frankly is one of the most effective mitigation measures ever to come before the Commission, because it focuses specifically on pediatric asthma.

The requests that I heard from the community weren't articulated as we need an indoor

air quality program as much as we need to do something about our children having so much frequency of incidence of asthma.

Asthma is -- well, first of all, let me start by saying indoor air quality levels, particularly for pollutants that can exacerbate asthma are typically much higher than outdoor air quality levels, which is why we focused on the indoor air quality program.

The program that we're talking about includes providing improved home ventilation systems, both for cooking and bathroom vents; carpet cleaning and/or replacement programs; the purchase or providing of grants or subsidies for advanced cleaning tools for home use, such as hepafilter systems for vacuum cleaners for families that have children that have asthma.

As well as increased educational programs so that parents have a better understanding of things they can do to help better protect their children.

And roughly $500,000 of mitigation funds will be used to support this program. I believe someone from the San Francisco Department of the Environment who is going to be on the

environmental justice panel will be able to discuss the program in more detail.

Q Will any of those two programs last the life of the project?

MS. SOL : Sorry, I didn't hear that question.

HEARING OFFICER FAY: Will they let the life of the project --

PRESIDING MEMBER BOYD: Will they last the life of the project.

BY MR. BOYD:

Q Will any of those two programs last the life of the project?

A I'm not sure I could predict how long the trees will last. And with respect to the indoor air quality program, the hope is that certainly the educational benefits and the quality of life improvements will last for a long time.

As I said, we have not attempted to quantify any of the benefits associated with either of those two programs.

Q Now, how about the street-sweeping program, did that come out of the community benefit discussion with the community members? Or is that something that applicant developed on

their own?

A Yes, that also came out of the community discussions and it was one of three or four programs that were ultimately found to meet the objectives of the mitigation program. And was the one that appeared to be the most viable from the technical perspective. And the one for which we could best quantify the emission reductions and thereby address the Energy Commission Staff's concerns, as well as the community's concerns.

Q Well, what value is the street sweeping during the PM season, i.e., foggy winter months?

A Well, at anytime that you're going to have high dust levels for road traffic it's going to provide a benefit. And the impacts of rainfall in terms of dampening streets are maybe three or four days. Consequently, you know, in between rainstorms the program is going to be effective.

In addition, by maintaining the streets at a lower dust level you're going to insure that year-round the PM10 and PM2.5 levels are going to be reduced to the extent possible.

Q Now, my question is, I heard you mention that there's now -- there's going to be, one of the community benefit programs is going to be a

wood stove program, which is something new. Is that -- can you describe that in more detail, what level of reductions you're attempting to achieve with the wood stove program?

A Actually it's not new. It was one of the programs that was included in the original list of 47 that were discussed at the various community workshops and meetings. It was also one of the final four candidates that the City identified as satisfying its criteria.

This measure was selected by the Energy Commission Staff to address their additional concerns regarding PM2.5 benefits. And the City agreed to a condition of certification requiring this program, provided the use of emission reduction credits was available as a backup.

Q Now, in your opinion, of the four programs that now we've mentioned, the tree planting, the indoor air quality, the street sweeping and the wood stove program, which, in your opinion, would be the most effective in meeting the Commission's duties to mitigate the impacts of the PM emissions from the project? Which of those four would be the most effective program?

A I'm not sure I could answer that question because you've asked me to assess what the Commission's duties --

(Public Address Announcement.)

HEARING OFFICER FAY: Okay, let's go back on the record.

MR. BOYD: He was trying to answer.

HEARING OFFICER FAY: Do you have the question in mind?

MR. RUBENSTEIN: I do. And as I said, I don't think I can answer the question as it was posed, because it's asking me to put myself in the role of deciding what the Commission's responsibilities are under CEQA with respect to mitigation.

You know, in terms of which program I think is simply the most effective from an overall perspective of air quality public health there's no doubt in my mind that it's actually the indoor air quality program. But I recognize that from a regulatory perspective it's simply very difficult to quantify benefits in a way that would enable the Commission to document that impacts have been mitigated.

And so, you know, while I think

personally and professionally that the indoor air quality programs are the most effective, I think that the combination of programs, the street-cleaning program as the primary mitigation measure, and then the combination of the wood stove and fireplace retrofit program with a backup of emission reduction credits, that combination probably represents the package that best addresses the Commission's need to not only achieve real mitigation, but also to be able to document and quantify the benefits that are achieved.

BY MR. BOYD:

Q My final question is did the City consider any diesel vehicle retrofits or diesel conversion to natural gas retrofits as an alternate community benefit program?

A Yes. The City considered a number of those amongst the 47 mitigation measures that were evaluated in detail.

Q And did you have a opportunity to evaluate the effectiveness of that type of offset? Or they were just like picking and choosing, and then told you which ones to evaluate?

A No, I participated in the evaluation.

The evaluation was based on a number of criteria. Effectiveness was only one of the measures.

The objectives of the mitigation program are set forth in exhibit 38 and we used those in the context of a matrix of mitigation measures.

And those objectives included providing an air quality benefit in the communities affected by the project; the ability to provide quantifiable emission reductions and track the benefits; the capability of the City to implement the mitigation measure; technical feasibility of the measure; the uniqueness of the measure, meaning showing that the measure was not duplicative of existing local, state or federal control programs; and the cost effectiveness.

And in that context none of the diesel reduction programs managed to pass all of those tests.

Q Okay, thank you.

MR. BOYD: I'm done.

HEARING OFFICER FAY: Okay. Mr. Sarvey, you have some questions of the witness?

MR. SARVEY: Yes, I do.

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CROSS-EXAMINATION

BY MR. SARVEY:

Q Mr. Rubenstein, I'd direct your attention to page 8.13-4 (sic).

A Of what document?

Q Of the supplement A, exhibit 15.

A I'm sorry, can you tell me the page number again?

Q 8.1-34.

A Thank you. Okay, I have that page in front of me now.

Q Okay. On that page of your testimony you state that the meteorological data used in this analysis were collected at the Potrero Power Plant monitoring station adjacent to the project site. This data set was selected to be representative of meteorological conditions at the site, and to meet the requirements of the USEPA.

I'm a little confused here. This power plant isn't adjacent to the Potrero Power Plant site, is it?

A In the context of meteorological data, if it's not literally adjacent it's very very close.

Q That wasn't just a mistake in your

testimony carried over from the previous AFC?

A You know, it might have been. But, again, in the context of meteorological data, the fact that this is now literally blocks away doesn't have any significant bearing on the validity of that statement or its analysis.

Q And you say blocks away. My understanding it's like .4 miles, is that correct?

A Yeah, further down on that page it indicates that it's less than half a mile away.

Q Okay. So on page 8.1-5 of your testimony you state that the data shows that on the average the state and federal ozone air quality standards have not been exceeded in the area in the past ten years.

Were you aware that on October 12, 2004 the Bay View monitoring station recorded a one-hour state violation?

A Are you referring to the Bay Camp monitoring station?

Q The Bay View Hunter's Point, San Francisco Hunter's Point monitoring station. I'm handing you a printout from the Air Resources Board.

A I'm sorry, is there some document in

particular you're trying to refer to?

Q Yeah.

A Okay, now that I have that in front of me, can you restate your question?

Q Were you aware that on October 12, 2004 the Bay View monitoring station recorded a one-hour state violation?

A At the time that I prepared supplement A I'm not sure that I was aware of that, because I'm not sure the 2004 data were available yet.

Q Do you know of any other one-hour ozone violation that's occurred in the project area in the last ten years?

A I'd have to take a look at more data that I have available in front of me to make that statement. One thing that I do know is that on the table that you handed out in the notes section it indicates that an exceedance is not necessarily a violation. So the fact that there was one measurement at .096 ppm does not, in and of itself, indicate a violation. I'd have to look further to see whether that was the case or not.

Q Is that the highest measurement recorded in the last ten years in the project area?

A The .096 value?

Q Yeah.

A I don't know because I haven't taken a look at, at least not recently, at the other data that was collected in 2005.

Q Now, attached to that document that I gave you there's PM2.5 daily maximum average values that I submitted as an exhibit.

A Um-hum.

Q And is it clear to you that the monthly average at the San Francisco Hunter's Point monitoring station is higher than the San Francisco station on all four months?

A For this one statistic and for just these four months that would have been the case.

Q So do you have any data that refutes the assertion that the air quality at San Francisco's Hunter's Point is worse than at the Arkansas Street monitoring station?

A I'm sorry, are you asking me if I have any data?

Q Yeah, earlier you said that you felt that the sites were comparable. My testimony is that the average monthly value of PM is higher at San Francisco's Hunter's Point as opposed to the Arkansas Street. And I was asking if you had any

data to refute that assertion?

A I do, and the only reason I'm hesitating is we've not provided any detailed analyses that are in the record. But the answer is yes, I do have data that show, for example for one-hour SO2 impacts, for one-hour NO2 impacts, for one-hour CO impacts, for eight-hour CO impacts, for annual NO2 impacts, for all of those pollutants, and annual PM10 impacts, for all of those pollutants the Arkansas Street readings are higher than at Bay View Hunter's Point.

As well as for a number of parameters and pollutants the reverse is true. And when I take a look at all of the data my conclusion is that the two stations are generally showing consistent results.

Q And what pollutant have you found in your analysis here that actually provides an impact to the Bay View and the Potrero communities? Was it CO?

A I'm sorry, I didn't understand the question.

Q What pollutant in your analysis have you decided actually exceeds state or federal standards and provides an impact to these

communities? Is it CO, NO? Or is it PM2.5?

A Well, it's not PM2.5 because there haven't been any recorded violations of PM2.5 air quality standard for some time. So I'm not quite sure of the context of your question.

Q Okay, I'll move on. Now, the first handout I gave you from the top four hourly ozone measurements, California Air Resources Board, the ozone violation occurred October 12th. Is that in the ozone season?

A In the Bay Area that's probably at the very tail end of the ozone season.

Q Okay. And the coverage here on that year was 23 percent of the year, is that correct?

A Twenty-three percent of the year for that particular monitoring station.

Q Okay, thank you. In appendix 8.1B, --

A I'm sorry, 8.1?

Q Appendix 8.1B, which is your modeling analysis.

A Yes.

Q Why are you using wind data from 1992 for the Potrero Power Plant and not some more recent data?

A I don't believe that there were any more

recent meteorological data that met EPA and District requirements in terms of quality and completeness.

Q There wasn't any at the Arkansas Street monitoring station?

A I'm fairly certainly that the Bay Area District does not collect modeling quality meteorological data at the Arkansas Street station.

Q So, your testimony is there weren't more current years available?

MS. SOL : Asked and answered, Your Honor.

HEARING OFFICER FAY: Well, I'd like to get that clarified. I'm not sure he precisely answered it.

MR. RUBENSTEIN: Recent is not the only criteria. The data have to be, and in fact, in my professional opinion, recent isn't very much of a criterion. The data have to be complete and meet EPA and District quality criteria. And I don't believe that there were more any -- let me restate that again -- I don't believe that there were any more recent meteorological data sets that met those criteria that were available at the time we

prepared this application.

BY MR. SARVEY:

Q In terms of complete, isn't it normal to use three years of meteorological data in an analysis?

A Actually if available the recommended guidance is that you use five years of meteorological data. But the data are supposed to meet completeness criteria, which are -- I'm doing this from memory -- some were between 90 and 95 percent coverage for the entire year, which is a fairly stringent data quality requirement that most MET data collection programs cannot meet.

Q And you used only one year of meteorological data in your analysis, is that correct?

A My recollection is that the data collection at Potrero was part of a special study that was conducted by the plant owner at that time. And I don't believe they collected a multiyear data set. But I'm not certain of that.

Q So it was just one year, then?

A So what was just one year?

Q You only used one year of meteorological data, is that correct?

A I believe that's correct, yes.

Q Okay. Did you use the 1992 data because it yielded the best results for your project?

A No.

Q Looking at your wind speed data on page B1 of appendix 8.1B, the wind speeds during the first quarter are less than 2 miles an hour over 50 percent of the time. Is that conducive to PM2.5 formation?

A I don't think that wind speeds, per se, have any relevance with respect to PM2.5 formation one way or another. Lower wind speeds will result generally in lower emissions of dust, if you will, but i'm not recalling any mechanism through which wind speed plays a role in how PM2.5 is formed in the atmosphere.

Q Then the highest levels of PM2.5 don't occur in stagnant conditions, is that what you're saying?

A That is not what I'm saying. You asked a question specifically about wind speeds and their relationship to PM2.5. PM2.5 levels in the San Francisco Bay Area are typically highest in the wintertime, and to the best of my recollection the meteorological condition that most influences

that is the inversion height rather than the wind speed.

As it happens, the lower inversion heights in the Bay Area are well correlated with low wind speeds, so that they both tend to occur at the same time. But, the higher concentrations are largely driven by the inversion height and not by the wind speed.

Q On page B-5 in appendix 8.1B, you have a picture of a large Muni maintenance building next to the SFERP. Can you tell me how close that building is to the SFERP fenceline?

A Not off the top of my head. Not without getting out a ruler.

Q In table 8.1B-3 you list some model impacts but you failed to identify what that pollutant is, or could you tell me what that table refers to?

A Are you referring to the table at the top?

Q Yes, the very top table, 8.1B-3.

A The table at the very top of -- table 8.1B-3 has a number of tables embedded in it. The table at the very top --

Q The very top is the one. I'm sorry.

A -- is a table showing the unit impacts. And that's a metric used in dispersion modeling that is independent of pollutant.

Q So that doesn't --

A The impacts for the individual pollutants are shown further down on the same page.

Q Okay. In your table further down the page it appears that at low loads your emission concentrations are much higher, is that correct?

A No, I wouldn't agree with that as a general statement. Sometimes they're higher, sometimes they're lower.

Q Okay. During startups and shutdowns is the dispersion of contaminants not as high as it is during normal full-load operation?

A For these turbines that's probably a correct statement.

Q Okay. In appendix 8.1A, page B-19, would you turn to that, please.

A I'm sorry, did you say appendix 8.1A?

Q B-19, page B-19 of appendix 8.1. I guess that would be 1B, I'm sorry, I apologize. Exhibit 15.

Now that has your 24-hour average PM10

concentrations for the SFERP, that's correct?

A That's correct.

Q There's no isopleth on that page like there is on the other page. Is there a reason that that's not there?

A I'm not sure I understand your question because I'm looking at the page you're referring me to and I see isopleths there.

Q The ones that were given us and the ones that are on the website -- here, I'll hand you my page so you can take a look at it.

A Oh, B-19.

Q Yes.

A I'm sorry, I was on the wrong page. Yes, the reason why there are no isopleths there is because all of the impacts for this particular case were below 2 mcg/cubic meter. That's shown at the bottom of -- in the paragraph that's at the bottom of the graphic.

Q So, that was the reason you didn't put any isopleths on there?

A Yes, all of these charts have the same scale, and in order to enable an easy comparison between the different cases that are being evaluated and the impacts from SFERP by itself

were so low that there were no isopleths generated on the scale.

Q So, could you turn back to page B-17. On that page you seem to have isopleths. Is there a reason there's isopleths on this one and not the other one?

A This is the same chart but with the isopleths presented. The chart on page B-19 is part of a series that is looking at different combinations of power plant operations.

Q So, on page B-19 how are we supposed to know where the highest impacts occur from the 24 hours PM10 concentration?

A Well, for this particular case of the project alone you would know that by flipping back two pages and looking at page B-17.

Q Okay. And then at the bottom of that page you said the highest modeled concentration is less than 2 mcg/cubic meter, that's correct?

A On page B-17 it's more specific. It indicates that it's 1.2 mcg/cubic meter.

Q Okay. Could you turn to page B-21 for me, please. That figure is 24-hour average PM10 concentrations for the Potrero 3 unit?

A Yes.

Q You don't have any isopleths on that one, either. Is there a reason for that?

A Yes. Because for this scenario, which is looking only at Potrero unit 3, the highest model impacts are also less than 2 mcg/cubic meter.

Q Can you tell me where the highest impacts occur from that Potrero 3 unit?

A You're referring to the highest 24-hour average PM10 impacts?

Q Yes, sir.

A Sorry?

Q Yes, sir.

A No, I can't from the material that I have here.

Q Okay, so you don't have any copies in color with isopleths so the Committee and the public can compare the PM2.5 impacts of the Potrero project to the SFERP?

A This is not the Potrero project that is the subject of this graph --

Q Potrero 3, excuse me, Potrero 3.

A It's only one of the four generating units at Potrero.

Q Okay.

A It's only Potrero 3.

Q And then at the bottom of both isopleths it states that PM2.5 concentrations, and that'd be isopleth on B-21 and B-19 that PM2.5 is less than 2 mcg/cubic meter, is that correct?

A That's correct.

Q Okay, so ---

A The notes at the bottom of both of those pages say that.

Q So the maximum 24-hour PM2. impacts from these projects are similar?

A No. They're both less than 2 mcg/cubic meter at the peak on a 24-hour average basis.

Q All right. Now, according to your testimony, and this is in the purpose and need section, and I'm assuming it's your testimony, it says that the Potrero project emits less PM2.5 per megawatt than the SFERP, is that correct?

MS. SOL : Can you point us to where in the testimony you're referring to, please?

MR. SARVEY: Sure. Yeah, I can do that.

BY MR. SARVEY:

Q On page 3-7 of the purpose and need you've got a section entitled the SFERP will facilitate the reduction of NOx emissions and

thereby reduce other environmental effects and support environmental justice.

A Yes, I see that statement, but I don't see the statement that you made asking your question.

Q Well, the question, I'll ask you again, is the Potrero unit 3 emits less PM2.5 per megawatt than the SFERP, is that correct?

A As I believe is discussed in the paragraph on the very next page, the pounds per megawatt hour numbers for Potrero 3 are the actual average emissions from that unit; whereas the PM10 pounds per megawatt hour from SFERP are the maximum potential emissions.

On a pounds per megawatt hour basis I expect that the two units, in fact, would be roughly comparable because the SFERP emissions particulates would be much lower than the maximum allowable.

Q Do you have any data supporting that?

A Actually, it's my recollection, Mr. Sarvey, that you provided some of my data supporting that conclusion --

Q The data I provided --

A -- in comments that you --

Q -- doesn't support that.

A -- I'm sorry, could I finish answering the question?

Q I'm sorry, I apologize.

A I believe that you provided some of my data supporting that conclusion in your comments submitted to the Bay Area District on the PDOC last year when you encouraged them to reduce the particulate levels from 3 down to 2.5 pounds per hour.

Q And as the air quality expert for the Los Esteros project, didn't you request that the Los Esteros project be, the PM2.5 emission limit be increased from 2.5 to 3, is that correct?

A I had made that proposal initially because of one set of test results and the desire by my client in that proceeding to be more conservative in terms of risk.

However, as I believe you're well aware, that request was withdrawn and the project was ultimately approved based on a 2.5 pound per hour emission rate. And it was that project and that approval that was the basis of your letter to the Bay Area District in this proceeding seeking a lower emission rate, as well.

In any event, notwithstanding what the permit limits are, it's my opinion that particulate emission levels from units of this type are generally well under 1 pound per hour, which is the basis for my conclusion that the pounds per megawatt hour of PM10 from SFERP would be about the same or perhaps lower than those from Potrero 3.

Q Well, I'll ask you one more time. Do you have any data that you could show us that would prove that?

MS. SOL : Asked and answered, Your Honor.

MR. SARVEY: Okay, I withdraw it.

HEARING OFFICER FAY: Sustained.

MR. SARVEY: I withdraw it.

BY MR. SARVEY:

Q Since you performed your analysis on the cooling tower emissions, the water source has changed. Did you revise your analysis to reflect that change?

A I have to confess I'm not remembering the answer to that question. I'd have to double check. I do remember that the water source changed. It's my recollection that we did look at

that and concluded that the previous analysis was sufficiently conservative, but I'd need to double check that before I could make that statement affirmatively.

Q Do you recollect how the TDS of the reclaimed water for the new water supply compares to the TDS of the old water supply?

A Not off the top of my head, I don't.

Q Okay. The Energy Commission's asserted the salinity of the new water supply is higher. Do you agree with that?

A I don't have any knowledge one way or another in whether the salinity is higher or not. It doesn't necessarily equate to whether the original analysis we did, based on a specified TDS level, remained conservative. And the reason is that another element that goes into our analysis is the cycles of concentration for the water in the cooling tower.

Q On page 8.1-21 of your testimony on LORS for this project, you mention the San Francisco Board of Supervisors ordinance number 124-01, and resolutions 827-02 and 458-03. Are you familiar with those ordinances?

A I'm sorry, I'm still trying to find the

page. What page were you referring to?

Q I'm sorry, 8.1-21. Exhibit 15.

A Yes, I see that now. So could you restate your question for me, please?

Q Sure. On page 8.1 of your testimony, -21, on LORS for this project you mention the Board of Supervisors ordinance 124-01, resolutions 827-02 and 458-03. Are you familiar with those ordinances?

A In general I am, yes.

Q Okay. In the Maxwell ordinance what are the requirements to the siting of new generation in southeast San Francisco?

A I'd need to review the ordinance again to refresh my memory. We have another witness on the environmental justice panel who is more familiar with the ordinance than I am. So if you'd like I can go ahead and summarize it, but it may be better to put that question over to another witness.

Q Well, if she's here I'm willing to have her come up and explain it.

MR. RATLIFF: Mr. Fay, as a point of order I know that the Maxwell ordinance is multi-paragraphs and I would like to, you know, the hour

given what it is, and the fact that we have another panel waiting to testify, could I just suggest that we let the ordinance say what it says and ask questions about the ordinance, if there are any that are relevant. And not, you know, waste a lot of time reading the ordinance.

HEARING OFFICER FAY: Yeah, I think that's valid. Mr. Sarvey, let's just cut to the chase on these questions, okay?

MR. SARVEY: Okay, sure.

HEARING OFFICER FAY: We're not playing got-you. We want to develop information.

MR. SARVEY: Okay.

BY MR. SARVEY:

Q In the Maxwell ordinance does it require that real-time emission reductions are to be advocated by City officials over ERCs, is that your understanding of it?

MS. SOL : Mr. Sarvey, maybe you can point us to where in the Maxwell ordinance it states that.

MR. SARVEY: I'm just asking him if that is his understanding of it.

MS. SOL : Well, I agree with Mr. Ratliff that the ordinance says what it says. The

interpretation of the ordinance is a legal conclusion.

MR. SARVEY: Okay. Well, actually my interpretation comes out of your prehearing conference statement for the Potrero 3 project. I'm assuming you're going to object if I try to bring that up. So, that's why I'm trying to get his -- the information from him rather than go through multiple objections over the content of that.

HEARING OFFICER FAY: Why don't you just ask what his recommendation to his clients is in terms of implementing the Maxwell plan?

MR. SARVEY: Well, Mr. Fay, his testimony is that this project complies with all ordinances and regulations, and if he doesn't know the ordinances and regulations, how can he make that statement?

HEARING OFFICER FAY: Well, there's lots of ordinances, you know, --

MR. SARVEY: Pardon me?

HEARING OFFICER FAY: Let's be realistic. You're putting him on the spot here, for one. If you think that's important we'll take the time for him to look at it.

MR. SARVEY: Would you like me to move on? I'll take that up in environmental justice with the appropriate witness, is that what you're recommending?

HEARING OFFICER FAY: I'm not sure it's an environmental justice issue. This is --

MR. RATLIFF: Well, it may or may not be, but it isn't a LORS issue because the Maxwell ordinance, by its own terms, applies to the City, itself. I mean it's not -- it's an ordinance which the City will enforce if, in fact, it's abridged.

So when they go to the Board of Supervisors with this project, I suppose the Maxwell ordinance will be enforced.

MS. SOL : And I'll point out that in addition the precise words of the ordinance are that relate to fossil fuel powered generation at Potrero Hill Power Plant. The City has acknowledged that the general precepts are ones that the City would like to meet. But the specific directives relate specifically to a power plant, a fossil fuel power plant at Potrero Hill Power Plant.

MR. SARVEY: Well, I guess we're going

to engage in a legal argument --

HEARING OFFICER FAY: Okay, let's move on.

MR. SARVEY: -- so I'll move on.

HEARING OFFICER FAY: Let's move on.

BY MR. SARVEY:

Q On page 8.1-1 of your testimony you state that the City recognizes that there will be PM10 impacts from the SFERP in both Potrero and Bay View Hunter's Point, is that correct?

A 8.1-10?

Q Yeah, 8.1-1.

A Sorry.

(Pause.)

MR. RUBENSTEIN: Yes, I see that sentence in there.

BY MR. SARVEY:

Q Okay. In your cumulative analysis in appendix 8.1F you use background data from 2000 to 2003 from the Arkansas Street monitoring station, is that right?

A You're referring to the cumulative impacts analysis?

Q Yeah, it's in table 8.1F-4 as a footnote.

A Yeah, the column called current background comes from that data source from 2001 to 2003.

Q Okay, thank you. On July 25, 2005 you responded to my data request 1-4 which requested a copy of CEQA documents on the Illinois Street bridge. In response to my request you sent me the Board of San Francisco southern waterfront EIR, which you list as attachment AQ1-4A and addendum AQ1-4B. And that's this document I'm holding here.

Did we have an exhibit number for that?

HEARING OFFICER FAY: No. Identify it again for me.

MR. SARVEY: It's the San Francisco southern waterfront final supplemental environmental impact report.

HEARING OFFICER FAY: Okay. For identification that's exhibit 92.

MR. SARVEY: 92, okay.

HEARING OFFICER FAY: Will you provide a copy of that, or is this just for identification?

MR. SARVEY: I'll get you a copy. I only have one and I'm going to need it to --

HEARING OFFICER FAY: At least give us a

note on the exact title.

MR. SARVEY: I've got the CD of it, which is what they gave me, but I had to --

HEARING OFFICER FAY: Well, I just need the exact title in writing.

MR. SARVEY: I'll get you a copy. Okay.

BY MR. SARVEY:

Q So, in data request 1-6 I asked you to perform a cumulative air analysis of all the project's emissions and discuss the environmental justice implications of these project in conjunction with the SFERP. You didn't perform a operational cumulative air quality analysis, did you?

A That's not correct. We performed a number of cumulative air quality impact analyses related to project operations. I summarized those in my testimony summary much earlier this afternoon.

Q Okay. Well, I'll restate that question. In the San Francisco southern waterfront final supplemental EIR, which the SFERP is located in the middle of, did you include in your cumulative analysis any of the projects that are listed in there from this document that you gave me? You

said you did perform a construction analysis.

A I'm sorry, I'm now confused again about your question. Are you asking whether we did an analysis that included the operations of the Illinois Street bridge and the Muni maintenance facility?

Q Well, specifically the Muni maintenance center, the Illinois Street bridge, Pier 70, Mission Valley Rock, Boady Gravel, RMC Pacific, IST Resources, BP Aggregates and the additional emissions from the Port's expansion of marine and train emissions.

A Okay, because in the context of data request 1-6 you were asking something completely different.

Q No, no, I wasn't. You answered something completely different.

A Well, if I can --

Q I tried to compel that analysis later on but was denied by the Committee. But did you include any of those projects that I just listed?

A No.

Q Okay. Now, in my hand is page 166 of the southern waterfront SEIR. Under significant, unavoidable effects, and that's dealing with those

projects that I listed to you. Do you have that in your hand?

A No, I do not.

Q Could you read that into the record for me?

MS. SOL : Your Honor, I don't see why we should take the time to read something into the record.

HEARING OFFICER FAY: Yeah, let's just --

MR. SARVEY: Okay, well, it's --

HEARING OFFICER FAY: -- we all have a copy of that; you've referred to it. Move along.

MR. SARVEY: It says the project would contribute to a potentially significant cumulative regional impact on air quality. And because daily and annual volumes of criteria pollutants --

HEARING OFFICER FAY: We said we won't read it. You can ask your questions, Mr. Sarvey.

MR. SARVEY: Okay.

BY MR. SARVEY:

Q So the conclusion of the EIR is that it will have a significant cumulative impact on air quality. Shouldn't you have included that in your cumulative analysis, since this project is smack

dab in the middle of all these other projects?

A Well, first of all, from this one page I can't tell what the project is that was being addressed, whether it was all of the developments within the southern waterfront SEIR or just one of the specific projects that it looked at.

In any event, the cumulative impacts analysis that we used relied on information we obtained from the Bay Area Air Quality Management District who provided us with information about applications for projects that it had received subsequent to the time period covered by the ambient air quality data that we used.

And the use of any other information regarding other projects identified in this southern waterfront EIR, which was, I believe, a programmatic EIR, would have been too speculative for us to actually quantify and include in a quantitative analysis what the impacts would be.

In addition, this particular page and this one paragraph that you've handed to me talks specifically about diesel particulate as being the source of the conclusion that impacts are significant and SFERP is not a source of diesel particulate matter except for a short period

during construction.

And then finally, with the mitigation program we've proposed, recognizing that the document you've handed to me is very specifically referring to PM10, I'd simply restate what I said earlier, which is that we are mitigating our PM10 impacts by roughly a factor of two.

It's quite possible that we're mitigating the impacts from their project, as well. I don't really know.

But in any event, we are certainly mitigating our project, I believe, sufficiently to where there would not be any remaining cumulative impact, as well as no significant impact from the project alone.

Q The next page I have here is page D.7 of the appendix from the southern waterfront SEIR. And it outlines the 24-hour average for a total PM10 for Port and industry group projects. Is that specific enough data for you to do a cumulative analysis?

MR. SARVEY: I'll withdraw the question.

BY MR. SARVEY:

Q In your preparation of your cumulative air analysis did you speak to the applicant about

projects that they were pursuing in the project area?

A As I've indicated earlier, the approach we took for cumulative impacts was to prepare a protocol that was submitted with the original application for this project. And then comply with that protocol.

And that protocol specifically identified consultations with the Bay Area Air Quality Management District regarding reasonably foreseeable projects of a type that might result in cumulative air quality impacts.

So we did not separately contact the City and County of San Francisco. Instead relying on any data we obtained from the Bay Area District to indicate whether there were facilities that warranted inclusion in the cumulative impacts analysis.

Q What's the typical amount of time it takes for the startup and shutdown of these turbines?

A I assume that your question is referring to a routine startup, is that correct?

Q Yes.

A Depending on the conditions of the

turbine, typically that would be anywhere from 15 to 30 minutes between the time that fuel flow is initiated to the turbine and when the turbine is producing electricity in compliance with its emission limits.

Q In your testimony in the overview of the analytical approach to estimating facility impacts on page 8.1-21 is it true that emission control systems will not be fully operational during all operations except startups and shutdowns?

A I'm sorry, there were too many negatives in your question. The statements --

Q I'm sorry, I'll restate it for you. There was a few too many negatives. That was triple negatives.

In your testimony on the overview of analytical approach to estimating facility impacts, and that's on page 8.1-21, you state that emission control systems are not fully operational during startups and shutdowns, is that correct?

A No. What I state is that emission control systems will be fully operational during all operations except startups and shutdowns.

Q Okay. So, the gist of the question is that they're not fully operational during startups

and shutdowns, that's correct?

A Right. They're not fully operational --

Q Okay.

A -- during startups and shutdowns.

Q How do startups and --

HEARING OFFICER FAY: Let's go off the record a second.

(Off the record.)

BY MR. SARVEY:

Q How do startups and shutdowns affect fuel usage? Do they use more fuel during startup and shutdowns or less?

A On an absolute basis, fuel use during a startup is lower than fuel use during baseload operation.

Q Okay. So your annual facility operation will be limited to the equivalent of 12,000 full load hours per year through annual heat input limit. Does this mean the project could run more than 12,000 hours if fuel usage is lower than the fuel usage for the 12,000 full load hours?

A It means that it could operate for more than 12,000 calendar hours provided it was in compliance with all of its emission limits and the annual heat input limit.

Q You calculated maximum annual emissions for this operations using a four hours as a maximum number of hours for startup and shutdowns, is that correct?

A We calculated the maximum expected daily emissions based on an assumption of four hours per day of startups and shutdowns, that's correct.

Q Doesn't the FDOC allow you five hours of startup and shutdown?

A Yes, it does.

Q Why would this project need five hours of startup and shutdown if the turbine can start up and shut down in 15 minutes?

A Well, first of all, the question you asked me earlier was what the typical startup and shutdown sort of duration was, and I answered that it was 15 to 30 minutes, not 15. That can vary substantially depending on the condition of the engine in terms of how long it's been shut down prior to the startup, as well as other factors.

Whether a facility requires five hours per day for startups or not for each unit is frankly irrelevant from an air quality perspective. We had done our analysis based on four hours. The District added an additional

measure of conservatism by bumping that up to five hours per day.

Both analyses show compliance with the District's rules. And so in terms of the air quality analysis there's really no difference between the two.

Q Has the FDOC eliminated the annual limitation of 250 hours per year of startup and shutdown activity?

A I don't believe that there is a limit on the number of annual hours of startups and shutdowns in the permit -- in the final determination of compliance.

Q Is there a limit on the number of startups and shutdowns annually?

A I'm not seeing one. I believe there is just a limit on the annual emissions and the annual fuel consumption.

Q So startups and shutdowns are virtually unlimited in this project?

A No, that's not correct. They are limited through the limitation on annual emissions.

Q On what? The limitation on what? I'm sorry, I didn't hear you.

A The limitation on annual emissions that's contained in condition 21 of the revised final determination of compliance.

Q Okay, I got about ten more questions, but I'll ask them later, and we can move on to somebody else. I'll ask them in environmental justice or something, squeeze them in there.

HEARING OFFICER FAY: Any redirect, Ms. Sol,?

MS. SOL : No.

HEARING OFFICER FAY: Okay. Thank you, Mr. Rubenstein.

MR. RUBENSTEIN: Thank you, Mr. Fay.

HEARING OFFICER FAY: And, Mr. Ratliff, we'll move quickly to the staff's air quality panel.

MR. RATLIFF: Yes. The staff has three witnesses, one for -- the staff divides, as you know, it's topic into air quality and public health, but the questions, of course, usually go across that boundary.

The air quality witness is Mr. Tuan Ngo; and the public health witness is Dr. Goldberg -- Greenberg, I'm sorry.

(Laughter.)

MR. RATLIFF: And the Air District witness is Brian Bateman.

HEARING OFFICER FAY: Could you repeat the Air District witness' name, please.

MR. RATLIFF: Brian Bateman.

HEARING OFFICER FAY: And so they're testifying on both topics, air quality and public health, at this time?

MR. RATLIFF: Yes.

HEARING OFFICER FAY: Okay.

MR. RATLIFF: We will have them all together. I think Dr. Greenberg has been sworn, but Tuan Ngo has not been sworn and Mr. Bateman has not been sworn.

HEARING OFFICER FAY: Please swear the witnesses.

Whereupon,

ALVIN GREENBERG

was recalled as a witness herein, and having been previously duly sworn, was examined and testified further as follows:

Whereupon,

TUAN NGO

was called as witnesses herein, and after first having been duly sworn, was examined and testified

as follows:

COURT REPORTER: Please state and spell your --

HEARING OFFICER FAY: The District is not appearing as a witness?

MR. BATEMAN: Yes. I thought it was going to be individually.

HEARING OFFICER FAY: Oh, no.

Whereupon,

BRIAN BATEMAN

was called as a witness herein, and after first having been duly sworn, was examined and testified as follows:

COURT REPORTER: Now individually would you please state and spell your full names.

MR. NGO: My name is Tuan Ngo spelled T-u-a-n; my last name N-g-o.

MR. BATEMAN: My name is Brian Bateman, B-r-i-a-n B-a-t-e-m-a-n.

MR. RATLIFF: I'd like to go very quickly through each individual.

DIRECT EXAMINATION

BY MR. RATLIFF:

Q Mr. Ngo, did you prepare the portion of the staff's testimony entitled air quality?

MR. NGO: I did.

MR. RATLIFF: And is that testimony true and correct to the best of your knowledge and belief?

MR. NGO: I believe so.

MR. RATLIFF: Do you have any changes to make to it at this time?

MR. NGO: No.

MR. RATLIFF: And, Dr. Greenberg, did you prepare the public health testimony in the FSA, staff FSA?

DR. GREENBERG: Yes, I did.

MR. RATLIFF: Is that testimony true and correct to the best of your knowledge and belief?

DR. GREENBERG: Yes, it is.

MR. RATLIFF: Do you have any changes to make in it?

DR. GREENBERG: No, I don't.

MR. RATLIFF: And, Mr. Bateman, you're appearing on behalf of the Air District. Could you very briefly state what your position is there and the time that you've worked there, please?

MR. BATEMAN: Yes. I'm the Director of Engineering at the Air District; and I've worked there for about 25 years.

MR. RATLIFF: And did you oversee the production of the final determination of compliance for the District?

MR. BATEMAN: Yes.

MR. RATLIFF: And can you speak to any issues that arise in that regard?

MR. BATEMAN: Yes.

MR. RATLIFF: And I wanted to thank you very much for coming today.

I'd like to start with Mr. Ngo and ask him to very briefly summarize the high points of the air quality -- oh, I'm sorry -- yes, summarize the air quality testimony.

And then I would like to ask Dr. Greenberg to do the same for the public health testimony.

MR. NGO: Good afternoon, Commissioner Boyd and Commissioner Geesman and member of the Committee. Staff have conducted analysis for potential impact of air contaminant from this projects, both during construction and operation of the project.

Staff also review for compliance whether the project will comply with all applicable law, ordinance, rule and regulation --

(Public Address Announcement.)

HEARING OFFICER FAY: Okay, let's go. Back on the record.

MR. NGO: Anyway, staff investigate and makes a recommendation on mitigation measure to negate the potential impacts due to construction and operation of the facility.

During the -- after the analysis staff also found that the project ozone precursor emission will be mitigated with the provided emission reduction credit.

The project will utilize all state of the art control equipment that are qualified as best available control technology defined by the Bay Area Air Quality Management District and the EPA.

The project would also cause no new violation of the ambient air quality for NO2, SO2 or carbon monoxide. The project PM10 emission will be mitigate with implementation of the street-sweeper program proposed by the City.

The project fine particulate matter emission, or PM2.5, will be mitigated with the City-proposed street-sweeper program in combination with a wood stove/fireplace

replacement or the surrender of oxide of sulfur emission reduction credits.

The District have provide staff with a final determination of compliance with a set of condition to insure that the project will comply with all applicable District rule and regulation.

Staff believe that the project potential impact on air quality will be mitigate to a level of less than significant with the implementation of the staff-recommended condition of certification AQSC-1 to number 12; and the District-recommended condition of certification AQ1 to 42.

That conclude the staff presentation.

MR. RATLIFF: At least for Mr. Ngo. Perhaps we could go to Dr. Greenberg at this point.

DR. GREENBERG: Thank you. And let me first thank the Commission and the Hearing Officer for any indulgence you can give to me regarding time. I do want to reassure you that you do have the first call on my time if it's necessary for me to come here on May 31st. I shall do so. I do have other Commission business down at the Port of Long Beach which is almost as important as these

hearings.

I will move on in my presentation and want to point out just a few things. One, I conducted an independent assessment of the public health risks due to facility emissions. This would be three gas turbines and a two-cell cooling tower.

The results of my calculation are shown here in the lower table. The results of the applicant's health risk assessment are shown in the upper table. You can see that the numbers are very close. I found just a slightly higher individual cancer risk. Yet, of course, it's much orders of magnitude lower than the significance level.

And so it makes it very easy for me to state that there would be no significant risk of cancer or of noncancer effects as a result of operations of this facility if it were built.

This is a map showing my modeling results which used the HARP program, the hot spots analysis and reporting program. Here is the maximum cancer risk located just east of the facility; and that's the .073 to the -6.

The applicant found that the maximum

cancer risk was actually at a different location, and that was -- let's see if I can find that -- the applicant found it right here. That's both the chronic point of maximum impact and the cancer point of maximum impact. And theirs was at .046 times 10 to the -6.

This may probably be due to slight variations in the modeling program that the applicant used versus with the HARP program shows.

Up here is the existing Potrero power plant point of maximum cancer impact. And it's about ten miles away. I put that on here to show that there is no overlap of the maximum predicted cancer risk from the SFERP power plant with the existing Potrero power plant.

And the same thing occurs with the acute and also the chronic noncancer points of impact. The maximum ones do not overlap between those two power plants.

I also conducted a detailed public health cumulative risk assessment. That included 20 different facilities, including the SFERP site, Potrero power plant, all emission sources, all their turbines.

The Hunter's Point plant which now has

been closed, the Southeast Water Pollution Control plant, dry cleaners, gasoline service dispensing stations, et cetera. A total of 50 sources were plotted in the HARP program. That's one of the beauties of the HARP program that you can put in all these sources and produce an isopleth here showing any overlap, if it exists.

I believe this is the first utility by a state agency or anyone, for that matter, using the HARP model in a cumulative risk assessment. So this is a quantitative risk assessment, the first time the Energy Commission Staff has provided on, as opposed to a qualitative one.

And, once again, what we are finding is from the SFERP site there is no significant overlap at all. Now, yes, there would be some overlap, but way way down there in the 10 to the -12, or 10 to the -13 cancer risk range. Nothing showing any significance whatsoever.

Indeed, what we did find out is that there was some significant overlap due to other sources in the area between those other sources, such as the dry cleaners and the southeast water treatment plant. Those, however, have nothing to do with the SFERP site, and indeed, the risk due

to the SFERP emissions would contribute only .4 percent to the total risk estimated at the residence located nearest the SFERP compared to .37 in a million calculated for emissions from 20 facilities, including the SFERP.

So basically what I'm saying here is that a quantitative, cumulative health risk assessment, looking at 40 different sources from over 20 different locations, shows the power plant will not have any significant cumulative impact in the area.

The risks that are there already are not being further increased by this power plant to any significant extent at all.

We have just one proposed condition of certification, that's public health-1, and that will address a cooling water management plan to control potential growth of Legionnella bacteria.

And that concludes my summary of public health assessment.

MR. RATLIFF: Mr. Bateman, can you briefly summarize the conclusions of the final determination of compliance?

MR. BATEMAN: Yes. Good afternoon, Commissioners. I will keep my summary very brief.

The Air District's determination of compliance was an evaluation of the proposed project in terms of compliance with applicable air quality rules and regulations that the Air District implements and enforce.

And there are a number of different rules and regulations that come into play with a project like this. Most notable of those are the District's new source review rule requirements.

And specifically the requirements were a case-by-case best available control technology determination. For this project BACT is required for NOx, CO, precursor organics, SO2 and PM10 emissions. There are also our offset requirements that have been previously mentioned.

In terms of our rules and regulations the only pollutant that triggered these requirements was NOx.

We also have a requirement for a health risk screening analysis. This is for noncriteria pollutants that still may have some toxic impacts. That analysis indicated similar results to what Dr. Greenberg concluded in terms of the cancer and noncancer project risks.

And in conclusion, the Air District

determined that all applicable requirements be met by the proposed project if the project lives within the permit conditions that we've identified in the FDOC.

That's all I have.

MR. RATLIFF: With that, the witnesses are available for cross-examination. But I would like to move in the exhibits that they're sponsoring. That includes their portions of the final staff assessment in exhibit 46; a very minimalistic errata, which is exhibit 49 -- errata to the air quality testimony; and exhibit 53, which is the preliminary determination of compliance; exhibit 54, which is the November 22nd final determination of compliance; and exhibit 55, which is the revised final determination of compliance issued on January 19, 2006.

HEARING OFFICER FAY: Any objection? All right, so moved.

The panel is available for cross-examination. Ms. Sol,, any questions?

MS. SOL : No questions.

HEARING OFFICER FAY: Okay. And, Mr. Boyd, you indicated no questions?

MR. BOYD: No, I have no questions of

Tuan on air quality.

HEARING OFFICER FAY: Okay.

MR. BOYD: I stipulated on the air quality section.

HEARING OFFICER FAY: All right. You have some --

MR. BOYD: I did have public health questions.

HEARING OFFICER FAY: Okay. Keep in mind, --

MR. BOYD: I only have one -- should be quick.

HEARING OFFICER FAY: Right. We have very few minutes left. Go ahead.

MR. BOYD: Thank you.

CROSS-EXAMINATION

BY MR. BOYD:

Q Dr. Greenberg, in performing your risk assessment, did your risk assessment incorporate any risk associated with the presence of the -- the potential presence of contamination on the site? Or is your risk assessment limited to the risks associated with the emissions from the project, the emissions from the operations of the project?

DR. GREENBERG: Mr. Boyd, it was the latter. This is looking at emissions from the project. As I mentioned, the three turbines and also the two cooling tower cells.

Under the waste management issues when I was looking at the soil contaminants that's when I did a risk assessment in regards to that.

So the two are not combined because you are not going to have any project operation emissions while there is site mobilization and construction going on.

MR. BOYD: But your risk assessment did include construction impacts, also?

DR. GREENBERG: No, it did not. Again, you're not going to have them at the same time as operations.

MR. BOYD: So it's purely the operational risks --

DR. GREENBERG: Right, what I've shown there in my quantitative cumulative air modeling, rather, assessment and health risk assessment, is operational impacts.

MR. BOYD: Okay, that's all I have. Thank you.

HEARING OFFICER FAY: Okay. Mr. Sarvey.

CROSS-EXAMINATION

BY MR. SARVEY:

Q Yeah, Dr. Greenberg, you did a nice analysis there and you included a lot of sources, dry cleaners, bathtubs, everything. Did you include any of the projects that I mentioned before from the San Francisco southern waterfront EIR?

DR. GREENBERG: No, I did not, Mr. Sarvey. There are some sources that are close to it, as you can tell, on this map. And, of course, my staff assessment lists their addresses and the sources.

But I believe if you ask specifically about a particular one I can answer that.

MR. SARVEY: Did you include any of the -- did you include any like the industry and Port emissions that are expected to occur under the San Francisco southern waterfront EIR? The cancer risk involved there?

DR. GREENBERG: Are you talking about the shipboard emissions, or emissions from a ship?

MR. SARVEY: We don't have a lot of time. I'm going to hand you this page D.8 from the southern waterfront EIR. It lists cancer risk

is 7.48 for the year 2003 and 8.96 the year 2015. I don't think you included any of that in your analysis.

MR. RATLIFF: Mr. Fay, I'm not going to object to the question, but I do want to note that it isn't particularly easy to answer questions when you don't have anything but one page out of quite a voluminous document.

For instance, the two pages that we were supplied earlier, I couldn't tell if those were construction emissions or if those were operational emissions. I couldn't tell what the project was. It's very difficult to know what the underlying document actually states when you're just given one page at a time.

MR. SARVEY: Okay, I'll move on --

HEARING OFFICER FAY: Well noted. And, you know, the witnesses, I think, can qualify their answers if they're uncomfortable with the position they're put in.

MR. SARVEY: I'll move on. Give me that page back, Alvin. Thank you, sir.

BY MR. SARVEY:

Q Dr. Greenberg, if the applicant chooses to adopt ASQC-11, which is the seasonal mitigation

for PM2.5, will that trigger the need for an additional analysis on your part?

DR. GREENBERG: No.

MR. SARVEY: Mr. Hill, earlier I asked Mr. Rubenstein was there any limitation on startups and shutdowns for this facility.

DR. GREENBERG: Who are you asking that question to?

MR. SARVEY: Oh, I'm sorry, Mr. Hill isn't here. Mr. Bateman, I'm sorry. I prepared for Mr. Hill.

MR. BATEMAN: The startups and shutdowns are limited in terms of the overall daily and annual emission rates.

MR. SARVEY: The ARB guidance, which happens to be an exhibit in this project, says that the District should address all phases of plant operations and minimize startups and shutdowns. Do you have any plan -- or limit emissions from startups or shutdowns -- do you have any plan in your FDOC here to limit those emissions on a daily, hourly basis?

MR. BATEMAN: There are emission limits for startup and shutdown in the permit, in the FDOC.

MR. SARVEY: But no daily ones?

MR. BATEMAN: I'm sorry?

MR. SARVEY: Are there daily --

MR. BATEMAN: Yes.

MR. SARVEY: -- and hourly ones?

MR. BATEMAN: Yes, both.

MR. SARVEY: And do you have a plan to limit the emissions from startup and shutdown in your FDOC?

MR. BATEMAN: Well, it's really up to the project and the permit holder to meet those conditions.

MR. SARVEY: What number did you use to calculate sulfur emissions from this project, as far as the sulfur content of the fuel?

MR. BATEMAN: Okay, and I think the answer to that question depends on the averaging period that we're talking about. For the annual average SO2 emissions, the sulfur content assumption was .33 grains per hundred standard cubic feet.

MR. SARVEY: Okay. The document I referenced to you before, the ARB guidance document, on page 12 says the permit should include conditions to address SOx emission levels

and to require that the levels be determined using the upper limit of the sulfur content specified in the natural gas supplier contract.

Did you do that in the FDOC?

MR. BATEMAN: Yes, for the hourly emission rates it's based on an hourly max. The annual figures it's based on a more representative average.

MR. SARVEY: So on the annual emissions you didn't comply with that guidance?

MR. BATEMAN: I believe we did comply with it.

MR. SARVEY: Well, it says to use the upper limit. Did you use the upper limit --

MR. RATLIFF: Asked and answered.

MR. SARVEY: -- of one grain -- did you use the upper limit of one grain for the annual emissions?

MR. BATEMAN: No.

MR. SARVEY: Okay, thank you.

HEARING OFFICER FAY: We'll allow the question.

MR. RATLIFF: For clarification I would like to point out to the Committee that the CARB guidance is just that, it's a guidance. It has no

mandatory effect. It's not adopted as a regulation.

HEARING OFFICER FAY: Thank you.

BY MR. SARVEY:

Q In your response to my comment number five on the PDOC you state that the District's offset requirements are not intended to mitigate local impacts such as NO2 and nitrogen deposition impacts, is that correct?

MR. BATEMAN: Correct.

MR. SARVEY: Mr. Hill (sic), normally in modeling analyses how many years of meteorological data do you use?

MR. BATEMAN: Between one and five years, depending on what's available for the site.

MR. SARVEY: If the applicant were to propose real-time NOx emission reductions as opposed to ERCs would the District accept that? If they could quantify it, would the District accept that under their rules?

MR. BATEMAN: If they meet all the criteria for ERCs, yes.

MR. SARVEY: So in your professional opinion would real-time emission reductions from the various District's NOx reduction programs be

more beneficial to the low-income community than ERCs created in 1985?

MR. BATEMAN: Depends on the nature of the credits, I suppose. Where they came from, the magnitude, et cetera.

MR. SARVEY: If they were local?

MR. BATEMAN: Theoretically.

MR. SARVEY: Okay. Intervenor CARE appealed to the Bay Area Air Quality Management District Hearing Board. Can you tell us what the outcome of that was?

MR. RATLIFF: Object on the grounds of relevance.

HEARING OFFICER FAY: We're not going to allow that question. Move on.

MR. SARVEY: Not going to allow it?

HEARING OFFICER FAY: It's a matter of record. We're not going to use our time to go over things that are a matter of public record.

MR. SARVEY: Okay. The FDOC was appealed to the Bay Area Air Quality Management District Hearing Board. What was the reasoning for not accepting authority on the FDOC?

MR. BATEMAN: What was the hearing board's ruling?

MR. SARVEY: Yeah, the hearing board --

MR. BATEMAN: Is that the question?

MR. SARVEY: -- ruled that they didn't have jurisdiction at the CEC --

MR. BATEMAN: I think you've answered the question.

MR. RATLIFF: I'm going to object on the grounds of relevance, again. And as you have pointed out, these are all a matter of public record. If they want to put them in their briefs, the intervenors can. But there's no point in going into what happened at the hearing board on a procedural issue.

HEARING OFFICER FAY: It's been ruled on. That's sustained. I think -- use your limited time on different things.

BY MR. SARVEY:

Q Mr. Ngo, is it your professional opinion that the LM6000 turbines in this project may exceed the 2.5 pounds per hour limitation that's proposed in the FDOC?

MR. NGO: Could be.

MR. SARVEY: Are you concerned that since there's no continuous emission monitoring for PM2.5 emissions that there may be unmitigated

PM2.5 from this project?

MR. NGO: I believe (inaudible) monitoring system, it will work if you use the natural gas monitoring system, the oxygen sensor and the NOx SCR system, feedback system and the data logger would be able to maintain the gas turbine in perfect, tip-top condition.

So if once they meet that PM2.5 in the source test, and we have no reason to believe that beside a upset condition, that we have no reason to believe that the PM10 and PM2.5 emission from the facility or from the turbine, itself, will exceed that limit.

MR. SARVEY: So if source tests reveal the project can't meet its 2.5 pounds per hour limit, would you support a condition to compel the applicant to provide additional mitigation?

MR. NGO: Yes. I want to add a little bit to it.

MR. SARVEY: Sure, go ahead.

MR. NGO: We have some concern over the PM, new PM10 emission limit of 2.5 pounds per hour, and we have been discuss with District Staff. The only problem was that the District determination, again what I'm saying,

determination of best available control technology would mean that whatever available achievable in practice for that particular turbine or particular equipment have to be apply on all the other equipment with the same type.

So what we were hoping to see is that if -- hoping that this project will meet that 2.5, and we don't have any more problem. But if the project proven up to -- consecutive source test, during the initial source test, if they don't need it, we wanted to work with the District and the City to see if we can have that emission limit increased. And because of that increase we would have to ask the City to provide additional mitigation to insure that the staff conclusion in the final staff assessment is still valid.

MR. SARVEY: I have quite a few questions left. I'm done with the other two witnesses. Would you like to bring Mr. Ngo back, or should I just continue?

HEARING OFFICER FAY: I don't anticipate bringing the panel back, so you'll have to --

MR. SARVEY: I just would need Mr. Ngo; I wouldn't need the other two.

HEARING OFFICER FAY: Well, that's, I

guess, up to Mr. Ratliff.

MR. RATLIFF: I'm reluctant to let Dr. Greenberg go, particularly if any of the questions are cross-over questions, or might need more appropriately answered. But, you're pretty positive that these are all --

MR. SARVEY: There are all air --

MR. RATLIFF: -- questions only for air questions?

MR. SARVEY: -- questions. They're not public health questions.

DR. GREENBERG: I'll still stay.

MR. RATLIFF: That being the case, then, certainly Dr. Greenberg should feel free to leave, I suppose.

PRESIDING MEMBER BOYD: I heard him volunteer to stay, so, move on.

MR. SARVEY: Okay. I just didn't want to keep everybody here forever.

BY MR. SARVEY:

Q You used the applicant's analysis of cumulative impacts contained in appendix F of supplement A, is that correct, Mr. Ngo?

MR. NGO: Yes, I did.

MR. SARVEY: Okay. And your conclusion

is that the results of the analysis show that PM10 cumulative impacts to the project and others on the area can be significant?

MR. NGO: Yes.

MR. SARVEY: Did staff encourage the City to limit ammonia emissions to the lowest possible extent while maintaining NOx emission limits?

MR. NGO: Can you repeat the question again?

MR. SARVEY: Did staff encourage the City to limit ammonia slip emissions to the lowest extent possible?

MR. NGO: Yes, we did.

MR. SARVEY: And do you believe it's feasible to limit ammonia emissions from this project to 5 ppm?

MR. NGO: This project, itself, no, I don't think so. I would hope that they could meet 5 ppm; we just want to minimize the ammonia emission to the minimum.

However, this project is operated, is not in the continuous mode. It operate on call from somebody, Cal-ISO, they call for. And what they do is that -- and the name of the project

spell for itself, this is a reliable project. And if you can't have that reliability, you can't operate the facility. Therefore we did not really want to push that hard to reducing ammonia emission. And we conclude that the project 10 ppm ammonia slip is the best available control -- I mean the lowest emission rate for this facility.

However, I want to -- I'm sorry, I want to also want to comfort the Committee that even though the 10 ppm ammonia slip, it is a condition, but we don't expect the facility to operate at that level. In other words, we are expecting the facility operate at about between less to 1, to about 2 ppm ammonia slip.

So even though the 10 ppm sound like a big number, but we don't expect the project to get that high.

MR. SARVEY: I submitted a document called the CARB's NOx control report to the Legislature. Did you see in that document that a simple cycle power plant in Massachusetts is permitted and has achieved a 6 ppm ammonia slip with a 2.5 ppm NOx limit?

MR. NGO: Again, again, it just what I'm just refer back to my previous answer. My

qualification for it was that even though we have a 10 ppm limit we are not expect the facility to operate at that level during normal conditions. So even though the other facility are the same facility that was somewhere else that operate at a lower level, I have full confidence that this facility will be at that level if it is the same equipment.

It should not change the number of the condition based on -- I mean the numbers specified in the condition; it's just a number. It's a high number so that they won't go over. Doesn't mean that they operate at that level.

MR. SARVEY: Your testimony on page 4.1-26 states that overall PM emissions have increased since 2000, is that correct?

MR. NGO: What page, again?

MR. SARVEY: It's 4.1-26.

MR. NGO: Okay. What your question?

MR. SARVEY: Is it your testimony that overall PM emissions have increased since 2000?

MR. NGO: Oh, I see. I want to refer you back to the air quality figure 3 where we provide a -- we were providing the PM10 concentration that are collected in the Arkansas

station, monitor station.

All the way from 1991 up to most recent 2004. And there will be peak and valley of those measurements each year. But the overall, the look at the statistically analysis then you will see there was a slight trend of PM10 emission decrease over the years in 1991 up to today.

MR. SARVEY: Do you agree with the applicant's analysis that construction impacts for PM10 could be as high as 14.2 mcg/cubic meter?

MR. NGO: Yes.

MR. SARVEY: Your condition AQSC-3 requires the City to erect a eight-foot-high temporary fence surrounding the construction site and laydown area to lessen PM impact due to the construction of the facility.

MR. NGO: Right.

MR. SARVEY: Will this increase PM concentrations inside the fenceline?

MR. NGO: No.

MR. SARVEY: No? Okay. The liner will absorb it, then?

MR. NGO: No. What it does is the thing about construction, emission during construction is not because they don't have no stack, they lie

on the ground.

And what it does is when the wind induce the particulate to fugitive emission. And what it does is that when we have a plastic fence built to that level of about eight foot long, what we -- my experience, or my expertise, or I guess my best guess, my educated guess was to say, well, all the emission went, all the fugitive dust when it comes to that point it will stop and drop down just like it happen in the cyclone. When it impacted it was stopped; and then it lose the moment and then it diffuse that momentum to drop it out of sight.

The whole purpose of that to prevent emission from the construct site to escape the site and cause a problem from the roadway and public.

MR. SARVEY: Thank you, Mr. Ngo. That's all.

HEARING OFFICER FAY: So that's it, then?

MR. SARVEY: That is.

HEARING OFFICER FAY: Mr. Ratliff, any redirect?

MR. RATLIFF: No.

HEARING OFFICER FAY: Okay. The hour is

late and I'm afraid that there's just not time to go to the applicant's witnesses on public health.

MS. SOL : What about the air quality testimony of the intervenors?

MR. SARVEY: I'll be back.

HEARING OFFICER FAY: Pardon me?

MR. SARVEY: I'll be back.

HEARING OFFICER FAY: Mr. Sarvey will be back. I guess --

MR. SARVEY: We can get me next on the 31st.

MS. SOL : I don't have any questions at the moment, but I don't see Mr. Powers here. So, --

HEARING OFFICER FAY: Well, it was Sarvey and Powers, I believe. Were you going to be the witness on that, Mr. Sarvey?

MR. SARVEY: Yes, I was. Mr. Powers couldn't make it.

HEARING OFFICER FAY: Yeah, --

MR. SARVEY: I have a declaration for him, though.

HEARING OFFICER FAY: Do you want to submit -- well, I guess you have cross-examination or --

MS. SOL : Well, I just believe that if the testimony has both witnesses' names on them, then they should both be available for cross-examination.

I don't have a problem with the testimony being introduced as Mr. Sarvey's testimony. But I believe that if somebody else's name is on it, as well, that person should be prepared to appear.

HEARING OFFICER FAY: Okay. Well, do you plan to have Mr. Powers here?

MR. SARVEY: I will attempt to have him here on the 31st.

HEARING OFFICER FAY: Okay.

MR. SARVEY: I'll attempt to have him here for you.

HEARING OFFICER FAY: Or we may just have to remove him from the testimony.

Our next meeting is here on May 31st, but it is in the auditorium and not in this room. And I want to thank everybody for putting in a long day and staying late. Thank these witnesses. You're excused.

Any last-minute items before we --

MS. SOL : Your Honor, just a question.

I had my witnesses prepared to stay into the evening tonight, and I know that a lot of people that involves childcare and et cetera. Do you expect that on the 31st we'll be going beyond 5:30?

HEARING OFFICER FAY: I do not. We're going, you know, we're virtually through with air quality. A little bit more on that. We've got public health, EJ and alternatives and biology.

Frankly, I think we will not need to go into the night. But the garage closes pretty soon anyway, so we're pretty much constrained by some other factors, too.

So I don't anticipate making arrangements to go late. If that changes I'll certainly let the parties know, you know.

MS. SOL : Okay, then just as a matter of courtesy I would like to let people know if they need to make some --

HEARING OFFICER FAY: I think that's very reasonable.

ASSOCIATE MEMBER GEESMAN: You would envision the 31st as our last day of evidentiary hearings?

HEARING OFFICER FAY: At this point

that's what I envision.

Does anybody know anything that would be to the contrary? Okay. Yeah. I think both myself and the parties familiar with the testimony would react if it was otherwise.

I really think we can get done in another long day.

Okay. Thank you, all. We're adjourned.

(Whereupon, at 5:32 p.m., the hearing was adjourned, to reconvene at 9:00 a.m., Wednesday, May 31, 2006, in the Auditorium of this same location.)

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CERTIFICATE OF REPORTER

I, PETER PETTY, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission 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 hearing, nor in any way interested in outcome of said hearing.

IN WITNESS WHEREOF, I have hereunto set my hand this 27th day of May, 2006.

CAlifornians for Renewable Energy, Inc. (CARE)
821 Lakeknoll Dr.
Sunnyvale, CA 94089

Comments on the Preliminary Staff Assessment of the Metcalf Energy Center

K. Shawn Smallwood, Ph.D.

I have reviewed the CEC Preliminary Staff Assessment (PSA) of the Application for Certification 99-AFC-3, Metcalf Energy Center. I applaud Linda Spiegel for what appears to be a commendable effort to deal comprehensively with many of the issues related to biological resources. Many of her conclusions and recommendations appear sound, or at least provide an excellent start for further investigation and analysis. There are some issues that remain for me, however, and I would like to address these issues herein and in the Public Workshop on Biological Resources to be held in San Jose on June 22, 2000. In addition, my work on this project is only in its preliminary phase. I am sure there will be a significant number of additional issues that will need to be addressed, or addressed differently.

My qualifications for responding to the PSA are summarized in my short biography and Curriculum Vitae, which area attached.

Environmental Setting

The reconnaissance-level biological surveys at the proposed project site by CH2MHILL and CEC biologists appear to be fairly thorough. However, there are significant shortfalls. Some of them are the absence of bat surveys, small mammal trapping, and use of camera traps. I saw no evidence of netting or acoustical sampling for bats. Since multiple bat species are considered Species of Special Concern by our state and federal governments, I regard this shortfall as significant. I also saw no attempt to sample the small mammal species using traps, which severely constrains an understanding of which species are present. I recommend that proper sampling be implemented for bats and small mammals.

I want to point out a couple of findings I made at the site during my visits of 11 April and 2 May, 2000. My findings are significant because, as is typical with CEQA or CEQA-equivalent document preparation and assessment, the biologists of the lead agency are expected to limit their examination of any changes in existing physical conditions in the affected area since they occurred at the time of the notice of preparation (NOP). However, this baseline may not be the appropriate one from a scientific, biological standpoint, nor from the standpoint of maximizing environmental protection while avoiding or minimizing environmental harm, which constitutes CEQA's foremost principle. Biologists are familiar with natural changes in physical conditions and with periodic changes in site occupancy by species (Taylor and Taylor 1979). That is, if a species appears absent from a site at the time of the NOP, it could easily have been there prior to the NOP and it could very well be there again in the near future so long as the site supports suitable habitat. I want to present certain of my findings that demonstrate the need for prudent caution in determining which species exist at Tulare Hill, Fisher Creek and the adjacent upland area (proposed MEC site).

For example, I found an arboreal salamander on the west side of Fisher Creek downhill from the large spring on Tulare Hill (Photo 1), a western skink on the east side of Fisher Creek, a deer mouse on Tulare Hill, western fence lizards, pocket gophers, Tree Swallows, and Western Kingbirds. These species apparently were not found by CH2MHILL (2000: Table B-1, page 9-3). These species have no special status under California and federal laws and policies, but my finding them after other biologists visited the site on numerous occasions demonstrates the frustrating reality that animal species are always missed during site visits, no matter how exhausting.

As another example, the PSA concludes that California Horned Lizards are unlikely to occur on Tulare Hill or the proposed project site, because the habitat is unsuitable. However, I found numerous harvester ant colonies on Tulare Hill (Photo 2), and harvester ants are the major prey of California Horned Lizards. I recommend that the likelihood of California Horned Lizard presence be reconsidered, and I recommend that some assessment be made of the possible impacts of NOx deposition on harvester ants. The California Horned Lizard is a California Species of Special Concern. To meet CEQA's foremost principle, this type of enhanced examination is absolutely essential.

Also, I acquired photographs taken by one of the former land holders during 1992. These photographs of Tulare Hill and the upland area next to Fisher Creek show that this site was not as degraded as it is today (Photos 3-10). The junk piles were not there as they are today, and the vegetation was more lush on both Tulare Hill and the upland area next to Fisher Creek. These photographs were taken approximately the same time of year as my site visits, so the vegetation conditions should have been comparable with respect to phenology. The reduced plant height and density on Tulare Hill might indicate an impact from atmospheric pollutants since 1992, or part of a cyclic change in vegetation conditions with local climate variables. Whatever the reason for the apparent change in vegetation conditions, the biological species we see there today might not compose the same assemblage of species that was there in 1992, and it might not be the same assemblage that will be there in 10 years from now.

CH2MHILL prepared a summary of their biological surveys, entitled "Biological assessment for the Metcalf Energy Center Project, Santa Clara County, California." Overall, this document was well prepared and served as useful source material for Linda Spiegel's PSA. However, I found some problems with the CH2MHILL document. For example, California ground squirrels are reported to occur primarily on the western bank of Fisher Creek (page 1-12), and to not occur on the center portion of the site (page 2-11). This is not the case. Contrary to the claim made on page 2-11, construction of the MEC will not avoid potential aestivation habitat for California tiger salamander. California ground squirrels occupy the entire upland area where the applicant proposes to build Metcalf Energy Center, and these squirrels are abundant to the top of Tulare Hill. The widespread distribution of California ground squirrels is significant because their burrows serve as habitat for California tiger salamanders and red-legged frogs. In Table 1 (page 2-4), the potential impacts to these two species are downplayed because the impacts avoid aquatic habitat. Both the California ground squirrel and the red-legged frog *require* animal burrows, principally ground squirrel burrows, in upland areas away from the aquatic environment of streams such as Fisher Creek. Contrary to the claim made on page 2-11, construction of the MEC will not avoid potential aestivation habitat for California tiger salamander.

The likelihood of red-legged frogs occurring in Fisher Creek is downplayed on page 2-11 because bullfrogs occur there. Bullfrogs do not necessarily exclude red-legged frogs, even though they prey on tadpoles of red-legged frogs. The minimization of the potential significance of impacts on irreplaceable biological resources, whether intentional, accidental, or due to institutional bias, violates the spirit as well as the letter of CEQA's foremost principle. To comply with CEQA, this minimization must be avoided.

I disagree with the conclusion on page 4-4 that because the effluent stacks of the MEC would be below the elevation of Tulare Hill, and because transmission lines already exist in the area, migrating birds would be unlikely to collide with these stacks. This is a perfect example of the tendency to minimize the potential significance of the project's impacts. It is also an example of going out of one's way to come up with creative ideas to minimize that significance, which is directly opposite to the foremost principle of the CEQA statutory scheme. Under CEQA, it is far more appropriate to creatively ideate in the areas of thoroughness in assessing potential impacts and coming up with effective measures capable of avoiding or mitigating those impacts. For example, during my visit of May 2, 2000, I found an injured Common Raven at the base of one of the transmission towers on Tulare Hill (Photo 11). I draw

the reasonable inference that this raven was injured by colliding with the tower or the wires. Just because this raven was removed from the candidate pool of birds that can collide with the MEC's stacks does not preclude other individuals or other avian species from doing so. Manville (2000) and Hoving and Sealy (1987) report disturbing fatality rates due to avian collisions with tall, lit towers. I recommend that CH2MHILL not downplay the significant threat posed by MEC's stacks to nocturnally migrating birds. I also recommend that the collision hazard be reduced to the extent possible and that it be factored into the formulation of mitigation.

Direct Impacts

At this early stage, I generally agree with Linda Spiegel's assessment of direct impacts, but I would add impacts that include the following. The power plant, laydown area, and access roads will destroy the ground squirrel burrows there. CH2MHILL (2000) is incorrect to conclude that this area is so disturbed by dogs that California ground squirrels do not occur in abundance there. Again, this is another example of taking the wrong perspective aimed at trivializing the severity of impacts, rather than maximizing environmental protection, as CEQA requires. California ground squirrels occupy the extent of the upland area at this location. If California tiger salamanders or red-legged frogs aestivate in those burrows, then they will be destroyed as well, and their habitat will be taken.

Indirect Impacts

At this early stage, I generally agree with Linda Spiegel's assessment, although I suspect, among other things, that noise and light levels will be more disruptive to wildlife than has been expected by the CH2MHILL and CEC biologists. Artificial light levels can interfere with dispersal movements of mammalian carnivores (Beier 1995), the mating-related singing behaviors of birds (Derrickson 1988, Bergen and Abs 1997), the behavior of nocturnal frogs (Buchanan 1993), the nocturnal emergence and foraging activity of salmonids (Contor and Griffith 1995), the activities and predation risk of moths (Frank 1988, Rydell and Baagoe 1996), the congregatory behavior and distribution of certain species such as American Crows (Gorenzel and Salmon 1995), the orientation and mobility of nocturnal, non-volant insects such as ants (Klotz and Reid 1993) and crawlers (Summers 1997), and all of these documented effects are relevant to the environmental conditions at the proposed MEC site. Far more work is needed before CEQA's stringent standards are met.

Cumulative Impacts

I agree with Linda Spiegel's conclusion that the NOx emissions from the proposed Metcalf Energy Center would create cumulative impacts to an already stressed ecosystem. The fact that the South Bay Area already exceeds federal air quality standards forces the conclusion that any additional emissions of these pollutants would exacerbate an already intolerable situation. Therefore, under CEQA not only must these potential impacts be deemed significant, but they must be carefully analyzed with regard to mitigation. I agree with Spiegel's recommendation that the applicant produce an cumulative impacts assessment. The cumulative impacts assessment performed by CH2MHILL (2000: page 7-1) is entirely inadequate. An adequate cumulative impacts assessment is absolutely essential, and failing to perform one would, in my opinion, violate CEQA. I also recommend that the applicant perform this assessment according to the standards described by McCold and Holman (1995). The preferred approach under CEQ is an identifiable, quantitative as well as qualitative, or performance-level assessment of a particular, potential environmental effect, which I think would be appropriate for assessments of cumulative impacts, and direct and indirect effects. Such performance levels of environmental effect also need to be built into adaptive management and monitoring (discussed below).

The estimated contours of NOx deposition illustrate the areas of vulnerability of soil-vegetation complexes, as well as their associated faunal assemblages. However, it would be more helpful if the applicant would overlay these contours with a map depicting the various levels of sensitivity of soil-grassland complexes to pollutants. Such an overlay can be used to forecast spatially-explicit impacts, much like Zhang et al. (1998) provided for excess nitrogen concentrations in ground water. Zhang et al. (1998) compared the spatial distribution of nitrogen inputs for agricultural crops to the spatial distribution of soil leaching potential. The inputs increasing the vulnerability of groundwater to nitrogen contamination and the inherent attributes of the soils made them more or less sensitive to such inputs. Zhang et al. (1998) forecast impacts that closely matched the measured impacts (i.e., nitrogen concentration in ground water sampled from wellheads). CH2MHILL should have the spatial data, software, and expertise to make such overlays and forecasts of impacts. CEQA requires nothing less. I recommend that this type of impact analysis be performed for NOx deposition.

Mitigation

CEQA requires the mitigation measure to be *roughly proportional* to the project's impacts. Typically, proportional mitigation is estimated as a ratio of the area to be taken to the area to be conserved. The area of the MEC, laydown area, and access roads is easy to calculate and it is easy to match with a conservation easement or fee title purchase of similar habitat conditions elsewhere. Not so easy to calculate is the roughly proportional mitigation for the impacts of pollutants from stack emissions. Which of the estimated contours of NOx deposition should the CEC use to determine the roughly proportional area that needs to be conserved as mitigation? I recommend that, given the uncertainty of impacts, the entire area projected to receive NOx deposition should be considered when determining a roughly proportional mitigation. From the standpoint of maximizing environmental protection, and avoiding and minimizing environmental harm, this is the safest approach and thus the one that CEQA requires.

One of the mitigation options proposed by the applicant is to invest in a regional Habitat Conservation Plan (HCP). In so doing, the applicant defers the formulation of this portion of the mitigation to a later date when an HCP might be prepared. Under CEQA, the EIR should justify the choice of a particular mitigation measure, and with few exceptions it is improper to defer formulation of the mitigation to a later date. The mitigation measures need to be described explicitly and thoroughly in the EIR, along with the alternatives that were not chosen and an explanation as to why they were not chosen. The same should be done in the applicant's planning documents, in this case.

Additionally, HCPs are mitigation plans that facilitate the takings of endangered species more quickly and over larger areas than otherwise would be possible (Shilling 1997, Smallwood 2000, Smallwood et al. 1999). The applicant essentially would be investing in a vehicle to foster more land conversions to houses and commercial uses. An HCP would enable project proponents to destroy an even greater area of habitat than otherwise would occur. These land conversions would increase demand for electrical energy, and might possibly benefit Calpine-Bechtel. Therefore, I view this proposed mitigation as self-serving on the part of the applicant, but detrimental to the conservation of endangered and other species in the San Jose area. This is simply not allowed under CEQA, and the failure to correct this glaring deficiency will surely expose the environmental documentation to a successful legal challenge based on the EIR's inadequacy.

Adaptive Management

The applicant proposes to implement adaptive management based on habitat responses to cattle grazing on Tulare Hill. I encourage the CEC staff to demand more details of explicitly what this adaptive

management would entail. Based on my professional experience, many project proponents have been proposing adaptive management strategies, without a proper understanding of what an adaptive management strategy entails. Adaptive management has been addressed in over 80 scientific publications, including several key papers and books (Holling 1978, Walters 1986, Lancia et al. 1996, McLain and Lee 1996). This literature describes a well thought-out step-by-step approach to learning about a managed environment while also provisioning the manager(s) with options to adopt alternative management practices. Management prescriptions, hypothesized environmental effects, and alternative management prescriptions are all specified prior to implementation. Many project proponents appear to think of adaptive management as a remedial, trial-and-error approach to problem-solving (see also CH2MHILL 2000: page 5-8). I encourage the CEC staff to determine whether the applicant really understands adaptive management. To be certain that the applicant does understand it, it should be described in detail in the application documents, along with the details of an integrated monitoring program.

Monitoring

Spiegel recommended that Calpine-Bechtel invest in an endowment fund to manage Tulare Hill in perpetuity, rather than settle for their proposed 30-year monitoring of impacts. However, if the NOx deposition, or some other contaminant borne in the stack effluent, destroys the existing ecological relationships of Tulare Hill, then an endowment to manage Tulare Hill in perpetuity may be badly spent in perpetuity. I encourage the CEC to consider recommending a more rigorously described monitoring program to ensure that we learn about the impacts of such an energy facility on the ecological community that is adapted to serpentine soils. We also need to learn about the impacts of the 145-foot-tall stacks. Monitoring their impacts on birds for three years will not be helpful if it turns out that intolerable numbers of migrating birds are colliding with the stacks. Something would need to be done about it (see my discussions of Adaptive Management and Changed Circumstances).

Spiegel points out that serpentine-based rock represents 1% of California's geologic base, yet contains 10% of California's floral species. The proposed Metcalf Energy Center is *unique* among energy facilities permitted by CEC in that it poses impacts to this serpentine-grassland complex that supports 10 times the average floral species richness across the other 99% of California. This proposed facility would also be unique for threatening the contiguity of habitat between the serpentine soils of the Santa Cruz Mountains and the Diablo Range. Tulare Hill is recognized as the site of a satellite population of Bay Checkerspot Butterfly (USFWS 1998), so its degradation as habitat would contribute to habitat fragmentation of Bay Checkerspot Butterfly (Wilcox and Murphy 1985, Weiss cf in CH2MHILL 2000). This is a serious problem, of which CEQA requires careful, in-depth analysis. Much more work is needed to meet CEQA standards.

Given the lack of empirically based knowledge on NOx and other pollutants on serpentine-based communities, it would be especially prudent, in accordance with CEQA's high standards, to establish a scientifically defensible monitoring program, including out-of-area control sites and both an impact-gradient design and before/after-control/impact (BACI) pairs design. In other words, I recommend that distance to source be factored into the sampling design, as well as before and after sampling at both Tulare Hill and the control sites. Without these types of designs, the monitoring program will be pseudoreplicated and unlikely to be informative (Hurlbert 1984). Data collected in an adequate monitoring program would likely include the following variables:

- Nitrogen deposition rates
- Soil chemistry
- Biological species composition

- Plant biomass
- Plant height
- Plant density
- Root depth
- Incidence of disease
- Numerical distributions of dependent fauna, including Bay Checkerspot Butterfly and Opler's Longhorn Moth.

Additional variables would likely also be important, but they all need to be identified and described now, not later. These variables would also need to be collected at elevations spanning the bottom to top of Tulare Hill and at locations spanning the north-south breadth of the Hill. This design would need to be repeated on the comparison, control sites. This type of a rigorous sampling design would cost more than $30,000/year. Outside (non Calpine-Bechtel) employees should conduct the monitoring work.

CEC Staff Proposed Mitigation

I recommend that staff consider a 1:1 conservation-to-take ratio of the upland area to be converted to the power plant, laydown area and access roads. This area may be disturbed, but upland areas next to water channels, disturbed or not, are important dispersal areas for wildlife. This upland area could be used for aestivation and dispersal by California tiger salamander and red-legged frog. Another nearby upland area that is adjacent to a stream should be conserved in equal area and in perpetuity (or until the hydrological system has changed locations and relief).

Similar to the recommended endowment fund, I recommend that the CEC require a fund to be available for *changed circumstances*. Alternative management strategies might be needed to mitigate the impacts of NOx depositions onto Tulare Hill. For example, if exotic weeds colonize Tulare Hill in response to nitrogen augmentation, then Calpine-Bechtel might need to perform weed management in support of the food plants of Bay Checkerspot Butterfly and Opler's Longhorn Moth. In another example, if the MEC's stacks cause an intolerable number of migratory bird collisions, then additional mitigation would be needed, or changes to the stacks might be needed.

Conclusions

Although it is far too early for any final conclusions, generally speaking we have gotten off to a good start in this preliminary phase. But a lot more hard, thorough, and unbiased (or biased in favor of the environment) work is necessary.

Tables 1 and 2 summarize my comments and recommendations on this Preliminary Staff Assessment and on the applicant's documents.

6-29-00

Shawn Smallwood, Ph.D. Date

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Table 1. Status of PSA, and some of the consequence of existing shortfalls.

Defect of PSA and applicant documents	Evidence	Consequence
1. Biological surveys are incomplete	No sampling methods were described for bats and small, non-volant mammals	The environmental setting remains incompletely described, thus the project impacts remain incompletely described
2. Baseline environmental conditions are too recent and narrowly described	Photos of the site from 1992 depict a more lush vegetation on Tulare Hill and the MEC site; I found species that CH2MHILL and CEC biologists did not find	The environmental setting remains incompletely described, and the impacts are assumed smaller than they will really be
3. The numerical/spatial distribution of ground squirrels was inaccurately described	Contrary to CH2MHIlLL (2000), I saw ground squirrels across the upland area and the extent of Tulare Hill	Ground squirrels are keystone species, and their burrows are used by California red-legged frog and California tiger salamander. Therefore, the PSA underestimates potential impacts
4. The likelihood of California red-legged frogs occurring in Fisher Creek is underestimated	Ample scientific reports exist that refute the claim of CH2MHILL (2000) that the presence of bullfrogs negates the presence of California red-legged frogs	The PSA and supporting applicant documents downplay the potential of red-legged frogs to occur at this site
5. The hazards of the MEC stacks and new power lines to birds are underestimated	During one of two site visits I found an injured Common Raven under a transmission tower; Scientific reports are available to refute the claim that the stacks and transmission lines will not be a hazard because they will be below the highest elevation of Tulare Hill	The impacts to nocturnally migratory birds are downplayed and trivialized
6. Indirect impacts are inadequately assessed	The effects of increased lighting and noise are mentioned, but the scientific evidence of their relative effects are is not	The impacts of increased lighting and noise are downplayed and underestimated
7. Cumulative impacts are inadequately assessed	The standards of McCold and Holman (1995) and Smallwood et al. (1999) were unmet	Cumulative impacts are downplayed and underestimated
8. The mitigation measures are misdirected and will be ineffective	The upland area next to Fisher Creek is not included in the conservation-to-take ratio, nor is the entire area of NOx deposition; HCPs are mitigation plans for take permits and defer formulation of mitigation measures to a later date	The types of land being conserved do not match the lands being effected; Funding an HCP promotes more environmental impacts
9. Adaptive management is improperly described	>80 scientific publications describe adaptive management as a structured process designed to enable learning of manipulated environments, and to respond with planned alternative prescriptions; Adaptive management described by the applicant appears to be remedial trial-and-error	The applicant's plan will not enlighten the CEC about the effects of cattle management on Tulare Hill, so appropriate alternative management strategies will be unlikely applied

10. The proposed monitoring plan is inadequate	The applicant describes no design attributes of the monitoring	Little will be learned from the monitoring and the lack of thresholds of significance will likely preclude any remedial actions to disturbing trends

Table 2. My recommendations for amending the PSA and applicant documents prior to approval of the MEC.

Issue	Recommendation
1	Proper sampling methods should be implemented for bats and small, non-volant mammals, and at the appropriate spatial and temporal scales
2	The regional and temporal context of the site needs to be described more thoroughly and realistically, including the inter-annual cyclicity of the weather patterns, the likely former biological occupants of the site, and the possible future occupants after the site use is changed
3	Ground squirrel burrows should be counted and mapped, and a burrow probe used to view the interiors for special status species during repeat visits
4	The literature on California red-legged frogs and California tiger salamander should be reviewed for the impacts of bullfrogs on these species, and agency-protocol surveys should be made of Fisher Creek on site and up- and down-stream of the site
5	Monitoring of the avian impacts of existing power lines, maintained by PG&E, should be implemented immediately, or existing monitoring data examined (if they exist); The literature and experts on avian impacts with tall structures should be consulted and a more realistic impact assessment conducted; A reasonable mitigation plan should be formulated
6	The scientific literature on artificial noise and lighting should be thoroughly reviewed, and indirect impacts assessment conducted, and a reasonable mitigation plan formulated
7	A cumulative impacts assessment is needed, and should meet the standards of McCold and Holman (1995) and Smallwood et al. (1999); The ecological indicators approach would be appropriate to assess the likely areas of impact from NOx deposition (see Zhang et al. 1998)
8	The proposal to fund an HCP as mitigation for this project should be rejected; An endowment fund should be established for long-term, scientifically defensible monitoring, as well as changed circumstances; Real adaptive management should be formulated and implemented; Conservation-to-take ratios should factor in the entire area of NOx deposition, as well as the type of physiography converted to the MEC
9	The scientific literature on adaptive management should be reviewed, and a real adaptive management plan formulated for cattle management on Tulare Hill
10	A detailed monitoring plan should be described prior to project approval, and should include attributes of impact-gradient design and before/after-control/impact (BACI) pairs, detailed descriptions of variables to be measured, out-of-area control sites, identification of who will conduct the monitoring (qualified expert[s] not employed by Calpine-Bechtel), thresholds of significance for making management adjustments, and integration into a well-described adaptive management plan

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Short Biography of Shawn Smallwood, Ph.D.

Dr. Shawn Smallwood is an ecologist with 15 years of professional experience with wildlife, ecosystems, and endangered species issues. He has authored 73 publications, more than half of which were peer-reviewed. He has served as Associate Editor and Editorial Board Member of two international scientific journals, and he has reviewed many professional papers. Dr. Smallwood understands what it takes to produce scientifically defensible research, survey and monitoring results, as well as impacts assessments.

Dr. Smallwood's work has focused on both endangered species conservation and animal damage control. He has worked to conserve such state or federally threatened species as red-legged frogs, giant garter snakes, Swainson's Hawks, and Northern Goshawks. He has also developed lethal and non-lethal methods to control pocket gophers and many other species. Since 1985, he has also conducted the California track count for monitoring the statewide numerical and spatial trends of mountain lions, bobcats, coyotes, gray fox, black bear, and other mammalian Carnivores, as well as for deer. Dr. Smallwood also developed quantitative methods to identify individual animals by their tracks, and he developed new monitoring and counting methods for pocket gophers and other fossorial animals. He developed a new quantitative measure of treatment effect for use in animal damage control efforts. He also conducted his Ph.D. thesis research on exotic species, particularly those that species of mammals and birds that invaded California and caused economic or environmental damage.

Dr. Smallwood also applies the tenets of landscape ecology to his work, and develops ecological indicators for use with GIS. Dr. Smallwood has integrated GPS into his field studies, and has developed new statistical procedures for analyzing spatial data. Dr. Smallwood is also one of the world's leading experts on animal density and spatial patterns of distribution, and he has an extensive collection of density and numerical estimates published for many species of mammal, bird, reptile and amphibian. He uses these estimates to predict patterns of spatial distribution for species with which he works in the field, and he uses them to interpret patterns observed in his field work. Dr. Smallwood also works on operationalizing the habitat concept, and focuses research on how to accurately quantify the selection and use of habitat by animal species.

Much of Dr. Smallwood's consulting work has centered on assessing the foundation of conclusions in environmental documents prepared by project proponents and their consultants. He works to protect the interests of stake-holder groups by assessing the impacts of completed, ongoing and proposed projects and he assesses the adequacy of related environmental documents. He has served as an expert witness in litigation against the nuclear weapons industry and the chemical manufacturing industry, as well as against ocean floor dredging and an airport expansion, for example. Dr. Smallwood has written numerous expert reports, declarations, and depositions, and has testified often before attorneys, City Councils, County Supervisors and other governmental bodies.

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Photo 1 arboreal salamander next to Fisher Creek. This species was not reported by the applicant or the applicant's consultants.

Photo 2 Harvester ant colonies were abundant on Tulare Hill, which is significant because harvester ants are the main prey of California horned lizards, a Species of Special Concern.

Photo 3 Grass was taller on Tulare Hill in April 1992

Photo 4 compared to April 2000

Photo 5 The site of the proposed Metcalf Energy Center had less junk on it in 1992

Photo 6 compared to 2000, and the vegetation was more lush

Photo 7 In April 1992, the oaks and shrubs were more lush, and the grass taller, in this view from the east of the spring on Tulare Hill

Photo 8 compared to April 2000

Photo 9 On the west side of Fisher Creek, the grass was taller and trees more lush in 1992.

Photo 10 In 2000, sow thistle dominates the ground cover.

Photo 11 Common Raven injured under a transmission tower on Tulare Hill, indicating that the risk of avian impact with the stacks and new transmission cables

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Curriculum Vitae

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Born May 3, 1963 in
Sacramento, California.
Married, father of two children.

Affiliations:
Consulting in the Public Interest, www.cipi.com
Biological Sciences Department, California State University, Sacramento
Bioresources Consulting
Institute for Sustainable Development
Chairman, Conservation Affairs Committee, The Wildlife Society--Western Section

Disciplines:

Wildlife, ecosystem and landscape ecology; conservation biology; sampling methods and systems analysis; animal damage management.

Education:

Ph.D. Ecology, University of California, Davis. September 1990.
M.S. Ecology, University of California, Davis. June 1987.
B.S. Anthropology, University of California, Davis. June 1985.
Corcoran High School, Corcoran, California. June 1981.

Experience:

- 73 professional publications, 38 peer-reviewed
- 7 professional papers currently under peer-review
- 44 public presentations of research results at professional meetings

Part-time Faculty, 1/98 to present, California State University, Sacramento. I've taught Contemporary Environmental Issues, Natural Resources Conservation, Mammalogy, and Ornithology Lab.

Systems Ecologist, 7/96 to present, *Consulting in the Public Interest*. I am part of a multi-disciplinary consortium of scientists who facilitate large-scale, environmental planning projects and litigation. We provide risk assessments, assessments of management practices, and expert witness testimony.

Systems Ecologist, 1/95 to present, *Institute for Sustainable Development*. I head ISD's program on integrated resources management. I develop indicators of ecological integrity for large areas, using remotely sensed data, local community involvement and GIS.

Editorial Board Member, *Environmental Management*, 10/99 to present.

Lead Scientist, 6/96 to 6/99, *National Endangered Species Network*. I headed NESN's efforts to inform academic scientists and environmental activists about emerging issues regarding the Endangered Species Act and other environmental laws pertaining to legally rare species. I also testified at public hearings on behalf of environmental groups and endangered species.

Ecologist, 1/97 to 6/98, *Western Foundation of Vertebrate Zoology*. I conducted field research to determine the impact of past mercury mining on the status of red-legged frogs in Santa Clara County, California.

Associate Editor, *Biological Conservation*, 9/94 to 9/95. Administered independent scientific reviews of submitted, professional papers in ecology and conservation biology, and made recommendations to the Editors.

Senior Systems Ecologist, 7/94 to 12/95, *EIP Associates*, Sacramento, California. Provided consulting services in environmental planning. I also developed a quantitative assessment of land units for their conservation and restoration opportunities, using the ecological resource requirements of 29 legally rare species. I mapped vegetation and land use, and derived new spatial data from a GIS overlay of these variables with soil types, flood zones, roads, and other spatially referenced data. Using these derived data, I developed a set of indicators for prioritizing areas within Yolo County that will receive mitigation funds for habitat easements and restoration.

Post-Graduate Researcher, 10/90 to 6/94, with Dr. Shu Geng, *Department of Agronomy and Range Science, U.C. Davis*. Studied landscape and management effects on temporal and spatial patterns of abundance among pocket gophers and species of Falconiformes and Carnivora in the Sacramento Valley. I also developed and analyzed a data base of energy use in California agriculture, and I assisted with a landscape (GIS) study of groundwater contamination across Tulare County, California.

Co-teacher, 1/91 to 6/91 and 1/93 to 6/93, *Graduate Group in Ecology, U.C. Davis*. Co-taught conservation biology with Dr. Christine Schonewald.

Reader, 3/90 to 6/90, *Department of Psychology, U.C. Davis*. Assisted students of Psychobiology (taught by Dr. Richard Coss) with research and writing term papers.

Research Assistant, 11/88 to 9/90, with Dr. Walter E. Howard, *Department of Wildlife and Fisheries Biology, U.C. Davis*. Tested durable baits for pocket gopher control in forest plantations, and developed gopher sampling methods.

Fulbright Research Fellow, Indonesia, 7/88 to 11/88. Tested use of new sampling methods for monitoring the number of Sumatran tigers, and evaluated methods used by other researchers.

Research Assistant, 7/87 to 6/88, with Dr. Terrell P. Salmon, *Wildlife Extension, Department of Wildlife and Fisheries Biology, U.C. Davis*. Developed empirical models of mammal and bird invasions in North America, and a rating system for priority research and control of exotic species based on economic, environmental, and human health hazards in California.

Student Assistant, 3/85 to 6/87, with Dr. E. Lee Fitzhugh, *Wildlife Extension, Department of Wildlife and Fisheries Biology, U.C. Davis*. Developed and implemented a statewide mountain lion track count for long-term monitoring of numbers and distribution. Also developed quantitative techniques to identify individual mountain lions by their tracks, and to differentiate mountain lion and dog tracks.

Projects

Comments on environmental documents. I have been retained to comment on various environmental documents, including the Headwaters HCP, San Diego MSCP, Natomas Basin HCP, Giant Garter Snake Recovery Plan, Arroyo Southwestern Toad Recovery Plan, Peninsular Range Bighorn Sheep Recovery Plan, Ballona Wetlands Environmental Impact Report, Turn of the Century Environmental Impact Report, The California Board of Forestry's proposed amended Forest Practices Rules, the Negative

Declaration for the Sunset Skyranch Airport Use Permit, and the California Energy Commission's Preliminary Staff Assessment of the proposed Metcalf Energy Center. I have testified before the California Coastal Commission, County Boards of Supervisors, and City Councils, and I have participated with press conferences.

Workshops on HCPs. Assisted Dr. Michael Morrison with organizing and conducting a 2-day workshop on Habitat Conservation Plans, and another 1-day workshop. These Workshops were attended by academics, attorneys, and consultants with HCP experience. We guest-edited a Proceedings to be published in Environmental Management.

Mapping of wind turbines and biological resources at Altamont Pass. Using GPS and GIS to map and study environmental impacts of 1,400 wind turbines.

Mapping of biological resources along Highways 46 and 41. Using GPS and GIS to delineate vegetation complexes and locations of special status species along 26 miles of highway in San Luis Obispo County, and in a large area north of Fresno.

Mercury effects on Red-legged Frog. Assisted Dr. Michael Morrison and US Fish and Wildlife Service in assessing the possible impacts of Santa Clara County's historical mercury mining on the federally listed red-legged frog. Also measured habitat in numerous streams.

Opposition to proposed No Surprises rule. Wrote a white paper and summary letter explaining scientific grounds for opposing the incidental take permit (ITP) rules providing ITP applicants and holders with general assurances they will be free of compliance with the Endangered Species Act once they adhere to the terms of a "properly functioning HCP." I obtained 188 signatures of scientists and environmental professionals on the letter submitted to the US Fish and Wildlife Service and the National Marine Fisheries Service. The letter was also provided to all US Senators. It helped change the prevailing view of HCPs as beneficial to listed species.

Natomas Basin Habitat Conservation Plan alternative. Designed narrow channel marsh to increase likelihood of survival and recovery in the wild of giant garter snake, Swainson's hawk and Valley Elderberry Longhorn Beetle. Design included replication and interspersion of treatments for experimental testing of critical habitat elements. Provided report to Northern Territories, Inc.

Cook *et al*. v. Rockwell International *et al*., No. 90-K-181 (D. Colorado). Providing expert testimony on the role of burrowing animals in affecting the fate of buried and surface-deposited radioactive and hazardous chemical wastes at the Rocky Flats Plant, Colorado. Provided expert report based on three site visits and the most extensive document review of burrowing animals ever conducted. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals.

Hanford Nuclear Reservation Litigation. Providing expert testimony on the role of burrowing animals in affecting the fate of buried radioactive wastes at the Hanford Nuclear Reservation, Washington. Provided three expert reports based on three site visits and extensive document review. Predicted and verified population density of pocket gophers on buried waste structures, as well as incidence of radionuclide contamination in body tissue. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals.

Assessment of Environmental Technology Transfer to China, and Assessment of Agricultural Production System. Twice traveled to China and interviewed scientists, industrialists, agriculturalists, and the

Directors of the Chinese Environmental Protection Agency and the Department of Agriculture to assess the need and possible pathways for environmental clean-up technologies and trade opportunities between the US and China. Spent a total of five weeks in China, including in Shandong and Linxion Provinces and in Beijing.

Yolo County Habitat Conservation Plan. Conducted the landscape ecology study of Yolo County to identify the priority land units to receive mitigation so as to most improve the ecosystem functionality within the County from the perspective of 29 legally rare species of wildlife. Used a hierarchically structured indicators approach to apply principles of landscape and ecosystem ecology, conservation biology, and local values in rating land units. Derived GIS maps to help guide the conservation area design, and then I developed implementation strategies.

Mountain Lion Track Count. Developed and conducted the carnivore monitoring program throughout California since 1985. Species counted include mountain lion, bobcat, black bear, coyote, red and gray fox, raccoon, striped skunk, badger, and black-tailed deer. Vegetation and land use are also monitored. The transect was established on dusty, dirt roads within randomly selected quadrats. These roads are searched for tracks of the carnivores, which routinely use the roads for travel paths.

Sumatran Tiger and other Felids. Designed and conducted track counts for seven species of wild cats in Sumatra, including the Sumatran tiger, fishing cat, and golden cat. Spent four months on Sumatra and Java, and learned Bahasa Indonesia (the official Indonesian language). I was awarded a Fulbright Research Fellowship to complete the project.

Wildlife in Agriculture. Beginning as my post-graduate research, I have studied pocket gophers and other wildlife in 40 alfalfa fields throughout the Sacramento Valley, and I surveyed for wildlife along a 200 mile road transect for six years. The data were analyzed using GIS and methods from landscape ecology, and the results were published and presented orally to farming groups in California and elsewhere. I also conducted the first study of wildlife in cover crops used on vineyards and orchards.

Representative Clients

Law offices and environmental groups	Government agencies	Businesses
Law Offices of Berger & Montague	US Department of Agriculture	Pacific Gas & Electric Co.
Law Offices of Roy Haber	US Forest Service	Southern California Edison Co.
Law Offices of Edward MacDonald	US Fish & Wildlife Service	Georgia-Pacific Timber Co.
Law Office of John Gabrielli	California Department of Fish & Game	Northern Territories Inc.
California Wildlife Federation	California Department of Transportation	National Renewable Energy Lab
Defenders of Wildlife	California Department of Forestry	
Sierra Club	California Department of Food & Agriculture	
National Endangered Species Network	Sustainable Agriculture Research & Education Program	
Spirit of the Sage Council	County of Yolo	
The Humane Society	Tahoe Regional Planning Agency	
Californians for Renewable Energy		
Goldberg, Kamin & Garvin, Attorneys at Law		
Environmental Protection Information Center (EPIC)		

Agricultural Energy Use and Tulare County Groundwater Study. Developed and analyzed a data base of energy use in California agriculture, and collaborated on a landscape (GIS) study of groundwater contamination across Tulare County, California.

Pocket Gopher Damage in Forest Clearcuts. Tested various poison baits and baiting regimes for pocket gopher control in forest plantations, and developed gopher sampling methods. Conducted the most extensive field study of pocket gophers ever, involving thousands of gophers in 68 research plots on 55 clearcuts among 6 National Forests in northern California.

Risk Assessment of Exotic Species in North America. Developed empirical models of mammal and bird species invasions in North America. Developed a rating system for assigning priority research and control to exotic species in California, based on economic, environmental, and human health hazards.

Peer-Reviewed Publications:

Zhang, M., K. S. Smallwood, and E. Anderson. Relating indicators of ecological health and integrity to assess risks to sustainable agriculture and native biota. International Conference on Ecosystem Health.

Smallwood, K.S. and S. Geng. Pocket gopher (*Thomomys bottae*) density in alfalfa. Agriculture, Ecosystems & Environment: Accepted.

Smallwood, K.S. 2000. Ecological restoration in the context of animal demographic units and their habitat areas. *Restoration Ecology* : Accepted.

Smallwood, K.S. 2001. Habitat models based on numerical comparisons. In Predicting species occurrences: Issues of scale and accuracy, J. M. Scott, P. J. Heglund, M. Morrison, M. Raphael, J. Haufler, and B. Wall, editors. Island Press, Covello, California.

Smallwood, K.S. 2000. A crosswalk from the Endangered Species Act to the HCP Handbook and real HCPs. *Environmental Management* 26, Supplement1:23-35.

Smallwood, K.S., J. Beyea and M. Morrison. 1999. Using the best scientific data for endangered species conservation. *Environmental Management* 24:421-435.

Smallwood, K.S. 1999. Scale domains of abundance among species of Mammalian Carnivora. *Environmental Conservation* 26:102-111.

Smallwood, K.S. 1999. Study attributes for making useful population density estimates. *Transactions of the Western Section of the Wildlife Society* 35: Accepted.

Smallwood, K.S. and M.L. Morrison. 1999. Estimating burrow volume and excavation rate of pocket gophers (Geomyidae). *Southwestern Naturalist* 44:173-183.

Smallwood, K.S. and M.L. Morrison. 1999. Spatial scaling of pocket gopher (*Geomyidae*) density. *Southwestern Naturalist* 44:73-82.

Smallwood, K.S. 1999. Abating pocket gophers (*Thomomys* spp.) to regenerate forests in clearcuts. *Environmental Conservation* 26:59-65.

Smallwood, K.S. 1998. Patterns of black bear abundance. *Transactions of the Western Section of the Wildlife Society* 34:32-38.

Smallwood, K.S. 1998. On the evidence needed for listing northern goshawks (*Accipter gentilis*) under the Endangered Species Act: a reply to Kennedy. *J. Raptor Research* 32:323-329.

Smallwood, K.S., B. Wilcox, R. Leidy, and K. Yarris. 1998. Indicators assessment for Habitat Conservation Plan of Yolo County, California, USA. *Environmental Management* 22: 947-958.

Smallwood, K.S., M.L. Morrison, and J. Beyea. 1998. Animal burrowing attributes affecting hazardous waste management. *Environmental Management* 22: 831-847.

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Zhang, M., S. Geng, and K.S. Smallwood. 1998. Nitrate contamination in groundwater of Tulare County, California. *Ambio* 27(3):170-174.

Smallwood, K.S. and M.L. Morrison. 1997. Animal burrowing in the waste management zone of Hanford Nuclear Reservation. *Proceedings of the Western Section of the Wildlife Society Meeting* 33:88-97.

Morrison, M.L., K.S. Smallwood, and J. Beyea. 1997. Monitoring the dispersal of contaminants by wildlife at nuclear weapons production and waste storage facilities. *The Environmentalist* 17:289-295.

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Smallwood, K.S. 1997. Managing vertebrates in cover crops: a first study. *American Journal of Alternative Agriculture* 11:155-160.

Smallwood, K.S. and S. Geng. 1997. Multi-scale influences of gophers on alfalfa yield and quality. *Field Crops Research* 49:159-168.

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Smallwood, K.S., G. Jones, and C. Schonewald. 1996. Spatial scaling of allometry for terrestrial, mammalian carnivores. *Oecologia* 107:588-594.

Van Vuren, D. and K.S. Smallwood. 1996. Ecological management of vertebrate pests in agricultural systems. *Biological Agriculture and Horticulture* 13:41-64.

Smallwood, K.S., B.J. Nakamoto, and S. Geng. 1996. Association analysis of raptors on an agricultural landscape. Pages 177-190 in D.M. Bird, D.E. Varland, and J.J. Negro, eds., Raptors in human landscapes. Academic Press, London.

Erichsen, A.L., K.S. Smallwood, A.M. Commandatore, D.M. Fry, and B. Wilson. 1996. White-tailed Kite movement and nesting patterns in an agricultural landscape. Pages 166-176 in D.M. Bird, D.E. Varland, and J.J. Negro, eds., Raptors in human landscapes. Academic Press, London.

Smallwood, K.S. 1996. Assessment of the BIOPORT model's parameter values for pocket gopher burrowing characteristics. Report to Berger & Montague, P.C. and Roy S. Haber, P.C., Philadelphia.

Smallwood, K.S. 1995. Scaling Swainson's hawk population density for assessing habitat-use across an agricultural landscape. *J. Raptor Research* 29:172-178.

Smallwood, K.S. and W.A. Erickson. 1995. Estimating gopher populations and their abatement in forest plantations. *Forest Science* 41:284-296.

Smallwood, K.S. and E.L. Fitzhugh. 1995. A track count for estimating mountain lion *Felis concolor californica* population trend. *Biological Conservation* 71:251-259

Smallwood, K.S. 1994. Site invasibility by exotic birds and mammals. *Biological Conservation* 69:251-259.

Smallwood, K.S. 1994. Trends in California mountain lion populations. *The Southwestern Naturalist* 39:67-72.

Smallwood, K.S. 1993. Understanding ecological pattern and process by association and order. *Acta Oecologica* 14(3):443-462.

Smallwood, K.S. and E.L. Fitzhugh. 1993. A rigorous technique for identifying individual mountain lions *Felis concolor* by their tracks. *Biological Conservation* 65:51-59.

Smallwood, K.S. 1993. Mountain lion vocalizations and hunting behavior. *The Southwestern Naturalist* 38:65-67.

Smallwood, K.S. and T.P. Salmon. 1992. A rating system for potential exotic vertebrate pests. *Biological Conservation* 62:149-159.

Smallwood, K.S. 1990. Turbulence and the ecology of invading species. Ph.D. Thesis, University of California, Davis.

Other Publications

Morrison, M.L., and K.S. .Smallwood. 1999. NTI plan evaluation and comments. Exhibit C in W.D. Carrier, M.L. Morrison, K.S. Smallwood, and Vail Engineering. Recommendations for NBHCP land acquisition and enhancement strategies. Northern Territories, Inc., Sacramento.

Smallwood, K. S. 1998. 1998 California Mountain Lion Track Count. Report to the Defenders of Wildlife, Washington, D.C. 5 pages.

Smallwood, K.S. 1998. Comment on the Pacific Lumber Company HCP and EIR. Commissioned by Sierra Club and EPIC. 28 pp.

Smallwood, K.S. 1998. Draft report of a visit to a paint sludge dump site near Ridgewood, New Jersey, February 26th, 1998. Unpublished report to Consulting in the Public Interest.

Smallwood, K.S. 1998. Review of the Draft Recovery Plan for the Arroyo Southwestern Toad (*Bufo microscaphus californicus*). Commissioned by National Endangered Species Network and Spirit of the Sage Council, Pasadena, California.

Smallwood, K.S. 1998. Science missing in the "no surprises" policy. Commissioned by National Endangered Species Network and Spirit of the Sage Council, Pasadena, California.

Smallwood, K.S. 1998. Davis Visions. The Flatlander, Davis, California.

Smallwood, K.S. 1997. Last grab for Yolo's land and water. The Flatlander, Davis, California.

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Smallwood, K.S. and M.L. Morrison. 1997. Alternate mitigation strategy for incidental take of giant garter snake and Swainson's hawk as part of the Natomas Basin Habitat Conservation Plan. Pages 6-9 and *iii* illustrations in W.D. Carrier, K.S. Smallwood and M.L. Morrison, Natomas Basin Habitat Conservation Plan: Narrow channel marsh alternative wetland mitigation. Northern Territories, Inc., Sacramento.

Smallwood, K.S. 1997. Spatial scaling of pocket gopher (Geomyidae) burrow volume. Abstract in Proceedings of 44th Annual Meeting, Southwestern Association of Naturalists. Department of Biological Sciences, University of Arkansas, Fayetteville.

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Smallwood, K.S. 1996. Soil Bioturbation and Wind Affect Fate of Hazardous Materials that were Released at the Rocky Flats Plant, Colorado. Report to Berger & Montague, P.C., Philadelphia.

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Smallwood, K.S, and Bruce Wilcox. 1996. Study and interpretive design effects on mountain lion density estimates. Abstract in the *Proceedings 5th Mountain Lion Workshop*.

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EIP Associates. 1995. Yolo County Habitat Conservation Plan Biological Resources Report. Yolo County Planning and Development Department, Woodland, California.

EIP Associates. 1996. Yolo County Habitat Conservation Plan. Yolo County Planning and Development Department, Woodland, California.

Smallwood, K.S. and S. Geng. 1995. Analysis of the 1987 California Farm Cost Survey and recommendations for future survey. Program on Workable Energy Regulation, University-wide Energy Research Group, University of California.

Geng, S., K.S. Smallwood, and M. Zhang. 1995. Sustainable agriculture and agricultural sustainability. Proc. 7th International Congress SABRAO, 2nd Industrial Symp. WSAA. Taipei, Taiwan.

Smallwood, K.S. and S. Geng. 1994. Landscape strategies for biological control and IPM. Pages 454-464 in W. Dehai, ed., Proc. International Conference on Integrated Resource Management for Sustainable Agriculture. Beijing Agricultural University, Beijing, China.

Smallwood, K.S. and S. Geng. 1993. Alfalfa as wildlife habitat. California Alfalfa Symposium 23:105-8.

Smallwood, K.S. and S. Geng. 1993. Management of pocket gophers in Sacramento Valley alfalfa. California Alfalfa Symposium 23:86-89.

Smallwood, K.S. and E.L. Fitzhugh. 1992. The use of track counts for mountain lion population census. Pages 59-67 in C. Braun, ed. Mountain lion-Human Interaction Symposium and Workshop. Colorado Division of Wildlife, Fort Collins.

Smallwood, K.S. and E.L. Fitzhugh. 1989. Differentiating mountain lion and dog tracks. Pages 58-63 in Smith, R.H., ed. Proc. Third Mountain Lion Workshop. Arizona Game and Fish Department, Pheonix.

Fitzhugh, E.L. and K.S. Smallwood. 1989. Techniques for monitoring mountain lion population levels. Pages 69-71 in Smith, R.H., ed. Proc. Third Mountain Lion Workshop. Arizona Game and Fish Department, Pheonix.

Fitzhugh, E.L. and K.S. Smallwood. 1987. Methods Manual – A statewide mountain lion population index technique. California Department of Fish and Game, Sacramento.

Salmon, T.P. and K.S. Smallwood. 1989. Final Report – Evaluating exotic vertebrates as pests to California agriculture. California Department of Food and Agriculture, Sacramento.

Smallwood, K.S. and W. A. Erickson (written under supervision of W.E. Howard, R.E. Marsh, and R.J. Laacke). 1990. Environmental exposure and fate of multi-kill strychnine gopher baits. Final Report to USDA Forest Service –NAPIAP, Cooperative Agreement PSW-89-0010CA.

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Posters at Professional Meetings

Smallwood, K.S. and E.L. Fitzhugh. 1989. Differentiating mountain lion and dog tracks. Third Mountain Lion Workshop, Prescott, AZ.

Smith, T. R. and K. S. Smallwood. 2000. Effects of study area size, location, season, and allometry on reported *Sorex* shrew densities. Annual Meeting of the Western Section of The Wildlife Society.

Papers In Review

Smallwood, K.S., M. Zhang, and S. Geng. Landscape effects on pocket gopher density in alfalfa.
Geng, S., Yixing Zhou, Minghua Zhang, and K. Shawn Smallwood. A Sustainable Agro-ecological Solution to Water Shortage in North China Plain (Huabei). Environmental Management.

Jones, G., W. D. Sterling, and K. S. Smallwood. A model for spatial scaling effects in ecological density estimation.

Morrison, Michael L., K. Shawn Smallwood, Daniel C. Pearson, Carl G. Thelander, with contributions (in alphabetical order) from H. Resit Akcakaya, Peter A. Bowler, Robert R. Copper, Patrick Foley, Brian Loew, John McCaull, David E. Moser, Richard Redak, and Thomas A. Scott. Role of ecological restoration in habitat conservation plans.

Wilcox, B. A., K. S. Smallwood, and J. R. Kahn. Toward indicators for ecosystem health and natural capital of forest ecosystems. International Conference on Ecosystem Health.

Smallwood, K.S., Conservation Affairs Committee, The Wildlife Society—Western Section. Suggested standards for science applied to conservation issues.

Smallwood, K.S., and S. Anderson. Using a Geographic Positioning System (GPS) to map wildlife and habitat.

Papers in Preparation (Soon to be Submitted)

Smallwood, K.S. The allometry of density within the space used by populations of Mammalian Carnivores.
Smallwood, K.S. Mountain lions in Utopia. Book.
Smallwood, K.S. Estimating prairie dog impacts on the environment.

Smallwood, K.S., and T.R. Smith. Study design and interpretation of Sorex density estimates.

Smallwood, K.S. A biologist's view of CEQA.
Stitt, E. and K. S. Smallwood. Study design and interpretation of Natracine snakes.
Smallwood, K. Shawn, Lourdes Rugge, Stacia Hoover, Michael Morrison, and Carl Thelander. Intra- and inter-turbine string comparison of fatalities to animal burrow densities at Altamont Pass.

Presentations:

Using a Geographic Positioning System (GPS) to map wildlife and habitat. Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

Suggested standards for science applied to conservation issues. Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

The indicators framework applied to ecological restoration in Yolo County, California. Society for Ecological Restoration, September 25, 1999.

Ecological restoration in the context of animal social units and their habitat areas. Society for Ecological Restoration, September 24, 1999.

Relating Indicators of Ecological Health and Integrity to Assess Risks to Sustainable Agriculture and Native Biota. International Conference on Ecosystem Health, August 16, 1999.

A crosswalk from the Endangered Species Act to the HCP Handbook and real HCPs. Southern California Edison, Co. and California Energy Commission, March 4-5, 1999.

Mountain lion track counts in California: Implications for Management. Ecological & Environmental Issues Seminar, Department of Biological Sciences, California State University, Sacramento, November 4, 1998.

"No Surprises" -- Lack of science in the HCP process. California Native Plant Society Annual Conservation Conference, The Presidio, San Francisco, September 7, 1997.

In Your Interest. A half hour weekly show aired on Channel 10 Television, Sacramento. In this episode, I served on a panel of experts discussing problems with the implementation of the Endangered Species Act. Aired August 31, 1997.

Spatial scaling of pocket gopher (*Geomyidae*) density. Southwestern Association of Naturalists 44th Meeting, Fayetteville, Arkansas, April 10, 1997.

Estimating prairie dog and pocket gopher burrow volume. Southwestern Association of Naturalists 44th Meeting, Fayetteville, Arkansas, April 10, 1997.

Ten years of mountain lion track survey. Fifth Mountain Lion Workshop, San Diego, February 27, 1996.

Study and interpretive design effects on mountain lion density estimates. Fifth Mountain Lion Workshop, San Diego, February 27, 1996.

Small animal control. Session moderator and speaker at the California Farm Conference, Sacramento, California, Feb. 28, 1995.

Small animal control. Ecological Farming Conference, Asylomar, California, Jan. 28, 1995.

Habitat associations of the Swainson's Hawk in the Sacramento Valley's agricultural landscape. 1994 Raptor Research Foundation Meeting, Flagstaff, Arizona.

Alfalfa as wildlife habitat. Seed Industry Conference, Woodland, California, May 4, 1994.

Habitats and vertebrate pests: impacts and management. Managing Farmland to Bring Back Game Birds and Wildlife to the Central Valley. Yolo County Resource Conservation District, U.C. Davis, February 19, 1994.

Management of gophers and alfalfa as wildlife habitat. Orland Alfalfa Production Meeting and Sacramento Valley Alfalfa Production Meeting, February 1 and 2, 1994.

Patterns of wildlife movement in a farming landscape. Wildlife and Fisheries Biology Seminar Series: Recent Advances in Wildlife, Fish, and Conservation Biology, U.C. Davis, Dec. 6, 1993.

Alfalfa as wildlife habitat. California Alfalfa Symposium, Fresno, California, Dec. 9, 1993.

Management of pocket gophers in Sacramento Valley alfalfa. California Alfalfa Symposium, Fresno, California, Dec. 8, 1993.

Association analysis of raptors in a farming landscape. Plenary speaker at Raptor Research Foundation Meeting, Charlotte, North Carolina, Nov. 6, 1993.

Landscape strategies for biological control and IPM. Plenary speaker, International Conference on Integrated Resource Management and Sustainable Agriculture, Beijing, China, Sept. 11, 1993.

Landscape Ecology Study of Pocket Gophers in Alfalfa. Alfalfa Field Day, U.C. Davis, July 1993.

Patterns of wildlife movement in a farming landscape. Spatial Data Analysis Colloquium, U.C. Davis, August 6, 1993.

Sound stewardship of wildlife. Veterinary Medicine Seminar: Ethics of Animal Use, U.C. Davis. May 1993.

Landscape ecology study of pocket gophers in alfalfa. Five County Grower's Meeting, Tracy, California. February 1993.

Turbulence and the community organizers: The role of invading species in ordering a turbulent system, and the factors for invasion success. Ecology Graduate Student Association Colloquium, U.C. Davis. May 1990.

Evaluation of exotic vertebrate pests. Fourteenth Vertebrate Pest Conference, Sacramento, California. March 1990.

Analytical methods for predicting success of mammal introductions to North America. The Western Section of the Wildlife Society, Hilo, Hawaii. February 1988.

A state-wide mountain lion track survey. Sacramento County Dept Parks and Recreation. April 1986.

The mountain lion in California. Davis Chapter of the Audubon Society. October 1985.

Ecology Graduate Student Seminars, U.C. Davis, 1985-1990: Social behavior of the mountain lion; Mountain lion control; Political status of the mountain lion in California.

Memberships in Professional Societies:

Western Section of the Wildlife Society
Association of Southwest Naturalists
Raptor Research Foundation
Society for Ecological Restoration

Honors and Awards:

Certificate of Appreciation, The Wildlife Society—Western Section, 2000
Fulbright Research Fellowship to Indonesia, 1987.
Northern California Athletic Association Most Valuable Cross Country Runner, 1984.
National Junior Record, 20 kilometer run, 1982.
J.G. Boswell Full Academic Scholarship, 1981 (Paid expenses for undergraduate education).

American Legion Award, Corcoran High School, 1981, and John Muir Junior High, 1977.
CIF Section Champion, Cross Country in 1978 and Track & Field 2 mile run in 1981.
National Age Group Record, 1500 meter run, 1978.

References:

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BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION FOR THE **LOS ESTEROS CRITICAL ENERGY FACILITY, PHASE 2 (LOS ESTEROS 2)**	DOCKET NO. 03-AFC-2 **(Revised 4/25/06)** ***PROOF OF SERVICE***

DOCKET UNIT

Instructions: *Send an original signed document plus12 copies and/or an electronic copy plus one printed copy to the address below:*

CALIFORNIA ENERGY COMMISSION
DOCKET UNIT, MS-4
Attn: Docket No. 03-AFC-2
1516 Ninth Street
Sacramento, CA 95814-5512
docket@energy.state.ca.us

*Also send a printed **or** electronic copy of all documents to each of the following:*

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DECLARATION OF SERVICE

I, Raquel Rodriguez, declare that on June 23, 2006, I deposited copies of the attached 03-AFC-2 LECEF - CARE's Exhibits on Staff's Motion for Override in the United States mail at Sacramento, CA with first class postage thereon fully prepaid and addressed those identified on the Proof of Service list above. Transmission via electronic mail was consistent with the requirements of the California Code of Regulations, title 20, sections 1209, 1209.5, and 1210.
I declare under penalty of perjury that the foregoing is true and correct.

[signature]

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