

EVIDENTIARY HEARING
BEFORE THE
CALIFORNIA ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:)
)
Application for Certification of) Docket No.
the Los Esteros Critical Energy) 03-AFC-02
Facility, Phase 2)
(Los Esteros 2))
_____)

CALIFORNIA ENERGY COMMISSION
HEARING ROOM B
1516 NINTH STREET
SACRAMENTO, CALIFORNIA

THURSDAY, JUNE 30, 2005

9:00 a.m.

Reported by:
Christopher Loverro
Contract No. 170-04-001

COMMITTEE MEMBERS PRESENT

Jackalyne Pfannenstiel, Presiding Member

Joseph Desmond, Associate Member

HEARING OFFICER, ADVISORS PRESENT

Gary Fay, Hearing Officer

Scott Tomashefsky

Timothy Tutt

STAFF AND CONSULTANTS PRESENT

Robert Eller, Project Manager

Richard Ratliff, Senior Staff Counsel

Eileen Allen

Natasha Nelson

Gabriel Taylor

APPLICANT

Greggory L. Wheatland, Attorney
Ellison, Schneider and Harris, LLP
representing Calpine Corporation

Rick Tetzloff, Project Manager
Calpine Corporation

Douglas M. Davy
CH2MHILL

Gary Rubenstein
Sierra Research

INTERVENOR

Robert Sarvey
Californians for Renewable Energy

ALSO PRESENT

Steven Hill
Bay Area Air Quality Management District

Richard Buikema
City of San Jose (via teleconference)

John Brazil (phonetic)
Department of Transportation
City of San Jose (via teleconference)

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

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1 P R O C E E D I N G S

2 9:09 a.m.

3 PRESIDING MEMBER PFANNENSTIEL: This is
4 the evidentiary hearing in the application for
5 certification of the Los Esteros Critical Energy
6 Facility Phase 2.

7 I am Commissioner Jackie Pfannenstiel;
8 I'm the Presiding Commissioner on this proceeding.
9 To my left is the Commission Chair, Joe Desmond,
10 who is also on the Committee for this proceeding.

11 To my right is Hearing Officer Gary Fay
12 who will conduct this proceeding. I'll turn it
13 over to Gary.

14 HEARING OFFICER FAY: Thank you,
15 Commissioner Pfannenstiel. If anybody has trouble
16 hearing at anytime today, please raise a hand and
17 I will direct whoever is speaking to speak up. We
18 don't have any amplification. The microphones in
19 front of you are solely for the purpose of the
20 court reporter, and they will not amplify voices
21 at all. Normally we're in Hearing Room A, but the
22 blood drive had a better moral claim on the
23 hearing room, so we graciously turned it over to
24 them.

25 I'd like to begin by taking

1 introductions. Commissioner Pfannenstiel has
2 introduced the Committee. Is the Public Adviser
3 here or any representative from that office?

4 All right. If there is a member of the
5 public please be aware that at the end of the
6 hearing we'll take public comment. And if you
7 would like to make a comment on any of the topics
8 as we deal with them, please raise your hand, if
9 you're a member of the public not represented by
10 one of the official parties.

11 For the applicant, Mr. Wheatland.

12 MR. WHEATLAND: Yes, good morning. I'm
13 Gregg Wheatland; I'm the attorney for the
14 applicant. And it's a pleasure to be here.

15 I'd like to ask those that are sitting
16 at the table here with me this morning to
17 introduce themselves, please.

18 MR. TETZLOFF: I'm Rick Tetzloff of
19 Calpine; I'm the Project Development Manager for
20 Los Esteros.

21 MR. RUBENSTEIN: I'm Gary Rubenstein
22 with Sierra Research. We're air quality
23 consultants for the project.

24 DR. DAVY: I'm Doug Davy, consultant to
25 Calpine; we prepared the application.

1 HEARING OFFICER FAY: Thank you. Mr.
2 Ratliff for the staff.

3 MR. RATLIFF: Yeah, I'm Richard Ratliff,
4 Staff Counsel. And with me is Bob Eller, the
5 Project Manager who has replaced Mr. Worl, who is
6 currently ill.

7 HEARING OFFICER FAY: Okay. Thank you.
8 And is there a representative from CARE here? Mr.
9 Sarvey? Not here? All right, I hear no
10 indication so we'll move ahead. We were led to
11 believe that CARE wanted to participate.

12 Anybody else who wishes to participate
13 in today's hearing? You can just raise your hand
14 and we'll be sure to get your name. Okay.

15 All right, by way of background, on
16 March 16, 2005, the applicant, Calpine, received
17 its recertification for the existing 180 megawatt
18 Los Esteros Critical Energy Facility, Phase 1, of
19 this application.

20 Phase 2 of the project is for a license
21 to convert the Los Esteros facility from a single
22 cycle to a combined cycle operation, increasing
23 its output thereby by 140 megawatts, to a full
24 generating capacity of 320 megawatts.

25 The Committee scheduled today's hearing

1 in a public notice that was issued June 17, 2005.
2 As explained in the notice, we will receive
3 evidence in all the relevant topic areas for this
4 AFC. For the most part, we will take evidence in
5 the sequence shown in the topic and witness
6 schedule that is available on the back table.
7 We've made this available to the parties, as well.

8 The exception to the schedule will be
9 the topic of air quality, which we will hear after
10 completing all other topics, and after the witness
11 from the Air District arrives.

12 Filings relevant to today's hearing are,
13 of course, the applicant's AFC, the staff's final
14 staff assessment dated May 26th, the notice of
15 today's hearing. The applicant and the staff's
16 prehearing conference. In the case of
17 applicant's, there were two attachments, as well,
18 one the witness qualifications and the other
19 regarding testimony. And then CARE also submitted
20 its evidentiary hearing statement. And we also
21 perhaps will receive a final determination of
22 compliance today and we'll hear more about that in
23 a moment.

24 By way of preliminary matters, CARE has
25 raised questions about bikepath issues, and we

1 will deal with those matters under the topic of
2 land use.

3 Also under land use we'll discuss any
4 required zoning changes for the project that are
5 still pending.

6 We have air quality witnesses from
7 Calpine and from staff, I understand?

8 MR. RATLIFF: Yes.

9 HEARING OFFICER FAY: And are there --

10 MR. RATLIFF: Staff has pledged to
11 produce two witnesses, the air quality witness and
12 the biological resources witness requested by Mr.
13 Sarvey.

14 HEARING OFFICER FAY: Okay. And do you
15 know if CARE plans to have an air quality witness?

16 MR. SARVEY: No, we won't.

17 HEARING OFFICER FAY: Okay. Could you
18 introduce yourself, please?

19 MR. SARVEY: I'm Robert Sarvey
20 representing CARE.

21 HEARING OFFICER FAY: Okay. Good
22 morning, Mr. Sarvey. You may want to get a copy
23 of the witness schedule so you can follow along
24 and know what order we'll be taking things.

25 I understand Mr. Sarvey also wants to

1 cross-examine the staff biology witness. Is that
2 still the case?

3 MR. RATLIFF: Yes.

4 HEARING OFFICER FAY: Okay. And I've
5 gone over the handouts. What I'd like to do
6 today, the parties have requested this and
7 Commissioner Pfannenstiel agreed, is to at least
8 initially try to conduct things a little less
9 formally than we normally do, to give some
10 flexibility to the parties, so we can have some
11 give-and-take.

12 I think it will speed things along and
13 make it more efficient. If it tends to break down
14 or get confusing we will just go back to our more
15 formal process. So it will require all the
16 participants to respect the leeway we're offering
17 here, and be cooperative so it doesn't get too
18 confusing. Not only for us listening, but for the
19 court reporter, as well. If the record has people
20 talking over each other, it will be very hard to
21 develop accurately.

22 Okay, any other preliminary matters
23 before we begin? Mr. Wheatland.

24 MR. WHEATLAND: Just one question. It's
25 our understanding that the City of San Jose was

1 going to join us on the telephone. Do we have the
2 telephone connection?

3 HEARING OFFICER FAY: Do we have a
4 representative from the City of San Jose on the
5 phone?

6 MR. BRAZIL: Yes, John Brazil from the
7 Department of Transportation.

8 HEARING OFFICER FAY: Welcome.

9 MR. BRAZIL: Thank you.

10 MR. BUIKEMA: Richard Buikema from the
11 City of San Jose Planning Department.

12 HEARING OFFICER FAY: Richard, could you
13 spell your last name, sir?

14 MR. BUIKEMA: B-u-i-k-e-m-a.

15 HEARING OFFICER FAY: Thank you. All
16 right, you don't have the benefit of seeing our
17 sequence schedule. Land use is rather far down on
18 the list, but many of the topics will be having
19 their evidence introduced by means of a
20 declaration. So there really will be little or no
21 discussion on those topics. So I don't think it
22 will cause a serious delay.

23 Anything further? All right, let's
24 begin. Does the applicant wish to introduce its
25 project description testimony?

1 MR. WHEATLAND: Yes. We have prepared
2 testimony describing the project; this is
3 sponsored by Mr. Tetzloff. And in a preliminary
4 discussion with the staff counsel there are going
5 to be a number of items that we're going to be
6 asking that you would accept this testimony in the
7 form of the declarations that have been and with
8 statements of qualification of the witnesses that
9 have been prefiled.

10 And so for this first exhibit regarding
11 project description we would so move.

12 HEARING OFFICER FAY: All right. Is
13 there any objection? Hearing none, so moved.

14 The only thing I'd ask is whether or not
15 either or both Committee members would like to
16 hear a brief summary of the project description?

17 PRESIDING MEMBER PFANNENSTIEL: I don't
18 need so, thank you.

19 CHAIRMAN DESMOND: No.

20 HEARING OFFICER FAY: Okay, fine, thank
21 you. We'll turn to the staff, then. Anything in
22 that area?

23 MR. RATLIFF: In the area of project
24 description.

25 HEARING OFFICER FAY: Um-hum.

1 MR. RATLIFF: I think this testimony was
2 actually prepared by Mr. Worl, not Mr. Eller. And
3 we would move it.

4 HEARING OFFICER FAY: And there's a
5 declaration supporting that?

6 MR. RATLIFF: Yes.

7 HEARING OFFICER FAY: Okay.

8 MR. RATLIFF: Staff has declarations for
9 all of its testimony attached to --

10 HEARING OFFICER FAY: Okay, so you move
11 that now?

12 MR. RATLIFF: Yes.

13 HEARING OFFICER FAY: Any objection?
14 All right, so moved.

15 Move to alternatives.

16 MR. WHEATLAND: The applicant's
17 testimony on the subject of alternatives is
18 sponsored by Mr. Tetzloff.

19 HEARING OFFICER FAY: And do you wish to
20 move that at this time?

21 MR. WHEATLAND: Oh, I'm sorry, yes. And
22 so I would wish to move its introduction into
23 evidence.

24 HEARING OFFICER FAY: Any objection?
25 All right, hearing none we'll move to the staff.

1 Mr. Ratliff.

2 MR. RATLIFF: Staff's testimony was
3 prepared by Mr. Worl. It's part of the FSA; we
4 move that it be part of the evidence.

5 HEARING OFFICER FAY: And you're moving
6 that at this time?

7 MR. RATLIFF: Yes.

8 HEARING OFFICER FAY: Any objection?
9 We'll receive that.

10 Mr. Sarvey, please feel free to jump in
11 if I've passed over you. I'm aware that you may
12 have testimony on air quality and regarding the
13 bikepath issues, which we'll take up under land
14 use. If you have testimony in any other areas or
15 questions or anything like that, please speak up
16 because we'll be moving quickly --

17 MR. SARVEY: Thank you.

18 HEARING OFFICER FAY: -- through the
19 undisputed topics. Compliance.

20 MR. WHEATLAND: Compliance is sponsored
21 by Mr. Tetzloff and Mr. Davy. And we would move
22 that it be received into evidence.

23 HEARING OFFICER FAY: Any objection?

24 MR. RATLIFF: No.

25 HEARING OFFICER FAY: All right, so

1 moved. Staff?

2 MR. RATLIFF: The staff testimony was
3 prepared by Mr. Shaw and Mr. Greenberg -- Dr.
4 Greenberg. We would move that that be moved into
5 evidence.

6 But if I can just suggest, Mr. Fay, I
7 actually think that since the parties have all
8 discussed, pursuant to your order, what their
9 issues are in this proceeding, perhaps we could
10 just move the entire list of evidence with certain
11 exceptions that we identify.

12 I believe those areas that are disputed
13 have been identified and we could move all of the
14 uncontested evidence at once, rather than going
15 sequentially, perhaps, just for the sake of
16 efficiency.

17 HEARING OFFICER FAY: Do you have any
18 objection to that, Mr. Wheatland?

19 MR. WHEATLAND: No.

20 HEARING OFFICER FAY: All right. Let's
21 hear what your list is of contested areas and see
22 if it agrees with ours. What are the areas that
23 you'd like to just move?

24 MR. RATLIFF: Well, the staff and the
25 applicant have not been able to reconcile their

1 positions with regard to certain issues regarding
2 air quality, particularly ammonia slip, and the
3 condition that staff proposed with that regard.
4 So that I would say that we should withhold air
5 quality from being submitted.

6 In addition, Mr. Sarvey has indicated
7 that he would like to cross-examine the staff
8 biology witness on the issue of nitrogen
9 deposition, and how that might relate to the issue
10 of ammonia slip. I believe that's correct, isn't
11 it?

12 MR. SARVEY: That's correct.

13 MR. RATLIFF: And the only other issue
14 besides those two issues are an issue which really
15 finds no place in any of the testimony of any of
16 the parties so far as I'm aware. And that is the
17 issue of the bicycle trail which has been damaged
18 in the construction of the four-month license
19 power plant. It was damaged, we believe, two to
20 three years ago during construction.

21 There's been a great deal of discussion
22 of that with the City of San Jose and with
23 parties. And that really doesn't have anything to
24 do with the evidentiary exhibits that we're
25 entering now. I think it's a discussion which has

1 no home, but is a side issue that we have to
2 discuss today, and for which the Committee has
3 suggested it may wish to adopt conditions.

4 HEARING OFFICER FAY: Okay. I just want
5 to correct you that there's a fair discussion of
6 this in your own testimony on page 4.5-4 under
7 land use. And that is our basis for putting it
8 under land use. And that's why we wish to bring
9 it up in that way, because staff did analyze some
10 of the impacts there.

11 Okay, any other areas that --

12 MR. RATLIFF: No, I believe those are
13 the only areas about which there are extant
14 issues.

15 HEARING OFFICER FAY: There are a couple
16 other areas that the Committee wants to just get
17 some clarification on, and one is the one we're on
18 now, compliance. And also worker safety, because
19 there were some last-minute compromises and we
20 just want to have that clear for the record.

21 So, is there any objection from the
22 parties to receiving, by means of declaration, all
23 of the testimony on facility design, reliability,
24 efficiency, transmission system engineering,
25 transmission line safety and nuisance, public

1 health, hazardous materials management, worker
2 safety and fire protection, cultural resources,
3 geology and paleontology, soil and water
4 resources, waste management, noise,
5 socioeconomics, traffic and transportation and
6 visual resources?

7 Mr. Wheatland, any objection?

8 MR. WHEATLAND: No objection.

9 HEARING OFFICER FAY: Mr. Ratliff?

10 MR. RATLIFF: No.

11 HEARING OFFICER FAY: Mr. Sarvey, do you
12 have any objection at all?

13 MR. SARVEY: No objection.

14 HEARING OFFICER FAY: Okay, so all the
15 represented parties have accepted that, and the
16 testimony in all of those areas that I just listed
17 will come in supported by the written declarations
18 that are in the record.

19 Thank you, that's very efficient. And
20 we move all that testimony in at this time.

21 Moving back to compliance, I just want
22 to, for the benefit of the Committee, understand
23 the agreement that you folks reached on condition
24 Com-8 that is noted, I believe you attached a copy
25 of that to the staff statement filed on June 23rd.

1 MR. ELLER: Com-8's revision that was
2 included in our attachment B represents a
3 modification to a condition that was used in the
4 Roseville project, and were discussed in the
5 concerns of the applicant. We believe that our
6 proposed attachment B and the revised Com-8
7 addresses those concerns.

8 And so we would move this as our
9 amendment to compliance testimony for Com-8.

10 HEARING OFFICER FAY: So this amends
11 your FSA testimony --

12 MR. ELLER: Yes, it does.

13 HEARING OFFICER FAY: -- and is
14 consistent with the Roseville project. Mr.
15 Wheatland, the applicant agreed to this change, as
16 well?

17 MR. WHEATLAND: Yes, we do.

18 HEARING OFFICER FAY: Okay, thank you.
19 All right, with that we'll accept the staff's
20 motion to submit its compliance testimony with
21 that modification.

22 Is there objection? All right, hearing
23 none.

24 We'll move ahead, then, to the next
25 thing in order, absent air quality, would be

1 biological resources. Mr. Wheatland, did you want
2 to put on a witness on that, or just introduce
3 it --

4 MR. WHEATLAND: Well, --

5 HEARING OFFICER FAY: -- by means of
6 declaration?

7 MR. WHEATLAND: -- we have witnesses
8 available to answer any questions that the
9 Committee or other parties may have.

10 HEARING OFFICER FAY: Okay, for Mr.
11 Sarvey's benefit, why don't we swear your witness
12 and get that on the record; get your testimony
13 introduced. And then we'll move to the staff and
14 he can cross-examine any of the witnesses that he
15 wishes.

16 MR. WHEATLAND: All right, so we have
17 three witnesses here today. If we could have them
18 all sworn at this time.

19 HEARING OFFICER FAY: Okay, will the
20 witnesses please stand. Would the court reporter
21 please swear the witnesses.

22 Whereupon,

23 RICK TETZLOFF, DOUGLAS DAVY and GARY RUBENSTEIN
24 were called as witnesses herein, and after first
25 having been duly sworn, were examined and

1 testified as follows:

2 HEARING OFFICER FAY: Thank you. And
3 the declaration accompanies the testimony --

4 MR. WHEATLAND: Yes, --

5 HEARING OFFICER FAY: -- supporting it?

6 MR. WHEATLAND: -- we have the
7 declarations of Mr. Tetzloff and Mr. Davy on the
8 subject of biological resources. Mr. Rubenstein
9 is also here to testify today on matters involving
10 air quality.

11 So these three witnesses are available
12 to answer any questions that the parties or the
13 Committee may have.

14 HEARING OFFICER FAY: Great, thank you.
15 Rather than have cross-examination at this time, I
16 think we'll move to the staff and then you can,
17 Mr. Sarvey, ask your questions of anybody you
18 wish.

19 Mr. Ratliff.

20 MR. RATLIFF: The staff witness for
21 biological resources is Natasha Nelson.

22 HEARING OFFICER FAY: Ms. Nelson, could
23 you stand and be sworn, please. Please swear the
24 witness.

25 //

1 Whereupon,

2 NATASHA NELSON

3 was called as a witness herein, and after first
4 having been duly sworn, was examined and testified
5 as follows:

6 HEARING OFFICER FAY: Thank you. And
7 you wish to move Ms. Nelson's testimony --

8 MR. RATLIFF: Yes, we would, --

9 HEARING OFFICER FAY: -- into evidence?

10 MR. RATLIFF: -- although --

11 HEARING OFFICER FAY: All right, any
12 objection? So moved.

13 We've moved the staff and the
14 applicant's testimony on biological resources in.
15 And the witnesses are now available for cross-
16 examination. Mr. Sarvey.

17 CROSS-EXAMINATION

18 BY MR. SARVEY:

19 Q I'd like to ask, I'm assuming it's Mr.
20 Rubenstein, about data request number 19 on page
21 10 of the application for certification data
22 requests 1 through 57.

23 MR. WHEATLAND: If we may have just a
24 moment we'll pull that data request up here so we
25 can find it. What page, please, Mr. Sarvey?

1 MR. SARVEY: Page 11, Mr. Wheatland.

2 MR. RUBENSTEIN: I have that in front of
3 me.

4 MR. SARVEY: Okay. On the top of page
5 11 where you're discussing the nitrogen deposition
6 from phase 2, you say that the nitrogen from NOx,
7 the 99 tons of NOx will result in 30.2 tons a year
8 of nitrogen from NOx, is that correct?

9 MR. RUBENSTEIN: That's correct.

10 MR. SARVEY: And then from the ammonia,
11 nitrogen from ammonia, the 118 tons of ammonia,
12 you conclude that 97.1 tons per year of nitrogen
13 will occur from the ammonia, is that correct?

14 MR. RUBENSTEIN: That's correct.

15 MR. SARVEY: So, the ammonia is a much
16 larger contributor to the nitrogen deposition than
17 the NOx are, is that correct?

18 MR. RUBENSTEIN: The ammonia is a much
19 larger contribution to the nitrogen emissions,
20 yes.

21 MR. SARVEY: Okay. And could you
22 conclude from that in your expert opinion that the
23 ammonia, itself, is a much larger factor in the
24 nitrogen deposition and possible impacts to
25 endangered species?

1 MR. RUBENSTEIN: Not directly because
2 the depositional characteristics are going to be a
3 little bit different. For purposes of our
4 analysis, though, we did assume that nitrogen from
5 NOx and nitrogen from ammonia had an equivalent
6 impact.

7 And so based on that the answer to your
8 question is yes, with that assumption, the
9 nitrogen from the ammonia represents a larger
10 fraction of impact.

11 MR. SARVEY: Okay, that's all I have for
12 Mr. Rubenstein. I'd like to ask staff's witness
13 one question.

14 BY MR. SARVEY:

15 Q In your expert opinion are the ammonia
16 emissions a much larger factor in the nitrogen
17 deposition than the NOx emissions from the LECEF?

18 MS. NELSON: What I understand as the
19 depositional product that's used in the model is
20 actually HNO3. And both NOx and ammonia can form
21 HNO3. So they are equally able to do that, and
22 were equally assumed to have 100 percent
23 conversion to that depositional product.

24 MR. SARVEY: And the U.S. Fish and
25 Wildlife Service is concerned about impacts to

1 endangered species in that area, and therefore
2 they're requiring mitigation for the ammonia
3 emissions as well as the NOx emissions for this
4 project?

5 MS. NELSON: Yes, they asked that the
6 nitrogen deposition that causes a change in the
7 serpentine environment where the endangered
8 butterfly, Bay Checkerspot Butterfly, is be
9 mitigated.

10 MR. SARVEY: So, in their opinion the
11 ammonia emissions are a significant impact to the
12 endangered species in that area, as well as the
13 NOx emissions, is that correct?

14 MS. NELSON: Combined, they look at both
15 molecules as a source for HNO3.

16 MR. SARVEY: Thank you, that's all I
17 have.

18 HEARING OFFICER FAY: All right, any
19 redirect of any of the witnesses? Mr. Wheatland?

20 MR. WHEATLAND: No.

21 HEARING OFFICER FAY: Mr. Ratliff?

22 MR. RATLIFF: No.

23 HEARING OFFICER FAY: Okay. I'd just
24 like to ask Ms. Nelson if you believe that the
25 conditions of certification that the staff has

1 proposed fully address the concerns of the U.S.
2 Fish and Wildlife Service?

3 MS. NELSON: The U.S. Fish and Wildlife
4 Service has their own standard. They are trying
5 to both recover and promote populations of Bay
6 Checkerspot Butterfly. And my testimony
7 eliminates the CEQA impacts to less than
8 significance.

9 If the -- it would be -- there were --
10 could be proactive things beyond CEQA that the
11 applicant could undertake to help meet the
12 criteria the U.S. Fish and Wildlife Service has
13 for its own agency in promoting and preserving the
14 population of endangered species.

15 So I would say that I can't stand for
16 them now. They've not made a decision on what
17 would be necessary to meet their own criteria.
18 They only have an application at this point.

19 HEARING OFFICER FAY: But in your
20 experience, once the State of California addresses
21 the CEQA level concerns, does U.S. Fish and
22 Wildlife Service, as a federal agency, go on to
23 impose additional requirements in areas of
24 sensitive species like this? Particularly with
25 nitrogen deposition?

1 MS. NELSON: I'm not involved in the
2 Pico siting case, so I actually can't speak to
3 that. That's a similar siting case that's under
4 their review. And at that time they accepted the
5 modeling which showed the amount of mitigation
6 land that would be required. And also accepted
7 ERCs, which are the emission reduction credits, as
8 helping reduce nitrogen in the area.

9 But, I believe they looked at additional
10 monitoring for the plant species.

11 Now we didn't particularly, for example,
12 have a condition asking to monitor the plant
13 species of the land. But for U.S. Fish and
14 Wildlife Service, who's trying to track items,
15 that would be above and beyond what we had in
16 CEQA. We only get a copy of that just as a
17 courtesy. We didn't require it.

18 So, as an example of going beyond CEQA,
19 that's an example. Something that fulfills their
20 statutory requirements to track populations.

21 HEARING OFFICER FAY: Have they
22 commented on your final testimony?

23 MS. NELSON: No, they did not. The last
24 letter we received from them it looks like was
25 July 16, 2004. We did have a meeting in September

1 2004 with them and the applicant, their biologist
2 was there, as well, to introduce the concept of
3 what application might come to them.

4 HEARING OFFICER FAY: All right.

5 MR. RATLIFF: Mr. Fay, if I could just
6 add, --

7 HEARING OFFICER FAY: Sure.

8 MR. RATLIFF: -- the U.S. Fish and
9 Wildlife Service requested that Calpine apply for
10 an incidental take permit. And Calpine has done
11 so in this case. This follows the pattern that we
12 saw in the Pico case, where the Pico project also
13 applied for an incidental take permit with regard
14 to the habitat of the Checkerspot Butterfly.

15 And so Calpine has done that. The last
16 I heard both of those permits are in process.

17 HEARING OFFICER FAY: Okay. And that
18 process can take place beyond and after our
19 process, is that correct?

20 MR. RATLIFF: Yes.

21 HEARING OFFICER FAY: All right. Okay,
22 thank you.

23 PRESIDING MEMBER PFANNENSTIEL: I think
24 Mr. Sarvey had a followup --

25 HEARING OFFICER FAY: Yes, go ahead.

1 MR. SARVEY: I'd like to have a followup
2 question --

3 HEARING OFFICER FAY: Sure.

4 MR. SARVEY: -- concerning mitigation.

5 CROSS-EXAMINATION - Resumed

6 BY MR. SARVEY:

7 Q In your analysis -- this is for staff --
8 in your analysis you required the applicant to
9 provide NOx ERCs instead of VOCs to offset the
10 nitrogen deposition impacts to the surrounding
11 serpentine habitat, that's correct isn't it?

12 MS. NELSON: Yes, I believe that's
13 condition of certification 21?

14 MR. SARVEY: 22.

15 MS. NELSON: 22, thank you.

16 MR. SARVEY: And in condition of
17 certification 22 there is a NOx ERC from the
18 Potrero Power Plant in San Francisco. And the
19 original issue date of that ERC is 9/30/85.

20 Can you explain how that provides CEQA
21 mitigation, the curtailment of emission in 1985,
22 to offset a emission in 2007, or 2006/2007 when
23 this second phase goes online, when , in fact,
24 there's a period of over 20 years separating that
25 ERC and this mitigation for this impact 20 years

1 later?

2 MR. RATLIFF: I would like to suggest
3 that that would be a question better posed to our
4 air quality witness. The concept of offsets and
5 the appropriateness of their use is one that I
6 think, I can't say, I mean Ms. Nelson never ceases
7 to impress me with how broad her knowledge is in
8 this area, but I don't know if she's prepared to
9 answer that question.

10 HEARING OFFICER FAY: Are you
11 comfortable answering the question, Ms. Nelson?

12 MS. NELSON: I developed this mitigation
13 in consultation with the air quality staff, who
14 does have a broader knowledge of how the emission
15 reduction credit market works. And I would defer
16 to their analysis.

17 I would add that the purpose really was
18 to differentiate that NOx credits would have more
19 of a benefit than POC credits. And that's why it
20 was emphasized in the measure. It was not to say
21 that we have a perfect market system.

22 HEARING OFFICER FAY: Okay. Mr. Sarvey,
23 if you're interested, you could direct that
24 question to Mr. Rubenstein, who is here as an air
25 quality expert, although for the applicant.

1 MR. SARVEY: I believe I'd rather speak
2 to staff's witnesses. They sponsored the --

3 HEARING OFFICER FAY: Okay. Does staff
4 have --

5 MR. SARVEY: -- sponsored the testimony.

6 HEARING OFFICER FAY: -- an air quality
7 expert here?

8 MR. RATLIFF: Yes, we have an air
9 quality witness.

10 HEARING OFFICER FAY: Did you want to
11 direct your question to --

12 MR. SARVEY: Yeah, I would like to,
13 please.

14 HEARING OFFICER FAY: Okay, let's --

15 MR. SARVEY: I have to --

16 HEARING OFFICER FAY: -- swear in the
17 air quality witness.

18 MR. RATLIFF: Before we go there I would
19 like to -- I think you're indulging the parties in
20 something that's akin to informal hearing
21 procedure here, so I thought I might take
22 advantage of that to ask Ms. Nelson to clarify the
23 nature of why we put this particular condition in
24 the biological section. Because there was a
25 specific purpose for requiring NOx offsets as

1 opposed to just -- and specifying that they be
2 specifically NOx offsets in this instance. And I
3 don't think that that has been made apparent
4 either to the Committee or Mr. Sarvey.

5 HEARING OFFICER FAY: Okay.

6 MR. RATLIFF: So, Ms. Nelson, could you
7 explain that?

8 MS. NELSON: I'd like to find the page
9 in the FSA if I could just have one minute.

10 HEARING OFFICER FAY: Sure. Sure. But
11 while you're looking I'll just say, I hope it's
12 understood that this is not a forum to reexamine
13 the Clean Air Act, or the efficacy of District
14 rules, that sort of thing. We're pretty much
15 bound by that type of regime, and --

16 MR. SARVEY: It's a CEQA question.

17 HEARING OFFICER FAY: Okay, go ahead.

18 PRESIDING MEMBER PFANNENSTIEL:
19 Meanwhile, though, I have one followup question.

20 HEARING OFFICER FAY: Sure.

21 PRESIDING MEMBER PFANNENSTIEL: And I
22 think I'll direct my question to Mr. Wheatland. I
23 take it, then, from this discussion that Calpine
24 has applied to the U.S. Fish and Wildlife Service
25 for a permit? When do you expect that might be

1 issued?

2 MR. WHEATLAND: Well, that's correct, we
3 have applied for a permit. We have submitted a
4 habitat conservation plan.

5 As to the timing of it I'm going to ask
6 Mr. Davy, who is helping to process that permit,
7 and he would be able to help us know when we would
8 expect a response.

9 DR. DAVY: The timing for the Fish and
10 Wildlife Service's response to our request for an
11 incidental take permit is somewhat unclear. And
12 I'm basing that statement on my participation in
13 the Pico Power project, which was a very similar
14 case in Santa Clara, for which there were very
15 similar issues regarding the Bay Checkerspot
16 Butterfly.

17 And in that case the Pico Power project
18 did apply for an incidental take permit, purchased
19 conservation land, and really implemented their
20 conservation plan. And really the goal was to
21 obtain the incidental take permit before the start
22 of operation, because that's when the effects
23 would take place and the deposition would really
24 start to happen.

25 Unfortunately the Pico project has not

1 yet received the incidental take permit. So with
2 the Fish and Wildlife Service in a consultation
3 under section 10 of the Endangered Species Act,
4 it's a fairly long and involved process that
5 involves many steps at the federal end.

6 And on the basis of our experience with
7 the Pico Power project, we're not necessarily
8 hopeful that we will obtain the incidental take
9 permit very quickly.

10 PRESIDING MEMBER PFANNENSTIEL: Do the
11 permits come unencumbered, or does it come with
12 some compliance requirements?

13 DR. DAVY: Well, the compliance
14 requirements are for mitigation. The compliance
15 requirements are that you follow the habitat
16 conservation plan that you provide. And the
17 habitat conservation plan and the mitigation land
18 management plan are really the heart of the
19 permit.

20 So, really the permit requires that you
21 purchase conservation easement, deeded in
22 perpetuity to a conservation organization. And
23 provide sufficient endowment for the management of
24 that land in perpetuity for conservation purposes.

25 That's what the City of Santa Clara had

1 done for the Pico project, and that's also what
2 Calpine has done for the Los Esteros project.

3 So, in essence, our mitigation is in
4 place, and is functioning.

5 PRESIDING MEMBER PFANNENSTIEL: So, it's
6 unlikely that the Fish and Wildlife Service will
7 ask or require Calpine to go further than is
8 already in your plan?

9 DR. DAVY: I believe that's very
10 unlikely. We have had some discussions with Fish
11 and Wildlife Service. And, you know, their
12 indications have been that they seem to accept the
13 level of mitigation that Calpine has provided and
14 the methods and techniques.

15 PRESIDING MEMBER PFANNENSTIEL: Thank
16 you.

17 HEARING OFFICER FAY: Mr. Davy, to date
18 how long has it been since Pico first applied for
19 its incidental take permit to the U.S. Fish and
20 Wildlife Service?

21 DR. DAVY: Let's see, good question. I
22 believe Pico applied and had provided all of the
23 documentation necessary about the time that Pico
24 started construction. That's probably been 12 to
25 18 months, something like that.

1 HEARING OFFICER FAY: Thank you. Ms.
2 Nelson, are you ready to respond?

3 MS. NELSON: Yes. In my final staff
4 assessment on page 4.2-19 I explained that
5 emission reduction credits are required in Bay
6 Area Air Quality Management District because of
7 their restrictions on ozone. And because both NOx
8 and POCs, which are sometimes also called VOCs,
9 can reduce ozone, there's a special rule called
10 Air District Regulation 2-2302 that allows for
11 these credits to be interchanged among themselves.

12 And in looking back at the simple cycle
13 facility condition of certification, which I
14 believe was adopted in 2001?

15 MR. RATLIFF: Yes, --

16 MS. NELSON: Yes, --

17 MR. RATLIFF: -- at the commissioning
18 2002, I believe.

19 MS. NELSON: -- the Committee had
20 adopted --

21 MR. RATLIFF: No, 2001, correct.

22 MS. NELSON: -- all POC credits. And so
23 in discussions during a staff workshop, which I
24 discuss on page 4.2-19 to 4.2-20, the applicant
25 agreed that the 27.945 tons per year that would be

1 an increase because of the combined cycle units,
2 would be bought as NOx credits.

3 Because the air quality follows the Bay
4 Area Air Quality Management District's PDOC, and
5 they have no bias on whether it's NOx or POC,
6 specifically we determined it would be best as a
7 condition of certification in biology, because it
8 really was addressing the biology concern of
9 nitrogen deposition.

10 MR. RATLIFF: Could I ask a couple
11 questions, just to try to clarify this?

12 MS. NELSON: Um-hum.

13 MR. RATLIFF: Your condition 22
14 basically goes to a provision of offsets that are
15 required by the Air District's FDOC, is that
16 correct?

17 MS. NELSON: Yes.

18 MR. RATLIFF: And the District FDOC
19 would just require nitrogen offsets, or offsets
20 for those emissions, and allow them to be either
21 nitrogen or POC, is that correct?

22 MS. NELSON: Yes, it would be open to
23 either.

24 MR. RATLIFF: And so what your condition
25 does is to narrow that to one category, nitrogen?

1 MS. NELSON: Yes.

2 MR. RATLIFF: All right, so it's --

3 MS. NELSON: It is only limited to --

4 MR. RATLIFF: -- a (indiscernible) --

5 (Parties speaking simultaneously.)

6 MS. NELSON: -- nitrogen and
7 specifically to the credits that were available in
8 that Bay Area Air Quality Management District, not
9 in another district, which the air districts would
10 also allow you to buy credits in an adjoining
11 district. So.

12 MR. RATLIFF: We know the District
13 requires offsets, but the District requires
14 offsets for nitrogen emissions. It allows those
15 offsets to be interchanged, to be traded between
16 nitrogen and POCs.

17 The purpose of this biological resources
18 condition was to restrict the election of the
19 applicant only to offsets for nitrogen offsets.
20 They're not allowed to be POCs, which is because
21 nitrogen is the problem that affects the habitat.

22 That's the clarification that I think
23 you need.

24 HEARING OFFICER FAY: Thank you very
25 much. Mr. Sarvey, anything further?

1 MR. SARVEY: Just a question for Mr.
2 Taylor to follow up on the --

3 HEARING OFFICER FAY: Okay.

4 MR. SARVEY: I wanted to ask him --

5 HEARING OFFICER FAY: Wait, the witness
6 needs to be sworn.

7 MR. SARVEY: Okay.

8 Whereupon,

9 GABRIEL TAYLOR

10 was called as a witness herein, and after first
11 having been duly sworn, was examined and testified
12 as follows:

13 CROSS-EXAMINATION

14 BY MR. SARVEY:

15 Q I just wanted to ask Mr. Taylor what is
16 the CEQA efficacy of a 1985 emission reduction
17 credit? I mean, to offset emissions that are
18 going to occur 20 years later?

19 Do you think that that's valuable in
20 offsetting the nitrogen deposition that's going to
21 occur from this phase of this project?

22 MR. TAYLOR: I do believe it is
23 effective. And I believe that the ERC program in
24 the District is a long-term effort. And that a
25 ERC that is produced at a certain time and then

1 used at a later time continually drives the market
2 to generate more ERCs as the market consumes ERCs.

3 So the date of reduction in this case is
4 not a serious concern.

5 MR. SARVEY: How about --

6 MR. TAYLOR: It's a valid credit.

7 MR. SARVEY: How about the location,
8 being in San Francisco from the Potrero Power
9 Plant? I don't understand how that affects
10 nitrogen deposition in Santa Clara.

11 MR. TAYLOR: Well, per the wind
12 directions in the region, the San Francisco region
13 would be generally upwind of the Los Esteros site.

14 MR. SARVEY: So the --

15 MR. TAYLOR: Regardless, it is within
16 the same basin, and the air patterns in the region
17 do show a mixing between those two regions.

18 MR. SARVEY: Okay, thank you.

19 HEARING OFFICER FAY: Okay, thank you,
20 Mr. Sarvey.

21 MR. WHEATLAND: Mr. Fay.

22 HEARING OFFICER FAY: Yeah, Mr.
23 Wheatland.

24 MR. WHEATLAND: Could Mr. Rubenstein
25 briefly address that same question, please.

1 HEARING OFFICER FAY: Well, does the
2 Committee need anything more on that?

3 PRESIDING MEMBER PFANNENSTIEL: I do
4 not.

5 HEARING OFFICER FAY: Okay, we don't
6 want to cut off the applicant, but --

7 MR. WHEATLAND: Okay, then that's fine,
8 that's great. Thank you.

9 HEARING OFFICER FAY: -- this was Mr.
10 Sarvey's cross-examination.

11 MR. WHEATLAND: That's very good, thank
12 you.

13 MR. BUIKEMA: The City of San Jose would
14 like to comment on that issue, if possible.

15 HEARING OFFICER FAY: All right.

16 MR. BUIKEMA: We share the concerns
17 regarding the adequacy of the proposed mitigation
18 for nitrogen deposition that's proposed in the
19 FSA --

20 HEARING OFFICER FAY: Excuse me, who's
21 speaking, please?

22 MR. BUIKEMA: This is Richard Buikema
23 from the Planning Department.

24 HEARING OFFICER FAY: Um-hum.

25 MR. BUIKEMA: And we emailed Mr. Eller

1 our concerns on Tuesday. And I would hope that
2 those would be put into the record for
3 consideration of the Energy Commission.

4 HEARING OFFICER FAY: All right, thank
5 you, Mr. Buikema. Anything further?

6 MR. BUIKEMA: No.

7 HEARING OFFICER FAY: Okay. All right,
8 anything more on biology?

9 Okay, we will conclude taking evidence
10 on that, and receive the motion -- grant the
11 motion of both the staff and the applicant to move
12 their evidence into the record on declaration.
13 And we appreciate Ms. Nelson's and Mr. Taylor's
14 assistance on this.

15 I do need to go back to worker safety,
16 because I skipped over that. Mr. Sarvey, yes?

17 MR. SARVEY: Could I be provided with a
18 copy of the City of San Jose's comments on
19 biological mitigation?

20 HEARING OFFICER FAY: Mr. Eller, can you
21 be sure that Mr. Sarvey --

22 MR. ELLER: I believe we sent that to
23 proof of service, but I'll double check that, and
24 I'll get you a copy of that.

25 MR. SARVEY: Thank you.

1 HEARING OFFICER FAY: Great, thank you.
2 Thanks very much. And those comments will
3 definitely be docketed and be part of the record,
4 just so San Jose knows.

5 Moving back to worker safety, Mr.
6 Ratliff or Mr. Eller, can you just make sure we
7 have, for our record, the location where the
8 agreed-upon change for your worker safety
9 condition is located?

10 Because I believe there was a change to
11 the FSA that changed worker safety-3 and -4 to be
12 consistent with the Roseville decision, is that
13 correct?

14 MR. WHEATLAND: If I may, I believe --

15 HEARING OFFICER FAY: Mr. Wheatland.

16 MR. WHEATLAND: -- I believe the
17 recommendation was to make that new worker safety-
18 3 condition consistent with the condition that the
19 Commission adopted on worker safety for the Inland
20 Empire amendment that was adopted last week.

21 In adopting that decision the Commission
22 adopted new worker safety-3 terms that were agreed
23 to by the staff and the applicant. And I believe
24 the recommendation in this proceeding is to adopt
25 a worker safety-3 condition here that is the same

1 as that condition.

2 And worker safety-4, then, would not
3 be -- would be deleted.

4 MR. ELLER: And actually we point out in
5 our filing, prefiling, that that would be the same
6 language that's contained in Calpine's June 21st
7 letter to staff as attachment A.

8 And I've compared that to the adopted
9 language by the Commission last week; that's on
10 page 2 under worker safety of our 23rd filing.

11 HEARING OFFICER FAY: Where is
12 attachment A?

13 MR. ELLER: This is attachment A to
14 Calpine's --

15 HEARING OFFICER FAY: Oh, okay.

16 MR. ELLER: -- June 21st --

17 HEARING OFFICER FAY: Calpine's
18 attachment A, all right.

19 MR. ELLER: Right. And I compared that
20 to the condition that was adopted last week by the
21 Commission and it's verbatim.

22 HEARING OFFICER FAY: Okay, so we should
23 use the language in Calpine's attachment A to
24 modify the language in the FSA?

25 MR. ELLER: Yes.

1 HEARING OFFICER FAY: All right, thank
2 you.

3 MR. WHEATLAND: And that would be in
4 place of worker safety-3 and -4.

5 HEARING OFFICER FAY: Thank you for that
6 clarification. Anything further on worker safety?
7 Can I assume that both the staff and the applicant
8 would like to move their worker safety testimony
9 in --

10 MR. WHEATLAND: We would.

11 HEARING OFFICER FAY: -- on declaration?

12 MR. WHEATLAND: We would, yes.

13 MR. ELLER: Yes.

14 HEARING OFFICER FAY: Any objection?
15 All right, so moved. That concludes worker
16 safety.

17 Let's move to land use. One question
18 that I think perhaps can be disposed of quickly is
19 what is the applicant's plan for correcting the
20 current zoning noncompliance, just so we can know
21 what the timetable is.

22 MR. WHEATLAND: We have submitted an
23 application to the City of San Jose. That
24 application has now been accepted by the City and
25 they have commenced their review process. And

1 that review process is undertaken based on the
2 results of the final staff analysis that serves as
3 the underlying environmental documentation for
4 that analysis.

5 Once the City has completed its review
6 on this action, we would like to submit that to
7 the Commission, have that incorporated in the
8 record of this proceeding.

9 Mr. Buikema is on the phone and he can
10 advise you as to their specific timetable.

11 HEARING OFFICER FAY: Okay. Mr.
12 Buikema, did you hear the question?

13 MR. BUIKEMA: (indiscernible).

14 HEARING OFFICER FAY: Okay. The
15 question was since Calpine needs a zoning
16 modification for the project, and they have now
17 applied to the City of San Jose for that zoning
18 change, when might that change be finalized, just
19 so the Commission can know when to expect some
20 evidence of the change.

21 MR. BUIKEMA: Tentatively scheduled to
22 be taken before the City of San Jose's Planning
23 Commission in July, late July, I believe the 27th.
24 And would go to, hopefully go to the City Council
25 in August, mid August, I don't know the specific

1 date at this point.

2 That's contingent on getting some
3 revised plans from the applicant that we have yet
4 to receive. But that's how we're anticipating the
5 schedule to be at this point.

6 HEARING OFFICER FAY: All right. Thank
7 you. And can you give us any sense of how
8 difficult or challenging or controversial this
9 change is from the City's point of view?

10 MR. BUIKEMA: At this point we don't
11 anticipate any trouble getting this zoning
12 approval. We're still struggling with the CEQA
13 compliance issue, which is always the case with
14 the CEC projects, but anticipate it going through
15 smoothly.

16 HEARING OFFICER FAY: Okay. Great.
17 Thank you very much for that.

18 And in what form does the applicant
19 anticipate submitting evidence that the zoning has
20 been put into conformance with the project goals?

21 MR. WHEATLAND: Well, we wanted to
22 submit to you evidence of the City Council's
23 action. But if you'd like a further declaration
24 or other authentication of that record we'd be
25 happy to provide that.

1 HEARING OFFICER FAY: Okay, if you could
2 get an official copy of the resolution, something
3 that could just come into the record just on
4 paper.

5 MR. WHEATLAND: Um-hum.

6 HEARING OFFICER FAY: And then whenever
7 that comes in we'll be able to receive it.

8 MR. WHEATLAND: Very good.

9 PRESIDING MEMBER PFANNENSTIEL: Mr. Fay,
10 I assume, though, that it's understood that this
11 application cannot be -- certification cannot be
12 approved by the full Commission until that is in,
13 so --

14 MR. WHEATLAND: Oh, yes, we understand
15 and agree to that.

16 PRESIDING MEMBER PFANNENSTIEL: -- we
17 need to wait until then.

18 MR. WHEATLAND: Yes.

19 HEARING OFFICER FAY: Right. Just for
20 everybody's understanding, to certify a power
21 plant the Commission has to find that the project
22 complies with all laws, ordinances, regulations,
23 et cetera. And zoning is an important part of
24 that. So this change will have to be in effect
25 before the final license can be granted.

1 Anything further on the zoning change?

2 MR. WHEATLAND: No.

3 MR. BUIKEMA: Mr. Fay, can the City ask
4 a question?

5 HEARING OFFICER FAY: Certainly.

6 MR. BUIKEMA: I was just curious where
7 is the requirement of the applicant to obtain land
8 use approval fall within the CEC's process. I
9 don't see any conditions of certification
10 requiring that zoning change.

11 HEARING OFFICER FAY: Well, it's
12 understood that the project has to comply with all
13 laws, ordinances, regulations and standards. And
14 so it's implicit that if it doesn't, and in this
15 case I understand that the zoning anticipated the
16 current megawatt level of generation, but not the
17 proposed.

18 So in order to be granted a license the
19 zoning has to meet the proposal. So, basically
20 one of the findings that the Commission is
21 required to make, if you were looking at a list of
22 things the applicant must submit, then perhaps you
23 didn't find it there because it's implicit. But
24 the Commission must make that finding in order to
25 grant the license.

1 MR. BUIKEMA: Thank you.

2 HEARING OFFICER FAY: Certainly.

3 Anything further on land use, at least as to the
4 zoning change?

5 Now, we'd like to address the bikepath
6 question. And I just recall for the record that
7 this did come up in March of this year at the
8 Committee Conference. And I believe Commissioner
9 Pfannenstiel encouraged the applicant to try to
10 resolve this before we got to this phase of the
11 process.

12 And Mr. Sarvey voiced concern that it
13 has not been resolved to date. So, I guess,
14 Commissioner, would you like to say anything first
15 or just see what the applicant has --

16 PRESIDING MEMBER PFANNENSTIEL: Well, I
17 would like to just say, I guess at the outset,
18 that I was surprised that it hasn't been resolved
19 since March. I see that there has been progress,
20 and I'm hoping to discuss with the City of San
21 Jose where they see this going next.

22 I'm surprised simply because I didn't
23 think we needed to -- I didn't think this was
24 something the Commission needed to see again.
25 But, here it is.

1 I have my going-in question on this, and
2 maybe I should direct this to the City, is really
3 what the total cost is expected to be for this. I
4 think that the issue has been who will pay and who
5 takes responsibility. But before we get there I'd
6 like an estimate of the numbers we're talking
7 about.

8 So, perhaps Mr. Brazil, who sent in the
9 letter to me on this, could give me that estimate?

10 MR. BRAZIL: Thank you, Vice Chair.
11 This is John Brazil from the City of San Jose.
12 And the City has been working with Calpine
13 representatives to reach a solution on this issue.

14 We initially conducted a cost estimate
15 and a survey of ownership along the corridor and
16 (indiscernible). The initial estimate turned out
17 to be much higher than anticipated. And we took a
18 closer look and found that we could perform some
19 more basic repairs in a more cost efficient method
20 that would allow us to bring the facility back to
21 what we consider in a usable, functional state for
22 approximately \$23,000.

23 PRESIDING MEMBER PFANNENSTIEL: Thank
24 you very much. And I also understood from your
25 letter that you really weren't sure how long it

1 would take, but you anticipate in the next six
2 months. Is that still your estimate?

3 MR. BRAZIL: That's correct.

4 PRESIDING MEMBER PFANNENSTIEL: Well, I
5 guess then the question goes back to Mr. Sarvey,
6 who is the one who did raise this on behalf of the
7 Bicycle Coalition. And does it seem like six
8 months is resolving this issue?

9 MR. SARVEY: The issue, itself, has gone
10 on for almost three years now. And we don't feel
11 comfortable with anything other than the Committee
12 or something in the decision requiring repair of
13 the bicycle path.

14 And having Calpine being reimbursed by
15 the other so-called parties who damaged this
16 bicycle path, I have provided some testimony here
17 from somebody who witnessed the destruction, who
18 also happens to be an expert in asphalt repair.
19 And I have provided his testimony. And I have a
20 declaration here, I don't know if this was
21 docketed. But he estimates the damage at 40,000.
22 We don't want to quibble over the amount.

23 We just would like to see the Committee
24 resolve it in the decision, because we're not
25 comfortable. It's gone on three years already,

1 and we're not comfortable with the parties -- and
2 no offense to San Jose or Calpine -- but we feel
3 that this is damage from a power plant, and
4 obviously the Commission has always taken care of
5 any damage that resulted from any project.

6 And we'd like to see a condition of
7 certification that requires Calpine to repair the
8 bicycle path and get reimbursement from other
9 parties, if necessary, but we would like to see it
10 as part of the decision. And that's our position.

11 PRESIDING MEMBER PFANNENSTIEL: Mr.
12 Wheatland, do you want to comment on that?

13 MR. WHEATLAND: Well, yes, I do.
14 Everybody in this room, and those on the
15 telephone, want to have this issue be resolved.
16 And we're not here today to quibble about who
17 caused the damage. We're not here today even to
18 quibble as to the cost or the method of
19 allocation.

20 The applicant is in the process of
21 reaching an agreement with the City of San Jose to
22 insure that these costs, these repairs will be
23 made.

24 The only thing the applicant can't do is
25 repair the path, itself, because it is a City of

1 San Jose facility, and because it is in a Caltrans
2 right-of-way. The City of San Jose must
3 ultimately be responsible for making those
4 repairs.

5 So, before this decision by the
6 Commission we will be able to provide you with an
7 agreement between Calpine and the City, whereby
8 Calpine will reach an agreement with the City for
9 the repair.

10 But unfortunately, the applicant can't
11 provide you a specific timetable of that. It's
12 solely within the control of the City.

13 PRESIDING MEMBER PFANNENSTIEL: Mr.
14 Brazil, is your work schedule on this, which is
15 sort of an undefined time, but for, I'm sure, a
16 really good reason, I assume that that is not
17 contingent on the funding. That the funding is
18 agreed to and it really is just a matter of
19 getting the work completed, is that correct?

20 MR. BRAZIL: That is correct, Vice
21 Chair.

22 PRESIDING MEMBER PFANNENSTIEL: All
23 right. Thank you.

24 HEARING OFFICER FAY: Have the parties
25 received the testimony that Mr. Sarvey referred

1 to?

2 MR. WHEATLAND: We have not.

3 HEARING OFFICER FAY: Do you have
4 copies.

5 MR. SARVEY: Yes, I do.

6 MR. RATLIFF: We have --

7 HEARING OFFICER FAY: You can give it to
8 the staff -- staff has received it?

9 MR. RATLIFF: Yes.

10 MR. WHEATLAND: Oh, is it just, Bob,
11 what was in the statement?

12 MR. SARVEY: Mr. Beatty.

13 HEARING OFFICER FAY: Statement from
14 who?

15 MR. WHEATLAND: Oh, if it's in with the
16 statement, we have it.

17 MR. SARVEY: Yeah -- well, I think it
18 was included later. It was in another submission.
19 It's on the internet, but let me provide you some
20 copies.

21 HEARING OFFICER FAY: Mr. Tetzloff was
22 shown as cc'd on that.

23 MR. SARVEY: Would you like copies?

24 HEARING OFFICER FAY: Thank you. Mr.
25 Sarvey, did you want Mr. Beatty's statement

1 included as testimony received based on the
2 declaration?

3 MR. SARVEY: Yes, I do.

4 HEARING OFFICER FAY: Okay. Let's give
5 Mr. Wheatland a chance to review that. Staff has
6 reviewed that. Does staff have any objection?

7 MR. RATLIFF: No.

8 MR. BRAZIL: Excuse me, Mr. Fay, this is
9 John Brazil.

10 HEARING OFFICER FAY: Yes, Mr. Brazil.

11 MR. BRAZIL: I apologize, I have a 10:00
12 meeting. I was wondering if there were any
13 additional questions for me before I depart.

14 HEARING OFFICER FAY: Let's accommodate
15 Mr. Brazil and ask any questions we have at this
16 time. Mr. Eller?

17 MR. ELLER: I had one question on your
18 letter to the Vice Chair yesterday. You indicate
19 that the City of San Jose will identify additional
20 funding sources to complete these repairs. Are
21 you going to be able to complete this in six
22 months absent other contributions, or is this
23 Calpine's -- Calpine the sole contributor at this
24 point?

25 MR. BRAZIL: At this point Calpine has

1 verbally agreed that, and San Jose has verbally
2 agreed that we'll continue to pursue contributions
3 from other entities, including Pacific Gas and
4 Electric and Silicon Valley Power.

5 In the event that they should be unable
6 or unwilling to contribute, Calpine would be
7 willing to contribute a maximum of \$23,000, which
8 would allow us to complete the basic repairs to
9 bring the facility back to a usable condition.

10 Now, in the long term San Jose has plans
11 to make additional improvements. But that's
12 beyond the scope of our discussion, I believe.

13 MR. ELLER: So your six-month schedule
14 is based upon what you know right now?

15 MR. BRAZIL: Yes.

16 MR. ELLER: Thank you.

17 HEARING OFFICER FAY: Anything further,
18 Mr. Ratliff?

19 MR. RATLIFF: Could I ask Mr. Brazil
20 what are the steps that are taken to actually get
21 to the repair. I mean, what has to happen before
22 you can actually repair the bike trail?

23 HEARING OFFICER FAY: Did you hear the
24 question, Mr. Brazil?

25 MR. BRAZIL: Yes, sir, I did. I'll

1 provide information I have available, the actual
2 person who would be project managing this is out
3 of the office this week. He's our trails
4 coordinator, (inaudible).

5 But my understanding is part of the work
6 is completed already; a title search and then a
7 rough cost estimate has been prepared. The cost
8 estimate would need to be refined. And then we'd
9 need to get it on our construction schedule. At
10 the moment our crews are back up, I believe, four
11 to six weeks.

12 So we really wanted to, when we said
13 approximately six months, we wanted to make sure
14 we didn't over-commit. But at this moment we
15 expect to anticipate to complete the basic repairs
16 within six months.

17 HEARING OFFICER FAY: Mr. Brazil, is
18 there anything in the City's view that Calpine
19 could do, or the Energy Commission could do, to
20 facilitate getting this repair done?

21 MR. BRAZIL: They've been cooperative to
22 this point. I do appreciate their continued
23 dialogue with PG&E and Silicon Valley Power. The
24 City has only made initial contact with those
25 entities. We'll be making additional contact, but

1 it's appreciated that Calpine, you know,
2 encourages those entities to participate. I
3 understand Calpine cannot obligate those agencies.

4 HEARING OFFICER FAY: Okay. Mr.
5 Wheatland, do you have anything further to add to
6 this?

7 MR. WHEATLAND: No, nothing further.

8 HEARING OFFICER FAY: Okay. Mr.
9 Ratliff?

10 MR. RATLIFF: No.

11 HEARING OFFICER FAY: Mr. Sarvey, did
12 you have anything more on the bike path?

13 MR. SARVEY: Just to reiterate that we'd
14 like to see a condition --

15 HEARING OFFICER FAY: I think -- I think
16 -- I hope --

17 MR. SARVEY: -- that's, I think, --

18 HEARING OFFICER FAY: -- you're
19 convinced that the Committee's taking it very
20 seriously.

21 MR. SARVEY: Oh, yeah, I'm very
22 convinced and I'm happy to see that. It's just
23 these people have gone on with this bicycle path
24 for over three years and --

25 HEARING OFFICER FAY: I understand your

1 frustration.

2 MR. SARVEY: -- even six months seems
3 like an extended time to us, but we understand the
4 constraints.

5 HEARING OFFICER FAY: I think the
6 applicant can anticipate a requirement for
7 periodic updates as the Commission moves forward.
8 And certainly the full Commission will want to
9 know where we are in this process at the time that
10 they review the final decision.

11 PRESIDING MEMBER PFANNENSTIEL: Mr. Fay,
12 I'd like to thank the City of San Jose,
13 specifically Mr. Brazil, for working with us on
14 this. I think it's really important that this is
15 an issue we do want the site restored to as it was
16 before the construction. And we want to make sure
17 that all of the people in the area get to use the
18 facilities as they did before the construction.

19 So, thank you very much for both your
20 letter and for participating in this hearing with
21 us.

22 MR. BRAZIL: You're welcome; thank you.

23 HEARING OFFICER FAY: Thank you, both,
24 Mr. Brazil and Mr. Buikema. Unless there's
25 additional concerns I think that concludes our

1 land use questions regarding either the zoning or
2 the bike path issues.

3 So, I thank both of the representatives
4 from San Jose. The only other matter we will be
5 taking up, and that'll be at a later time this
6 morning, will be air quality related subjects. So
7 you can make your decision as to whether you want
8 to stay on the line or not.

9 I believe that the hearing will be in
10 recess until a representative comes from the Air
11 District.

12 MR. WHEATLAND: Before we go off the
13 record, --

14 HEARING OFFICER FAY: Yes.

15 MR. WHEATLAND: -- we have just received
16 copies of the FDOC. And during the break we'd
17 like to distribute copies of the FDOC that's been
18 received.

19 HEARING OFFICER FAY: So we have a
20 timely delivery --

21 (Laughter.)

22 HEARING OFFICER FAY: -- of the FDOC,
23 which I have no doubt that the staff and applicant
24 have thoroughly digested, or will by the time we
25 come back.

1 Mr. Ratliff, do you know -- have you had
2 an update on when to expect the witness from the
3 District?

4 MR. RATLIFF: Not this morning, but when
5 I spoke to Steve Hill he said he would be driving
6 from Berkeley, leaving shortly after 9:00. And so
7 he expected to be here around 10:30.

8 HEARING OFFICER FAY: Okay. Mr. Sarvey,
9 you had something?

10 MR. SARVEY: I just wanted to move my
11 testimony in from Mr. Beatty, if possible.

12 HEARING OFFICER FAY: Okay. Getting
13 back to that. Mr. Wheatland, have you had a
14 chance to look at the testimony, the statement?

15 MR. WHEATLAND: We have, with the
16 declaration of someone who have a love of biking,
17 we have no objection.

18 HEARING OFFICER FAY: Okay, there's no
19 object. So we receive Mr. Beatty's statement and
20 his testimony, as if read, at this point, in the
21 record.

22 We will take a 30-minute break and ask
23 people to come back at that time. And I hope that
24 we can introduce you to Steve Hill at that time.
25 If not, we'll have further details.

1 We're in recess.

2 (Brief recess.)

3 HEARING OFFICER FAY: We're back on the
4 record. During our recess Steve Hill from the Bay
5 Area Air Quality Management District has joined
6 us. And I'd like the court reporter to swear Mr.
7 Hill, please.
8 Whereupon,

9 STEVEN HILL

10 was called as a witness herein, and after first
11 having been duly sworn, was examined and testified
12 as follows:

13 HEARING OFFICER FAY: Thank you. Mr.
14 Ratliff, do you want to introduce the subject of
15 air quality by asking Mr. Hill our standard
16 questions under 25523 of the Act.

17 MR. RATLIFF: Sure.

18 Mr. Hill, the Energy Commission has to
19 make a finding concerning the identification of
20 the air offsets, and we have to get the Air
21 District to certify that the air quality offsets
22 have been identified and will or would be obtained
23 in advance of when they would be required to be
24 obtained by the District's own rules.

25 And we're going to ask you to sort of

1 certify on behalf of the District that that is the
2 case.

3 MR. HILL: Yes, I can certify that the
4 applicant does have the, as I identified, the
5 credits that will be used to offset this facility.
6 They're identified in the FDOC.

7 HEARING OFFICER FAY: Thank you. And in
8 your view this will fully offset the emissions
9 from the facility?

10 MR. HILL: Yes, that is correct.

11 HEARING OFFICER FAY: All right, thank
12 you.

13 We're going to continue with our
14 informal format to the extent that it's possible.
15 And I talked to counsel about this, and we think
16 what might work is just to begin having the
17 applicant's witness summarize their testimony, and
18 we'll move that in. And then the staff's witness
19 summarize his testimony and move that in.

20 And then be a little fluid in how the
21 questions go and the answers, that sort of thing.
22 Is that acceptable?

23 MR. WHEATLAND: Yes.

24 MR. RATLIFF: Yes.

25 HEARING OFFICER FAY: Give that a try.

1 Good. Okay, Mr. Wheatland.

2 MR. WHEATLAND: Okay. Mr. Rubenstein.

3 MR. RUBENSTEIN: I'm not sure I
4 understand. Do you want me to summarize my entire
5 testimony or just the issue of --

6 MR. WHEATLAND: Well, I think it would
7 be appropriate to have a brief summary of your
8 overall testimony, and then have some discussion
9 of the issue that is still in contention.

10 HEARING OFFICER FAY: Yeah, more
11 specificity on the matter at issue.

12 MR. RUBENSTEIN: Thank you --

13 MR. RATLIFF: Before Gary starts could I
14 just -- I don't know to what extent you've
15 discussed this with Mr. Fay, but I wanted to
16 explain that under the APA we are allowed to do
17 informal hearing procedure.

18 And that allows us to escape from the
19 devices of direct examination and cross-
20 examination, and to go to something that is more
21 informal.

22 Unfortunately, the rules -- or maybe
23 fortunately, the rules for this are not very
24 clear. And they're basically whatever the
25 Committee wants them to be. And we have not done

1 that in Energy Commission siting hearings in the
2 past.

3 We have suggested it for today. We hope
4 that it will work. If it doesn't work, you can
5 make us go back to the normal process. But what
6 we'd anticipated, to give it some structure, would
7 be to have the witnesses summarize their
8 testimony.

9 We will have three sworn witnesses here,
10 Mr. Rubenstein, Mr. Hill and Mr. Taylor. But the
11 other people at the table, including you and Mr.
12 Fay, intervenors and advisors to the
13 Commissioners, can ask questions and participate
14 in the discussion as well, even though what you
15 say is not testimony and what I say is not
16 testimony.

17 PRESIDING MEMBER PFANNENSTIEL: Thank
18 you, Mr. Ratliff.

19 HEARING OFFICER FAY: Okay, Mr.
20 Rubenstein.

21 Whereupon,

22 GARY RUBENSTEIN
23 was recalled as a witness herein, and having been
24 previously duly sworn, was examined and testified
25 further as follows:

1 MR. RUBENSTEIN: In my testimony I
2 discussed both the regulatory aspects of air
3 quality compliance for the Los Esteros facility,
4 as well as additional issues that arise under
5 CEQA.

6 The project that's before us today is
7 the conversion of a simple cycle facility to a
8 combined cycle operation. And regulatory issues
9 that have to be addressed include best available
10 control technology, emission offsets, ambient air
11 quality impacts, and the screening health risk
12 assessment.

13 With respect to best available control
14 technology, I believe that the project is being
15 controlled to satisfy that requirement. The
16 project conducted an experiment last December to
17 evaluate whether additional reductions in NOx
18 emissions could be achieved, and under what
19 circumstances, beyond what we had previously
20 believed to be best available control technology.

21 And based on that field experiment where
22 we actually did lower the NOx emissions from one
23 of the units, we proposed to the District, and in
24 the District's final determination of compliance,
25 they have accepted this lower NOx level with

1 provisions for excursions comparable to other
2 facilities that have been approved by both the
3 District and the Energy Commission.

4 And in addition with that an increase in
5 the allowable limit for carbon monoxide,
6 recognizing the fairly unique nature of the
7 experiment and the actual data that we obtained
8 during that period.

9 With those changes we believe that the
10 project does comply with the District's best
11 available control technology requirements. And
12 that conclusion is confirmed in the final
13 determination of compliance that the District
14 issued yesterday.

15 Second, with respect to offsets, and as
16 Mr. Hill has just indicated, the project is
17 subject to emission offset requirements, and those
18 requirements have been satisfied. The FDOC
19 identifies specifically the credits and the
20 sources of the credits that will be used to
21 satisfy the District's regulatory requirements.

22 With respect to air quality impacts, we
23 performed an air quality impact analysis which
24 was, I believe, confirmed by the staff,
25 demonstrating that the project will not cause

1 violations of any state or federal ambient air
2 quality standards.

3 The project does, of course, contribute
4 to existing violations in the area. That
5 contribution is mitigated on a regulatory basis by
6 the provision of emission offsets in accordance
7 with the District rules.

8 Finally, a screening level health risk
9 assessment was performed for the project. And
10 that indicates that the worst case increased
11 cancer risk and the acute and chronic health risks
12 are all below the regulatory levels.

13 Based on that I believe that the project
14 does comply with all applicable laws, ordinances,
15 regulations and standards with respect to air
16 quality.

17 Beyond those regulatory issues, in
18 addition we did perform a cumulative air quality
19 impacts analysis and concluded that again the
20 project would contribute, in conjunction with
21 other sources, to existing violations of air
22 quality standards, but would not cause any new
23 violations of those standards.

24 To address concerns by the staff with
25 respect to the mitigation of particulate impacts,

1 we have agreed to provide additional funding for
2 particulate mitigation programs, comparable to
3 those that were -- excuse me, have agreed to
4 provide additional emission reduction credits in
5 the form of sulfur dioxide credits to mitigate the
6 additional PM10 that is emitted by the project,
7 but which is not mitigated under the District's
8 regulatory program.

9 With that, I believe the only issue that
10 remains is the issue that's in dispute in the air
11 quality area, and that relates to the treatment of
12 ammonia slip.

13 As the Committee's aware, the staff has
14 proposed a condition, AQ-SC-11, which would
15 require that the facility replace the selective
16 reduction catalyst or SC -- selective catalytic
17 reduction catalyst, the SCR catalyst within 12
18 months after a 5 ppm slip level is exceeded based
19 on certain terms.

20 The staff, I believe, has proposed this
21 in their mind as a compromise because they would
22 really rather see, and they've indicated in other
23 proceedings, that they would prefer to see a 5 ppm
24 slip level. Consequently, I view this really as a
25 surrogate for a 5 ppm requirement. A little bit

1 harder, a little bit softer, if you will, than a
2 flat limit, but nonetheless it is, in effect, a
3 requirement that the plant be designed for a 5 ppm
4 slip limit.

5 I respectfully suggest that the
6 Committee needs to make three findings before they
7 could approve AQ-SC-11. First is that the ammonia
8 emissions from the project will result in a
9 significant unmitigated air quality impact.

10 The second is that this particular
11 condition, this mitigation measure, would, in
12 fact, reduce the extent of that significant
13 impact. And third, that the mitigation measure
14 is, in fact, feasible.

15 Let me discuss each of those separately.
16 First, with respect to the significance of the air
17 quality impact, I don't believe that there's any
18 evidence in the record to support the conclusion
19 that ammonia emissions from this project
20 constitute a significant unmitigated air quality
21 impact.

22 The staff's argument really consists of
23 two disconnected points. The first is that
24 ammonia compounds form particulate matter; and
25 second is that particulate levels in the Bay Area

1 exceed state air quality standards.

2 Those two do not, together, rise to the
3 level of demonstrating a significant air quality
4 impact in my opinion. The reason is that the
5 formation of particulate compounds from ammonia is
6 something that is a balance between different
7 chemical compounds in the atmosphere.

8 Those are ammonia compounds, ammonia
9 ions on the one hand; and either nitrate or
10 sulfate ions on the other hand. It would be sheer
11 coincidence if at any particular point in time
12 there was an exact balance in which all of the
13 ammonia would be consumed in a reaction. In fact,
14 in most parts of California there is either a
15 clear surplus of ammonia compounds or a clear
16 surplus of nitrate and sulfate compounds.

17 Air quality agencies have evaluated this
18 issue as part of their PM10, PM2.5 air quality
19 planning efforts, and have reached different
20 conclusions in different parts of the state.

21 And the staff does not reach any unique
22 conclusions in their testimony on this issue.
23 They simply say because ammonia can form
24 particulates, and because the area already exceeds
25 state standards, therefore you have to mitigate.

1 And the key step that's missing here is they have
2 not identified a significant impact.

3 The second finding I think the Committee
4 needs to make is that the mitigation measure will,
5 in fact, reduce the impacts in some way. And
6 this, in many respects, is related to the first
7 issue.

8 The only technical analysis that's been
9 done on this issue for the Bay Area, to the best
10 of my knowledge, was done by the Bay Area Air
11 Quality Management District.

12 And in my testimony at page 12 I include
13 a quote from the Bay Area District's determination
14 on this issue in the matter of the East Altamont
15 Energy Center, where they specifically stated that
16 in the Bay Area they believe that formation of
17 ammonium nitrate particulate matter is driven by
18 the amount of nitric acid which comes from ozone
19 and oxides of nitrogen, and not by the
20 concentration of ammonia in the atmosphere.

21 Consequently, they concluded in this
22 area that the reactions are not ammonia limited.
23 Consequently, I believe that a reduction in
24 ammonia slip levels from 10 ppm to 5 ppm would not
25 reduce particulate levels in the Bay Area.

1 This is a little bit complicated,
2 because as I said, different conclusions are
3 reached in different areas. The South Coast Air
4 Quality Management District, for example, has
5 analyzed this exact same issue. And based on
6 meteorology and emission patterns in that area
7 they've reached the opposite conclusion. And, in
8 fact, they feel so strongly about it that the
9 South Coast Air Quality Management District has
10 established a BACT requirement, a regulatory
11 requirement, limiting ammonia slip to 5 parts per
12 million. That is not the case in the Bay Area.

13 The San Luis Obispo Air District, which
14 was another of the areas cited by the staff, that
15 was the Morro Bay siting case, also has a BACT
16 requirement for ammonia slip.

17 And, again, the point I'm trying to make
18 here, and if you take a look at table 1 in my
19 testimony, page 13, I summarize the differences
20 between the different districts. Many air
21 districts, not all air districts, but many air
22 districts specifically evaluate and regulate,
23 under their BACT requirements, ammonia slip
24 levels. The Bay Area District is one of the
25 districts that does not, because of the conclusion

1 they made that particulate formation in the area
2 is not limited by ammonia.

3 So, consequently I don't think that you
4 can make the second finding that lowering the
5 ammonia slip limit would mitigate PM10 impacts.

6 The third question that I think you have
7 to address is whether mitigation is, in fact,
8 feasible. This is a particularly difficult one.
9 I've testified in enough proceedings before this
10 Commission where this has been an issue. And I
11 have a good enough recollection of what I've said
12 that this will be the first time, I think, I've
13 ever said that I am questioning the feasibility of
14 meeting a 5 ppm slip level.

15 In many other proceedings the question
16 has been put to me, and I've said unquestionably,
17 it is feasible, but I didn't think it was
18 necessary.

19 And in this case my concern really
20 relates to the unique circumstances that we have
21 here, not building a new power plant here. We
22 have an existing facility with existing turbines.
23 And when we did the experiment last December to
24 see whether we could reduce NOx levels, I was
25 frankly surprised at how quickly and how much the

1 carbon monoxide level increased, which is an
2 indication of what's happening with combustion in
3 the turbines.

4 We're pushing these units in order to
5 meet the 2 ppm NOx level that we've agreed to.
6 We're pushing these units far beyond what the
7 turbine manufacturer has designed them to do. And
8 I think it would simply be imprudent to assume
9 that while we're straining the turbine to reduce
10 NOx levels, and in addition we're going to have to
11 increase the performance of the SCR catalyst.
12 During experiments we had catalyst efficiencies of
13 84 to 85 percent, which are pretty typical -- to
14 meet a 2 ppm NOx level. In addition to dropping
15 the NOx from the water injection, we're also going
16 to have to get a 90 percent or better efficient
17 catalyst.

18 i am concerned that we're going to be
19 adding one constraint too many if, on top of all
20 of that, we have to reduce the ammonia slip level
21 because that, in turn, will restrict the operating
22 flexibility for the SCR system.

23 And I think when we put all of that
24 together the conclusion I come to is that AQ-SC-11
25 is inappropriate in this case because the staff

1 has not identified a significant air quality
2 impact related to ammonia emissions.

3 Second, because the reduction in ammonia
4 slip levels would not, in fact, mitigate any
5 impact.

6 And third, because I think there are
7 serious technical questions about the feasibility
8 of achieving that level on a consistent basis at
9 this site.

10 And that concludes the summary of my
11 testimony.

12 HEARING OFFICER FAY: Okay. Why don't
13 we move to the staff testimony, and then just
14 allow the questions to go as people want.

15 Mr. Ratliff, do you want to introduce
16 your testimony.

17 MR. RATLIFF: Staff witness is Gabriel
18 Taylor.
19 Whereupon,

20 GABRIEL TAYLOR
21 was recalled as a witness herein, and having been
22 previously duly sworn, was examined and testified
23 further as follows:

24 MR. TAYLOR: Good morning. My testimony
25 was submitted in my final staff assessment. As

1 stated in the staff assessment I have not had a
2 chance to review the District's final
3 determination of compliance. And I would likely
4 submit an addendum to my staff assessment at some
5 point, depending on the information that I find in
6 the final determination of compliance. That is
7 not set in stone, but it is probable.

8 HEARING OFFICER FAY: Let me interrupt
9 you, Mr. Taylor. When could we expect that
10 addendum?

11 MR. TAYLOR: I would estimate at the
12 outside within two weeks.

13 HEARING OFFICER FAY: Okay, good.

14 MR. TAYLOR: I would certainly try to
15 accelerate that.

16 HEARING OFFICER FAY: Let's say within
17 two weeks. That way the parties can comment in
18 their briefs.

19 MR. TAYLOR: Certainly.

20 MR. RATLIFF: We had hoped to have Mr.
21 Hill also explain the FDOC and the differences
22 between the FDOC, such as they area, and the PDOC.

23 HEARING OFFICER FAY: Look forward to
24 that, yeah.

25 MR. TAYLOR: With that I'd like to move

1 on to the only issue that I believe is still in
2 contention, which is the issue of ammonia slip.

3 Staff believes that -- or I believe that
4 the PM generated from ammonia slip is a
5 significant issue for numerous reasons. First of
6 all, numerous scientific studies over the past few
7 years have shown that particulate matter is
8 increasingly of concern as far as human health is
9 concerned.

10 In particular, the finer and ultrafine
11 portions of particulate matter are of significant
12 concern, and greater concern than the larger
13 particulates.

14 Secondary PM, generated from ammonia
15 reactions in the atmosphere are almost -- mostly
16 the finer portions. So they are much more
17 significant concern than the direct PM emissions
18 from a facility, or any source.

19 I'd like to address Mr. Rubenstein's
20 three points he said that the Committee needs to
21 make these three findings. I think that as far as
22 a significant impact, it is clear that the
23 facility emits the ammonia, and the ammonia, basic
24 atmospheric chemistry dictates that ammonia will
25 react with atmospheric compounds of nitrogen and

1 sulfur to form particulates. This is not a point
2 that is in contention.

3 I don't think that the applicant has
4 provided any evidence to show that the ammonia
5 emitted from this facility will be different from
6 any other ammonia that's emitted into the
7 atmosphere and will react with the compounds, the
8 reactants that it comes in contact with to form
9 these particulates.

10 The second point was to reduce the
11 impact, or to mitigate this impact. I don't
12 believe, if we could specify the exact impact that
13 was generated from the facility from the ammonia
14 emissions, we would require specific mitigation
15 measures in order to counteract the impact. This
16 would probably be in the form of particulate
17 emission reduction credits.

18 However, in this case we cannot specify
19 the exact impact. So in order to mitigate this
20 impact we recommend a reduction, or at the best,
21 possible reduction of the emissions, as opposed to
22 a direct mitigation.

23 So we are not recommending mitigation,
24 but rather minimizing the emissions from this
25 facility. And this actually leads into the

1 feasibility issue.

2 Both EPA and ARB have on record stated
3 that they believe that 5 ppm should be the correct
4 ammonia slip level for well over five years. This
5 has been an option on SCR catalysts for ammonia
6 slip at or below 5 ppm, even as low as zero ppm
7 really, for many many years.

8 The technology is capable of meeting
9 this. Mr. Rubenstein has correctly stated that
10 the applicant underwent an experiment on their
11 turbine in order to determine whether or not this
12 would be feasible in the behavior of the
13 combustion system.

14 I think that's admirable to undergo
15 this, have a real testing, however I would like to
16 point out some problems that I see with that
17 testing. First of all, this was conducted on a
18 simple cycle turbine, not on the combined cycle
19 turbine, which is what we are discussing today.

20 Second of all, I do believe that this is
21 a high temperature catalyst; this is actually a
22 different piece of equipment than what will be
23 used on the combined cycle turbine.

24 The District's FDOC, and PDOC before
25 this, has a more thorough discussion of the

1 difference between a high-temperature and low-
2 temperature catalyst.

3 In general, low-temperature catalysts
4 are more efficient than high-temperature
5 catalysts. And so, since it is an entirely new
6 piece of equipment I believe that it will be
7 designed to the necessary parameters in order to
8 achieve what is required.

9 It's correct that for the past few years
10 staff has been pushing, based on the EPA, based on
11 the science, showing that PM is a significant
12 health concern, and based on recommendations from
13 both the federal and the state air experts, a 4 or
14 5 ppm slip. Staff has pushed this for at least
15 two or three years now on most cases, if not all
16 cases, with varying levels of results.

17 However, at this time we believe that
18 the technology is able of meeting it. And that
19 the significant concern is there from the
20 particulate matter, so it should be done.

21 However, the applicant has
22 understandably pointed out the difficulties with
23 an existing piece of equipment. And before this
24 time we have discussed this extensively. And we
25 have agreed to essentially compromise by proposing

1 the same condition that was previously approved,
2 recently approved for the Roseville Energy Center
3 case, which is the condition that allows the
4 ammonia slip to exceed the 5 ppm limit up to 12
5 months after, giving the project owner time to
6 retrofit their facility.

7 We believe that that is a sufficient
8 control because source testing has shown that new
9 catalysts, or catalysts recently after retrofit,
10 emit around approximately 1 ppm of ammonia. This
11 is existing catalysts both for Los Esteros and for
12 other facilities. And I have the source testing
13 data from Los Esteros that shows approximately 1
14 ppm from the relatively new catalyst.

15 And as the catalyst degrades, that
16 emissions increases. So we believe that this
17 condition, this condition that was approved for
18 Roseville, will allow the facility the flexibility
19 to retrofit their catalyst after it violates that
20 5 ppm. But the average, long-term emissions from
21 this facility of ammonia will be minimized.

22 Now, this is correct, we can't exactly
23 calculate the emissions from this. So, mitigating
24 it directly is difficult because we can't agree on
25 the exact number. But minimizing this to the best

1 that technology is capable of, I think, is the
2 right decision.

3 That's the summary of my testimony. I'm
4 prepared to answer specific questions on the
5 science.

6 HEARING OFFICER FAY: I wonder if it
7 might not be best to get Mr. Hill to sponsor the
8 FDOC. He can then -- we have those issues before
9 us, as well, before we start questioning. Is that
10 all right with you, Mr. Ratliff?

11 MR. RATLIFF: Yes.

12 HEARING OFFICER FAY: Okay.

13 MR. RATLIFF: Mr. Hill, was the FDOC,
14 the final determination of compliance, prepared
15 either by you or under your direction?

16 MR. HILL: Yes, it was.

17 MR. RATLIFF: And just for the
18 Committee's benefit, can you explain -- have you
19 been sworn in?

20 MR. HILL: Yes.

21 MR. RATLIFF: I thought you had.

22 MR. HILL: Yes.

23 MR. RATLIFF: For the Committee's
24 benefit, can you explain what your duties and
25 responsibilities are with the Bay District?

1 MR. HILL: Yes. I'm the Manager of the
2 Permit Evaluation Section. That means that I am
3 Supervisor and Manager of the air quality
4 engineers who review industrial permit
5 applications, applications for district permits
6 within the Bay Area, all of the power plant
7 permits are reviewed by staff who report to me.

8 MR. RATLIFF: And am I correct that the
9 Bay District published the FDOC yesterday?

10 MR. HILL: Yes, that is correct.

11 MR. RATLIFF: Could you describe the
12 differences between the final determination of
13 compliance and the earlier preliminary
14 determination of compliance, assuming there are
15 some.

16 MR. HILL: This process has been unusual
17 in that we have issued two preliminary
18 determinations of compliance. The principal
19 difference between the first and the second was in
20 the second we evaluated -- we applied a best
21 available control technology analysis to the
22 proposed operation, and presented our conclusions
23 in that.

24 The differences between the FDOC and the
25 second PDOC are minimal. Basically we responded

1 to comments from various parties. We evaluated
2 additional data sets that were brought to our
3 attention. The conclusions in the FDOC are
4 essentially the same as in the PDOC regarding best
5 available control technology, offsets and the
6 other issues.

7 So the differences between the FDOC and
8 the PDOC is some additional analysis looking at
9 some additional examples that were brought to our
10 attention.

11 MR. RATLIFF: Does that include, for
12 instance, carbon monoxide emissions --

13 MR. HILL: Yes.

14 MR. RATLIFF: -- that result from -- so
15 there's further substantiation in view of the
16 carbon monoxide levels -- BACT in this
17 determination --

18 MR. HILL: Yes, that is correct.

19 MR. RATLIFF: I have no further
20 questions, but perhaps the Committee does?

21 HEARING OFFICER FAY: Okay. Well, I
22 think some questions may generate as we move
23 around.

24 Mr. Wheatland, did you want to -- let
25 you begin with some questions, although we're not

1 conducting formal cross-examination?

2 MR. WHEATLAND: Well, yes, in our
3 informal mode I think perhaps we might also like
4 to hear from Mr. Hill on this question of the
5 ammonia slip.

6 HEARING OFFICER FAY: Certainly. Would
7 you like to comment?

8 MR. HILL: Yeah, I can talk a little bit
9 about what the District knows about the ammonia
10 slip issue.

11 The District does have some regulatory
12 authority over ammonia, but not a lot. The basis
13 for our current regulatory authority over the
14 ammonia slip essentially is direct impacts from
15 health risk and from odors.

16 We limit, in the permit, the ammonia
17 slip to the proposed levels of 10 parts per
18 million because the risk screen was based on that
19 assumed level. And so in order to enforce and
20 protect the risk assessment, we limit the
21 emissions to that level.

22 Regarding the secondary particulate
23 formation, the District's current understanding is
24 that in the Bay Area that the formation of
25 secondary particulate from the reaction of nitric

1 acid and ammonia is limited by the presence of
2 nitric acid in the air. That increased levels of
3 ammonia do not result in increased levels of
4 particulate.

5 There is an atmospheric chemical
6 reaction of nitrogen oxides going to nitric acid.
7 And that appears to be the rate-limiting step in
8 the Bay Area. And therefore that reducing
9 nitrogen oxides might contribute to reduced
10 particulate, secondary particulate concentrations.
11 But that reducing ammonia emissions will not.

12 This conclusion is based on a study that
13 the District did about ten years ago. We did some
14 monitoring and modeling in San Jose and in
15 Livermore. And in both of those areas we
16 determined that this nitrogen oxide to nitric acid
17 conversion process was the rate-limiting step and
18 controlled the production of particulates.

19 We've also done some statistical
20 analysis of trends in the Bay Area of both ambient
21 nitrogen oxides and ambient nitrate
22 concentrations. And they both show a significant
23 downturn over the last decade or so. And they
24 seem to track each other. Now, correlation's not
25 causation, but it certainly is evocative that the

1 nitrogen oxides and the nitrate concentrations
2 seem, the trends are both going down and both seem
3 to match each other fairly well.

4 MR. RATLIFF: Did you mean ammonia?

5 MR. HILL: No.

6 MR. RATLIFF: Is the ammonia trend down,
7 or is it just --

8 MR. HILL: I don't know what the ammonia
9 trend is. I just know about the NOx and the
10 nitrate. I don't have information on ammonia.

11 MR. RUBENSTEIN: Steve, over the same
12 period of time what would you estimate was the
13 trend in ammonia emissions?

14 MR. HILL: I can't -- I don't -- I can't
15 answer that question.

16 HEARING OFFICER FAY: Do you have any
17 knowledge about during that period if there's a
18 trend in particulate formation, especially fine
19 particulates?

20 MR. HILL: My understanding is that that
21 has been fairly stable, but, no, I can't answer
22 that question for sure.

23 HEARING OFFICER FAY: And there's other
24 sources of these, as well, aren't there?

25 MR. HILL: Yes, there are other sources.

1 There's --

2 HEARING OFFICER FAY: If you have 2.5 --

3 MR. HILL: -- the fine particulate
4 problem that has been alluded to in other
5 testimony is something that we are currently
6 actively, very actively looking at. We are in the
7 process of putting together a plan for reduction
8 of particulates in the Bay Area. It is an issue
9 that is of continuing and rising concern. The
10 more we know about it the more concerned we get
11 about the fine particulate concentration issues.

12 And so we're developing plans for
13 reduction of fine particulates. NOx emission
14 reductions will almost certainly be a component of
15 that effort.

16 There's also formation of sulfates.
17 There are direct emissions from combustion. There
18 are a number of sources of fine particulate. And
19 all of them will need to be addressed in order to
20 reduce the levels to acceptable.

21 HEARING OFFICER FAY: Is it fair to say
22 that you would agree with Mr. Taylor on the
23 importance of the need to reduce these fine
24 particulates in terms of health concerns?

25 MR. HILL: Yes. The District's position

1 is that reducing the fine particulates is
2 necessary for the quality of life in the Bay Area,
3 yes.

4 HEARING OFFICER FAY: But you believe
5 that reducing ammonia is not the most direct way
6 to accomplish that?

7 MR. HILL: With the current ratios of
8 nitric acid and ammonia in the atmosphere, that
9 reducing ammonia is not likely to reduce the fine
10 particulate concentrations.

11 HEARING OFFICER FAY: And the fact that,
12 I mean you obviously meet with your colleagues
13 throughout the state from time to time. Have you
14 had exchanges on this, discussions about why they
15 have different standards, for instance in the
16 South Coast District?

17 MR. HILL: Well, remember, the South
18 Coast has actually a NOx problem. They have a NOx
19 attainment problem. Their NOx concentrations are
20 substantially higher than ours, and different from
21 ours.

22 Their NOx concentrations may be high
23 enough that they don't have an excess of ammonia.
24 I have not discussed this particular issue in
25 detail with them. But that's certainly a

1 plausible explanation as to why their atmospheric
2 chemistry is different than ours. It's a
3 different starting point.

4 HEARING OFFICER FAY: Mr. Rubenstein,
5 the staff cites, or Mr. Taylor cites in his
6 supplemental testimony on page 1, eight different
7 projects issued by the Commission -- licenses
8 issued by the Commission that he said required a 5
9 ppm ammonia slip in combination with a 2 ppm NOx
10 limit.

11 So, why should the Commission now be
12 comfortable veering away from that fairly
13 substantial precedent in allowing a higher level
14 of ammonia slip for this project?

15 MR. RUBENSTEIN: If you take a look at
16 my testimony, in particular at table 1 on page 13,
17 you will see a more complete list than just the
18 eight projects that staff identified. And I do
19 not see a trend of the Commission imposing a 5 ppm
20 slip level.

21 Of the eight projects that Mr. Taylor
22 identified, four of those are located in the South
23 Coast Air District which, as I said, has a
24 regulatory BACT requirement of 5 ppm. Morro Bay
25 is in the San Luis Obispo County Air District,

1 which also has a regulatory requirement of BACT
2 for ammonia. And in the other cases it's my
3 understanding that the applicant proposed a 5 ppm
4 level, not that it was imposed by the Commission.

5 With respect to recent decisions, if you
6 take a look at the Cosumnes decision in 2003 in
7 the Sacramento Valley Air Basin, the staff had
8 proposed a 5 ppm slip level, and the Commission
9 determined, with support from the Sacramento Air
10 District, that a 10 ppm level was appropriate.

11 If you take a look at the Woodland 2
12 project for the San Joaquin Valley Energy Center,
13 again you'll see 10 ppm slip levels that had been
14 approved by the Commission.

15 I think that to date the Commission's
16 trend has, in fact, been to support either an
17 applicant's proposal, for whatever reasons, for
18 lower ammonia slip levels; or alternatively,
19 support a determination by the Air District.

20 I frankly haven't seen a trend where the
21 Commission has been uniquely imposing a 5 ppm slip
22 level on projects.

23 HEARING OFFICER FAY: Are you familiar
24 with the Roseville case, the determination in that
25 case?

1 MR. RUBENSTEIN: Generally I am, yes.

2 HEARING OFFICER FAY: If I recall
3 correctly, the staff offered this flexibility to
4 compromise, and it was accepted by the applicant,
5 is that correct?

6 MR. TAYLOR: That's correct.

7 HEARING OFFICER FAY: Okay. And that
8 was not required by Sacramento, was it? Or was
9 it?

10 MR. TAYLOR: I believe that was the
11 result of staff requesting 5 ppm and there were
12 discussions similar to this one. The applicant in
13 that case agreed to accept the equivalent to AQ-
14 SC-11.

15 HEARING OFFICER FAY: Okay. Now, is
16 this area, meaning the Sacramento area or the
17 Roseville area, dramatically different in air
18 quality components regarding, you know, the
19 nitrogen load and the ammonia load?

20 MR. TAYLOR: I'm not sure if the
21 Sacramento area would be classified as ammonia
22 rich or ammonia poor. Probably among the
23 (inaudible) but (inaudible).

24 HEARING OFFICER FAY: And if it's
25 ammonia rich, let me understand which direction

1 that moves the equation.

2 MR. TAYLOR: That would put that region
3 similar to the Bay Area.

4 HEARING OFFICER FAY: So even though
5 upwind of the Bay Area is the ocean, what is it,
6 the relative low NOx that makes it more ammonia
7 rich than say the South Coast District?

8 MR. TAYLOR: That's correct. Although I
9 would like to point out that I am skeptical of
10 this term as ammonia rich versus ammonia poor.
11 Since ammonia is a fairly active compound, and
12 though there has been some discussion of limiting
13 reactions here, that is -- while that's true in
14 the laboratory where you actually have a reaction
15 that precedes the completion wherein one
16 reactant's completely consumed, I think that is an
17 over-simplification of an air basin to look at it
18 as a single beaker, so to speak.

19 There are numerous sources and sinks for
20 both of these compounds. And so, for instance,
21 plants both generate or emit ammonia depending on
22 the ambient concentrations of ammonia, and NOx
23 sources from mobile sources, or from any
24 combustion source. It's a much more complex
25 issue.

1 And this is the reason that staff did
2 not do a calculation that specified a specific
3 quantity of PM10 mitigation, but rather is
4 continuing a long-term effort to push for a 5 ppm
5 slip limit, which we believe is technologically
6 feasible and the correct limit for environmental
7 mitigation.

8 HEARING OFFICER FAY: But I gathered
9 from --

10 MR. TAYLOR: So to get back to my
11 issue -- go ahead, go ahead.

12 HEARING OFFICER FAY: Well, I gathered
13 from Mr. Rubenstein's testimony that there's a
14 logical reason that different Districts have
15 pursued different requirements. And that's based
16 on their different air quality regime within their
17 basin.

18 Do you disagree with that?

19 MR. TAYLOR: I'm skeptical of that
20 conclusion, yes. I believe that ammonia emitted
21 into the atmosphere, it's a very reactive compound
22 and it has a potential to combine with the
23 reactants to form particulate.

24 I think that if you add a reactant, even
25 if it's in excess to a reaction, it will

1 accelerate the reaction. And I believe that the
2 particulate that's formed is no longer influencing
3 that reaction.

4 And further, I believe that you'll have
5 localized regions of one reactant being in excess
6 or not in excess. For instance, you might have
7 regions nearby combustion sources in the Bay Area
8 which will be very rich in NOx or SOx, sulfur or
9 nitrogen compounds. And the ammonia entering
10 those regions will react with those compounds to
11 form particulates.

12 So I think it's simply an over-
13 simplification to say that the 118 tons
14 approximately, 117 tons that the Los Esteros
15 facility is permitted to emit will produce no
16 particulate. I think that's incorrect and an
17 over-simplification.

18 HEARING OFFICER FAY: Okay.

19 PRESIDING MEMBER PFANNENSTIEL: Mr.
20 Rubenstein, back to the AQ-SC-11, I understand
21 that you think that that is essentially
22 unnecessary. You don't see a need for that
23 because of everything else you talked about.

24 I'd like to, though, go to the
25 feasibility question. Because if the Committee

1 and the Commission did find that it was necessary,
2 then there's what looks like a compromise on the
3 table. But you don't find that to be a
4 technologically feasible solution in the long run?
5 And I'm not sure I actually heard you say it that
6 way. You talked about that reducing down to some
7 level was not technologically feasible in the long
8 run.

9 Does that apply also then to the
10 proposed condition?

11 MR. RUBENSTEIN: It does. And perhaps I
12 can explain a little bit more --

13 PRESIDING MEMBER PFANNENSTIEL: Yes,
14 please.

15 MR. RUBENSTEIN: -- why that is. We
16 have a fairly unique situation here with respect
17 to existing turbines where we have explored what
18 it would take to meet a 2 parts per million NOx
19 level, which is pushing BACT beyond where it was
20 when this plant was first built by quite a wide
21 margin.

22 To do that the plant has to inject more
23 steam into the combustion turbine than is
24 recommended by the turbine manufacturer. That has
25 a couple of side effects.

1 One is that it increases CO emissions,
2 hence the request for the increase in CO level.
3 Second, that decreases the plant's overall
4 efficiency. And so for every megawatt hour there
5 will be a little bit more fuel that's used. And
6 third, it substantially increases wear and tear on
7 the turbine combustors, themselves.

8 If you want to minimize CO emissions and
9 minimize fuel consumption and minimize combustion
10 wear, and still comply with all of your limits,
11 given how far this unit has to be pushed, you
12 would exercise the SCR catalyst to the maximum
13 extent possible.

14 You might get a catalyst that's designed
15 for 90 percent efficiency. As I indicated, the
16 actual observed efficiency for the other units was
17 85 to 86 percent. I don't agree with Mr. Taylor's
18 characterization about the difference between high
19 and low temperature of units, but that's not the
20 point here.

21 The best guarantees you can get for SCR
22 performance are on the order of 92 to 93 percent.
23 It's, if you will, going from 60 percent
24 efficiency to 80 percent efficiency doubles the
25 amount of catalyst; going from 80 percent to 90

1 percent doubles the amount of catalyst again.
2 You're on an exponential curve. Getting to about
3 92 percent is about the best you can do.

4 When a catalyst is new it might have an
5 efficiency as high as 95 percent. And it will
6 quickly taper off to something close to its
7 designed level.

8 At this plant if you want to minimize CO
9 emissions, minimize fuel consumption and minimize
10 combustor wear you will maximize ammonia injection
11 use within the allowable permit limit in order to
12 maximize the efficiency of the SCR system, take
13 advantage of that new catalyst efficiency, and
14 drive the NOx down that way.

15 As the catalyst efficiency degrades, if
16 you still want to minimize CO emissions, minimize
17 fuel consumption, minimize combustor wear, you
18 will increase the water injection rate in order to
19 keep everything in balance.

20 And if we had this limit, this condition
21 in place, it means that rather than optimizing
22 this unit to a slip level as high as 10 ppm, it
23 would have to be optimized to a level of only 5
24 parts per million.

25 This is not the way that I think any

1 other plant that you've seen before this
2 Commission is going to operate. And it's because
3 of the unique combination of the NOx limit, the CO
4 limit in the existing units.

5 Consequently, the 5 ppm limit in AQ-SC-
6 11 for this plant will function as an effective
7 limit. And, in fact, the entire process control
8 system will have to be designed to meet that,
9 resulting in higher CO levels, higher fuel
10 consumption and more frequent combustor
11 maintenance on top of the fact that the SCR
12 catalyst, itself, will have to be replaced more
13 frequently.

14 So that's why I think technologically
15 this is somewhat of a unique situation.

16 PRESIDING MEMBER PFANNENSTIEL: May I
17 ask Mr. Taylor to respond to that. You talked
18 some then about the different kinds of catalysts,
19 the high temperature, low temperature, and that
20 the low temperature would be more efficient than
21 the one you assumed they had tested?

22 MR. TAYLOR: The current catalyst on the
23 facility is a high-temperature catalyst. And so
24 when they retrofit the facility to a combined
25 cycle they'll have to replace that with a more

1 appropriate catalyst. Presumably that catalyst
2 would be designed to whatever permit limit that
3 they're required to meet. And we believe that the
4 technology is capable of achieving a 5 ppm.

5 Further, just to comment on this, the
6 combination of NOx, CO and ammonia is definitely
7 the three are related. The District, in their
8 preliminary document, I believe, in the final
9 document have addressed that, and have given the
10 applicant the leniency of a 9 ppm carbon monoxide
11 emissions rate.

12 That's higher than virtually, if you see
13 in my supplemental testimony I listed all three
14 pollutant emissions limits. And the highest of
15 any of them is 4, I believe.

16 The Roseville case, again with the same
17 condition, is at 2 ppm NOx, 4 ppm CO, and 5 ppm, a
18 modified 5 ppm ammonia slip rate, which is a more
19 stringent emissions rate effectively than the one
20 that we are proposing -- that is being proposed, I
21 should say, since we don't have control to specify
22 the BACT for CO on a facility. But the District
23 has set the BACT for CO at 9 ppm. So that gives
24 them more flexibility to achieve this.

25 MR. RATLIFF: And is that an LM6000?

1 MR. TAYLOR: I believe it is, yes.

2 MR. RATLIFF: Okay.

3 MR. TAYLOR: Same type of turbine.

4 MR. RUBENSTEIN: Gabe, do you know if
5 the Roseville unit uses dry low-NOx combustors?

6 MR. TAYLOR: I'm not sure what type of
7 combustors it uses, no.

8 But again, while we are talking about
9 existing equipment, we're also talking about a
10 major retrofit of that existing equipment. So,
11 the technology can meet this and --

12 PRESIDING MEMBER PFANNENSTIEL: Right,
13 and that's what I wanted to ask, go back to Mr.
14 Rubenstein, on the technology question.

15 MR. RUBENSTEIN: I'm sorry, Commissioner
16 Pfannenstiel?

17 PRESIDING MEMBER PFANNENSTIEL: I wanted
18 to go back on the technology question. Mr. Taylor
19 believes that the new technology will allow you to
20 do this, and you're saying that it really won't.
21 That the new technology is not really going to
22 make a difference in this.

23 MR. RUBENSTEIN: We have already, if you
24 will, taken into account better catalyst
25 efficiency in our agreement to use a 2 ppm NOx

1 level. During our experiment last December we did
2 not achieve 2 parts per million NOx. The lowest
3 we got, I think, was 2.7.

4 So we are counting on that higher
5 efficiency catalyst on the order of 90 percent or
6 92 percent to enable us to meet a real NOx level
7 of 1.8 parts per million, which then gives us a 10
8 percent compliance margin.

9 But part of the concern here, I think,
10 comes from not just experience with this
11 experiment, but Calpine's experience broader.
12 Calpine has one of the largest fleets of engines
13 in operation in California. And this has actually
14 been an issue that we've discussed with the staff
15 before.

16 Getting vendor guarantees isn't as good
17 as real world experience. And while the
18 statements that Mr. Taylor made earlier about how,
19 well, typically an SCR system will have ammonia
20 slip levels of 1 to 2 parts per million when the
21 unit is new, that's exactly right. Except that at
22 Sutter they were between 5 and 10 parts per
23 million when the units were brand new. At
24 Metcalf, it's my understanding, on very recent
25 tests with a brand new plant, it's about 4.5 parts

1 per million.

2 There are a lot of other factors at play
3 here, and the fact that you have a vendor
4 guarantee saying, ah, yes, we're going to meet 5
5 parts per million doesn't assure you that in fact
6 you're going to do it.

7 And Calpine, as an applicant, is, I
8 think, perhaps more conservative than some other
9 applicants who may agree to these conditions,
10 having never built a modern plant. Simply because
11 of their experience in seeing the relationship
12 between what vendors might guarantee and what real
13 world performance is.

14 That's why, when you take a look at the
15 submission that we made in December, it wasn't
16 just, gee, it was nice. It was, we need some real
17 data. Last December we knew we could go to a
18 vendor and get a guarantee for 5 ppm ammonia slip
19 level and 2 ppm NOx. There's no question about
20 that.

21 But that wasn't the issue. The issue
22 was could we, in fact, meet that level and meet it
23 day-in and day-out. And I think that's really the
24 difference between what I'm presenting and what
25 Mr. Taylor is presenting.

1 HEARING OFFICER FAY: Mr. Rubenstein,
2 are there any approachable modifications that
3 would make the staff approach more palatable? For
4 instance, if the window wasn't 12 months, but was
5 24 months, or something like that.

6 Does that make it more manageable from
7 an operator's point of view?

8 MR. RUBENSTEIN: I don't see that it
9 does because the issue wasn't the timing of how
10 long it would take to replace the catalyst. If
11 you, in fact, have a 5 ppm limit, than having 12
12 months to replace the catalyst is, I think,
13 technologically reasonable. Unless there's
14 another crunch where people are building several
15 hundred power plants, then it might take a little
16 longer.

17 But 12 months is pretty reasonable. The
18 problem is that that would change the plant's
19 entire control system for emissions to make sure
20 they're 5 ppm all the time. And that's where we
21 get into the other adverse impacts, the higher CO
22 level, the higher fuel consumption and the
23 increased combustor wear.

24 HEARING OFFICER FAY: And as the
25 Commission is looking at these various emissions,

1 is there some hierarchy of concern in terms of
2 public health? I mean the District is focusing on
3 NOx reduction as opposed to ammonia slip, it
4 seems. Is that something the Commission should
5 also share that point of view? Or is it region-
6 specific?

7 MR. RUBENSTEIN: I think it is very much
8 region-specific. And I think the Commission
9 should share that point of view. I think that
10 there is clearly a hierarchy.

11 In this case, again given the fairly
12 unique circumstances, the Air District and I think
13 most other air regulatory agencies have agreed
14 that allowing the higher CO level is a reasonable
15 tradeoff for getting NOx. And that's a big
16 change. That's taking CO from 4 ppm up to 9, a 5
17 ppm increase, in exchange for a .5 parts per
18 million drop in NOx. And the agencies concluded
19 that that was a reasonable tradeoff.

20 With respect --

21 HEARING OFFICER FAY: Can I interrupt
22 you there --

23 MR. RUBENSTEIN: Sure.

24 HEARING OFFICER FAY: -- just for a
25 second. From a lay point of view, what you just

1 addressed was that allowing the higher CO level,
2 and this is greenhouse gas contributing carbon
3 monoxide, as I understand, --

4 MR. RUBENSTEIN: I don't think so.

5 HEARING OFFICER FAY: No? I'm --

6 MR. TAYLOR: The CO is controlled based
7 on health impacts. CO2 is the greenhouse gas.

8 HEARING OFFICER FAY: Oh, okay. Sorry.

9 MR. TAYLOR: The CO is very reactive and
10 it reacts to form CO2 --

11 HEARING OFFICER FAY: Wasn't a chemistry
12 major. All right. So, it's a health impact in
13 both cases.

14 But just because of the chemical soup in
15 the Bay Area --

16 MR. RUBENSTEIN: That's right. And I
17 think when you then ask the same question about
18 NOx versus ammonia, I think the answer is the same
19 because of the chemical soup in the Bay Area. And
20 this is not a universal conclusion, but because of
21 the chemical soup in the Bay Area, if you had to
22 trade off between NOx and ammonia, it would be
23 prudent to further reduce NOx because that is more
24 clearly going to result in a reduction both in NO2
25 levels and in particulate levels than would a

1 reduction in ammonia.

2 And I think the staff's position is,
3 well, let's get it all. And that's where I'm
4 saying that while I don't doubt that we can get a
5 guarantee for that, I'm not sure that, in fact,
6 the plant can do that day-in and day-out without
7 serious adverse consequences.

8 MR. RATLIFF: Did Calpine consider
9 things other than water injection to try to reduce
10 the NOx level to 2.0? In other words, did you --
11 your attempt to try to achieve the 2.0 was to
12 change the way you operated the existing facility
13 with an efficiency loss, water being injected.

14 If you had -- did you, for instance,
15 consider a large catalyst instead? And if not,
16 why not?

17 MR. RUBENSTEIN: Actually the design
18 solution is both increasing water injection and a
19 new catalyst.

20 MR. RATLIFF: You have to have a new
21 catalyst, I know.

22 MR. RUBENSTEIN: Yes.

23 MR. RATLIFF: I mean that's required by
24 the FDOC, but --

25 MR. RUBENSTEIN: And whether it's larger

1 or not is going to depend on what the catalyst
2 vendor says will be necessary to get a 90 or 92
3 percent reduction in NOx emissions.

4 MR. RATLIFF: But can you not achieve
5 this higher level of NOx removal and still have
6 lower carbon monoxide levels than you have on --
7 of the larger catalyst than the one that you
8 currently are planning to have?

9 MR. RUBENSTEIN: In order to achieve a
10 stack NOx level of 1.8 parts per million, which I
11 think is prudent to give them a 10 percent
12 compliance margin, if you had a 92 percent
13 efficient catalyst, which is the highest
14 efficiency that I've ever seen, then you would
15 have to have a NOx level coming out of the turbine
16 of about 22 parts per million.

17 And so when the catalyst is new the
18 steam injection rate could be backed off to a NOx
19 level such that the SCR system picked up the
20 slack, if you will, and got that down to 1.8 parts
21 per million.

22 As the catalyst efficiency degrades,
23 then you would have to increase the water
24 injection rate to further reduce NOx emissions,
25 doing as much as you can.

1 The other compliance alternative, which
2 I think is the one that the staff is suggesting,
3 is that you always have higher water injection
4 rates. And only use the minimum amount of ammonia
5 necessary to get the minimum SCR efficiency
6 required, rather than the maximum. And use that
7 as your basic control technique.

8 And physically that might be possible,
9 but you'll be putting more water injection into
10 the combustors for longer period of time, which
11 again is in excess of the turbine manufacturer's
12 recommendations. And you're going to wind up
13 with, as a result, higher CO levels, higher fuel
14 consumption and increased combustor wear.

15 It's just a tradeoff. And then the
16 question becomes what are the air quality factors
17 that play into that tradeoff. If we were in the
18 South Coast Air Basin we wouldn't be having this
19 argument. The air quality tradeoff would be real
20 and clear. We would have to meet a 5 ppm slip
21 level, and so we wouldn't have any choice.

22 MR. RATLIFF: And you're basing that on
23 the presumed uniformity of what you call, or what
24 has been termed an ammonia-rich environment, I
25 take it, in the Bay Area?

1 For instance, your testimony discusses
2 the complexity of the atmosphere in the Bay Area,
3 and suggests that it isn't uniform actually, it
4 isn't really like a beaker. And that in many
5 areas you have different levels of contaminants.

6 And we have, it sounds like, from BAAQMD
7 we have a ten-year old study that has two data
8 points that describe an ammonia-rich environment.

9 But is that a basis for us to conclude
10 that the entire Bay Area is ammonia rich, and that
11 you don't have greater reactivity if you have
12 greater amounts of nitrogen -- I mean greater
13 amounts of ammonia emissions that is interactive
14 with the available nitrogen?

15 MR. RUBENSTEIN: Mr. Hill's testimony on
16 this is the only evidence that we have in this
17 record. It's not the only analysis that's been
18 done of the Bay Area.

19 We have done similar analyses asking the
20 question as to whether the Bay Area is ammonia
21 rich in other proceedings. And they've been to
22 different parts of the Bay Area, and the
23 conclusion has always been the same.

24 MR. RATLIFF: But based on the same
25 study that's been done.

1 MR. RUBENSTEIN: No, no, based on more
2 current data.

3 MR. RATLIFF: Well, do we -- there is
4 more current data?

5 MR. RUBENSTEIN: Yes.

6 MR. RATLIFF: Oh. And who has performed
7 that?

8 MR. RUBENSTEIN: I'm sorry, who's
9 performed --

10 MR. RATLIFF: Who has performed the more
11 -- where is the more current data?

12 MR. RUBENSTEIN: The more current data
13 are available through the California Air Resources
14 Board website where you can collect data on
15 concentrations of NOx. And I'm trying to think if
16 it's from the Bay Area or the ARB website, one of
17 those two websites.

18 But you can also get data regarding
19 ions, ammonia ions, nitrate ions, sulfate ions.
20 And you can infer whether a region is ammonia rich
21 or not by taking a look at the ratio of those
22 three ions.

23 MR. TAYLOR: Do you mean daily NOx
24 concentrations? I have those.

25 MR. RUBENSTEIN: I'm sorry?

1 MR. TAYLOR: Daily NOx concentrations,
2 or maximum hourly NOx or SOx concentrations?

3 MR. RUBENSTEIN: You need to take a look
4 at the combination of ammonia, nitrate and sulfate
5 concentrations, not NOx. Because NOx is the
6 upstream compound. You need to take a look at the
7 reactive products. And by taking a look at the
8 ratios of those, you can determine whether a
9 region is ammonia rich or not.

10 In other proceedings before this
11 Commission we have done that analysis and
12 submitted that. We didn't do it in this case
13 because the Bay Area District's position was quite
14 clear, and we didn't see a reason to.

15 MR. RATLIFF: In terms of data that we
16 do have available, that you're familiar with,
17 would it be correct to say that there are always
18 available ions of nitrate in the atmosphere in
19 most parts of the Bay Area? I say available, I
20 mean they exist, they're in the air and they could
21 interact with ammonia.

22 MR. RUBENSTEIN: I think the way you've
23 worded that question the answer is yes, that's
24 true.

25 But the question is the relative

1 quantities of the different ions. I mean if you
2 imagine a bar chart, if you will, where you have a
3 certain quantity of ammonia ions, a certain
4 quantity of nitrate and a certain quantity of
5 sulfate, if the ammonia ion bar is high enough
6 then it doesn't matter how much more you add.
7 You're not going to generate any more particulate.
8 That ammonia will remain free or will combine with
9 moisture.

10 MR. TAYLOR: But that's only true if the
11 reaction's allows to proceed to completion where
12 all the product is consumed. If you increase the
13 concentrations of reactant, even if it's in
14 excess, it will accelerate the reaction, it will
15 increase just on a kinetic standpoint, it will
16 increase the likelihood that the molecules will
17 encounter --

18 MR. RUBENSTEIN: But when you take a
19 look at ambient air quality data you're not in a
20 laboratory and you're taking a look at what's
21 essentially steady state condition. You're
22 looking at equilibrium.

23 MR. TAYLOR: I disagree that it's steady
24 state, because you have localized regions that are
25 different, just looking at the monitoring stations

1 around the Bay Area. Each monitoring station, at
2 a given hour, will show different values. It's
3 not steady state. It's constantly changing.

4 I did want to touch on some points that
5 you made a little bit earlier real quick. As far
6 as a tradeoff between the pollutants, the Bay Area
7 did a study about ten years ago. And also there's
8 the tradeoff between CO and NOx. I did want to
9 touch on particulates, since that's the pollutant
10 at issue here.

11 We have had an astounding number of
12 articles and scientific research that's been
13 published over only the past two or three years
14 showing the significance of particulate.
15 Especially the fine and the ultra fine, that's the
16 PM2.5 and the PM0.1 particulates.

17 They've shown that these particulates
18 can penetrate into the deepest parts of the lungs.
19 They can go right through the cell wall and into
20 the blood stream. And they can carry other toxins
21 in there. The actual mechanism is not very well
22 understood, and there's continuing research on
23 this.

24 But my point is that this is very
25 cutting edge, this is very new research. The

1 agencies that, the air quality community, the
2 regulatory agencies have been aware of this issue
3 and have been pushing for 5 ppm for over five
4 years now.

5 And I think that this is -- it's an
6 understandable situation, the applicant is
7 resisting this. Because we are talking about a
8 fairly -- a transition period. Not all
9 facilities, some facilities are being permitted at
10 a 5 ppm ammonia slip. Not all facilities are.

11 Obviously the facilities that have come
12 in and talked to the Energy Commission and have
13 chosen not to fight staff on this issue have
14 accepted a 5 ppm limit, and they've been permitted
15 at that 5 ppm limit.

16 In this case, this is one of the first
17 facilities where we've really had really strong
18 resistance from the applicant. And we've chosen
19 to push this issue on this case partly because
20 we've had so much time to review this case.

21 The initial Los Esteros came in and
22 we've been looking at this facility for a number
23 of years now. And chosen to really push this,
24 because -- also because of, again, the research
25 that's been done over the past two or three years

1 that shows what a significant health impact these
2 particulates are.

3 MR. RUBENSTEIN: Mr. Fay, --

4 MR. WHEATLAND: Gary, can I --

5 HEARING OFFICER FAY: Gregg, did you
6 have something?

7 MR. WHEATLAND: I wanted just to step
8 back from this discussion for just one moment to
9 follow up on a question that you asked about how
10 you prioritize these.

11 And the question to the staff is this:
12 Generally when the Commission considers an
13 application it shows considerable deference to the
14 recommendation of the responsible agency, no
15 matter what that agency is. It could be land use
16 or biology or any area, the Commission's going to
17 show great deference to it.

18 Here we have in the record the opinion
19 of the responsible agency. It's an agency that's
20 spent over a year studying this application. And
21 it's an agency that cares as much about air
22 quality as the staff. Certainly there's no doubt
23 about that.

24 Why should the Commission override the
25 recommendation of the Air District in this case?

1 Why do you think that they're not entitled to that
2 deference in this instance?

3 MR. TAYLOR: As I discussed in my
4 supplemental testimony, there is a respectful
5 disagreement between the District and staff on
6 PM10 in the Bay Area.

7 The Bay Area is in violation of both the
8 state PM10 and the state PM2.5 standards. And
9 staff feels that PM is a very significant
10 pollutant in the Bay Area.

11 The Bay Area Air Quality Management
12 District has a 100-ton threshold for mitigation of
13 PM10. And as was done in both the original Los
14 Esteros case and in the phase 1 Los Esteros case,
15 staff recommended, and the Committee approved,
16 additional PM10 mitigation, which the District, I
17 think in those cases, supported but did not
18 require because the rules did not require. They
19 were correctly implementing the rules.

20 So, again, this is a significant health
21 impact based on recent science that has been done.
22 We've been pushing this, and other agencies have
23 been pushing this for well over five years now.
24 And this is our position, is it's a significant
25 health impact. It needs to be minimized because

1 the science is uncertain about the direct -- exact
2 impacts; we can't mitigate it directly, but we can
3 minimize it.

4 MR. RATLIFF: I'd like to ask Mr. Hill
5 if the District has any objection to the staff's
6 proposed condition.

7 HEARING OFFICER FAY: Mr. Hill?

8 MR. HILL: We are neutral on this
9 position; it's not our call to make.

10 I've expressed the District's position
11 on whether or not increased ammonia actually
12 results in increased particulates. And your
13 question, I answered your question about whether
14 or not the District agrees that particulates are a
15 significant health concern, which Mr. Taylor just
16 forcefully restated. And we agree with that, that
17 recent information shows that fine particulates is
18 a significant health impact.

19 Where we disagree is whether or not
20 increased ammonia from this facility will, in
21 fact, increase fine particulate concentrations. I
22 think that sort of summarizes the area of
23 disagreement.

24 HEARING OFFICER FAY: And is that the
25 reason why, even though the District's in

1 nonattainment for these fine particulates, that it
2 has not lowered its ppm emission rate for ammonia?

3 MR. HILL: That is the reason. If we
4 believed or if we come to believe that increased
5 ammonia results in increased fine particulate, we
6 will carry to our board regulatory changes to
7 require more control of this source.

8 We are in the process, as I said, of
9 developing plans. We will certainly revisit this
10 issue. I've described our current understanding
11 as has been stated in several places. Our current
12 understanding is imperfect. But all we can do is
13 take action, or recommendations based on our
14 current understandings and where we anticipate
15 things will go based on new information.

16 Our current position is that decreasing
17 ammonia won't reduce the fine particulate, the
18 secondary particulate formation. That decreasing
19 NOx does. That's one of the reasons why NOx is --
20 also NOx has direct impact -- but that's one of
21 the reasons why we focus on NOx rather than the
22 ammonia.

23 So, that's -- but, direct answer to the
24 question, if the CEC determines that this is an
25 appropriate method or mitigation method, we're

1 neutral on that issue, and we don't oppose it, we
2 don't support it necessarily. But we don't oppose
3 it.

4 HEARING OFFICER FAY: Okay. Mr.
5 Rubenstein.

6 MR. RUBENSTEIN: Thank you, Mr. Fay. A
7 couple of points. First, I've heard several times
8 this morning the notion that health effects
9 research related to fine particulates is
10 relatively recent. I respectfully disagree.

11 Most of the seminal studies on that,
12 epidemiological studies, were done in the mid
13 1990s. I'm painfully aware of that because those
14 all came out at the time that the Commission was
15 hearing the San Francisco Energy Center project.
16 And I was knee deep in those, and reviewing those
17 epidemiological studies at those times.

18 What's come out more recently has been
19 either repackaging or refinements of those
20 studies. But the relationship between fine
21 particulate levels and human health effects have
22 been known for quite some time. This is not a new
23 issue.

24 Second, Mr. Taylor indicated that this
25 was the first time that he's seen strong

1 resistance from an applicant on this ammonia slip
2 issue. I think part of the problem here is that
3 we have a number of people on the CEC Staff who
4 deal with different siting cases. I can assure
5 you that this issue was very hotly contested, both
6 with respect to the East Altamont Energy Center,
7 also in the Bay Area, and the Cosumnes Power
8 Project in Sacramento. And in each of those cases
9 the full Commission decided to defer to the
10 judgment of the Air District in the conclusion
11 that further reducing ammonia slip would not
12 provide a meaningful air quality benefit.

13 And then lastly, and this is kind of an
14 applicant's plea, if you will, we're feeling just
15 a little bit whipsawed here. This issue arose
16 last summer when the Commission Staff and the Air
17 Resources Board concluded that even though the
18 conversion of this plant from simple cycle to
19 combined cycle did not trigger best available
20 control technology requirements under the
21 District's rules, that because of a provision that
22 was inserted in the Commission's license in 2001,
23 that this project had to have best available
24 control technology reassessed whether or not we
25 triggered that regulatory requirement.

1 That resulted in pressure on this
2 project. We'd already proposed to drop the NOx
3 level from 5 parts per million down to 2.5, as
4 part of the combined cycle conversion. However,
5 the agencies insisted that we had to drop further
6 down to 2.0.

7 We did this experiment last December to
8 see whether we could reach a compromise with the
9 Air Districts based on the assumption that the
10 ammonia slip level was 10 parts per million.

11 Had we known at that time that the
12 Commission might impose a 5 ppm slip level, even
13 if the Air District did not, we would have run the
14 experiment and measured ammonia at the same time.
15 That may have, in fact, led us to the conclusion
16 that meeting all of these limits, meeting in
17 particular the 2 ppm NOx limit and the 5 ppm slip
18 level, was not technically feasible for these
19 units, and we may be still arguing with the Air
20 District about what the NOx level was.

21 So, when we talk today about how the
22 staff is offering a compromise, I think it's
23 important to understand that we have already
24 compromised in a fairly major way last December in
25 agreeing to drop the NOx level down to 2 ppm based

1 on actual performance tests.

2 Again, if you take a look at my
3 testimony in other proceedings I don't argue the
4 technology on ammonia slip as a matter of course.
5 I generally don't question it. I think it's a
6 need issue. Here I am genuinely concerned about
7 our ability to meet all of these NOx levels and
8 ammonia levels and CO levels at the same time on a
9 consistent basis.

10 HEARING OFFICER FAY: Okay. I want to
11 be sure that Mr. Sarvey has a chance to ask any
12 questions he may want to on this matter. But I
13 also know that he's concerned about the 9 ppm CO
14 limit in the final DOC.

15 So, why don't you ask your questions.

16 MR. SARVEY: Well, first I'll ask my
17 questions about the ammonia slip, and then maybe
18 we'll finish that discussion, if that's -- and
19 then we'll go on to the CO afterwards.

20 Mr. Hill, is the nitrate limitation
21 uniform throughout the Bay Area?

22 MR. HILL: We don't have information or
23 data to make that clear. I doubt it's uniform
24 because the Bay Area has a lot of little
25 microclimates. And so the relative concentrations

1 are going to vary. They don't vary as much as the
2 sulfate concentrations, which the sulfate
3 formation issue is something that is very
4 localized. The NOx levels are more uniform. It's
5 more of a regional issue.

6 So the answer is no; they will vary, but
7 I don't know how much.

8 MR. SARVEY: So there is a possibility
9 that perhaps this area that we're discussing in
10 general is not nitrate limited, is that correct?

11 MR. HILL: No. That's not likely.

12 MR. SARVEY: Okay. There's three power
13 plants that have been sited in this area, all
14 emitting quite a bit of NOx. Did the Bay Area
15 consider that? Or did they do an analysis of the
16 additional NOx that are emitted into the air?

17 I know the cumulative impact is pretty
18 much the purveyance of the CEC. Did the Bay Area
19 consider that at all in issuing this?

20 MR. HILL: In what sense?

21 MR. SARVEY: Well, that there might be
22 an abundance of NOx from the three power plants in
23 that area all emitting pretty much within, I think
24 they're within six miles of each other, --

25 MR. HILL: Well, the --

1 MR. SARVEY: -- maybe six and a half.

2 MR. HILL: -- NOx emissions from power
3 plants are dwarfed by NOx emissions from
4 automobiles. And so even having three power
5 plants in relatively close proximity, they still
6 would be a small percentage of the total burden in
7 that immediate area.

8 MR. SARVEY: Um-hum. And is there any
9 consequences to the fact that the NOx and the
10 ammonia are coming out of the stack in a plume,
11 and there's already the potential there for the
12 mixing? Doesn't seem that that would be a NOx-
13 limited area with that ammonia. So I've never
14 heard that discussed in my 15 or 16 conversations
15 on this issue. So I was wondering if you could
16 elaborate on that.

17 MR. HILL: I'm not sure I understand
18 enough about the relative concentrations to people
19 to answer that question. Actually, I'm sure I
20 don't understand enough about the concentrations
21 to people to answer that question.

22 As I understand your question, the
23 relative NOx-to-ammonia concentrations in the
24 plume immediately emitted are going to be
25 different than they are in the environment. And

1 your question is whether or not those ratios would
2 affect this conclusion about --

3 MR. SARVEY: The formation of
4 (inaudible)

5 (Parties speaking simultaneously.)

6 MR. HILL: -- the formation -- yeah. I
7 can't answer that question.

8 MR. SARVEY: Okay. Earlier you said
9 that the Bay Area doesn't regulate ammonia
10 emissions; they only regulate it in terms of being
11 a hazardous air pollutant. They don't really
12 analyze the secondary particulate formation in
13 their analysis in the FDOC, is that correct?

14 MR. HILL: No. And the reason again is
15 because our general analysis is that as a region
16 we haven't ever seen the situation where the
17 ammonia would contribute to secondary particulate
18 formation. Therefore, we haven't considered it on
19 a specific case.

20 MR. SARVEY: Thank you, Mr. Hill, that's
21 all I have.

22 HEARING OFFICER FAY: Anything on CO?

23 MR. SARVEY: Yeah, I do have some
24 questions on CO.

25 HEARING OFFICER FAY: Okay, why don't

1 you go ahead.

2 MR. SARVEY: I've had a limited time to
3 look at this FDOC as everybody else has, but a few
4 things have popped out at me, and I'd like to hand
5 Mr. Hill this document from the Bay Area Air
6 Quality Management District and have him certify
7 that this actually does -- is part of their Bay
8 Area Air Quality Management BACT guidelines for
9 combined cycle plants.

10 MR. HILL: Yeah, this looks like a
11 printout from our website.

12 MR. SARVEY: Okay. And the CO BACT
13 limitation achieved in practice according to your
14 guidelines is 4 ppm at 15 percent, and that's
15 correct?

16 MR. HILL: That's correct for 2.5 parts
17 per million Nox.

18 MR. SARVEY: It lists that achieved in
19 practices G and I, or G and L.

20 MR. HILL: G and I. That's the Contra
21 Costa Power Plant. Those are the footnotes --

22 MR. SARVEY: Okay, --

23 MR. HILL: -- referring to the
24 footnotes.

25 MR. SARVEY: -- I understand. Okay, and

1 in the comments that the EPA made on the PDOC,
2 what was their recommendation for CO BACT?

3 MR. HILL: Sorry, could you repeat --

4 MR. SARVEY: In the comments that the
5 EPA made on your PDOC, what was their
6 recommendation for CO --

7 MR. HILL: They didn't make a
8 recommendation. They suggested that we look at
9 the Las Vegas dataset. Based on their analysis
10 they thought that BACT for CO would be a lower
11 level.

12 But they don't have the responsibility
13 to make this determination, so they don't make
14 this determination. I believe you'll see that
15 it's worded that they aren't making a
16 recommendation.

17 MR. SARVEY: Well, it says, based on
18 this information we believe the Los Esteros should
19 be able to meet its original commitment of 4 ppm
20 CO.

21 MR. HILL: That's correct, that's --

22 MR. SARVEY: Is that correct --

23 MR. HILL: That's correct.

24 MR. SARVEY: -- that the --

25 MR. HILL: That's not a BACT

1 determination, --

2 MR. SARVEY: Well, --

3 MR. HILL: -- that is their
4 assessment --

5 MR. SARVEY: -- (inaudible) --

6 (Parties speaking simultaneously.)

7 MR. HILL: -- data --

8 MR. SARVEY: -- EPA's assessment. Have
9 you heard anything from the EPA that would change
10 your mind, or convince you that the EPA's changed
11 their mind on that issue?

12 MR. HILL: Yes, I have actually. I've
13 spoken with them and their position was that if
14 the data, the Las Vegas data, did not show what
15 they thought it showed, then their recommendation,
16 their conclusion was not valid.

17 MR. SARVEY: Okay, your FDOC has
18 concluded that that information that they were
19 relying on is incorrect?

20 MR. HILL: That is correct.

21 MR. SARVEY: Okay. And then on page 20
22 of the FDOC it says, finally, the Pico Power
23 Project uses similar equipment as permitted and a
24 NOx limit of 2 ppm and a CO limit of 6 ppm.

25 And apparently -- when did that project

1 come online?

2 MR. HILL: Just recently, in the last
3 few months, I'm not sure how long ago.

4 MR. SARVEY: Um-hum, and do you feel
5 that this project could meet the 6 ppm CO?

6 MR. HILL: It hasn't been operating long
7 enough to be able to make that determination.

8 MS. ALLEN: It was earlier this month.
9 I'm Eileen Allen, the Siting Program Manager. The
10 Pico Project began operating earlier this month.

11 MR. SARVEY: So at this point it's
12 inconclusive. The Pico Power Project uses the
13 LM6000, pretty much the same configuration?

14 MR. HILL: Pretty much, yes.

15 MR. SARVEY: So the jury's still out on
16 that then?

17 MR. HILL: That is correct.

18 MR. SARVEY: Okay. I have one more
19 question, I apologize, on the ammonia slip issue.
20 You also list a project in Massachusetts, the Sith
21 (phonetic) Mystic facility.

22 MR. HILL: Yes, that is correct.

23 MR. SARVEY: And it has a 2 ppm
24 ammonia -- or 2 ppm NOx limit, 2 ppm CO limit, and
25 a 2 ppm ammonia limit, is that correct?

1 MR. HILL: I believe that is correct,
2 yes.

3 MR. SARVEY: Okay. So, it's possible
4 that this project could achieve 2 ppm NOx and a 5
5 ppm ammonia?

6 MR. HILL: It's possible, but we have
7 not -- well, it's plausible, let's say --

8 MR. SARVEY: It's feasible.

9 MR. HILL: -- it's plausible. No, I
10 don't -- we don't have information that says that
11 it's feasible.

12 MR. SARVEY: Okay.

13 MR. HILL: We just have information that
14 would plausibly suggest that it might.

15 MR. SARVEY: What other projects have?

16 MR. HILL: No other project has, to my
17 knowledge.

18 MR. SARVEY: The Sith Mystic facility
19 has --

20 MR. HILL: The data does, first of all,
21 the Sith data does not necessarily -- we haven't
22 reviewed the data in detail to determine whether
23 or not they complied with their limits.

24 MR. SARVEY: Um-hum.

25 MR. HILL: And the other is that

1 facility's not comparable to this one.

2 MR. SARVEY: Okay, I understand that.
3 I'm just saying that -- it's your testimony here
4 is that it has achieved that, so I was just
5 questioning that, that's all.

6 MR. HILL: No, it's permitted at that
7 level. Does the FDOC say -- if the FDOC says that
8 it has achieved that level, then -- I don't
9 believe --

10 PRESIDING MEMBER PFANNENSTIEL: No. It
11 says they're subject to those limits.

12 MR. HILL: Yes, it's subject to those
13 limits. That's different from having achieved
14 them.

15 MR. SARVEY: Have you ever seen a report
16 from the Air Resources Board about NOx control
17 technology?

18 MR. HILL: Yes, I have.

19 MR. SARVEY: And in that report they
20 have a series of not only determinations, but test
21 results. And in fact, have you seen the fact that
22 they list this project as having met those levels?

23 MR. HILL: I'm not aware of that, no.

24 MR. SARVEY: That's all the questions I
25 have for Mr. Hill, thank you.

1 HEARING OFFICER FAY: Mr. Rubenstein.

2 MR. RUBENSTEIN: I just wanted to add,
3 and I'll be quiet after this. In talking about
4 these other projects, the thing that is becoming
5 clearer and clearer is that the other projects
6 that are being identified that have 5 ppm slip
7 levels all use dry low-NOx combustors.

8 I've now confirmed that that's the case
9 for the Roseville Energy Park. Those are LM6000
10 turbines, the same turbines, but they use a
11 different primary NOx control. They use dry low-
12 NOx combustors and not water injection for the
13 first stage of NOx control.

14 Pico Project that was discussed earlier
15 has a 10 ppm ammonia slip limit. I know that was
16 being brought up in the discussion of CO, but
17 remember these are all interrelated.

18 The Sith Mystic project that Mr. Sarvey
19 was just asking about uses Mitsubishi 501G
20 combustion turbines. They're huge turbines;
21 they're over 200 megawatts in size, with dry low-
22 NOx combustors.

23 And if you take a look at my list in
24 table 1, and there's only one that I'm still
25 trying to confirm, which is Palomar, every other

1 facility that's either proposed or licensed with a
2 5 ppm ammonia slip level was designed or built
3 using dry low-NOx combustors for the primary NOx
4 control.

5 In terms of technological balance, and
6 particularly the balance between these three
7 pollutants, CO, NOx and ammonia, the difference
8 between dry low-NOx combustion and water injection
9 is like night and day. It's a fundamentally
10 different problem.

11 And so I don't think that those other
12 cases, to the extent that they're even precedence,
13 are applicable here because of the difference.

14 HEARING OFFICER FAY: Can you help the
15 lay listener understand the nature of the
16 difference? Is it less dynamic with the dry
17 combustors in terms of control?

18 MR. RUBENSTEIN: With dry low-NOx
19 combustors, the reduction in NOx level -- let me
20 start back a little bit of NOx-101. With both
21 technologies, the way that you reduce NOx levels
22 is by minimizing the peak combustion temperatures.

23 With dry low-NOx combustors you achieve
24 that goal by mixing air and fuel in different ways
25 in the combustor. You might consider like staged

1 combustion where you manage the air and fuel
2 getting into the combustor in different ways so
3 that you can run with ultimately very lean, fuel
4 lean, high excess air mixtures, which gets you
5 low-peak combustion temperatures. That's how you
6 get very low NOx levels of dry low-NOx combustors.

7 With water injection using a
8 conventional combustor, which would naturally have
9 a NOx level of perhaps 125, 150 parts per million,
10 and you use water to manage the temperature. You
11 use water injected into the combustor in order to
12 minimize the peak temperatures. And you reduce
13 NOx levels in that way.

14 That has advantages and disadvantages.
15 The water injected units are much more flexible.
16 Dry low-NOx combustors have a relatively narrow
17 operating range. Most of the larger plants that
18 you've licensed, you remember, have a minimum load
19 that may be 50 or 60 or 70 percent. What
20 constrains that is the dry low-NOx combustors.
21 Because the combustion becomes unstable at lower
22 loads.

23 Water-injected systems, which are more
24 commonly used for peakers, enable a much wider
25 range of operation, perhaps down to 20 or 30

1 percent load. And so you got more operating
2 flexibility.

3 Another difference is that with dry low-
4 NOx combustors you tune them once to achieve a
5 particular NOx level, and then the operator can't
6 change that. The tuning is fixed so that you're
7 only NOx control flexibility, if you will, under
8 that scenario is the ammonia injection system in
9 the SCR. The NOx level coming out of the turbine
10 is absolutely flat.

11 With a water-injection system you can
12 vary the amount of water, and therefore you can
13 vary the NOx level from the turbine, as well as
14 being able to vary the ammonia with the SCR
15 system. And so you actually have two parameters
16 you can play with to reduce NOx.

17 The advantage is that you can actually
18 get, in the long term, generally better NOx
19 performance except for the kind of extremely low
20 levels we're talking about here, when BACT levels
21 were 5 or 10 parts per million, the combination of
22 water injection and SCR was very common and very
23 flexible with a lot of advantages.

24 Getting down to this 2 ppm level,
25 though, puts much more emphasis on the SCR system.

1 That, in turn, has made dry low-NOx combustors
2 much more popular, particularly with the large
3 units. These units were built with water
4 injection principally because they were originally
5 designed to be peakers and ultimately converted
6 later on, and they wanted the operating
7 flexibility that you get with the water-injection
8 systems.

9 If that helps and doesn't make it more
10 confusing.

11 HEARING OFFICER FAY: Yeah, thank you
12 for that explanation.

13 Any other -- yeah?

14 MR. RATLIFF: Could I ask, is South
15 Coast is the limit for ammonia slip also 5 ppm for
16 peakers, or is it different?

17 MR. RUBENSTEIN: It is, but to the best
18 of my recollection the NOx limit for peakers in
19 the South Coast is still 5 parts per million.

20 MR. RATLIFF: So does that allow the use
21 of low-NOx, or I should say water injection for
22 peakers in the South Coast?

23 MR. RUBENSTEIN: I believe in the South
24 Coast there are peakers that, some peakers have
25 dry low-NOx combustors, and I think most have

1 water injection. Most of those units which were
2 put in in 2001 and 2002 had trouble complying with
3 the 5 ppm slip limit, and many of them were under
4 variance for a year or two until they got it all
5 worked out.

6 So that was meeting a 5 ppm NOx level
7 and a 5 ppm CO level. And that was clearly a
8 technological challenge for those units.

9 MR. RATLIFF: I also wanted to express
10 agreement with Mr. Rubenstein with regard to the
11 fact that a great deal of the underlying studies
12 about the effect of fine particulates were done in
13 the 1990s. And were actually cited in the San
14 Francisco proceeding back in that period of time.

15 But I thought I would also add that
16 since all of that research was conducted, or at
17 least the underlying research, in the regulatory
18 framework both the USEPA and CARB have moved to
19 make much more stringent requirements. And have
20 adopted, in fact, additional PM10 emissions
21 limitations and required monitoring for fine
22 particulates of PM2.5.

23 And the federal standards were adopted
24 in 1998. They were much -- they were considered
25 to be quite stringent at that time. But CARB has

1 adopted at least a annual average standard for the
2 State of California, which I believe the Air
3 District, and I'd like to ask Mr. Hill to confirm
4 this, is not in compliance with, is that correct?

5 MR. HILL: The state standard? That is
6 correct.

7 MR. RATLIFF: The new state --

8 MR. HILL: Yes, that is correct.

9 MR. RATLIFF: And is the Air District
10 actually undertaking any efforts to try to attain
11 compliance with that more stringent PM2.5
12 standard?

13 MR. HILL: As I believe I mentioned
14 earlier, the District is in the process of doing
15 fine particulate planning. I couldn't swear that
16 compliance with the state standard is the goal.
17 But progress towards it certainly is.

18 MR. RATLIFF: And what kind of measures
19 will the District be taking to reduce fine
20 particulates, or have they decided yet?

21 MR. HILL: We haven't decided. The plan
22 is still being developed. It's really in a fairly
23 preliminary stage of development. We're
24 brainstorming ideas right now.

25 HEARING OFFICER FAY: All right. Is

1 there anything further then that the parties want
2 to add?

3 MR. SARVEY: I'd like to ask Mr. Taylor
4 one question.

5 HEARING OFFICER FAY: Sure, Mr. Sarvey,
6 go ahead.

7 MR. SARVEY: Mr. Taylor, earlier you
8 indicated that the ammonia emissions, nitrogen
9 deposition from the ammonia emissions was a
10 significant impact. Do you feel that reason alone
11 is a good reason to minimize ammonia emissions
12 from this project?

13 MR. TAYLOR: I can't address the
14 biological mitigation specifically. But I can say
15 that the best possible nitrogen deposition
16 mitigation you could achieve would be to avoid
17 emissions in the first place.

18 MR. SARVEY: Thank you.

19 HEARING OFFICER FAY: Is that it, then?

20 MR. SARVEY: That's it, thank you.

21 HEARING OFFICER FAY: Okay. Well, if
22 there's nothing further on air quality matters, I
23 want to thank everybody for being so cooperative
24 in this informal format, because I think it may
25 have worked very well. It helps.

1 I'd like to address, finally, the briefs
2 that we would -- the Committee's going to order.
3 They're due July 29th, by the close of business.
4 You can expect transcripts probably within two
5 weeks of today.

6 And as per Commission practice, we
7 expect generous citation to the record to support
8 your positions.

9 Obviously the primary issue is the
10 question of ammonia slip. And we expect the
11 parties to thoroughly brief that. And also
12 concern about your CO questions.

13 I also think that we're going to need
14 some proposed language from both the staff and the
15 applicant on a reasonable condition to monitor the
16 progress on the bike path restoration.

17 Is there anything further before I ask
18 for public comment? Any questions about where we
19 go from here in the proceeding?

20 The record will remain open for the
21 purpose of receiving the City's change of the
22 zoning. I'm not aware of any other evidence still
23 pending.

24 Mr. Wheatland?

25 MR. WHEATLAND: The addendum to the

1 staff analysis in response to --

2 HEARING OFFICER FAY: Oh, you're
3 correct. Yes. So we will hold the record open to
4 receive staff's addendum within two weeks of
5 today. And expect that that will be addressed to
6 the extent that the applicant and Mr. Sarvey feel
7 the need to in their brief.

8 MR. RATLIFF: I believe the staff is
9 required to write verifications for each of the
10 conditions that its incorporating from the Air
11 District, is that correct?

12 HEARING OFFICER FAY: And that would
13 come in, --

14 MR. RATLIFF: So that's something that
15 we still have to do and submit to you.

16 HEARING OFFICER FAY: Okay.

17 MR. TAYLOR: My intention in the
18 addendum is to incorporate a full set of clean
19 conditions, so that those can be easily
20 incorporated into, I assume, the PMPD.

21 MR. RATLIFF: And I'm sure the applicant
22 wants to see those, and perhaps respond to them.

23 HEARING OFFICER FAY: Right, and I hope
24 you figure some editorial way to call out the
25 changes, or at least note where most of the

1 changes are.

2 MR. TAYLOR: Do you mean the changes
3 between the District's revised PDOC and the
4 District's final DOC?

5 HEARING OFFICER FAY: Well, actually I
6 was thinking in terms of the staff's FSA. But
7 whatever you think is the most informative.

8 MR. TAYLOR: The conditions in the
9 staff's FSA are virtually identical to the
10 conditions in the revised preliminary
11 determination of compliance. The only changes to
12 those conditions would be changes between the
13 preliminary determination of compliance and the
14 final determination of compliance. So I don't
15 intend to call those out directly unless it's a
16 request that I do so. Because those are
17 documented in the final determination of
18 compliance.

19 If there are any changes to staff's
20 conditions, that's the AQ-SC conditions, I would
21 certainly call those out specifically.

22 HEARING OFFICER FAY: Okay. Mr.
23 Rubenstein.

24 MR. RUBENSTEIN: Mr. Fay, I think you
25 were, in fact, asking for an evidentiary trail

1 from what's in the FSA to the final conditions,
2 and because the changes are so minimal I don't
3 think it would be that difficult to do and show it
4 as a markup, if that's what you wish.

5 HEARING OFFICER FAY: So you're not
6 concerned about --

7 MR. RUBENSTEIN: No, no, I think -- and
8 we can work with staff to help present that in a
9 clear way for you.

10 HEARING OFFICER FAY: Okay, yeah, --

11 MR. RUBENSTEIN: There are --

12 HEARING OFFICER FAY: -- we want that, I
13 won't necessarily be drafting this section. We
14 want a very clear record to help anybody who's
15 assisting the Committee. So be self conscious of
16 that, if you can, and just assume that whoever's
17 reading it may be reading it for the first time
18 and not acquainted with the changes that have
19 occurred.

20 MR. RUBENSTEIN: Mr. Fay.

21 HEARING OFFICER FAY: Yes.

22 MR. RUBENSTEIN: There were a few other
23 documents that we would, I think, request that you
24 keep the record open for. And those are the Bay
25 Area District's response letters to the Commission

1 Staff, to CARE and to any other commenters on the
2 FDOC. I only received one response letter, which
3 was the letter addressed to me on behalf of the
4 applicant. But we would like to see all of those
5 response letters included in the record.

6 And I think we can commit to providing
7 those to you certainly by Friday of this -- that
8 would be tomorrow.

9 HEARING OFFICER FAY: Okay, fine.
10 Anything else you anticipate coming in? No, okay.

11 Any further questions about the briefs
12 or --

13 MR. RATLIFF: One question about the, I
14 think you said a monitoring condition for the bike
15 trail. Is that --

16 HEARING OFFICER FAY: Well, a condition
17 of certification that would either -- or a
18 combination of milestones and obviously it must be
19 something that can be monitored, so we can
20 determine if it has happened.

21 MR. RATLIFF: I wondered if it was an
22 informational condition or involved some further
23 obligation that we would be requiring Calpine to
24 meet. Such as payment by --

25 HEARING OFFICER FAY: Well, I --

1 MR. RATLIFF: -- the occurrence of an
2 event or something like that.

3 HEARING OFFICER FAY: Based on what we
4 heard today, it sounds like the applicant has made
5 this offer through the City.

6 MR. RATLIFF: Yes.

7 HEARING OFFICER FAY: So, I suppose one
8 thing staff could consider is cranking that into a
9 condition. But, we basically want recommended
10 language on how to do as much as the Commission
11 can do to encourage restoration of the bike path,
12 you know, in a practical sense. To actually --

13 MR. RATLIFF: So this might be more of a
14 reporting requirement then, that we come back --

15 HEARING OFFICER FAY: If that's what
16 staff thinks would be the most useful. Okay,
17 anything further?

18 MR. SARVEY: I'm a little uncomfortable
19 about having an opportunity to review the FDOC,
20 and ask Mr. Hill some questions. I don't know how
21 procedurally we --

22 HEARING OFFICER FAY: Why don't we do
23 this. Why don't we give you leave also to submit
24 anything in the next, you know, within two
25 weeks, --

1 MR. SARVEY: Okay.

2 HEARING OFFICER FAY: -- any further
3 comments on the FDOC. And we'll take your
4 comments under submission, as well.

5 MR. SARVEY: Thank you.

6 HEARING OFFICER FAY: Yeah, because I
7 recognize it's a very short time. And, of course,
8 Mr. Wheatland, Mr. Rubenstein, do the same, if you
9 have any further comments to make on the FDOC.

10 Mr. Ratliff, I don't recall if we moved
11 the FDOC into evidence.

12 MR. RATLIFF: I don't believe we have,
13 no. We'd go ahead and so move that it be --

14 HEARING OFFICER FAY: Okay, staff has
15 moved the FDOC prepared by the Air District. Any
16 objection to receiving it?

17 I hear none. That will be the next
18 exhibit in order.

19 And now I'd like to ask if there's
20 anybody from the public that would like to make a
21 comment about any of the matters we've discussed
22 today. Anybody on the phone?

23 MR. BUIKEMA: Yes, Mr. Fay, this is
24 Richard Buikema from the San Jose Planning
25 Department. I have just a general legal question

1 I'd like to address -- the evidentiary hearing.

2 HEARING OFFICER FAY: Okay.

3 MR. BUIKEMA: We want to get
4 confirmation on the current position as to the
5 adequacy of the final staff assessment as a GIR-
6 equivalent document. We understand that there was
7 an executive order by the former Governor
8 requiring the use of the FSA by responsible
9 agencies, but that expired in December of 2001.

10 We were just wondering if, has the
11 Commission, since that time, determined that
12 another document is appropriate for use by
13 responsible agencies for CEQA purposes, or is its
14 final staff assessment still considered to serve
15 that purpose in spite of its preliminary nature.

16 HEARING OFFICER FAY: I'm going to ask
17 Mr. Ratliff, the attorney for the staff, to
18 address that.

19 MR. RATLIFF: The position of the Office
20 of Chief Counsel has been for many years that the
21 final staff assessment can be used as the
22 equivalent of the environmental document under
23 section 25519.

24 And that that position preceded the
25 executive order. And there has been no change in

1 that position reported to anyone.

2 If there are any doubts about it I would
3 suggest that the City contact the Chief Counsel
4 and discuss it with the Chief Counsel. But that
5 has always been the Chief Counsel's position.

6 MR. BUIKEMA: Okay, thank you for that
7 clarification. We were just curious as to why
8 there was a need for a Governor's action if that
9 was always the case.

10 MR. RATLIFF: Well, I don't -- I'm not
11 the person to tell you what motivated the Governor
12 to issue the executive order. But, he did.

13 HEARING OFFICER FAY: Was this during
14 the energy crisis?

15 MR. RATLIFF: This was during the energy
16 crisis, it was one of a number of executive
17 orders. And I think it was directed, you know, if
18 there was any question about that issue, it was to
19 clarify it.

20 HEARING OFFICER FAY: Okay, does that
21 help, Mr. Buikema?

22 MR. BUIKEMA: Yes, I will follow that up
23 with an email.

24 HEARING OFFICER FAY: Okay, thank you.
25 We have no indication of public comment. Any

1 further comments before we adjourn? Questions?

2 All right, I see no indication.

3 Thank you, all. We are adjourned.

4 (Whereupon, at 12:20 p.m., the hearing
5 was adjourned.)

6 --o0o--

CERTIFICATE OF REPORTER

I, CHRISTOPHER LOVERRO, 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 8th day of July, 2005.