

BEFORE THE ENVIRONMENTAL APPEALS BOARD SEP 18 2018

U.S. ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. ENVIRONMENTAL APPEALS BOARD

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ORAL ARGUMENT

ORIGINAL
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IN RE:	:
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PALMDALE ENERGY, LLC	: PSD Appeal No.
PALMDALE ENERGY PROJECT	: 18-01
	:
Permit No. SE 17-01	:
	:

Thursday,
August 30, 2018

Administrative Courtroom
Room 1152
EPA East Building
1201 Constitution Avenue, NW
Washington, DC

The above-entitled matter came on for hearing, pursuant to notice, at 10:30 a.m.

BEFORE:

THE HONORABLE AARON AVILA
Environmental Appeals Judge

THE HONORABLE MARY KAY LYNCH
Environmental Appeals Judge

THE HONORABLE KATHIE A. STEIN
Environmental Appeals Judge

APPEARANCES:On Behalf of the Environmental Protection Agency Region IX:

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ALSO PRESENT:

Eurika Durr, Clerk of the Board

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

2 10:31 a.m.

3 JUDGE AVILA: Good morning, everyone.

4 The Environmental Appeals Board is
5 hearing oral argument today on a petition for
6 review of a Prevention of Significant
7 Deterioration Permit that EPA Region IX issued to
8 Palmdale Energy, LLC, pursuant to the Clean Air
9 Act.

10 Petitioners are the Center for
11 Biological Diversity, the Desert Citizens Against
12 Pollution, California Communities Against Toxics,
13 and the Sierra Club.

14 Today's argument will proceed as
15 outlined in the Board's July 30th order. We'll
16 hear first from the Petitioners, then EPA Region
17 IX, and then, Petitioners, if they decide to
18 reserve time for rebuttal, we'll hear from them.
19 And you can reserve up to five minutes for
20 rebuttal. We ask that the parties begin their
21 arguments by first addressing the best available
22 control technology issues.

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1 On behalf of the Board, I would like
2 to express that we very much appreciate the time
3 and effort each of you has expended in connection
4 with the briefing on the petition and preparing
5 for and participating in this oral argument.

6 Oral argument is an important
7 opportunity for you to explain your contentions
8 and the important issues in this case to the
9 Board. It is also an opportunity for the judges
10 to explore with you the contours of your
11 arguments and the issues in this case. You
12 should assume that we have read the briefs and
13 other submissions, and therefore, are likely to
14 ask questions that will assist us in our
15 deliberations. You should not assume that the
16 judges have made up their minds about any of the
17 issues in the case, but, instead, we are using
18 this as an opportunity to listen, to help
19 understand your position, and to probe the legal
20 and record support on which the Region based its
21 permit decision.

22 There's no photography, filming, or

1 recording of any kind during the oral argument.
2 We do have a court reporter transcribing the oral
3 argument and a transcript of the argument will be
4 posted to the docket in this matter.

5 In addition to those in the courtroom,
6 I'd also like to note that EPA Regions VIII and
7 IX are observing the oral argument by
8 videoconference, and a representative of the
9 permittee is listening to the audio feed of the
10 oral argument.

11 With that, before we begin the
12 argument, I'd appreciate it if all counsel would
13 introduce themselves and anyone who is
14 accompanying them to the panel. Let's start with
15 the Petitioners, and then, EPA Region IX.

16 MR. UKEILEY: Good morning.

17 Robert Ukeiley on behalf of the Center
18 for Biological Diversity, Desert Citizens Against
19 Pollution, California Communities Against Toxics,
20 and the Sierra Club.

21 MS. WALTERS: Good morning.

22 I'm Julie Walters with EPA's Office of

1 Regional Counsel, and I'll be presenting argument
2 regarding the air quality impact analysis on
3 behalf of Region IX.

4 MR. KRALLMAN: John Krallman, Office
5 of General Counsel. I'll be presenting arguments
6 on behalf of Region IX on the best available
7 control technology.

8 JUDGE AVILA: Okay. Well, let's start
9 with Petitioners. Did you want to reserve --
10 I'll let you get up to the podium. Sorry. Did
11 you want to reserve time for rebuttal?

12 MR. UKEILEY: Yes, I'd like to reserve
13 five minutes.

14 JUDGE AVILA: Five minutes? Okay.
15 Great. Go ahead.

16 ORAL ARGUMENT ON BEHALF OF PETITIONERS

17 MR. UKEILEY: And I'm having a little
18 difficulty with my voice, so forgive me if I take
19 a drink of water.

20 So, turning first to the BACT issue,
21 and the basic issue is we were arguing that the
22 duct burners should be replaced with batteries.

1 JUDGE AVILA: When you say that, do
2 you mean that the batteries should physically
3 perform the same function as the duct burners or
4 do you mean that the duct burners should just be
5 used to provide electricity when the duct burners
6 otherwise would provide electricity? The
7 batteries. Sorry.

8 MR. UKEILEY: No, we think that the
9 duct burners should not exist and they should be
10 completely replaced with batteries that will
11 provide that same functionality.

12 JUDGE AVILA: But I understood the
13 duct burners to increase the heat of the exhaust
14 when it goes into the HRSG, right?

15 MR. UKEILEY: No. The same function,
16 the same end functionality, which is to provide
17 electricity in certain parameters to the grid.

18 JUDGE AVILA: So, the batteries would
19 provide electricity to the grid in the same way
20 that the duct -- or in the same amount or the
21 same function that the duct burners would have if
22 they --

1 MR. UKEILEY: Yes, although, as we've
2 noted, the batteries have additional
3 functionality which is superior to the duct
4 burners and completely consistent with the
5 project proponents' stated business purpose. The
6 stated business purpose is to integrate large
7 amounts of photovoltaics, or PV, with
8 batteries --

9 JUDGE LYNCH: Counsel, can I ask a
10 question?

11 MR. UKEILEY: Sure.

12 JUDGE LYNCH: Can I interject?

13 I want to go back to the duct burners.
14 Is your proposal based on a view that the duct
15 burners are only or primarily used as a peak
16 power source? When I read page 19 of your brief,
17 that's the sense that I get, but I wanted to
18 confirm that.

19 MR. UKEILEY: Yes. So, another
20 limitation on the duct burners is that they can
21 only operate when the combustion turbines are
22 operating. That's a disadvantage.

1 JUDGE LYNCH: So, your view is they're
2 just used as a peak power source?

3 MR. UKEILEY: Yes.

4 JUDGE LYNCH: So, in that sense, is
5 this facility similar to the Arizona Public
6 Service Ocotillo Plant? And you discuss that in
7 your brief, in your petition a fair amount.

8 MR. UKEILEY: Yes. So, it's similar
9 conceptually, but there are important
10 distinctions. For example, Arizona Public
11 Service is a load-following -- a load-serving
12 entity. Palmdale is not. As far as I know,
13 Arizona Public Service is the balancing authority
14 and there's no competitive market.

15 JUDGE LYNCH: Although to the extent
16 you're focused on the duct burners' peaking
17 service, it's similar to the discussion in
18 Ocotillo on the peaking function of that
19 facility?

20 MR. UKEILEY: Except the Ocotillo, the
21 Arizona Public Service talked a lot about
22 reliability and serving the needs of the grid.

1 This is an merchant plant. It has --

2 JUDGE LYNCH: I understand. All
3 right. Thank you.

4 JUDGE STEIN: Can you point me to any
5 other plant, combined cycle, in which batteries
6 are being used to replace duct burners?

7 MR. UKEILEY: No, I cannot. I don't
8 think that difference or that distinction has any
9 meaning. As we point out in the briefs,
10 integrating different, quote/unquote, "generating
11 resources" at a control room or at the switchyard
12 has happened for decades and decades in numerous
13 combinations. It just happens to be that
14 combined cycle and batteries is not one of them.
15 But there are --

16 JUDGE STEIN: Technology is
17 transferable to this context. Don't you need to
18 show that it would be feasible for this context?
19 I mean, I understand you assert that it's
20 feasible, but what would the closest example be,
21 if there is one --

22 MR. UKEILEY: Sure.

1 JUDGE STEIN: -- that we could look
2 to, to show that there is an available technology
3 that can be transferred to this particular
4 facility, since you seem to concede there's
5 nothing that's operating today or that you're
6 aware of like what you're proposing?

7 MR. UKEILEY: Right. So, well, two
8 answers to that. I mean, perhaps the closest
9 facility is the GE hybrid, quote/unquote,
10 "hybrid" simple cycle combustion turbines.
11 Public PG&E, the utility in northern California
12 currently has a proposal to put batteries in Moss
13 Landing, which is an old natural gas steam
14 boiler. The HRSG, the heat recovery steam
15 generator, is essentially a smallish natural-gas-
16 fired steam boiler.

17 But I think the more important answer
18 to that question is that, for example, the New
19 Source Review Workshop Manual B-19 says that,
20 when you're looking at technology transfer, it's
21 incumbent on the agency or the permittee to
22 identify any physical or chemical differences

1 that would prohibit or at least challenge a
2 technology transfer.

3 JUDGE AVILA: But, on that point,
4 doesn't one of the articles in Appendix 3 of the
5 Fact Sheet say that frequent charging and
6 discharging is hard on battery cells and causes
7 them to age more quickly, and the batteries
8 subjected to this high stress have the most
9 frequent incidents of fire? And isn't one of the
10 purposes of this facility to provide load-
11 following functions, so the batteries would have
12 to, if they're going to replace the duct burners,
13 operate in that fashion?

14 MR. UKEILEY: Again, a couple of
15 answers. One is I think it's arbitrary to hold
16 the batteries to a higher standard than the duct
17 burners. So, the duct burners face -- I think
18 it's arbitrary to pretend that they can turn the
19 duct burners on anytime --

20 JUDGE LYNCH: So, Counsel, are you
21 saying that that information in the record is
22 irrelevant or wrong?

1 MR. UKEILEY: No, I'm not saying that.

2 JUDGE LYNCH: Okay.

3 MR. UKEILEY: I'm saying that the
4 batteries -- I wouldn't even call it highly
5 relevant. I don't think that one statement that
6 batteries may suffer from some catastrophic
7 failure would be grounds for dismissing them,
8 because natural-gas-fired power plants have also
9 suffered from catastrophic failures.

10 JUDGE LYNCH: Okay. Thanks.

11 Can I ask you a question about
12 availability, go back to that?

13 MR. UKEILEY: Yes.

14 JUDGE LYNCH: You mentioned the NSR
15 Manual, and in terms of availability, the Manual
16 B-18 speaks in terms of licensing and commercial
17 sales stage of development. Are there any
18 facilities with this configuration that are
19 available in the sense of that criteria?

20 MR. UKEILEY: Yes. The battery --

21 JUDGE LYNCH: This configuration.

22 MR. UKEILEY: There's no evidence that

1 a vendor such as gas CAISO would say no to this
2 configuration, and there's absolutely no reason
3 to believe that.

4 JUDGE LYNCH: But my question is, is
5 there anything in the record to show that a
6 combined cycle gas turbine system with batteries
7 is at the licensing and commercial sales stage of
8 development?

9 MR. UKEILEY: No, and that's why we're
10 asking for a remand. This all came up in
11 response to comments in which we didn't have any
12 opportunity. If there was a remand, that would
13 provide us with the opportunity to get vendors'
14 statements to state the obvious.

15 JUDGE LYNCH: Well, sir, in terms of
16 vendor statements, doesn't the NSR Manual, again,
17 B-20, also say that vendor guarantees are not
18 dispositive at step two?

19 MR. UKEILEY: I believe vendor
20 guarantees are not dispositive at any step. But
21 that would be, you're asking if there's evidence
22 in the record. I'm saying we weren't --

1 JUDGE LYNCH: This is a second
2 question. It was a separate question, but okay.

3 MR. UKEILEY: Yes. But, if I can
4 circle back to the question of the batteries
5 can't be held or it's arbitrary to hold the
6 batteries to a standard that the duct burners
7 can't meet, so there's this mythology that
8 Palmdale could turn on the duct burners whenever
9 they want. But that is factually incorrect.

10 There are at least three limitations
11 on that. One is they have a 1500, approximately,
12 hour limit a year. Batteries would not have that
13 limit. So, there can certainly be a situation
14 where the duct burners would not be available
15 because of the time limit, but batteries would be
16 available.

17 Similarly, the duct burners cannot
18 work, cannot operate when the combustion turbines
19 are not operating. So, again, you can't just
20 pretend like they can. And that's actually a
21 business advantage to Palmdale and an economic
22 advantage.

1 Third is there's no evidence in the
2 record --

3 JUDGE LYNCH: So, sir, if there's a
4 business advantage and an economic advantage, why
5 wouldn't this facility and others be adopting
6 your proposal?

7 MR. UKEILEY: Yes. Why do businesses
8 make bad business decisions? I can't answer
9 that. I can say that it's clearly true that
10 businesses make bad business decisions, make bad
11 business decisions all the time. There are
12 numerous companies proposing battery
13 facilities --

14 JUDGE LYNCH: But not this
15 configuration?

16 MR. UKEILEY: Correct. There are no
17 other combined cycle combustion turbine proposals
18 in California right now. Arguably, just that
19 configuration is a very bad business decision.
20 Yesterday, California proposed, or the Assembly
21 passed a 100-percent renewable standard, which
22 puts this facility at great risk of becoming

1 stranded capital, but it's still there. But it
2 clearly is an outlier. So, in this category of
3 one, it is true that no one has proposed that.

4 JUDGE STEIN: But when you look at the
5 scope of the Region's obligation to do an
6 appropriate BACT analysis, I mean it's clear that
7 in the original analysis that they did that they
8 looked at batteries. They looked at them not in
9 the way that you are now suggesting. But, if
10 there is no plant operating with this
11 configuration, and they looked at batteries
12 generically, then why was it error for them not
13 to anticipate this configuration when they
14 conducted their BACT analysis?

15 MR. UKEILEY: That's what technology
16 transfer is. By definition, there's no existing
17 configuration when you're proposing technology
18 transfer. And so, to limit BACT to only existing
19 configurations takes away the concept of
20 technology transfer and, more importantly, takes
21 away the technology-forcing nature of BACT. It
22 no longer becomes best; it becomes what's been

1 done in the past.

2 JUDGE STEIN: But how far does that
3 go?

4 JUDGE AVILA: I was just going to say,
5 what about the available part of BACT?

6 MR. UKEILEY: So, that's what
7 technology transfer is. If there's no evidence
8 of physical or chemical characteristics that
9 would prohibit the configuration, then the agency
10 is required to accept it. Here, the switchyard
11 is agnostic from a physical-chemical point of
12 view about where its electricity comes from, as
13 evidenced by the fact that for decades, if not a
14 century, different types of generators have been
15 combined at facilities to serve the same
16 switchyard.

17 JUDGE AVILA: As I understand it, the
18 Region rejected your proposal at step two, step
19 three, and step four of the BACT analysis. If we
20 concluded the Region didn't err at any one of
21 those steps -- say it's step two -- I take it
22 that means we have to deny your petition on the

1 BACT issue? Is that correct?

2 MR. UKEILEY: Well, yes and no. If
3 there was a BACT analysis, we would have to
4 prevail at all steps. However, our fundamental
5 position is that BACT analysis should not be
6 performed in response to comments because the
7 public doesn't have an opportunity to comment.

8 Obviously, there's some analysis
9 performed in response to comments, but a wholly
10 new BACT analysis should be subject to public
11 comment. That's not what happened here.

12 JUDGE LYNCH: But that wasn't really
13 the question. What I'd like to know is, for
14 example, if the Board upheld the Region -- assume
15 there was a BACT analysis or assume we find that
16 there was an appropriate BACT analysis, and we
17 upheld the Region at step two or step three. Do
18 we have to address the other steps?

19 MR. UKEILEY: If, hypothetically,
20 there was a BACT analysis, then, yes, for
21 Petitioner to prevail on having seen a technology
22 -- well, to get a ruling that batteries are BACT,

1 then, yes, we'd have to prevail at all steps to
2 get a --

3 JUDGE LYNCH: And what about the
4 reverse, to uphold the Region, would we be able
5 to do it just on one step? So, for example, two
6 or three?

7 MR. UKEILEY: Again, hypothetically --

8 JUDGE LYNCH: Yes.

9 MR. UKEILEY: -- putting aside the
10 fact that there was no opportunity for public
11 comment, if -- no, the -- well, yes. If you
12 upheld the Region as rejecting a technology at
13 step two, then you wouldn't have to go to step
14 three or step four if BACT is sequential.

15 JUDGE AVILA: In your comment letter,
16 did you ask for the Region to restart the BACT
17 analysis and do a whole new public comment
18 process on it? Because that's what I seemed to
19 hear you saying now.

20 MR. UKEILEY: I can't cite the exact
21 language. I'll address that on my rebuttal.

22 JUDGE AVILA: Okay. That would be

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1 great.

2 I think we kind of covered this, but
3 you point to some examples in Appendix 3 of
4 batteries that would last four hours long,
5 Appendix 3 of the Fact Sheet. But, again, none
6 of those facilities involve a combined cycle
7 plant, right?

8 MR. UKEILEY: When you say "involve,"
9 I think you mean co-located beyond, behind their
10 switchyard. That is true. They all involve
11 combined cycle facilities, in that they're all
12 feeding into California ISO, which is the
13 balancing authority and is responsible for
14 keeping the lights on.

15 JUDGE STEIN: Is that in the record,
16 that the facilities that are cited in Appendix 3
17 are combined cycle facilities?

18 MR. UKEILEY: No. Again, what I was
19 saying is they're not co-located behind the
20 switchyard of a combined cycle.

21 JUDGE STEIN: Okay.

22 MR. UKEILEY: I'm admitting that. But

1 what I'm explaining is, the relevant question, I
2 think, is whether the system operator can use
3 both resources, and those facilities will be used
4 with combined cycle facilities by the independent
5 system operator.

6 JUDGE LYNCH: Counsel, I had a
7 question about BACT step one. In your reply
8 brief at page 2 to 3, you say that the Region, in
9 footnote 3 in their response brief, is arguing
10 that your particular proposal would redefine the
11 source. I think there's a different way to read
12 the Region's footnote 3 as to be talking about a
13 different type of configuration with batteries,
14 what they refer to in footnote 49 in the Fact
15 Sheet as an independent battery operation. I
16 mean, it could be co-located next to a gas
17 turbine.

18 But my question to you is, does the
19 Board need to resolve that interpretation around
20 the Region's footnote 3?

21 MR. UKEILEY: I agree that it could be
22 read that way. I was being cautious by --

1 JUDGE LYNCH: Okay.

2 MR. UKEILEY: -- including that
3 argument. I do not think that the Board needs to
4 address redefining the source.

5 JUDGE LYNCH: Okay.

6 JUDGE AVILA: Why don't we turn to the
7 ambient air issue for a little bit? And I don't
8 know if you have it with you, but do you have
9 Appendix 6 to the Fact Sheet?

10 MR. UKEILEY: I have it on my
11 computer.

12 JUDGE AVILA: We actually have --
13 Clerk, could you give a copy of it to all
14 counsel, please?

15 So, I guess my question is, if you've
16 had a chance to look at it --

17 MR. UKEILEY: Yes, I'm familiar.

18 JUDGE AVILA: This seems to have the
19 contour line diagrams of cumulative one-hour NO2
20 that includes impacts from Plant 42 sources on
21 receptors within Plant 42. It also includes the
22 impacts from the PEP facility and background

1 concentration, and shows that it's going to be
2 below the NAAQS.

3 Why isn't this exactly what you were
4 asking for in your petition? Putting aside I
5 know you disagree with how they model, how they
6 treated aircraft emissions at Plant 42, but,
7 otherwise, isn't this the exact thing you're
8 asking for?

9 MR. UKEILEY: Well, it could appear
10 that way. You can't tell what the receptor grid
11 is by looking just at a picture. But our
12 argument on ambient air is two parts: that they
13 need to have the complete receptor grid and they
14 need to have the jet engines.

15 For example, you can't -- assuming
16 this is orientated north, in the southeast corner
17 there's no impacts. Those are the Plant 42
18 facilities. I don't know if there are receptor
19 grids or if there are receptors there or not.
20 Where the impact is I believe is where like the
21 terminal, for lack of a better term, of the
22 Palmdale Regional Airport is. So, that's what

1 this could be. But I guess more concerning is I
2 don't know if there are receptors at the Plant 42
3 GOCO facilities.

4 JUDGE LYNCH: Counsel, I was just
5 going to ask about Plant 42. I didn't read your
6 comments on the permit, proposed permit, to argue
7 that Plant 42 was open to the public. Is that
8 right? And then, if that's correct, how is that
9 properly before the Board?

10 MR. UKEILEY: Yes. So, terminology-
11 wise, we were saying that there was no
12 explanation of why ambient -- why Palmdale
13 Regional Airport was considered, didn't have
14 receptor grids. We didn't provide a response to
15 EPA's eventual argument that it's not open to the
16 public in our comments. I would argue that it
17 wasn't reasonable, discernible that their
18 argument was going to be it's not open to the
19 public, because that doesn't appear anyplace in
20 the pre-response to comment documents.

21 JUDGE AVILA: I thought the
22 application said that they weren't looking at

1 cumulative -- the Cumulative Modeling Analysis
2 wasn't going to include Plant 42 because it was
3 closed to the public. And I thought that was in
4 the application at 6.4-1 and 6.4-2.

5 MR. UKEILEY: So, that wasn't the
6 agency's articulated position.

7 JUDGE LYNCH: But that information
8 would have been available to you?

9 MR. UKEILEY: I guess if we had read
10 every single page.

11 JUDGE AVILA: You've cited it in your
12 petition on page 44. You say, "The application
13 states," and blah, blah, blah, "Plant 42 is not
14 open for public access."

15 MR. UKEILEY: Right. I'm saying, if
16 we had read every page when we were doing our
17 comments --

18 JUDGE AVILA: I see.

19 MR. UKEILEY: -- then the information
20 would have been available. I think that's not a
21 reasonable bar. I think that the standard should
22 be that commenters who have a very relatively

1 short amount of time should -- the Fact Sheet is
2 required to articulate the agency's position.

3 JUDGE AVILA: And just on the
4 treatment of the aircraft emissions, the Region
5 considers studies that show that emissions from
6 large commercial airports with significantly
7 greater air traffic than Plant 42 adversely
8 affect air quality less than the motor vehicle
9 emissions at a nearby roadway. So, that's why
10 they said using the Lancaster Division Modeling
11 Station was appropriate.

12 MR. UKEILEY: Right.

13 JUDGE AVILA: I didn't really see a
14 response. I didn't see how you confronted that
15 explanation in your petition.

16 MR. UKEILEY: So, we have emphasized
17 numerous times that there's a distinction between
18 military aircraft, especially the B-2 which is an
19 old design -- they're not subject to any emission
20 limitations. And this is, in particular, an old
21 design. I think it's arbitrary for an agency to
22 qualitatively dismiss emissions when they don't

1 even offer how much those emissions are. Even at
2 this point, we have no idea, based on what the
3 agency has said, what the B-2 bomber emissions
4 are. We don't know if they're exponentially
5 higher than commercial aircraft or, you know,
6 could be two or three orders of magnitude higher.
7 We don't know. I don't think that the Board
8 should accept a qualitative analysis of an
9 unknown value.

10 JUDGE AVILA: Okay. Thank you very
11 much.

12 We'll give you your five minutes for
13 rebuttal, and we'll add six minutes to the
14 Region's time, so they'll have 36 minutes.

15 MR. UKEILEY: Thank you.

16 JUDGE AVILA: Thank you.

17 It's 36 minutes. Thanks.

18 ORAL ARGUMENT ON BEHALF OF THE AGENCY

19 MR. KRALLMAN: Good morning, Your
20 Honors.

21 Again, my name is John Krallman from
22 the Office of General Counsel. I'll be

1 discussing the best available control technology
2 issue on behalf of Region IX.

3 In this case, the Region received a
4 very general, non-detailed comment in public
5 comments suggesting a completely novel
6 configuration of a combined cycle natural gas
7 facility using battery storage in lieu of duct
8 burners. Given the detail contained in the
9 comment, the Region performed the warranted level
10 of analysis to reject the configuration suggested
11 because it was unclear whether it was really
12 available or would be technically feasible for
13 this facility. The emission reductions simply
14 were not measurable or really meaningful from
15 this redesign of this facility, and the cost of
16 these kinds of batteries to be able to achieve
17 these requirements were just too significant to
18 be considered cost-effective.

19 JUDGE AVILA: But --

20 JUDGE LYNCH: Counsel --

21 JUDGE AVILA: Go ahead. Go ahead.

22 JUDGE LYNCH: -- why did EPA jump to

1 step two?

2 MR. KRALLMAN: As opposed to looking
3 at whether this would redefine the source, Your
4 Honor?

5 JUDGE LYNCH: Correct.

6 MR. KRALLMAN: I think that, because
7 this kind of design, this is the first time this
8 sort of design replacing generating capacity with
9 storage capacity had been raised, instead of
10 jumping -- you know, instead of looking at step
11 one and saying, all right, based on our existing
12 policy, does this redefine the source, because it
13 was so easy to dismiss this as not being BACT at
14 the further steps, the Region went ahead.

15 And, in fact, the decision not to
16 reject it at step one was within the discretion
17 of the Region because, as EPA's guidance
18 suggests, it is within the permitting agency's
19 discretion to reject something that would
20 redefine the source. So, the fact that it wasn't
21 rejected as redefining the source should not lead
22 to the conclusion that it doesn't redefine the

1 source. And instead, in responding to comments,
2 the Region simply looked at it and said, even if
3 we assumed that it wouldn't redefine the source,
4 this would not be BACT.

5 JUDGE AVILA: So, that also, to the
6 extent -- I want to make sure we close the loop
7 on this. Petitioner construed in their reply
8 brief, footnote 3, to be making a redefining the
9 source argument here, you are not --

10 MR. KRALLMAN: That is not -- that is
11 correct, Your Honor, in the brief we are not
12 making a redefining the source argument. That
13 was part of the Region's initial analysis of
14 independent battery storage, and looking at
15 independent battery storage completely, it's
16 separate from generation as far as replacing a
17 large portion of the combined cycle facility. In
18 the Fact Sheet the Region said, well, we think
19 that would redefine the source.

20 The Region did look at the kind of
21 configuration that is the GE model that was in
22 the Fact Sheet and a similar configuration to

1 what was proposed in the Ocotillo permit, which
2 is the batteries would basically allow the
3 facility to shut off the combined cycle natural
4 gas turbines when they weren't needed, and the
5 batteries would provide initial startup power, so
6 the facility could black-start instead of running
7 at low idle.

8 So, basically, the batteries didn't
9 replace the generating capacity, but they allowed
10 the generating capacity to operate more
11 effectively and more efficiently. This is a very
12 different configuration --

13 JUDGE LYNCH: And could I just pause
14 you for a moment? Did you reject that, I'll call
15 it a hybrid, although -- on step two?

16 MR. KRALLMAN: Yes, Your Honor, the
17 Region rejected that at step two. That was
18 included in the response to comments. That's not
19 at issue in this petition. It was not
20 challenged, that decision to reject that.

21 So, as the Petitioner admits, no
22 facility is configured like this. There may be

1 some co-location, but it's not entirely -- no
2 facility is using battery storage to provide sort
3 of the additional power that duct burners, which
4 are a well-understood component of combined cycle
5 natural gas facilities, provide, which is that
6 extra heat to the heat recovery system, to
7 provide sort of the extra steam and extra power
8 when needed and when demanded at the absolute --
9 basically, duct burners allow you to not have to
10 upsize your turbine when you only anticipate
11 needing that extra little energy part of the
12 time.

13 JUDGE LYNCH: Well, Counsel, then, the
14 question I have is, are the duct burners only
15 used as a peak power source?

16 MR. KRALLMAN: They're not required to
17 be used that way. They do only operate when the
18 combined cycle natural gas turbine is operating.
19 So, it would be well-controlled. The permit does
20 not require them to only operate when the
21 combustion turbine is operating at 100 percent.
22 But, from an efficient standpoint and from a

1 simple good practices standpoint, they would only
2 be used because the turbine is slightly more
3 efficient than the duct burners. So, the best
4 use of natural gas for the facility to provide
5 the most power is to first use up all of the
6 capacity of the turbine. And so, the duct
7 burners would under most circumstances only be
8 used for that extra peak power. But it's not
9 required by the permit.

10 JUDGE LYNCH: And then, in terms of
11 the configuration, in footnote 1 of your brief
12 and in the Fact Sheet, it talks about the prior
13 Palmdale proposal. I think the Board dealt with
14 it in 2012. And that was a hybrid solar. And in
15 the Fact Sheet and in your brief, you say that
16 that proposal is similar or somewhat similar to
17 this. And so, I wanted to understand that a
18 little bit better.

19 And the question I have is, my
20 understanding is that, in that prior permit
21 configuration, there were gas turbines, there
22 were duct burners, but, then, there was a solar

1 component. And when the solar component was
2 operating, the use of the duct burners was much
3 less. So, was the solar -- and you can correct
4 me if I didn't get that quite right -- but, so
5 was the solar component acting in place of the
6 duct burners?

7 MR. KRALLMAN: I'm not as familiar
8 with that facility, Your Honor.

9 JUDGE LYNCH: So, then, what did you
10 mean in your brief when you said it was similar?

11 MR. KRALLMAN: In that it's at the
12 same site, that they're both sort of intended to
13 -- they were both, as I understand it, were both
14 intended to achieve the same types of business
15 purpose, which is to basically be a load-
16 following-type facility, although I believe that
17 the previous proposals and the previous permit --

18 JUDGE LYNCH: Base load.

19 MR. KRALLMAN: -- was more base load.
20 I don't think that we really should -- I don't
21 think it's necessarily that we should be looking
22 back at exactly what was done in the previous

1 permit because this permit should be confronted
2 sort of based on its own.

3 JUDGE LYNCH: Yes, but I was trying to
4 understand what you meant in your brief when you
5 said it was similar.

6 MR. KRALLMAN: Yes, I think, mainly,
7 that it's sort of in the same location, that it's
8 sort of intended to -- they're both natural gas
9 facilities. I don't think that it was intended
10 to suggest that they were necessarily be --
11 intended to achieve the same thing or would be
12 configured the same way.

13 JUDGE LYNCH: Well, then, in terms of
14 the duct burners, is the configuration of the gas
15 turbines and the duct burners in this proposal
16 the same as it was in a prior, the actual
17 physical configuration?

18 MR. KRALLMAN: I would assume so,
19 because of the way the duct burners work. I
20 mean, essentially, with these combined cycle,
21 what you have is you have the initial turbine
22 where you have an air-fuel mixture that is

1 combusted within the turbine to provide
2 mechanical energy that's, then, turned into
3 electricity. The waste heat stream is, then, run
4 through the heat recovery system, which is,
5 essentially, a series of tubes like a boiler that
6 exchanges the heat of that waste stream from the
7 turbine, and the combustion in the turbine, to
8 provide additional steam.

9 What the duct burners do are they sit
10 in the ducts from the turbine to the heat
11 recovery system and, basically, fire natural gas
12 to provide additional heat. So, it adds
13 additional heat and energy to that waste gas
14 stream, which allows for the production of
15 additional steam within the heat recovery system.

16 JUDGE AVILA: So, it's in between --
17 it comes out, the exhaust gas comes out of the
18 turbine, gets additional heat from the duct
19 burners, and then, goes into the HRSG?

20 MR. KRALLMAN: That's correct, Your
21 Honor.

22 JUDGE AVILA: Oddly, the duct burner

1 is not on any -- the diagram that shows the
2 process in the Fact Sheet doesn't show the duct
3 burners anywhere.

4 MR. KRALLMAN: Yes, it does not. It
5 maybe would have been helpful to be able to
6 provide it. It's such an integrated piece of
7 sort of this type of combined cycle facility --

8 JUDGE LYNCH: Although it is listed
9 separately in the permit in terms of equipment.

10 MR. KRALLMAN: It is, because it --
11 well, the equipment is, the combined cycle, I
12 believe, well, in the Fact Sheet, it's listed as
13 a combined cycle turbine with duct burners. But,
14 if it's listed as additional equipment in the
15 permit, I'm --

16 JUDGE LYNCH: It doesn't say
17 "additional". It just lists it separate.

18 MR. KRALLMAN: Yes, it is, because it
19 is --

20 JUDGE LYNCH: Duct burner 1 and duct
21 -- this is on page 2 of the permit.

22 MR. KRALLMAN: It is a separate

1 combustion source. So, you have the combustion
2 within the turbine. The heat recovery system
3 doesn't actually produce any additional
4 emissions. It's just recovering the heat. So,
5 that's the combined cycle nature of the combined
6 cycle, where a simple cycle is just the turbine.

7 JUDGE LYNCH: Am I correct, looking
8 again at page 2 of the permit, that the control
9 equipment for the gas turbine covers the
10 associated duct burner?

11 MR. KRALLMAN: That would be correct.
12 There is only one exhaust point for this
13 facility. So, the duct burners are integrated
14 within the combined cycle natural gas unit. So,
15 they're a piece of that unit.

16 JUDGE AVILA: I'm trying to understand
17 why in the Fact Sheet and the permittee's BACT
18 analysis you treated the turbine and the duct
19 burner together, right? You didn't separate them
20 out --

21 MR. KRALLMAN: No.

22 JUDGE AVILA: -- in doing the BACT

1 analysis. And why was that?

2 MR. KRALLMAN: Because that's sort of
3 the configuration of the unit, I would say, Your
4 Honor. That's typically the way that -- before
5 this proposed idea by the commenters of, you
6 know, instead of using duct burners, use battery
7 storage, the idea to include duct burners within
8 a combined cycle facility, if the business need
9 called for it, was just sort of an assumed piece
10 of it. I think it --

11 JUDGE LYNCH: Do you know if the
12 Region evaluated the gas turbine and duct burners
13 together for BACT purposes in the previous, I'll
14 call it the 2012 permit?

15 MR. KRALLMAN: I believe they would
16 have, Your Honor. I don't think that they would
17 have broken those out as sort of two separate
18 units.

19 And in this case, I think the other
20 piece to go to on step two is not only has nobody
21 configured a facility like this, but the size of
22 the battery storage to be able to meet the need,

1 as the record reflects, would simply be massive.
2 As the Region undertook and looked at what the
3 Petitioner, or the commenters called the "largest
4 lithium ion battery storage system in the world,"
5 and looked at that and considered that, and said,
6 even the largest one in existence would not meet
7 the business needs of this facility to replace
8 the duct burners.

9 JUDGE AVILA: I think Judge Stein has
10 a question.

11 JUDGE STEIN: When the Region is doing
12 a BACT analysis, and it's looking at the issue of
13 technology transfer, what is the scope of its
14 obligation to look? How does that analysis get
15 conducted? I mean, I think, from what we
16 understand here, the particular configuration
17 doesn't exist, but the technology transfer idea
18 is clearly part and parcel of the BACT analysis.
19 So, what is the scope, the breadth, the
20 narrowness of the Region's obligation to look at
21 tech transfer options?

22 MR. KRALLMAN: Well, I think that it's

1 clear, if there's an existing control technology
2 like an SCR or a scrubber or a bag house, looking
3 at it for a different waste stream, that's
4 exactly what the NSR Manual talks to. That's
5 what all of EPA's guidance talks to.

6 The extent to which this sort of
7 reconfigures the facility, when you start getting
8 into that, I think you start going down a path
9 where EPA starts redesigning facilities from the
10 ground up, if we have to consider the technology,
11 you know, the application of this kind of
12 technology in this configuration. It's one thing
13 if it's a simple add-on or it's a simple change
14 in fuels, or it would be a simple change, but
15 this kind of reconfiguration I think is beyond
16 the scope of what the Region needs to consider
17 when doing a BACT analysis.

18 JUDGE AVILA: I think the question was
19 what was the scope on the technology transfer.
20 That sounds more like a redefining the source
21 kind of argument than the scope of your
22 obligation to look at technology transfer.

1 MR. KRALLMAN: Well, it starts to
2 bleed into that, Your Honor, I think. I think
3 when you're dealing with this sort of question of
4 battery storage and renewable energy versus
5 conventional energy, you start to switch a little
6 bit back and forth between does it meet the
7 business need of the facility or is it
8 technically capable of meeting the business need
9 of the facility. And those are sort of two
10 similar things. They can be distinct, but they
11 also sort of bleed together, I think, a little
12 bit.

13 And in this case, when looking at step
14 one or step two, and you're looking at technology
15 transfer, looking at technologies that are
16 available, yes, batteries are available, but
17 having to, all right, well, instead of replacing
18 the duct burners, what if we -- you know, this is
19 a simple facility with just a turbine and heat
20 recovery system. But, when you start getting
21 into more complex facilities, you start looking
22 at, well, how much do you need to think about

1 reconfiguring? Do you need to tell this chemical
2 plant they need to replace this boiler with
3 battery storage to a heat resistor? I think you
4 start getting, as far as looking at technology
5 transfer, you start getting into the weeds of
6 redesigning facilities, which is really what the
7 business is supposed to be about doing. Whereas,
8 we're supposed to be applying the best available
9 control technology.

10 JUDGE AVILA: So, how much of your
11 argument is it's just not physically possible to
12 use batteries to replace duct burners? Or is it
13 that batteries can't serve the same function as
14 duct burners?

15 MR. KRALLMAN: It is sort of a two --

16 JUDGE AVILA: Or both?

17 MR. KRALLMAN: It's not both. So, the
18 Region went through sort of a two-step process at
19 step two. The first is there's nothing designed
20 out there. There's no commercial facility out
21 there that has a configuration like this. So,
22 just saying it's available, it doesn't look like

1 it's available.

2 Then, when you look to the technology
3 transfer window of that and say, okay, if we
4 assume this could work, would what the commenters
5 have given us serve, meet the technical needs of
6 this facility? And the Region said, no, the
7 Tesla facility in Australia that was mentioned in
8 the comments, which was the largest one
9 mentioned, only provided 2.5 hours of the
10 necessary power, where the fluctuations in the
11 power grid could be up to five hours, as the
12 record demonstrates. And so, it simply wouldn't
13 meet the needs at that level.

14 But the Region went beyond that and
15 said, okay, if we make this facility build an
16 even larger battery storage system, such that it
17 could provide sort of that five-hour window of
18 power, so it would meet the technical needs at
19 step two, they, then, went on to step three and
20 four and said that it still wouldn't be BACT. It
21 still wouldn't change our mind as far as what
22 BACT is, because the reductions here, you're

1 talking about 1.5 percent of the facility's
2 emissions. You're talking about two tons of NOX,
3 5.2 tons of CO.

4 Just for point of reference, the case
5 isn't necessarily on point, but in in re La
6 Paloma, the Board considered arguments regarding
7 three different combustion turbines where the
8 petitioners in that case argued that the Region
9 erred by not selecting the most efficient
10 combustion turbine and, instead, allowing the
11 permittee to choose between the three models.

12 The difference in efficiency between
13 those three models was 2.1 to 2.6 percent,
14 depending on how you measure it. The question
15 here is 1.5 percent. So, this really isn't a
16 large change in the emissions of the facility or
17 the potential emissions of the facility.

18 JUDGE LYNCH: Counsel, in your brief,
19 the term you use is that it wasn't clearly
20 superior. Where do I find that standard or where
21 did you get that standard?

22 MR. KRALLMAN: I think that it goes to

1 sort of the commenters' burden to demonstrate
2 that this would change the Region's mind; like
3 that this would actually fundamentally change the
4 decision by the Region that BACT was what BACT
5 was determined to be.

6 JUDGE AVILA: But doesn't the Region
7 have an obligation to do a BACT analysis?

8 MR. KRALLMAN: And they did in this
9 case, Your Honor. But they don't have an
10 obligation to conduct a BACT analysis by trying
11 to think up every single potential configuration
12 a facility can have. They have to take a
13 reasonable look at what's available, what's
14 possible. And in this case, this is a novel --
15 no one's proposed this before. No one has
16 considered this before, or we're not aware of
17 anyone even proposing to replace duct burners
18 with battery storage. And the Petitioners
19 haven't pointed any examples out. So, to expect
20 the Region to be able to anticipate this novel
21 configuration ahead of time I think is asking too
22 much.

1 JUDGE AVILA: But let's suppose, let's
2 leave the PEP facility as it is. And if you
3 could put battery storage -- I think, actually,
4 in the response to comments, it was a four-hour
5 peak period. I think Petitioners say it's three
6 hours, whatever. It's more than 2.5.

7 So, you get to the time when there's
8 the peak energy demand, and you've got these
9 batteries sitting there. Don't turn on the duct
10 burners, flip the switch on the batteries, and
11 provide that extra energy. Why is that not
12 technically feasible?

13 MR. KRALLMAN: Well, the other
14 question, Your Honor, is, now that you have --
15 so, the duct burners are integrated within the
16 combined cycle. So, it is one unit. When you,
17 instead, have a battery unit, the question is,
18 all right, is the grid seeing that as one unit or
19 two units? If it sees it as one unit, does that
20 mean that, contrary to Petitioners' argument, you
21 have to pay wholesale instead of retail -- or
22 retail instead of wholesale for power, like the

1 GE facility that the Region talked to in doing
2 the response to comments? Or, if it's two units,
3 does that mean that the batteries get dispatched
4 independently? So, does that mean that, when the
5 peak power is needed that the duct burners would
6 have provided, is there actually battery storage
7 capable?

8 Those are difficult questions or at
9 least questions that would need additional
10 exploration, which is the point that we tried to
11 get to in our brief, that because this has never
12 been done before and never been really proposed
13 or considered, we're not really sure how it would
14 work.

15 And then, if you go to step three and
16 you look at it, in the comments, in the comments
17 actually submitted, it's not entirely clear how
18 the commenters thought that the batteries would
19 be charged. For instance, on page 5, they state,
20 of their comments, they say, "Therefore, by
21 eliminating the duct burners and replacing their
22 abilities with those of batteries, which are" --

1 and the word here is "changed," but I think it
2 reasonably should be read as "charged" -- "from
3 the combustion turbines, the facility can meet a
4 lower BACT emission limit."

5 So, in their comments, they assumed
6 that, by replacing the duct burners with battery
7 storage, the batteries would be charged by the
8 combustion turbines when they weren't needed for
9 peak power. As the Region explained in the
10 response to comments, this would not lead to a
11 meaningful or a measurable reduction in
12 emissions, because the same amount of natural gas
13 would have to be burned, whether it's burned in
14 the duct burners or whether it's burned by the
15 combustion turbine to charge the batteries. The
16 only difference would be the marginal efficiency
17 difference between the combustion turbines and
18 the duct burners. And that just didn't really
19 seem like it was going to be measurable.

20 But the Region, then, went beyond that
21 at step three and looked and said, all right, if
22 they got energy from the grid, and they purchased

1 energy off the grid, and we just discount any
2 emissions that are associated with that energy
3 they're purchasing, so we're only looking at
4 onsite emissions, the reductions there just
5 aren't really meaningful. You're talking about
6 1.5 percent, and, yes, the Region did only assume
7 one duct burner. So, there was a miscalculation,
8 but it doesn't really change the total level
9 here. You're still talking about 1.5 percent of
10 the facility's emissions.

11 And then, you get into the cost, and
12 there could be disputes about the specifics of
13 the Region's calculations of cost that the
14 Petitioners raise, but at the end of the day they
15 haven't really suggested or haven't really shown
16 the Region's conclusion that duct burners would
17 not be cost -- or replacing duct burners with
18 battery storage would be cost-effective as BACT.

19 JUDGE STEIN: With respect to step two
20 -- I think I'm a little more interested in step
21 two than I am at steps three or four at the
22 moment -- the response to comments seems to focus

1 quite a bit on four hours, and the fact that
2 there aren't examples of the four hours. But
3 your brief seems to go beyond that, and your
4 brief seems to suggest that there are some of
5 these configuration issues.

6 Can you point me to where else in the
7 response to comments or the record we might find
8 evidence not just of your speculation on that,
9 but --

10 MR. KRALLMAN: As far as whether this
11 configuration would work beyond --

12 JUDGE STEIN: Yes, the configuration
13 issues at a step two phase, not a step three
14 phase.

15 MR. KRALLMAN: I can't necessarily
16 point you to a specific point in the record
17 because the fact is that there was no comment
18 really, no information really provided on how
19 this configuration would work. The commenters
20 and the petitions here simply assumed that this
21 configuration, there's no problem here.

22 And what we raised in the brief, and

1 I realize it's the first time, I think, because
2 it's not in the record, but that's just an
3 assumption. And without providing any kind of
4 idea that this would actually be able to work, I
5 think it would be important for the agency,
6 before issuing a permit that's federally
7 enforceable, to make sure that this would
8 actually be achievable and be available.

9 But, beyond that, sort of you look at
10 the size of batteries necessary here. It doesn't
11 meet the technical needs of this facility.

12 JUDGE LYNCH: Counsel, is the response
13 to comments the first time EPA put the public on
14 notice about the four-hour peak demand time?

15 MR. KRALLMAN: No, Your Honor, I do
16 believe that's in the Fact Sheet as far as our
17 consideration of some of the additional
18 alternatives that were considered as BACT. I can
19 check and try and find that and --

20 JUDGE LYNCH: Yes, that would be
21 helpful because I didn't see that.

22 MR. KRALLMAN: Okay.

1 JUDGE LYNCH: And then, in terms of
2 the configuration, the GE facility, which is a
3 single cycle gas turbine, it's described as
4 battery storage is "operationally integrated". I
5 take it you're saying that that's significantly
6 or meaningfully different than using battery
7 storage to replace duct burners, and, if so, can
8 you explain that to me?

9 MR. KRALLMAN: The GE system is the
10 sort of hybrid system where the operational
11 structure there is the batteries operate and,
12 then, the combustion turbine operates. The
13 configuration here would be the combustion
14 turbine operates and, then --

15 JUDGE LYNCH: So, that's what it means
16 when it says "operationally integrated"?

17 MR. KRALLMAN: I believe so, Your
18 Honor, yes. The GE facility is, as we describe
19 in I think the Fact Sheet, and in our response to
20 comments, and even in our brief, is sort of like
21 the style of hybrid car where you're initially on
22 battery until you get up to a certain level, and

1 then, the gas engine kicks in. That's the same
2 thing with the GE system. It's similar to the
3 Arizona Public Service petition that was at issue
4 in Ocotillo, and the question there, where it
5 wasn't technically feasible, but the suggestion
6 was to use batteries to allow the facility to
7 turn off the engines and do a black-start. So,
8 the black-start takes several minutes to get up
9 and running and actually producing energy. And
10 so, the idea was, well, in that timeframe the
11 batteries will provide sort of that initial
12 energy. And then, when the turbines are up and
13 running, they can take over. Whereas, the
14 configuration in the Ocotillo permit was that the
15 turbines would run at low levels because they
16 needed to jump up and start up quickly.

17 JUDGE AVILA: I hate to circle back,
18 but I want to make sure I really understand what
19 these duct burners are going to be used for.
20 Because the beginning of your argument started to
21 sound like they were a peak, they would be used
22 to meet peak demand. But footnote 10 of your

1 response brief actually says Petitioners
2 misconstrued the point of the duct burners, and
3 that they aren't just a peaking -- or at least as
4 I'm reading the footnote, that they aren't just
5 used for peaking, but they'll be used for other
6 purposes.

7 So, to what extent are the duct
8 burners used, for instance, for the other
9 functions that this power plant is going to
10 provide? For example, load following, because
11 some of the response to comments suggests that
12 batteries wouldn't work because they would have
13 to ramp up and down multiple times throughout the
14 day, which sounds like a load-following function,
15 not a peak function.

16 MR. KRALLMAN: To be able to provide
17 quick additional energy. While the most
18 efficient use of the duct burners, as I
19 mentioned, would be sort of that peak after the
20 turbines have reached the top, it may be because
21 of the load-following nature of this facility
22 that the duct burners can provide that additional

1 heat and additional energy to the heat recovery
2 system faster than the turbines could. And so,
3 by turning them on -- you would turn them on not
4 when the turbine is at peak, but to provide sort
5 of that quick jump-up as opposed to you hit the
6 top, and then, go up. And the permit doesn't
7 forbid them from doing that. It just limits the
8 number of hours that they can use those. So,
9 while the most efficient use is at the top, that
10 isn't necessarily always going to be the use that
11 they actually are used for.

12 If there are no questions, I can turn
13 the time over to my co-counsel to discuss the
14 ambient air --

15 JUDGE AVILA: Can I ask just one
16 question? In the correspondence between the
17 Region and the Applicant, kind of in the initial
18 application process, Palmdale said -- and this is
19 their July 17th, 2017, response to your request
20 for additional information -- they said that "its
21 transmission interconnection does not support the
22 discharge of batteries at any other times if the

1 combined cycle plant is operating". What does
2 that mean, if you know?

3 MR. KRALLMAN: I would have to look at
4 it to be sure, Your Honor.

5 JUDGE AVILA: That's fine.

6 MR. KRALLMAN: But I can check to see.
7 Can you read it again to me?

8 JUDGE AVILA: So, it's the July --
9 it's AR1.9, I think, and that's their July 17th,
10 2017, response, and it's a list of bullets where
11 Palmdale says, "its transmission interconnection
12 does not support the discharge of batteries at
13 any other times if the combined cycle plant is
14 operating".

15 MR. KRALLMAN: Yes. I am not sure,
16 Your Honor, exactly --

17 JUDGE AVILA: That's fine.

18 MR. KRALLMAN: -- the intent of that.
19 I would presume that that was regarding some of
20 the other configurations that the Region did
21 consider in the BACT analysis, but I would have
22 to --

1 JUDGE LYNCH: I think that's right,
2 but, then, my follow-up question, once we
3 understand what it means, is -- and maybe it will
4 be obvious -- but does it have any relevance to
5 what we're discussing with this configuration?

6 MR. KRALLMAN: I am not aware, Your
7 Honor.

8 JUDGE LYNCH: I understand.

9 MR. KRALLMAN: I can turn the time
10 over to my co-counsel to discuss the ambient air,
11 unless there are other questions about the BACT
12 analysis.

13 JUDGE AVILA: Okay. Thank you.

14 MS. WALTERS: Good morning.

15 My name is Julie Walters, and I'm here
16 to present the arguments regarding the Air
17 Quality Impact Analysis for the Palmdale Energy
18 Project.

19 The Petitioners have three primary
20 objections to the way the Air Quality Analysis
21 was conducted. First, they challenge Region IX's
22 determination that the Air Quality Analysis from

1 the Applicant adequately demonstrated compliance
2 with the hourly NO2 NAAQS. And, in particular,
3 with respect to the area within Plant 42, they
4 argue that the Region erred by not including in
5 its Cumulative Impact Analysis the impacts of
6 Plant 42 sources on receptors within the exterior
7 boundaries of Plant 42.

8 JUDGE AVILA: So, can I start with the
9 question? Appendix 6 to the Fact Sheet --

10 MS. WALTERS: Yes, yes.

11 JUDGE AVILA: -- I understand you
12 didn't have to do it. You did it for additional
13 information, I think because of the modeling
14 spike somewhere --

15 MS. WALTERS: Right.

16 JUDGE AVILA: -- as you explain in a
17 footnote in your brief.

18 MS. WALTERS: Right.

19 JUDGE AVILA: But does this represent
20 what Petitioners are actually asking for? Well,
21 maybe you can tell me, does it include all the
22 receptors within Plant 42?

1 MS. WALTERS: My understanding is that
2 it includes the same receptor grid that the
3 Applicant's modeling included. And both the Fact
4 Sheet and the permit application explain that the
5 receptor grid went out to 20 kilometers from the
6 project. So, it clearly covered this area. I
7 can give you the citations to that, if you're
8 interested. However, the Fact Sheet does not
9 describe in detail the nature of the modeling
10 that was done and shown in Appendix 6, because it
11 was sort of an extra exercise that Region IX did
12 for the purpose that was described.

13 JUDGE AVILA: Can we rely on it here?

14 MS. WALTERS: I think we can. You had
15 asked is this what the Petitioners want.

16 JUDGE AVILA: Right.

17 MS. WALTERS: I think it effectively
18 is what the Petitioners want, with the exception
19 of their argument that the impacts of the
20 aircraft emissions on Plant 42 needed to be
21 separately modeled as a nearby source.

22 JUDGE AVILA: Right. Okay.

1 MS. WALTERS: Right.

2 JUDGE AVILA: But let me ask you,
3 though, going to the question of where the
4 receptors are, I think it's Attachment 12 to your
5 brief has a picture where there are no receptors
6 within Plant 42. And it's an email exchange
7 about where the fence line for Plant 42 is.

8 MS. WALTERS: Right, right.

9 JUDGE AVILA: So, that has no
10 receptors within the --

11 MS. WALTERS: So, this is a submittal
12 from the consultant for the Applicant, and it was
13 describing -- this is actually a repeat of
14 something that's in the permit application. So,
15 for the Cumulative Impact Analysis, that did
16 consider the impacts of the stationary sources at
17 Plant 42. For the Cumulative Analysis, the area
18 within Plant 42's fence line was not included,
19 except for a small area that was near the
20 Palmdale Regional Airport terminal, which is
21 actually closed to the public right now. But the
22 Applicant, to be conservative, went ahead and

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1 modeled that as part of the analysis that
2 included the impacts of the stationary sources.

3 So, even in that area within sort of
4 the exterior boundaries of Plant 42 there was no
5 violation. In fact, the graphic that we see that
6 shows the areas of impact -- I think it's page 59
7 of the Fact Sheet -- doesn't show any impacts
8 above background in that area or anywhere toward
9 the southern portion of Plant 42.

10 JUDGE AVILA: So, how, then, does
11 Appendix 6 have contour lines within the Plant 42
12 boundary, if there were no receptors?

13 MS. WALTERS: So, there were receptors
14 that were considered during the preliminary
15 analysis that the Applicant conducted. So, if
16 you go to, I think it's page 53 of the Fact
17 Sheet, there were effectively two components of
18 the Cumulative Analysis for one-hour NO₂. The
19 first was the modeled project impacts, which are
20 shown on page 53 of the Fact Sheet.

21 JUDGE AVILA: Right.

22 MS. WALTERS: And this analysis uses

1 more conservative assumptions. You're seeing
2 sort of an impact in an area that doesn't show up
3 in the analysis that was done in a more refined
4 manner, as shown on page 59.

5 And the Applicant and the Region not
6 only considered the impacts of the project, the
7 Palmdale Energy Project, which are shown on page
8 53, but we also looked at the background
9 monitoring data. And there were no other
10 stationary sources that needed to be modeled over
11 Plant 42. So, it was reasonable and appropriate
12 to rely on the preliminary analysis, plus the
13 background data, for those areas outside those
14 exterior boundaries.

15 JUDGE AVILA: Just so I'm clear, the
16 preliminary analysis, then, in the Figures 4, 5,
17 6, and 7 include PEP facility emissions as well
18 as background?

19 MS. WALTERS: They do not. So, the
20 figures do not, but the analysis in Table 24
21 shows the background and the modeled impacts.
22 And as we explained in our response to comments,

1 we considered both of those things, and they were
2 well below the NAAQS. I think the figure was
3 approximately 136 micrograms per cubic meter as
4 compared with the NAAQS of 188.

5 JUDGE AVILA: So, in the cumulative
6 impacts, the Figure is 8, 9, 10, and 11, and
7 Figure 11 has contour lines within the Plant 42
8 area.

9 MS. WALTERS: Right.

10 JUDGE AVILA: Figures 8, 9, and 10
11 don't. Can you explain to me why that is?

12 MS. WALTERS: Yes. I think our
13 response to comments discusses this, and I don't
14 have the page citation, unfortunately, right in
15 front of me. But I think our staff tried to
16 create a graphic originally that would show the
17 impacts outside of Plant 42 as well as the
18 impacts inside of Plant 42 in one graphic, which
19 didn't really work because they are different
20 modeling assumptions, and it doesn't visually
21 make sense. So, I think they erroneously
22 included for Figure 11 the impacts within Plant

1 42.

2 JUDGE AVILA: But, even under your
3 legal theory -- and it's supported by the
4 memos -- I thought within the Plant 42 boundary
5 all you excluded was sources within Plant 42?

6 MS. WALTERS: That's right.

7 JUDGE AVILA: So, in doing a
8 Cumulative Impacts analysis, don't you have to
9 show or know what the impacts are from the PEP
10 facility and background levels? And so, why
11 wouldn't that be included in these figures?

12 MS. WALTERS: Well, these figures were
13 designed to show the impacts in the area outside.
14 That was the purpose of these figures. But I
15 think there was an error in Figure 11 which
16 created confusion about what the intent was.

17 JUDGE AVILA: But I guess what I'm
18 getting at is, why don't you have to show what
19 the impacts are within the Plant 42 fence line
20 from the PEP facility and background levels?

21 MS. WALTERS: So, for the modeling
22 analysis, the Figure on page 53 of the Fact Sheet

1 shows the impacts, the project, on Plant 42
2 receptors, using more conservative assumptions.
3 And the way you do the modeling is you add the
4 background figures to the model impacts. So, for
5 any data that you see on page 53, you would be
6 adding the monitored data to those impacts.

7 JUDGE AVILA: So, all you didn't do
8 was create a picture of what would be Figure 4,
9 plus the background?

10 MS. WALTERS: Right.

11 JUDGE AVILA: There's no figure of
12 that? There's just a --

13 MS. WALTERS: No, there's no figure of
14 that, but there is, in Table 24, and then, also,
15 in our response to comments, we add the two
16 together, and the maximum impact was 136 from the
17 worst-case startup/shutdown operating scenario.
18 In fact, that number is higher than the number
19 that we saw in the Cumulative Impact Analysis
20 because the assumptions that go into the
21 preliminary analysis are so conservative. It
22 doesn't fully take in two things like the form of

1 the standard and the method that's used for the
2 full Cumulative Impact Analysis.

3 JUDGE AVILA: And how do you respond
4 to counsel's argument about how you took into
5 account aircraft emissions at Plant 42, and that
6 the Lancaster Division Modeling Station isn't
7 really very representative because we don't know
8 what the bombers' emission rates are?

9 MS. WALTERS: Well, I think there are
10 several reasons why we disagree with Petitioners.
11 First is, as we explained in great detail in our
12 response to comments, the monitoring data that
13 was used was very conservative as compared with
14 the project site. The monitor that was used is
15 in a more urban area, very close to a highway,
16 very close to a busy road, very close to a
17 railroad. And the impacts from those types of
18 sources tend to be within that close distance.
19 So, it's picking up all the impacts from those
20 sources.

21 If you look at the Palmdale Project
22 and the area where it is, there are no such roads

1 or similar sources. There aren't any stationary
2 sources very close, either. So, that data is
3 very conservative.

4 Secondly, we cited studies that showed
5 both that the emissions from aircraft dispersed
6 within a pretty close range to the runways,
7 within 500 meters maximum. So, regardless of the
8 magnitude of the emissions from the aircraft,
9 they're not going very far. And that is borne
10 out by another study that was cited that showed
11 other airports, sort of large commercial
12 airports, the fact that the airport emissions
13 really were dwarfed by nearby mobile source
14 emissions and didn't have a big impact on air
15 quality outside the airports.

16 JUDGE AVILA: Okay. Thank you very
17 much.

18 MS. WALTERS: Thank you.

19 REBUTTAL ON BEHALF OF PETITIONERS

20 MR. UKEILEY: Thank you.

21 So, to start at the last point, with
22 the aircraft emissions, I wanted to clarify this

1 is a very specific argument. It's not kind of
2 general, arbitrary, and capricious. The
3 regulations as well as the modeling protocol and
4 the Fact Sheet say that determinations of impacts
5 have to be done by modeling, not by a qualitative
6 analysis.

7 There is a procedure called Q/D to
8 eliminate nearby sources, but Q/D -- in Q, the Q
9 stands for emissions. So, if you don't know the
10 emissions, and EPA did not, then it was
11 impossible for them to do the Q/D analysis. They
12 can't create a different analysis in the response
13 to comments. They said they were going to use
14 Q/D as their approach. They didn't. That's
15 arbitrary.

16 JUDGE STEIN: Isn't this a highly
17 technical area? I mean, given the Board
18 precedent on challenges in the modeling area, why
19 shouldn't we simply defer here to the Region's
20 technical expertise? I mean, it seems to me you
21 have a pretty heavy burden to overcome before the
22 Board would remand on something like a modeling

1 issue.

2 MR. UKEILEY: Yes. Well, for the
3 reasons I just said. The regulations require the
4 use of modeling. That's not whether you use
5 modeling for the analysis or what they did was
6 their qualitative analysis; they get no
7 discretion. There's no dispute. And then,
8 again, it's not that we're disagreeing with their
9 Q/D analysis. If they had done a Q/D analysis,
10 and we put on an expert to challenge, then that
11 would have that high standard. But it's failure
12 to consider an important aspect of the problem,
13 rather than us -- in other words, we're disputing
14 the methodology, which is mandatory, rather than
15 like inputs or someplace where the methodology is
16 discretionary.

17 JUDGE STEIN: Thank you.

18 MR. UKEILEY: I -- sorry.

19 JUDGE LYNCH: Go ahead.

20 MR. UKEILEY: Thank you.

21 So, I think to answer your question on
22 the solar, yes, the solar, the energy from the

1 solar, which comes in the form of a hot liquid,
2 either water or molten salt, it enters into the
3 combined cycle at the duct burner point. It
4 can't enter into the combustion turbine because
5 it's in a liquid form.

6 There is a hybrid CSP, combined cycle
7 plant, in Florida that that's the way it works.
8 And that's the only option where you could have a
9 completely separate CSP that's co-located. Those
10 would be the only two physical options.

11 But I still want to emphasize that on
12 BACT, on using batteries, that this argument
13 about it being a different configuration, there's
14 no difference than saying their configuration was
15 their battery was painted red, and we want a blue
16 battery. There is no difference. No one at any
17 point, including today, has articulated any
18 consequences of the difference between a
19 configuration of combined cycle and battery
20 versus battery and wind, battery and solar,
21 battery and any other configuration. There's no
22 physical or chemical characteristics. The

1 switchyard, as I said, is agnostic. Without an
2 articulated basis for the lack of that
3 configuration making a difference, it's
4 arbitrary.

5 JUDGE LYNCH: I have a question about
6 step three. It goes to step three. In your
7 petition at page 21, you point to the FERC Order
8 841 and say that it requires that battery storage
9 facilities be able to purchase electricity at
10 wholesale rates. But you're pointing to the
11 summary of FERC Order 841, and the order is 243
12 pages. Can you point us to the text of the order
13 where that's actually established, that
14 requirement? So, that's one question.

15 And the second is, is the order
16 actually operational now? My understanding was
17 that there were committees and groups working on
18 actually making it operational.

19 MR. UKEILEY: Yes. So, the first
20 question, I'm sorry, I can't provide the
21 citation. But that is what the order stands for.

22 On the second question, California

1 already allowed --

2 JUDGE LYNCH: I know that, but I'm
3 talking about the FERC order actually
4 requiring --

5 MR. UKEILEY: Right. I'm sorry, I
6 can't provide the specific citation to the page
7 that articulates what the --

8 JUDGE LYNCH: But is the requirement
9 actually in place today, pursuant to the FERC
10 order? My understanding was that it is not.

11 MR. UKEILEY: Yes, it is. So, a case
12 of the California Independent System Operator
13 allowed batteries, merchant batteries, to buy at
14 wholesale prior to the FERC order. The FERC
15 order was mainly meant to crack other markets,
16 and like MISO or PJM, and I can't tell you the
17 status of the implementation of those.

18 JUDGE AVILA: I don't want to belabor
19 this, but you said, "California allowed". That
20 seems a little different than the order mandating
21 something. And so, I think the question was, has
22 the mandate of FERC Order 841 that you claim, has

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1 it gone into effect?

2 MR. UKEILEY: It already was in effect
3 before it existed in California.

4 JUDGE AVILA: Okay.

5 MR. UKEILEY: Load-serving entities
6 had to, or were required -- sorry -- were
7 required --

8 JUDGE AVILA: And I just wanted to
9 follow up. If you weren't able to find it, were
10 you able to find where in your comment letter you
11 asked for like a redo of the BACT analysis and an
12 opportunity for public comment?

13 MR. UKEILEY: Yes. I'm sorry, I
14 wasn't able to find it. I'm not sure when --

15 JUDGE AVILA: I'll read it again, and
16 I'll --

17 MR. UKEILEY: Yes. I'm sorry, I
18 wasn't able to --

19 JUDGE AVILA: I appreciate it.

20 Thank you very much for your argument.
21 Thanks to all counsel.

22 As is our practice, for those who

1 haven't appeared before the Board, we'll now come
2 down from the Bench and shake counsel's hands.

3 (Whereupon, at 11:57 a.m., the
4 proceedings in the above-entitled matter were
5 concluded.)

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Before: US EPA/EAB

Date: 08-30-18

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