BEFORE THE ENVIRONMENTAL APPEALS BOARD

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

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ORAL ARGUMENT

IN RE:	:	
PALMDALE ENERGY, LLC PALMDALE ENERGY PROJECT	:	PSD Appeal No. 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:

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ALSO PRESENT:

Eurika Durr, Clerk of the Board

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

10:31 a.m.

JUDGE AVILA: Good morning, everyone.

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

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

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

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

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

There's no photography, filming, or

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

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

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

MR. UKEILEY: Good morning.

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

MS. WALTERS: Good morning.

I'm Julie Walters with EPA's Office of

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

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

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

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

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

ORAL ARGUMENT ON BEHALF OF PETITIONERS

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

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

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

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

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

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

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

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

JUDGE LYNCH: Counsel, can I ask a question?

MR. UKEILEY: Sure.

JUDGE LYNCH: Can I interject?

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

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

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

MR. UKEILEY: Yes.

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

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

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

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

This is an merchant plant. It has --

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

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

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

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

MR. UKEILEY: Sure.

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

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

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

that would prohibit or at least challenge a technology transfer.

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

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

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

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

JUDGE LYNCH: Okay.

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

JUDGE LYNCH: Okay. Thanks.

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

MR. UKEILEY: Yes.

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

MR. UKEILEY: Yes. The battery --

JUDGE LYNCH: This configuration.

MR. UKEILEY: There's no evidence that

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

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

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

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

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

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

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

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

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

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

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

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

JUDGE LYNCH: But not this configuration?

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

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

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

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

done in the past.

JUDGE STEIN: But how far does that go?

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

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

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

BACT issue? Is that correct?

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

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

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

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

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

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

MR. UKEILEY: Again, hypothetically --

JUDGE LYNCH: Yes.

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

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

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

JUDGE AVILA: Okay. That would be

great.

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

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

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

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

JUDGE STEIN: Okay.

MR. UKEILEY: I'm admitting that. But

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

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

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

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

JUDGE LYNCH: Okay.

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

JUDGE LYNCH: Okay.

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

MR. UKEILEY: I have it on my computer.

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

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

MR. UKEILEY: Yes, I'm familiar.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

JUDGE AVILA: I see.

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

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

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

MR. UKEILEY: Right.

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

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

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

JUDGE AVILA: Okay. Thank you very much.

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

MR. UKEILEY: Thank you.

JUDGE AVILA: Thank you.

It's 36 minutes. Thanks.

ORAL ARGUMENT ON BEHALF OF THE AGENCY

MR. KRALLMAN: Good morning, Your Honors.

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

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

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

JUDGE AVILA: But --

JUDGE LYNCH: Counsel --

JUDGE AVILA: Go ahead. Go ahead.

JUDGE LYNCH: -- why did EPA jump to

step two?

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

JUDGE LYNCH: Correct.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

JUDGE LYNCH: Base load.

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

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

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

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

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

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

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

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

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

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

JUDGE AVILA: Oddly, the duct burner

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

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

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

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

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

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

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

MR. KRALLMAN: It is a separate

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

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

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

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

MR. KRALLMAN: No.

JUDGE AVILA: -- in doing the BACT

analysis. And why was that?

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

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

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

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

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

JUDGE AVILA: I think Judge Stein has a question.

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

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

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

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

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

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

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

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

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

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

JUDGE AVILA: Or both?

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

it's available.

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

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

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

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

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

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

MR. KRALLMAN: I think that it goes to

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

And what we raised in the brief, and

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

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

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

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

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

MR. KRALLMAN: Okay.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

JUDGE AVILA: That's fine.

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

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

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

JUDGE AVILA: That's fine.

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

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

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

JUDGE LYNCH: I understand.

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

JUDGE AVILA: Okay. Thank you.

MS. WALTERS: Good morning.

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

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

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

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

MS. WALTERS: Yes, yes.

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

MS. WALTERS: Right.

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

MS. WALTERS: Right.

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

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

JUDGE AVILA: Can we rely on it here?

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

JUDGE AVILA: Right.

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

JUDGE AVILA: Right. Okay.

MS. WALTERS: Right.

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

MS. WALTERS: Right, right.

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

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

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

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

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

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

JUDGE AVILA: Right.

MS. WALTERS: And this analysis uses

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

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

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

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

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

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

MS. WALTERS: Right.

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

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

42.

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

MS. WALTERS: That's right.

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

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

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

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

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

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

MS. WALTERS: Right.

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

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

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

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

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

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

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

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

JUDGE AVILA: Okay. Thank you very much.

MS. WALTERS: Thank you.

REBUTTAL ON BEHALF OF PETITIONERS

MR. UKEILEY: Thank you.

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

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

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

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

issue.

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

JUDGE STEIN: Thank you.

MR. UKEILEY: I -- sorry.

JUDGE LYNCH: Go ahead.

MR. UKEILEY: Thank you.

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

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

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

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

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

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

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

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

On the second question, California

already allowed --

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

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

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

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

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

it gone into effect?

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

JUDGE AVILA: Okay.

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

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

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

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

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

JUDGE AVILA: I appreciate it.

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

As is our practice, for those who

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

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

T

CERTIFICATE

This is to certify that the foregoing transcript

In the matter of: Palmdale Energy Project

Before: US EPA/EAB

Date: 08-30-18

Place: Washington, DC

was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate record of the proceedings.

Neal R Gross

Court Reporter