

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

+ + + + +

ORDER SCHEDULING STATUS CONFERENCE/  
EXPEDITED ORAL ARGUMENT

RECEIVED  
ENVIRONMENTAL APPEALS BOARD  
FEB 12 2014 3 PM

---

IN THE MATTER OF:	:
	:
LA PALOMA ENERGY	: PSD Appeal No.
CENTER LLC.,	: 13-10
	:
PSD Permit No.	:
TX-1288-GHG	:
	:

---

Wednesday,  
February 12, 2014

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 3:23 p.m.

BEFORE:

THE HONORABLE CATHERINE R. MCCABE  
Environmental Appeals Judge

THE HONORABLE RANDOLPH HILL  
Environmental Appeals Judge

THE HONORABLE KATHIE A. STEIN  
Environmental Appeals Judge

**NEAL R. GROSS**  
COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

APPEARANCES:

On Behalf of La Paloma Energy Center,  
LLC.:

RICHARD ALONSO, ESQ.  
SANDRA Y. SNYDER, ESQ.  
Bracewell & Giuliani, LLP  
2000 K Street, NW  
Suite 500  
Washington, D.C. 20006  
(202) 828-5861  
(202) 857-4824 fax

On Behalf of The Sierra Club:

DAVID C. BENDER, ESQ.  
McGillivray, Westerberg & Bender  
211 S. Paterson Street  
Suite 320  
Madison, WI 53703  
(608) 310-3566  
(608) 310-3561 fax

and

TRAVIS RITCHIE, ESQ.  
Sierra Club Environmental Law Program  
85 2<sup>nd</sup> Street  
2<sup>nd</sup> Floor  
San Francisco, CA 94105  
(415) 977-5727

On Behalf of the Environmental  
Protection Agency Region 6:

BRIAN TOMASOVIC, ESQ.  
U.S. Environmental Protection Agency  
Office of Regional Counsel  
Region 6  
1455 Ross Avenue  
Dallas, TX 75202  
(214) 665-9725  
(214) 665-2182 fax

and

MATTHEW MARKS, ESQ.  
BRIAN DOSTER, ESQ.  
U.S. Environmental Protection Agency  
Office of General Counsel  
Air and Radiation Law Office  
1200 Pennsylvania Avenue, NW  
Washington, D.C. 20460  
(202) 564-3276  
(202) 564-5603 fax

ALSO PRESENT:

Eurika Durr, Clerk of the Board

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

2 3:23 p.m.

3 MS. DURR: All rise. Environmental  
4 Appeals Board of the United States  
5 Environmental Protection Agency is now in  
6 session for a status conference/expedited oral  
7 argument in re La Paloma Energy Center, LLC,  
8 Permit Number PAS-TX-1288-GHG, PSD Appeal  
9 Number 13-10. The Honorable Judges Kathie  
10 Stein, Catherine McCabe, Randolph Hill  
11 presiding.

12 Please turn off all cell phones  
13 and no recording devices allowed. Please be  
14 seated.

15 JUDGE MCCABE: Good afternoon. I  
16 am Judge McCabe. On my right is Judge Stein,  
17 and on my left is Judge Hill. We are the  
18 three panel members for this case.

19 I'd like to welcome you all to  
20 Washington on this non-snowy day. But, first,  
21 why don't we take appearances of counsel who  
22 will be presenting for each of the parties.

1 MR. BENDER: Good afternoon.  
2 David Bender for petitioners, the Sierra Club.

3 JUDGE MCCABE: Okay. Welcome.

4 MR. ALONSO: Good afternoon.  
5 Richard Alonso on behalf of La Paloma.

6 JUDGE MCCABE: Welcome.

7 MR. TOMASOVIC: Good afternoon.  
8 Brian Tomasovic from the EPA Region 6 Dallas  
9 Office, joined at table by, from the Office of  
10 General Counsel, Matthew Marks and Brian  
11 Doster.

12 JUDGE MCCABE: Thank you. And do  
13 we have anyone else on the phone?

14 MR. RICHIE: Yes, your Honor.  
15 This is Travis Richie with the Sierra Club.

16 JUDGE MCCABE: Okay. Before we  
17 begin, let me ask who will be speaking for  
18 Sierra Club? Is that just Mr. Bender, or will  
19 Mr. Richie also be speaking? Okay, thank you.  
20 Well, first of all, I would really like to  
21 thank you all, those of you especially who had  
22 to change travel plans, for being here today

1 on short notice, and I realize that not only  
2 disturbs flight arrangements but probably  
3 disturbs your preparation time. The good news  
4 for all of you, of course, is that we are  
5 going to do this a little differently today,  
6 so, hopefully, that won't make as much a  
7 difference as it might in the ordinary case.

8 Before we begin, let me do a  
9 travel check as to what time your flights on  
10 leaving. I understand a number of you are  
11 eager to be back out of town and ahead of the  
12 snow this evening. Mr. Bender?

13 MR. BENDER: If everything goes as  
14 planned, 7:00.

15 JUDGE MCCABE: Seven o'clock is  
16 your flight time. And what's your airport?

17 MR. BENDER: National.

18 JUDGE MCCABE: National. Okay.  
19 Mr. Alonso, can I assume you're remaining in  
20 town?

21 MR. ALONSO: Yes.

22 JUDGE MCCABE: I assume this is a

1 representative of a company with you?

2 MR. ALONSO: Yes, I'm sorry. This  
3 is Sandra Snyder with Bracewell also  
4 representing La Paloma, and we do not have any  
5 travel restrictions tonight.

6 JUDGE MCCABE: Thank you. And  
7 from the EPA side?

8 MR. TOMASOVIC: My flight departs  
9 at 8 p.m.

10 JUDGE MCCABE: All right. Then I  
11 think we should have plenty of time. We've  
12 scheduled an hour and a half for this. We  
13 will try our best to get you out on time, so  
14 you can run for the airports. Snow is not  
15 supposed to begin until later this evening.

16 We are doing this slightly  
17 differently than our normal procedure because  
18 this is a status conference, as well as an  
19 expedited oral argument. As usual, we'll go  
20 ahead and allocate one half an hour,  
21 approximately, to each party. But the order  
22 of the parties will be slightly different than

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 usual.

2 We will start, in this case, with  
3 the permittee, with La Paloma Energy Center,  
4 who I will refer to briefly as La Paloma. I  
5 suspect the other judges will be doing that,  
6 too, for the record. Because we have some  
7 status questions for you, which I assume will  
8 not surprise you, given our scheduling order.  
9 Those answers to those questions may inform  
10 the rest of the discussion that we have here  
11 today, so we thought it best to begin with La  
12 Paloma.

13 Normally, of course, our practice  
14 would be to begin with the petitioner, the  
15 Sierra Club. So in this case, Mr. Bender, I'm  
16 going to give you your choice as to whether  
17 you would like to go second or third. Some  
18 people like to have the first word, some  
19 people like to have the last word.

20 You also have the option, if you  
21 choose to go second after La Paloma, to  
22 reserve five minutes of your time for rebuttal

1 after EPA. What would you like to do?

2 MR. BENDER: I'll combine both and  
3 do it all together.

4 JUDGE MCCABE: Okay. That's the  
5 way we'll proceed then. We'll begin first  
6 with La Paloma. Now, as we, I think,  
7 mentioned, if we didn't we should have, in our  
8 order to you, we're not expecting you or  
9 asking you to make any formal presentations  
10 today, as you would in the normal oral  
11 argument.

12 In the interest of time, please  
13 presume that we've read your briefs, that  
14 we're familiar with the records. And in the  
15 interest of saving time and getting you out of  
16 here, we'd like to focus right away on the  
17 judges questions. If you have anything that  
18 you would like to say very briefly first,  
19 though, please let us know that and feel free.

20 Mr. Alonso?

21 MR. ALONSO: Thank you, Judges.  
22 And we just want to first start off by

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 recognizing and thanking you for expediting  
2 this appeal. I believe the briefs were  
3 submitted on December 27th, and the Board  
4 reached out to us just a couple of weeks later  
5 to schedule this argument. So we're really  
6 appreciative of that. We are prepared to  
7 answer your questions presented in your order,  
8 as well as any other issue that's before the  
9 Court.

10 As to your first issue, you asked  
11 us to report on the status of the projects.  
12 First, let me address the construction time  
13 line. We currently have all government  
14 approvals that are required for pre-  
15 construction, as well as agreements that we  
16 need with governments. We have tax agreements  
17 that were completed. We have a water supply  
18 agreement with the local water works. We have  
19 land agreements in place. We have our TCEQ  
20 Air Permit that was finalized in February of  
21 2013.

22 The two main components that we

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 are missing right now is, number one,  
2 financing. Financing is contingent on  
3 receiving a final PSD permit. Once we receive  
4 a final agency action on the permit, we expect  
5 to close that financing in short order right  
6 after that.

7 As far as construction, we have in  
8 EPC the engineering procurement and  
9 construction contract completed. That was  
10 executed in September of 2013. So shortly  
11 after this closing, we can start construction  
12 shortly right after that. That was with  
13 Bechtel Power Corporation and, again, they are  
14 standing by ready to start construction.

15 JUDGE MCCABE: Most importantly,  
16 Mr. Alonso, could you address whether you've  
17 selected your turbine yet?

18 MR. ALONSO: Yes, we are prepared  
19 to talk about that. We have preliminarily  
20 identified the preferred turbine that we would  
21 like to install at this site. It is the GE  
22 7FA turbine. However, we are currently in

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 various escalation clauses of our existing  
2 contracts, including for the turbine, in the  
3 sense that we have planned to be done with  
4 this process on January 1st. Not just the  
5 contract for the turbine but for other  
6 components of the site, every day that goes on  
7 the client is paying escalation fees on that  
8 contract.

9 JUDGE MCCABE: So do you have a  
10 turbine contract or not?

11 MR. ALONSO: We do have a spot for  
12 manufacturing of the turbine.

13 JUDGE MCCABE: So is that like  
14 reserving a place in case you decide to put in  
15 your order?

16 MR. ALONSO: Correct. And that  
17 deadline is April 1st. On April 1st, we have,  
18 what happened after January is that we  
19 negotiated our escalation clauses through  
20 April 1st. Come April 1st, I think that the,  
21 well, come April 1st, we would have to  
22 renegotiate that contract. And, most likely,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 we can maybe even consider selecting one of  
2 the other turbines that are in this permit.

3 So if we don't have a final permit  
4 in the next, you know -- and I'm not putting  
5 any pressure on you guys, but, as of April  
6 1st, I think that the, well, I know the  
7 developer would like the flexibility to  
8 install any one of these three turbines.

9 JUDGE MCCABE: I'm not sure I'm  
10 completely following you. What happens --  
11 let's try it this way. What happens if you  
12 get your permit tomorrow?

13 MR. ALONSO: If we get our permit  
14 tomorrow, we would close our financing a  
15 couple of weeks later, and we could start, and  
16 then we would put in a notice for the  
17 procurement, finalizing the GE 7FA turbine  
18 contract.

19 JUDGE MCCABE: And how soon could  
20 that happen or would that happen?

21 MR. ALONSO: That would happen  
22 upon closing, and we would --

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 JUDGE MCCABE: So are we talking  
2 about a week, two weeks, a month?

3 MR. ALONSO: Yes. My  
4 understanding, the information that I have is  
5 that closing can happen in, it's a matter of  
6 weeks, a couple of weeks after we receive a  
7 final permit.

8 JUDGE MCCABE: Okay. So when you  
9 say you've preliminary picked this GE 7FA  
10 turbine -- can we just refer to that as the GE  
11 turbine?

12 MR. ALONSO: Sure.

13 JUDGE MCCABE: It's the only one,  
14 right, that's a GE? Okay. We'll call this  
15 the GE turbine. You've preliminary selected  
16 that. If you get your permit tomorrow, is  
17 there any reason that you'll change that  
18 choice?

19 MR. ALONSO: Most likely not. If  
20 we get our permit tomorrow, if we get it  
21 before April 1st, we are probably, we are most  
22 likely, yes, going to select, we are going to

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 select the GE turbine.

2 JUDGE MCCABE: Okay. If you get  
3 your permit before April 1st, you will select  
4 the GE turbine; is that correct?

5 MR. ALONSO: That is, yes.

6 JUDGE MCCABE: And my  
7 understanding of this turbine is that it's the  
8 smallest of the three, and, according to heat  
9 rates, the least efficient, the one to which  
10 the region has assigned the highest GHG  
11 emission limit; is that correct?

12 MR. ALONSO: That is correct.

13 JUDGE MCCABE: Okay. That will  
14 very much inform the rest of our discussion.  
15 Thank you, Mr. Alonso. Do you know yet,  
16 another question on your preparation here, do  
17 you know yet where the facility will be placed  
18 in the ERCOT dispatch order and whether it  
19 will be operated as a baseload or load cycling  
20 facility?

21 MR. ALONSO: Our plan is to  
22 operate this as a baseload unit. However, we

1 will respond to the ERCOT orders as they come.  
2 I mean, in Texas, our business plan is to  
3 operate this as a baseload unit.

4 JUDGE MCCABE: Does ERCOT give you  
5 any preview of that?

6 MR. ALONSO: Excuse me?

7 JUDGE MCCABE: Does ERCOT give you  
8 any advanced notice as to whether you're going  
9 to be likely operated as a baseload or not?

10 MR. ALONSO: Our intention is to  
11 operate it as a baseload. I'm not quite sure  
12 about, we can follow up with you on that as  
13 far as ERCOT notices. I'm not prepared to  
14 talk about the ERCOT notices. But to the  
15 extent that ERCOT manages dispatching, we will  
16 comply with their orders.

17 JUDGE MCCABE: Okay. And you  
18 expect, at this point, based on current  
19 conditions, which I understand can change if  
20 other plants come online or other things  
21 happen, you expect, based on current  
22 conditions, that you'll be dispatched high

1 enough in the order that this will be a  
2 baseload plant; and, therefore, it will be  
3 operated at 100-percent capacity?

4 MR. ALONSO: Pretty close to it.

5 JUDGE MCCABE: On a regular basis?

6 MR. ALONSO: On a regular basis,  
7 we would like to have, you know, utilize this  
8 as much as possible. Keep in mind, though,  
9 while we do have the, you know, as an EPA  
10 administrative record, yes, larger turbines  
11 may be more efficient. But at the end of the  
12 day, they also have higher mass emissions.  
13 And so when you look at it from an  
14 environmental perspective, to the extent that  
15 an environmental impact plays into that, the  
16 environment really feels the impact of the  
17 mass limit more than anything else, I believe.

18 JUDGE MCCABE: Understood. Okay.  
19 Can you tell us a little bit about what was  
20 the chief factor that drove the company's  
21 selection of the turbine, how important was  
22 the capacity or size, for example?

1 MR. ALONSO: I don't know the ins  
2 and outs of why they selected that turbine.  
3 I believe it's just commercial terms. It was  
4 the better commercial term --

5 JUDGE MCCABE: Would you like to  
6 consult with your client at all to see if you  
7 can clarify that answer?

8 MR. ALONSO: Sure. She's here.

9 JUDGE MCCABE: This may help you.  
10 Some of the questions that we're also  
11 interested in are how important was the  
12 capacity or size of the unit in terms of your  
13 decision to select the GE turbine, and how do  
14 the relative heat rates or the GHG emission  
15 rates affect that decision? Did they affect  
16 that decision, if it's made?

17 MR. ALONSO: The way that this  
18 project was developed is that we went out for  
19 competitive bids of at least three turbines.  
20 And based on the necessary heat rate, the  
21 forecast of demand, that was the basis of the  
22 selection. It was not based on, you know, any

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 other factors, except for trying to meet the  
2 purpose of the project, which is to supply the  
3 load, and the heat rates and the financial  
4 arrangements that resulted from that bid  
5 process.

6 JUDGE HILL: Was that forecast of  
7 demand strictly internal, or was it something  
8 dictated by either ERCOT or some other  
9 external entity?

10 MR. ALONSO: La Paloma is a  
11 merchant power plant. We're not regulated, so  
12 it's not that we, to the extent that your  
13 question is to whether or not we had any  
14 regulatory oversight --

15 JUDGE HILL: Or just external  
16 information or some sort of external driver,  
17 I guess.

18 MR. ALONSO: Let me consult with -  
19 - sorry, I just wasn't prepared.

20 JUDGE HILL: No, that's okay.

21 MR. ALONSO: So specific  
22 questions. Okay.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 JUDGE MCCABE: But we appreciate  
2 your coming.

3 MR. ALONSO: But I'm glad that  
4 Kathleen, the project developer, Kathleen  
5 Smith is here with us today. When you develop  
6 these projects, yes, they went out, they had  
7 third-party evaluations of load demand and  
8 what would fit for this market absolutely.

9 JUDGE HILL: Okay.

10 MR. ALONSO: I mean, it's --

11 JUDGE HILL: Let me ask one other  
12 follow-up. You said at the very outset, Mr.  
13 Alonso, that you had preliminarily identified  
14 the GE turbine, and the record before us is  
15 that certainly at the time of the application  
16 that decision hadn't been made. I'm not  
17 asking for a specific date, but, roughly, when  
18 was that determination made relative --  
19 because I'm curious how it relates to this  
20 proceeding.

21 MR. ALONSO: So, again, we made  
22 the selection based on closing in January, but

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 the selection of the turbine was made in  
2 August, expecting to be, you know,  
3 manufactured and installed in January. So to  
4 answer your question, it was August of 2013.

5 JUDGE HILL: Did you communicate  
6 that to the region at that time?

7 MR. ALONSO: No, because, again,  
8 because of the timing of this permit, it is a  
9 preliminary determination. At that time in  
10 August, if we were 100-percent certain that we  
11 would get a permit in January, sure, we  
12 probably would have, you know, told the region  
13 and maybe the final permit may have looked  
14 differently. But we couldn't put our eggs,  
15 all our eggs in that one basket at that time.

16 JUDGE MCCABE: What was your  
17 understanding, Mr. Alonso, of what the region  
18 planned to do once you made your turbine  
19 selection? Will they revise your permit or  
20 leave in those three original limits?

21 MR. ALONSO: We have a special  
22 condition in the permit that requires that La

1 Paloma submit an amended permit application to  
2 remove the other two turbines that are not  
3 selected from the permit. So it would be a  
4 deletion of the two other turbines that are  
5 not selected.

6 JUDGE STEIN: Why, if you've made  
7 the decision to proceed with this particular  
8 turbine if you receive your permit within the  
9 time frame that is necessary for you, would  
10 you be revisiting that question if you don't  
11 get the permit until May?

12 MR. ALONSO: If we --

13 JUDGE STEIN: Just hypothetically,  
14 if you get the permit a month after, why is it  
15 that suddenly that's an open question again?  
16 I'm having difficulty understanding that.

17 MR. ALONSO: Correct. Our current  
18 negotiations on the escalation clauses of the  
19 contracts, we have currently negotiated terms  
20 through April 1st. At that point, you're  
21 right, we would have an option to negotiate  
22 further or, more likely than not, we could, we

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 might go through another bid process to  
2 determine whether or not maybe another turbine  
3 might be more beneficial from an economic  
4 perspective to install.

5 JUDGE STEIN: Thank you.

6 JUDGE MCCABE: Just to make sure  
7 the record is clear on this, though, at this  
8 point, you're telling us that if the company  
9 gets its final PSD permit from EPA before  
10 April 1st, it will be the GE turbine?

11 MR. ALONSO: That is my  
12 understanding.

13 JUDGE MCCABE: Okay. Would you  
14 like to qualify that statement?

15 MR. ALONSO: Right. The problem  
16 is that, again, we cannot make a final  
17 decision on the turbine until after we get the  
18 permit because you're only going to reserve  
19 your place in line for a certain amount of  
20 time at the GE manufacturing plant.

21 JUDGE MCCABE: But if you get your  
22 permit tomorrow or anytime before April 1st,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 or perhaps you need a week advanced notice,  
2 then you would be choosing the GE turbine? We  
3 can rely on that?

4 MR. ALONSO: Yes.

5 JUDGE MCCABE: Is that correct?

6 MR. ALONSO: More likely than not,  
7 we will be selecting that turbine.

8 JUDGE MCCABE: When you say more  
9 likely than not or preliminary, then I'm not  
10 sure what you're telling me, Mr. Alonso.  
11 Which is it? Will you have that GE turbine be  
12 your selection?

13 JUDGE HILL: What else might  
14 prevent you from going ahead with the GE  
15 turbine if there were a decision before April  
16 1st is another way to ask the question.

17 MR. ALONSO: To maintain  
18 flexibility. I mean, that's one of the  
19 purpose we're here. I mean, if we get a call  
20 tomorrow from Siemens saying that they're  
21 going to give us the turbine at five cents,  
22 maybe we'd go with the Siemens.

1 JUDGE MCCABE: So price matters?

2 MR. ALONSO: Absolutely.

3 JUDGE HILL: Price really, I mean,  
4 but --

5 MR. ALONSO: The likelihood of  
6 that is minimal.

7 JUDGE HILL: But let's explore  
8 that for a second because it sort of takes us  
9 to the other direction. So if you, so if  
10 Siemens were to, you know -- I mean, and I can  
11 certainly relate to this. I'm trying to do  
12 some home maintenance. But so they come in  
13 with a bid you're not expecting, and you say,  
14 "You know what? That's the one we should go  
15 with," that's going to be one of the larger  
16 turbines. So what will happen in terms of  
17 your demand forecast or, I mean, how will you  
18 operate that plan?

19 MR. ALONSO: It may not fit the  
20 business plan at the time. I mean, we would  
21 like to maintain the flexibility of selecting  
22 the turbine as much as we can in this final

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 permit. Everything is in place that, if we  
2 were to get a final permit tomorrow, that the  
3 GE turbine would be used. However, we still  
4 want, I don't want to tell you that it's 100-  
5 percent guaranteed. We would like to maintain  
6 that flexibility.

7 JUDGE MCCABE: But you understand  
8 it's your very desire to maintain that  
9 flexibility that leads us all to be here  
10 today, right? As I understand it, the main  
11 issue that the petitioners have with the limit  
12 that was chosen in this case is the fact that  
13 you are reserving flexibility to make this  
14 choice after you get your permit.

15 MR. ALONSO: But the limit is, the  
16 limit doesn't satisfy region as appropriate  
17 and valid under BACT. What the permittee is  
18 arguing here today is that somehow we start  
19 off with a class of control devices. The  
20 region has identified combustion combined  
21 cycle turbines as a control class. That is  
22 your step one. BACT is an evolution all the

1 way through step five. Once you get to step  
2 five, the purpose and the intent of step five  
3 is to impose an emission limit looking at  
4 those control devices, and it's not just  
5 combined cycle. We have a whole list of  
6 technologies that were identified by the  
7 region that apply to each of these turbines.

8 At that point, you look at the  
9 emission unit and you develop a unit-specific  
10 emission rate that reflects the technology as  
11 it's supplied to that particular emission  
12 unit.

13 JUDGE MCCABE: Don't you also look  
14 at comparable units located at other  
15 facilities when the permitting authority makes  
16 that decision?

17 MR. ALONSO: Absolutely. You look  
18 at technologies at other, through the  
19 clearinghouse and other technical information.  
20 That is your step two analysis, absolutely.

21 JUDGE MCCABE: Then why wouldn't  
22 you look at other turbines that are available?

1 MR. ALONSO: I'm sorry?

2 JUDGE MCCABE: Then why wouldn't  
3 you look at these other turbines that are  
4 available?

5 MR. ALONSO: You look at the other  
6 turbines as -- well, are you saying the other  
7 turbines that are mentioned --

8 JUDGE MCCABE: The Siemens  
9 turbines.

10 MR. ALONSO: The Siemens turbines  
11 and the GE turbines have the exact same  
12 technology installed. Again, at the end -- GE  
13 and Siemens does not make the identical  
14 products. There's going to be some  
15 variability amongst those products, and I  
16 would argue that the actual impact of these  
17 units or these emission rates aren't that far  
18 off from each other. But in step five, the  
19 region looked at the turbines and looked at,  
20 as this board has approved in the past, and in  
21 particular in Prairie State, the ability to  
22 take into consideration operational

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 variability, compliance headroom, and other  
2 factors made to ensure that the BACT limit at  
3 the end of the day is workable and something  
4 that can be achievable from a compliance  
5 perspective.

6 JUDGE MCCABE: Mr. Alonso, we'd  
7 like to go on to that subject of the relative  
8 heat rates and, therefore, the GHG emission  
9 rates of these three turbines. But before we  
10 leave the subject that we are on of the  
11 criteria that the company used, perhaps past  
12 tense, or might in the future, if something  
13 unexpected happens, use in the future to  
14 select the turbine, I heard you say two  
15 primary things. And I know we're several  
16 beats back on the questioning now. But I  
17 heard you say the forecast of demand, how much  
18 power you can sell -- I'm sure where ERCOT  
19 will dispatch you is part of that equation --  
20 and the heat rates. Are those the two most  
21 important factors to the company in selecting  
22 the turbine? Price, obviously, has something

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 to do with this, too.

2 MR. ALONSO: Yes. I mean, and the  
3 result of the bidding process and how that,  
4 and the third-party analysis of the energy  
5 demand and everything else. Absolutely.

6 JUDGE HILL: So are you really  
7 saying, to a large extent, price is the  
8 primary driver?

9 MR. ALONSO: No, not necessarily.  
10 I mean, it's what fits for this particular,  
11 you know, looking at the forecast --

12 JUDGE HILL: But it's the balance  
13 of price to demand to efficiency?

14 MR. ALONSO: Sure. I'm sure.  
15 There is a cost component to this, but it's  
16 not a cost component as specified in step four  
17 of the BACT analysis.

18 JUDGE HILL: No, I'm not doing  
19 BACT right now. I'm talking about just the  
20 decision of which one to install.

21 MR. ALONSO: Sure. It's a  
22 business decision, and the product developer

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 would like to maintain that flexibility. At  
2 the time the permit was submitted, we  
3 concurrently went and did, basically, a dual  
4 process of trying to get a PSD permit and try  
5 to come to terms with all these agreements,  
6 whether the turbine or your tax agreement,  
7 your water use agreement. And that's why our  
8 initial application had three turbines in it.

9 To say that we had to do all that  
10 work up-front and then wait another two years  
11 to get a PSD permit, it would really delay the  
12 project and lose a window of opportunity  
13 currently right now at ERCOT, where there are  
14 some energy constraints in Texas. This is a  
15 very good time to build a gas-fired power  
16 plant in Texas.

17 JUDGE STEIN: I want to follow up.  
18 Are you --

19 JUDGE HILL: Yes, yes.

20 JUDGE STEIN: I wanted to follow  
21 up on your decision of the various steps of  
22 the BACT process. I understand your wanting

1 to have flexibility to the last possible  
2 moment. At the same time, ordinarily, in the  
3 step two analysis, you would be looking at  
4 whether technologies are available and  
5 applicable. And if somebody was going to  
6 drive the company to say you should build a  
7 size that's too small or too large, it's my  
8 understanding that there would be an  
9 opportunity at that point for commenters to  
10 explain why a different size unit might be  
11 appropriate; and you, in turn, would have an  
12 opportunity to say, well, that doesn't work  
13 for us.

14 But by keeping the flexibility  
15 until the end of the process, my question is  
16 whether you have deprived either citizens  
17 groups or other commenters of the opportunity  
18 to meaningfully comment at an earlier phase of  
19 the process. And, therefore, by keeping your  
20 flexibility to the last moment, you are,  
21 perhaps you should assume the risk for having  
22 done that.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 I mean, in Pio Pico, we briefly  
2 talked about the sizing issues. We've  
3 acknowledged. I understand your points on you  
4 get to pick the size. But if you pick it so  
5 late in the process that nobody else can  
6 meaningfully comment, notwithstanding the size  
7 you want to pick, if you pick it a little  
8 bigger, it's much more efficient, how can that  
9 happen if you wait until the end of the  
10 process to choose, to say what technology you,  
11 the company, want to go with?

12 MR. ALONSO: First of all, you  
13 know, recognizing BACT and step two, I'm not  
14 aware of any precedent in PSD permitting or  
15 from this board that somehow size, in and of  
16 itself, is a control device. Step two and, to  
17 a certain extent, step one is to identify  
18 control devices, you know, technology that  
19 would be applied to a given emission unit or  
20 a given source. And I believe that it's been  
21 pretty well established that the permittee has  
22 a lot of flexibility in deciding the design

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 factors in how the plant is designed. I  
2 would, you know, ask the Board to consider  
3 that size is not a control device, it's more  
4 a design criteria that is used by permittees  
5 when they go to design a source.

6 JUDGE STEIN: Yes, I'm not  
7 thinking of size as a control technology. I  
8 see the control technology as combined cycle  
9 turbines. But when you look at combined cycle  
10 turbines, you've looked at three different  
11 models. They have different efficiencies. We  
12 can get, later people can tell us whether  
13 they're comparable or they're not. But if the  
14 company is headed towards a particular  
15 efficiency and the agency or other commenters  
16 think they should be headed elsewhere, that  
17 this particular technology, combined cycle  
18 turbines, can get you a more efficient  
19 process, where in the process are they  
20 supposed to raise that?

21 MR. ALONSO: They could raise that  
22 in how the technologies are defined and

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 developed in step two.

2 JUDGE MCCABE: You may be hurting  
3 Mr. Richie's ears doing that so . . .

4 MR. ALONSO: Sorry, sorry. Region  
5 6 identified, roughly, four different energy  
6 efficiency and processes or practices that  
7 apply to the class of this technology, which  
8 is a combined cycle class. The public has  
9 full opportunity and they had in this permit  
10 to comment on exactly that: whether it's  
11 installation, whether it's installing an  
12 efficient heat exchanger design, economizer  
13 exhaust steam. These are the control devices  
14 that apply to the class of technology which is  
15 what's known as combined cycle.

16 That list today is what we have  
17 today. That list was different ten years ago,  
18 and it's going to be different ten years from  
19 now because BACT evolves. That is where the  
20 public has its say.

21 To set a one-level, you know, all-  
22 combined cycle must be 9.0, the 909.2 pound

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 per CO2 megawatt hour, that's not BACT. BACT  
2 is set on a case-by-case emission unit-  
3 specific basis. What Sierra Club is basically  
4 asking this board to consider is taking that  
5 one limit, the 909.2, and apply it to two  
6 other totally different combined cycle  
7 turbines, and I don't see that as what is  
8 intended by BACT.

9 JUDGE MCCABE: That brings us to  
10 an interesting question. Can the GE turbine,  
11 which you are most likely to select, to quote  
12 you, achieve the GHG emissions rate that the  
13 region established for the Siemens turbine?

14 MR. ALONSO: First of all, we  
15 think that to require the GE turbine to meet  
16 that limit would be asking the permittee to  
17 over comply with an adequately-developed BACT  
18 limit. We don't think --

19 JUDGE MCCABE: I'm asking you for  
20 a factual answer, Mr. Alonso.

21 MR. ALONSO: From a factual  
22 question, I mean, I'm not --

1 JUDGE MCCABE: Would you like to  
2 consult with your client?

3 MR. ALONSO: Yes, okay. We are  
4 not prepared at this time to say 100 percent  
5 whether or not we can meet that limit. What  
6 we would have to do is possibly de-rate. We  
7 might have --

8 JUDGE MCCABE: Possibly what?

9 MR. ALONSO: De-rate the unit.

10 JUDGE MCCABE: De-rate.

11 MR. ALONSO: The unit may be not  
12 at its maximum capacity.

13 JUDGE MCCABE: What would that do?  
14 Explain that.

15 JUDGE HILL: You mean run it  
16 greater than capacity?

17 JUDGE MCCABE: Yes, he means if  
18 they de-rate it that they would operate it at  
19 less than its full capacity. What would that  
20 do to your heat rate?

21 MR. ALONSO: Probably not much.  
22 But they would have to do something

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 operational to the unit to basically comply  
2 with that limit. Plus, we would not have the  
3 compliance headroom that was developed for  
4 degradation factors. We might be able to meet  
5 it day one, but who knows in ten years? And  
6 just operation flexibility. It would be  
7 really difficult to commit to that limit.

8 JUDGE MCCABE: Let me see if I'm  
9 understanding you correctly. I hear you say  
10 that de-rating it would be one option to meet  
11 that GHG emissions limit because it's a total  
12 limit, even though your efficiency rate would  
13 clearly go down if you de-rated it. I hear  
14 you saying that option number two would  
15 essentially be to take it out of your  
16 compliance margin, which the petitioner has  
17 characterized as generous, I believe, in its  
18 comments on this permit. Are those the only  
19 two ways that the company could meet the heat  
20 or the GHG emission limit that the region set  
21 for the Siemens turbines in using the GE  
22 turbine?

1                   MR. ALONSO: I mean, we can follow  
2 up with the Board on this, but, to the extent  
3 of whether or not there's other engineering  
4 solutions or modifications to that turbine  
5 that could be done to, you know, basically  
6 change the design of this unit, I mean, I  
7 think that's why we went through the BACT  
8 process, though. I mean, the end-of-day  
9 emission limit is based on vendor information  
10 that we obtain from GE, and the region took  
11 that and applied the control technologies to  
12 those numbers, and that's how we establish  
13 BACT limits at the end of the day is you take  
14 those control technologies and you impose them  
15 onto the unit that's supposed to be built, you  
16 work in compliance headroom, and it was, you  
17 know, and this board is generally deferred to  
18 EPA technical staff on issues about compliance  
19 headroom and what's --

20                   JUDGE MCCABE: I don't even think  
21 that's an issue on this appeal, so you don't  
22 need to go there.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MR. ALONSO: Well, no, no, no. To  
2 the extent that you said that the Sierra Club  
3 thinks that compliance headrooms are generous  
4 --

5 JUDGE MCCABE: That was just a  
6 comment. They didn't raise it on appeal.

7 MR. ALONSO: Okay.

8 JUDGE MCCABE: But let me ask you  
9 this, Mr. Alonso. I'm hearing, essentially,  
10 that the only two ways that you could, that  
11 the company could meet the limit on the GE  
12 turbine would be to either de-rate it, in  
13 which case you're not getting the power that  
14 you want out of it, or to take it out of your  
15 compliance margin, which is, effectively,  
16 somewhat lowering your limit really.

17 But I'm puzzled about one thing.  
18 Didn't the company, in its original permit  
19 application, propose to use the average of,  
20 propose to set the permit limit at the average  
21 of the GHG emission rates or heat rates of the  
22 three units, the three turbines? And if

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 that's the case, isn't that an admission that  
2 you can actually meet the more-demanding  
3 emission limit on the less efficient unit?

4 MR. ALONSO: Let me just say, when  
5 we initially submitted this permit  
6 application, we used the LCRA permit that  
7 Region 6 had processed and finalized in a  
8 period of six months.

9 JUDGE HILL: I'm sorry. What is  
10 LCRA?

11 MR. ALONSO: The Lower River  
12 Colorado Authority. They permitted a gas  
13 plant in Region 6. It was not appealed to  
14 this board. So we modeled it after that  
15 application.

16 JUDGE MCCABE: You modeled your  
17 application after theirs?

18 MR. ALONSO: To a certain extent,  
19 because it worked at Region 6, as far as this  
20 averaging. It turns out that, once between  
21 draft and final, LCRA was able to select the  
22 turbine and they selected a turbine. The

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 timing worked for them, given their  
2 development path.

3 JUDGE MCCABE: I'm sorry? You  
4 said they selected theirs between the draft  
5 and final permits?

6 MR. ALONSO: They did. And their  
7 final permit came out with one turbine. But,  
8 again, that's a different project, different  
9 development path.

10 JUDGE HILL: Well, but I think the  
11 question is, you're saying that if you were to  
12 apply the Siemens emission limit to the GE  
13 turbine, that that would over comply. But if  
14 the permit limit were set at the average of  
15 the three and you would, as you apparently are  
16 almost likely to do, select the GE turbine,  
17 then you're going to meet a lower limit than  
18 the limit that would have been set on the GE  
19 turbine alone. So would you have been arguing  
20 that that was over-compliance, as well?

21 MR. ALONSO: I mean, the record  
22 speaks for itself. I mean, obviously, if we

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 submit a permit application agreeing to a  
2 certain limit, we would have to, you know,  
3 probably shave our compliance headroom. But  
4 it doesn't, it doesn't, I mean, the issue  
5 before the Board, though, I believe is whether  
6 or not Region 6 acted properly in its BACT  
7 analysis of these three turbines, of these  
8 particular emission units. Whether or not a  
9 unit can over comply or whether a permittee  
10 can take a voluntarily limit to reduce its  
11 emissions, I believe that's outside of the  
12 BACT process.

13 JUDGE STEIN: But I think what is  
14 inside the BACT process is whether or not the  
15 emissions limit that the region has selected  
16 is, in fact, BACT. And that's what I'm  
17 struggling with. This case comes to us in a  
18 somewhat unusual setting in that I don't  
19 recall, in my many years on the Board, ever  
20 seeing a situation, and it's possible that we  
21 did, in which three different emissions limits  
22 were picked for the same unit.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           Now, I'm not saying it's not  
2           happening. I'm simply saying that I don't  
3           have any experience with that. And what I'm  
4           more familiar with is a control technology  
5           being picked, whether it's, you know, a  
6           scrubber or something else, and, within that  
7           technology, the company being called upon  
8           through the BACT process to meet an emissions  
9           limit that reflects the best emissions limit  
10          that that technology can achieve.

11           And if the technology is combined  
12          cycle, then, clearly, there are certain sizes  
13          of combined cycle that may be able to achieve  
14          a better emissions than the unit that you're  
15          picking. And I don't have a problem with  
16          somebody saying to me, well, we can't do that  
17          because of A, B, and C. But my problem is  
18          whether BACT automatically gets picked by  
19          size, rather than what the class of technology  
20          is capable of performing.

21           MR. ALONSO: Again, I think two  
22          points as to previous practices. I mean, we

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 have identified seven GHG permits, or, I'm  
2 sorry, PSD permits that have, throughout the  
3 country and different permitting authorities,  
4 further research identified five more where  
5 you have two or three emission units and all  
6 units have different rates. They range from  
7 California, Arizona, Florida, Oregon, North  
8 Carolina, Texas. So it is an established  
9 practice out there in the permitting --

10 JUDGE STEIN: Were those  
11 federally-issued permits or state-issued  
12 permits, if you know?

13 MR. ALONSO: They were, well, you  
14 know, they were all state-issued permits, but  
15 some of those were in delegated states, such  
16 as Washington, the state of Florida, so they  
17 are federal permits. I agree that I don't  
18 believe that this issue has come before the  
19 Board, but keep in mind BACT is a progression.  
20 And I think, in step one, the technology is  
21 combined cycle. And you take that technology  
22 and you run it through the five steps. But at

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 the end of the day, in step five, if you take  
2 the design of the emission unit that's being  
3 proposed to be installed and you take those  
4 technologies, you know, the use of reheat  
5 cycles, the exhaust steam condensers, the  
6 generator design, and all these things apply  
7 to each of the three turbines.

8           And at the end of the day, in step  
9 five, what's the purpose of step five? The  
10 purpose of step five is to take that  
11 progression and look at the emission unit  
12 being proposed and develop an enforceable BACT  
13 limit. BACT is a limit based on technology  
14 that's being identified through the step one  
15 through four.

16           JUDGE HILL: That's basically the  
17 three separate applications argument; am I  
18 correct?

19           MR. ALONSO: At the end of the  
20 day, we could have possibly submitted three  
21 different applications, and you would have had  
22 to -- to do otherwise, you would be basically

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 setting sort of like an NSPS where you say all  
2 combined cycles need to meet this one limit  
3 across the board. No matter where you are,  
4 who you are, which manufacturer you use, what  
5 color your turbine is, you need to meet this  
6 limit. That's not what BACT is.

7 JUDGE MCCABE: Well, the problem  
8 with that analysis, of course, Mr. Alonso, is  
9 that if we take it to the full extent of what  
10 you're suggesting, you get to pick the  
11 emission limit according to which turbine you  
12 pick. And I don't believe that's what the  
13 permitting authority is supposed to do. But  
14 we don't need to debate this issue further.

15 We'd like to turn, before we leave  
16 you and go to EPA, to the solar issue. And my  
17 question to you is is it possible -- again,  
18 here we're talking facts, not legal conclusion  
19 -- to install some solar-generating capacity  
20 at this proposed facility? And what  
21 information in the record can you cite us to  
22 support your answer, whatever that answer is?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MR. ALONSO: On the solar pre-heat  
2 issue, first of all, solar pre-heat is not a  
3 control device to be identified in step one.  
4 Your factual question, can it be installed at  
5 this facility, in a meaningful way, no. We  
6 only have 20 acres left over after we build  
7 this project.

8 JUDGE HILL: Is that in the  
9 record?

10 JUDGE MCCABE: Is that in the  
11 record?

12 MR. ALONSO: No, it is not. It's  
13 not in the record because, again, what is in  
14 the record is that Region 6 determined that  
15 installing, based on this board's precedent,  
16 installing solar pre-heat or using solar as  
17 some type of alternative fuel for this plant  
18 would be re-designing the source.

19 JUDGE MCCABE: Well, go back to  
20 your explanation about the 20 acres. Explain  
21 to us.

22 MR. ALONSO: Okay. First, there's

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 the 20 acres. There's not enough space, land  
2 to make solar pre-heat a feasible or economic  
3 technology. Palmdale had 250-something acres,  
4 you know, a vast amount of land.

5 Second, this plant is pretty close  
6 to the Texas coast, vulnerable to hurricanes.  
7 Who knows if regulators of local communities  
8 would even let us build such a large solar  
9 field in this area, given the threat of  
10 hurricanes.

11 JUDGE MCCABE: Is there anything  
12 in the record for us to look at on that?

13 MR. ALONSO: No, again, in the  
14 record, solar pre-heat is defined as, would be  
15 redefining the source. And this board has  
16 already ruled on this issue. In Palmdale, the  
17 petitioner sought to have Palmdale install  
18 even more solar energy than it already had  
19 proposed, and this board said that that would  
20 be redefining the source.

21 JUDGE MCCABE: I don't believe  
22 that's what we said, Mr. Alonso. I believe we

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 said that redefining the source was clear if  
2 you were talking about making it a 100-percent  
3 solar facility.

4 MR. ALONSO: Correct.

5 JUDGE MCCABE: That is quite  
6 different from what you're talking about here.

7 MR. ALONSO: Well, I point the  
8 Board then to Sierra Pacific. In that case,  
9 there was a dual fuel plant, biomass as well  
10 as natural gas, and the petitioner sought to  
11 have the permitting authority to force  
12 installation of solar, and this board there  
13 said it was redefining the source.

14 JUDGE MCCABE: And what did they  
15 base that on?

16 MR. ALONSO: I'm sorry?

17 JUDGE MCCABE: I don't believe  
18 that the Board made such a broad statement  
19 that any time you introduce solar that it  
20 would be redefining the source. Do you recall  
21 in Sierra Pacific what the reason was that the  
22 Board concluded that?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MR. ALONSO: I do not.

2 JUDGE MCCABE: Okay. Well, I  
3 won't make you do that homework right now. We  
4 actually know that. Go ahead back to, if you  
5 would, to the factual question because that's  
6 the one we're most interested for today's  
7 purposes about whether it's actually possible  
8 and what there is in the record that tells us  
9 yes or no on that.

10 MR. ALONSO: Okay. Well, first, I  
11 mentioned that there's not enough land, the  
12 hurricane situation. The second issue is La  
13 Paloma is not in the renewable business. They  
14 don't have the resources to go out and do  
15 solar studies. They would need to retrain or  
16 redo their business model in order to look at  
17 alternative energy or renewable energy.

18 JUDGE MCCABE: Do they build their  
19 own turbines?

20 MR. ALONSO: They build gas  
21 turbines, yes.

22 JUDGE MCCABE: They build them or

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 they buy them?

2 MR. ALONSO: They don't do wind,  
3 they don't do solar.

4 JUDGE MCCABE: Do they use  
5 subcontractors?

6 MR. ALONSO: I mean, this is  
7 something that they would have to develop as  
8 a business unit and will take time to go out  
9 and get experts, hire them on staff, or go get  
10 third-party folks. It's just not part of  
11 their business plan.

12 JUDGE MCCABE: Mr. Alonso, what do  
13 you think the company responded the first time  
14 the first company was asked to put on an SCR?

15 MR. ALONSO: They probably said it  
16 was unfeasible.

17 JUDGE MCCABE: They probably did.  
18 They probably also said they weren't in the  
19 business. There has to be a first time,  
20 doesn't --

21 MR. ALONSO: No, I think that, as  
22 far as being in the business, I mean, they're

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 in the business of burning coal. And they  
2 know that they have to put on pollution  
3 control --

4 JUDGE HILL: And I think Sierra  
5 Club's argument would be that La Paloma is in  
6 the business of generating energy as  
7 efficiently as possible in South Texas. I  
8 mean, put aside the hurricane issue for a  
9 moment, but if there were enough land, you  
10 know, the stated business purpose in the  
11 application is to produce between 637 and 735  
12 megawatts of energy. I mean, that's the  
13 stated business purpose, not to produce it,  
14 per se, exclusively with natural gas. That  
15 may be their preference, but I'm not sure  
16 that's what the record shows.

17 MR. ALONSO: I mean, the purpose  
18 of citing this plant is to use the reclaimed  
19 water from the municipality as cooling water.  
20 There's also a natural gas pipeline close by  
21 to this facility. That is -- and the intent  
22 is to maximize the use of that gas pipeline.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 You know --

2 JUDGE HILL: And that is in the  
3 record?

4 MR. ALONSO: That is in our brief.

5 JUDGE HILL: Okay.

6 MR. ALONSO: But, again, I don't  
7 believe that solar pre-heat would even survive  
8 step one. I mean, you're talking about a  
9 redesign of the source by forcing folks to  
10 consider renewable energies at a fossil fuel  
11 plant where that's not the intention of the  
12 design. And this board has allowed and has  
13 recognized the ability for permittees to  
14 define the parameters of their design of what  
15 they want to build, and I don't think we, you  
16 know, well, you guys can do what you want, but  
17 to force folks that want to build fossil fuel  
18 natural gas plants to build wind turbines, I  
19 don't know, that sounds like --

20 JUDGE MCCABE: Do you know if  
21 there's any situation where any permitting  
22 authority has done that in the United States

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 yet?

2 MR. ALONSO: I have not seen a  
3 BACT analysis resulting in or, you know, to do  
4 as an alternative, particularly in step one,  
5 to consider the feasibility of a renewable  
6 project. I don't have any knowledge of that  
7 occurring at other permitting authorities.

8 JUDGE STEIN: But what about a  
9 hybrid plant? I mean, I don't think what's  
10 being suggested here is that you convert the  
11 principal purpose of the gas turbines. I  
12 think the question that's being asked is  
13 whether any component of it could be solar,  
14 and I think what the Board is struggling with  
15 is, in a situation in which solar is not  
16 already part of the plant design, is it proper  
17 or improper to raise questions about that? If  
18 so, what is the region's obligation?

19 I mean, I don't see this as sort  
20 of a black and white issue. I see it as  
21 you're telling us there's 20 acres. Maybe  
22 that's in the record, maybe it's not. That

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 may be relevant to how you answer that  
2 question in this case, as opposed to some  
3 other case.

4 MR. ALONSO: It really goes to  
5 whether or not solar or renewable energy  
6 should be considered a control device in step  
7 one. And I would assert, no, it's a different  
8 fuel source. You're redesigning, when people  
9 go to build solar plants or hybrid plants,  
10 even hybrid plants, you go in and that's what  
11 you want to build and you have a business plan  
12 and an engineering design for a hybrid plant  
13 and that's what you want to get permitted.

14 But if you're out building a gas-  
15 fired power plant and solar is not a  
16 component, I mean, nowhere in the record is  
17 there anything about La Paloma interested in  
18 building a solar plant. We want to build a  
19 natural gas fire plant, and that's the source  
20 that should be permitted, not some alternative  
21 design. And a hybrid plant would be forcing,  
22 basically, brand new engineering, you have to

1 study, you know, solar rays and the impact,  
2 whether or not it's efficient in this area.  
3 It would just be a totally different design or  
4 engineering effort to design a hybrid plant  
5 versus the plant that we're trying to permit  
6 here.

7 JUDGE MCCABE: Okay. Thank you,  
8 Mr. Alonso. We take your point, and you may  
9 be seated. And we will hear next from EPA,  
10 and Judge Hill will take the lead on questions  
11 for EPA, but be resting assured that we will  
12 all have questions for you.

13 JUDGE HILL: Let me start by  
14 asking how you pronounce your name, so I don't  
15 mess it up.

16 MR. TOMASOVIC: I will generally  
17 say Tomasovic but --

18 JUDGE HILL: Tomasovic?

19 MR. TOMASOVIC: -- Tomasovic is  
20 fine if you want to go old country.

21 JUDGE HILL: What do you prefer?

22 MR. TOMASOVIC: Tomasovic.

1           JUDGE HILL: Tomasovic, okay. So  
2 this is purely a hypothetical question, but,  
3 in your experience or in the experience  
4 generally of the region, when does a permit  
5 applicant decide what their, you know, what  
6 their turbine is going to be or what their  
7 size is going to be or the precise design  
8 factors of the source? Does it typically  
9 happen before they submit the permit  
10 application, after, both?

11           MR. TOMASOVIC: I think it could  
12 be a variety of things, your Honor. Looking  
13 through historical permitting actions, we did  
14 find that there are a couple of cases that  
15 happened before the Board that had permit  
16 structured such as this that had permitted  
17 multiple turbine options. You wouldn't be  
18 able to see it from the face of the decisions  
19 and it wouldn't be something that you could  
20 discern from the challenges that were raised,  
21 but the Three Mountain Power decision in 2001  
22 is one such example, and there was a case

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 where a petition was dismissed for being a  
2 minor source permit. But, clearly, on the  
3 face of that decision, which was Carlton, Inc.  
4 North Shore Plant in 2001, it described a  
5 minor NSR permit with multiple turbine  
6 options.

7 JUDGE MCCABE: Could you repeat  
8 the name of that one, please?

9 MR. TOMASOVIC: Carlton, Inc. --

10 JUDGE MCCABE: Carlton, Inc.

11 MR. TOMASOVIC: -- North Shore  
12 Plant.

13 JUDGE HILL: Do you have a cite on  
14 that, or you said it was dismissed as --

15 MR. TOMASOVIC: It was 2001, and  
16 it was a published decision, your Honor.

17 JUDGE HILL: Okay. Now, my  
18 understanding of Three Mountain Power is that  
19 they allowed for different equipment, but they  
20 only specified a single emission limit.

21 MR. TOMASOVIC: It does show that  
22 in the RBLC, sir, but we tracked down the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 permit and, actually, what happens is  
2 different permit issuers will input different  
3 data into the RBLC. We gave you approximately  
4 ten RBLC numbers, and in almost all those  
5 cases you are going to see different BACT  
6 limits, depending on what types of BACT limit  
7 is being assigned.

8           And under the Three Mountain Power  
9 permit that was issued, there were multiple  
10 types of limits, other than the concentration  
11 limits. So the hourly limits, the pounds per  
12 hour limits, the annual ton per year limits,  
13 just as in our permit, show that with each  
14 turbine option different limits apply.

15           JUDGE HILL: And what was the  
16 control technology in those cases, or can you  
17 generalize on that? I mean, one of the things  
18 that makes this a challenging case, I think,  
19 in part, is because the control technology is  
20 all, I mean, you know, is also essentially the  
21 plant design because what you're trying to do  
22 is simply maximize the efficient use

1 inherently. Are those others cases, are any  
2 of those similar, or are they all about add-on  
3 technologies?

4 MR. TOMASOVIC: I believe these  
5 days the conventional thing is that for add-on  
6 control technology with turbines is SCR. For  
7 other limits, such as PM and carbon monoxide,  
8 you're assigning limits inherent to good  
9 combustion practices inherent to the equipment  
10 that is selected. And that's reflected in the  
11 TCEQ permit that was issued for La Paloma in  
12 this case, which, like ours, followed an  
13 application that asked for the flexibility to  
14 consider multiple options. And, as a  
15 practical matter, when the permit writer is  
16 assigning those limits, they have to look at  
17 the specs inherent to the turbine in assigning  
18 both the worst case emissions but also those  
19 emissions that reflect what's good operation  
20 on an hourly basis.

21 JUDGE HILL: Does the TCEQ permit  
22 have this condition that says that, once the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 turbine selection decision is made, then the  
2 permit is going to be amended to basically  
3 take out reference to the other two turbines?

4 MR. TOMASOVIC: It does, and I  
5 believe that may be a practice that varies by  
6 permit issuer. I didn't notice that when I  
7 looked at the Three Mountain Power permit. I  
8 also have on hand a listed RBLC number for a  
9 Florida permit in 2000. I didn't notice the  
10 provision there.

11 For what we have as a special  
12 condition, there's no time set requirement on  
13 when they would need to come in and modify it.  
14 It's more of a back-end cost-keeping  
15 requirement where they indicate what their  
16 selection would be, and the permit issuer  
17 would simplify the permit so it's more  
18 readable for enforcement purposes.

19 JUDGE HILL: And that's the reason  
20 to do it? Because if you take Mr. Alonso's  
21 argument kind of to its logical conclusion,  
22 then they get to select the turbine and,

1 therefore, they get the limit that applies to  
2 that turbine. But you're saying that that  
3 condition was put in there just to make the  
4 permit cleaner to read, in essence?

5 MR. TOMASOVIC: It's not the case,  
6 as the petitioners have argued, that they get  
7 to choose their emissions rate. That's not  
8 what they get to choose. They get to choose  
9 their capacity, they get to choose the  
10 equipment and the various designs of equipment  
11 that we couldn't differentiate for efficiency  
12 purposes in assigning limits for a final  
13 permit.

14 So even as those limits look  
15 numerically different in the permit, we have  
16 a technical decision on the part of the permit  
17 issuer that says these are comparable and they  
18 don't implicate a weakening of the BACT  
19 requirement that we decided to assign the  
20 limits this way.

21 JUDGE HILL: I want to come back  
22 to the comparable because I think that that's

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 an important issue. But getting back to this  
2 full issue of, basically, the selection  
3 decision, Sierra Club's essential argument is  
4 that, since the control technology here is  
5 maximum efficiency within a range and given  
6 that La Paloma defined the business purpose as  
7 build a plant that's between the capacity of  
8 the smallest capacity turbine and the largest  
9 capacity turbine, that they should have to use  
10 the most efficient control technology, which,  
11 in this case, would be the most efficient  
12 turbine. Do you agree? Could the agency have  
13 told La Paloma, look, you can pick whatever  
14 turbine you want, but you've got to run it as  
15 if it were the most efficient because that's  
16 BACT? Does the agency have that authority?

17 MR. TOMASOVIC: Speaking for  
18 Region 6 with this permit, there are multiple  
19 ways that I think permit issuers could have  
20 decided to come out in the final permit. We  
21 decided, based on the design heat rates, the  
22 best data we had for the operational factor

1 that would apply to this equipment, plus a  
2 consistent safety margin for all three  
3 options, that there are these three limits  
4 that come out.

5 And if we chose to express those  
6 limits in their different format, for instance  
7 the net heat rate, the picture would actually  
8 be quite different. So it is a distorted, a  
9 bit of a distorted picture to say that GHG  
10 BACT, on a gross output basis, is the ultimate  
11 measurement of what is efficient.

12 JUDGE HILL: Why would it look  
13 different? Please explain that further. What  
14 would happen if you use net?

15 MR. TOMASOVIC: So what appears  
16 from the face of the permit is that the  
17 largest difference in efficiency is 2.7  
18 percent. In our response to comments on page  
19 11, we actually provided the numbers to show  
20 what that difference would look like on a net  
21 basis, which is, I believe, the format that  
22 the limits were expressed in the Palmdale

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 decision, as well as even earlier permits  
2 issued by Region 6.

3 And permit issuers do have  
4 discretion at this time, in the absence of  
5 guidance, to consider the comments that come  
6 in and decide which type of limit is going to  
7 be most meaningful for putting BACT in place.  
8 But --

9 JUDGE HILL: So I can't do math in  
10 my head, but I'm looking at those numbers. So  
11 you've got, for the GE turbine, the net heat  
12 rate would be 7527 and for the Siemens it  
13 would be 7771. Isn't that about two and a  
14 half percent, or is it less than that?

15 MR. TOMASOVIC: Well, I think what  
16 you want to look to is, if you can see a 945.2  
17 number --

18 JUDGE HILL: Okay. That's the  
19 emission limit.

20 MR. TOMASOVIC: -- and the 944.4  
21 number.

22 JUDGE HILL: And then a 965

1 number.

2 MR. TOMASOVIC: If you were to ask  
3 what the percent difference is there, you  
4 would have one-tenth of one percent of a  
5 difference, which, expressed as gross, shows  
6 up as 2.7 percent. And this is one of the  
7 challenges with such a narrowly-written  
8 petition. It didn't challenge the reasonable  
9 compliance margins that we assigned to each  
10 option, and it doesn't bring up issues like  
11 the start-up emission limits, which, in fact,  
12 give a different rank order, if you could use  
13 that terminology for each of the turbine  
14 options.

15 JUDGE HILL: All right. So are  
16 you saying that if you, I mean, based on this  
17 chart on page 11, that, I mean, the response  
18 comments references the 2.6 earlier on, but  
19 it's also got this chart. And you're saying  
20 that that chart shows that it's really tiny?

21 MR. TOMASOVIC: Yes, your Honor.  
22 If we chose to place a final permit, final

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 limits in the permit on a net basis using the  
2 same calculation methodology, it would be one-  
3 tenth of one percent.

4 JUDGE HILL: How do you decide  
5 whether you set the limit on a gross basis or  
6 a net basis? Because I know I've seen both.

7 MR. TOMASOVIC: In this case, we  
8 evaluated the adverse comments on the issue,  
9 we looked at what was going on, for instance,  
10 with the proposed NSPS which expresses those  
11 limits, at least in a proposal form on a gross  
12 output basis. We saw that, in general, a lot  
13 of the performance data that is out there is  
14 available on a gross output basis, so we  
15 decided that for permitting purposes,  
16 permitting administration purposes, and for  
17 the benefit of other permitting actions, it  
18 seemed that gross output made sense for this  
19 permit.

20 JUDGE HILL: Okay. But you had  
21 the discretion to pick net?

22 MR. TOMASOVIC: Well, we don't

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 close off ourselves from choosing net base  
2 limits in future permits if, for instance, the  
3 NSPS were to, on the basis of comments, decide  
4 that net basis really is a preferred way to  
5 go. But we have a reasonable basis for this  
6 permit to say so. And in saying that, we're  
7 not purporting to say anything that would be  
8 determinative of how state permitting  
9 authorities or even other regions might choose  
10 to assign the limits for a permit that  
11 guarantees efficiency and control of GHGs.

12 JUDGE MCCABE: I just want to get  
13 some clarity on, again, the facts. I love  
14 facts. If the numbers here that we're going  
15 to be looking at when we decide whether we  
16 agree with the region's position that these  
17 limits are really not different, that they're  
18 comparable or whatever language you use to  
19 describe them, how would we describe that? Is  
20 it 0.1 percent are you telling us now? Is it  
21 2.7 percent? Is it a range from 0.1 percent  
22 to 2.7 percent? The world looks closely at

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 the facts of what we were looking at when we  
2 draw the conclusion, so the facts matter and  
3 I'm a little unclear about them right now.

4 MR. TOMASOVIC: Yes, your Honor.  
5 So I'll try and go over the notes I have on  
6 the comparability of the limits in maybe an  
7 orderly --

8 JUDGE MCCABE: I was hoping you'd  
9 give me a sound bite in the end, but, please,  
10 feel free to go through the notes.

11 MR. TOMASOVIC: The first thing is  
12 that the permit actually assigns three  
13 different kinds of emission limits: the ton  
14 per year, the start-up limits which are on a  
15 pound-per-hour basis, and this gross output:  
16 when it's sending electricity to the grid, how  
17 efficient is GHGs in relation to the output?

18 So if you look at those three  
19 different limits and were to assign a rank  
20 order under each kind of turbine model, you're  
21 actually going to get three different orders,  
22 there different permutations. I suggest that

1 the net limits was another possibility for us.  
2 You would get a fourth order if you were to  
3 assign -- and actually nothing would have  
4 permitted us from assigning both kinds of  
5 limits and that limit and a gross limit, but  
6 that would have been duplicative. So we  
7 decided these are the limits for the permit.

8           So looking just at that, the basis  
9 for the challenge, which is the gross limits,  
10 you have a smallest difference of one-half of  
11 one percent. That's the difference between  
12 909 to 912. The largest apparent difference  
13 is 2.7 percent, which is the difference from  
14 909 to 934.5. And this difference is not a  
15 difference in efficiency. In the commenters  
16 letter, they do throw around the term  
17 "efficiency," but sometimes that's using the  
18 context of what is power plant efficiency,  
19 which gives you a different comparison. If  
20 you're talking about engine efficiency or  
21 power plant efficiency, the 2.7 percent  
22 difference is actually 1.2 percent.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 JUDGE HILL: Why is that? I was  
2 with you until that sentence.

3 MR. TOMASOVIC: So --

4 JUDGE MCCABE: I think we need a  
5 chalkboard.

6 MR. TOMASOVIC: That calculation  
7 and I think maybe the footnotes in the comment  
8 letter explain it as 3412 divided by the heat  
9 rate. And another issue is that the  
10 commenters use actually lower heat value for  
11 their descriptions of the heat rate, whereas  
12 our permit is using the high heat rate  
13 information to get the limits.

14 But that 1.2 percent difference in  
15 efficiency, that kind of efficiency, power  
16 plant efficiency we're talking about is what  
17 you may read in --

18 JUDGE HILL: Can you define power  
19 plant efficiency for that purpose for me?

20 MR. TOMASOVIC: Yes, sir. The  
21 definition of power plant efficiency would be  
22 what is the heat rate value of the kilowatt

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 hour divided by the heat rate for the power  
2 plant or the turbine.

3 JUDGE HILL: Okay.

4 MR. TOMASOVIC: And in our case,  
5 our limits aren't just the heat rate for the  
6 turbines, as though they were in simple cycle  
7 mode, but the heat rate for those turbines, in  
8 conjunction with the heat recovery steam  
9 generator with duct burner firing. So there's  
10 a number of things going on.

11 And we had explained that as  
12 turbines get larger they get more efficient.  
13 And that's actually true for several reasons,  
14 but, in this case, it's not actually because  
15 the GE turbine is demonstrated to be  
16 inefficient. That's not the case. It's  
17 actually the influence of the duct burners,  
18 which wasn't something that the petitioners  
19 raised in their appeal. Because each scenario  
20 has the same size duct burners, they have a  
21 disproportionate impact in the overall heat  
22 rate. We assigned limits that included

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 everything, and that's why, when Mr. Alonso  
2 was talking about de-rating, that may be a  
3 situation where is easy to figure out that  
4 you're just cutting into the compliance margin  
5 if we had decided to set them all the same  
6 limit but also might be a case where they  
7 really put limits on their use of duct  
8 burners, which cuts into the operational  
9 flexibility that they want to have as base  
10 load plant that has peaking type capabilities  
11 --

12 JUDGE HILL: In other words, you  
13 can't sort of size the duct burner to the size  
14 of the turbine or --

15 MR. TOMASOVIC: No, your Honor.  
16 In this case, the HRSG with the duct burners  
17 is assigned to be the same for all three  
18 scenarios.

19 JUDGE HILL: Okay, all right. So  
20 is 2.7 percent the largest, when you talk  
21 about tons per year, startup gross output, and  
22 net heat rate, is 2.7 the largest difference?

1           MR. TOMASOVIC: Well, sir, if you  
2 were to count the annual ton per year  
3 differences, each capacity scenario is  
4 actually about 10 percent larger than the  
5 next. If you look at the annual ton per year  
6 limits, I think the differences might be 6 or  
7 7 percent, but you're just building up your  
8 plant with the bigger greenhouse gas impact  
9 overall and --

10           JUDGE HILL: Well, the reason I  
11 ask that question is because, in your brief,  
12 you talk about that you don't need to look at  
13 alternative control technologies that are  
14 essentially equivalent. In response to  
15 comments, it talks about these turbines are,  
16 quote, highly comparable and there are  
17 marginal differences between them. So there's  
18 a lot of words thrown around that all seem to  
19 imply small or not significant, but which one  
20 do we use? I mean, the argument seems to be,  
21 essentially -- see, I'm coming up with a new  
22 phrase -- essentially equivalent. How do we

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 judge that? Well, first of all, is there a  
2 single term that is most relevant, from a  
3 legal standpoint? And then my second question  
4 will be and how do we judge that?

5 MR. TOMASOVIC: Well, the two  
6 explanations that we gave in the record I  
7 think are pertinent, and that is that the  
8 differences are mere fractions of the  
9 compliance margin. The compliance margins we  
10 assign to each turbine is reflective of the  
11 uncertainties in terms of variable load  
12 performance, deviations from the iso  
13 conditions, degradation over time. So if --

14 JUDGE HILL: Well, but how does  
15 that cut? I mean, if you accept a compliance  
16 margin at 30 percent, then, yes, everything is  
17 probably going to get swamped by that. But if  
18 you set the compliance margin at 2 percent,  
19 you might not.

20 JUDGE MCCABE: Or 12.6.

21 MR. TOMASOVIC: And we set the  
22 compliance margin at 12 percent, and I think

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 what that illustrates is that the difference  
2 between the 2 percent, which is approximately  
3 a quarter of that total compliance margin,  
4 shows these are all, these are all comparable.  
5 They are all going to be expected to be  
6 performing in range of each other, but we  
7 decided that there are subtle differences that  
8 allowed for the assignment of that reasonable  
9 safety factor. They are different sizes and  
10 different engines, but there's no fact-based  
11 reason for us to decide to set them all at the  
12 same limit or average them or round them up to  
13 the nearest 50 pounds per megawatt hour,  
14 although other permit issuers may well choose  
15 to do that in order to simplify things.

16 JUDGE HILL: If we want to give  
17 guidance to future permit writers, how would  
18 you propose we say you've got three turbines  
19 with different heat rates but they are  
20 essentially equivalent. How much discretion  
21 do you think the agency has to figure out, to  
22 declare two different GHG limits to be

1 essentially equivalent?

2 MR. TOMASOVIC: Well, I would  
3 start, your Honor, with the fact that these  
4 are all F class turbines, and at the comment  
5 period there wasn't any articulated difference  
6 between the turbines in terms of the  
7 technology they have. You may find that in  
8 other cases where here's a turbine that uses  
9 dry cooling and here's a turbine that uses wet  
10 cooling, and that's a technological difference  
11 that would allow us to elaborate on it,  
12 explain perhaps why one option is necessary  
13 and the other isn't.

14 But in this case, where you have F  
15 class turbines that are all modern, at least  
16 in the last several years, type efficiencies  
17 placed into an energy system that has its own  
18 subtle impacts on what the overall limits  
19 would be, I think the way that the Board  
20 should land on that is deference to the permit  
21 issuers technical judgment in this case, on a  
22 case-by-case basis, that this apparent

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 difference of 25 pounds per megawatt hour was  
2 not significant. And we made that decision  
3 without any written guidance from OAPPS or  
4 OGC, but it was based on our permit issuer  
5 technical judgment. And all is not as it  
6 seems if you were to look at, for instance,  
7 that net efficiency, which illustrates that  
8 that 2.7 percent difference, which the  
9 petitioners now complain about, is only a 0.1  
10 percent difference.

11 JUDGE HILL: At what point does it  
12 become too big? I mean, you talk in your  
13 brief or the response comments document talks  
14 about, well, unless it's poorly designed or  
15 non-representative of the capabilities of the  
16 technology, is that the standard we should  
17 adopt?

18 JUDGE MCCABE: We're wondering  
19 where that came from, actually.

20 MR. TOMASOVIC: Well, that phrase,  
21 you might find a phrase in the GHG guidance on  
22 performance benchmarking. I'm not saying it's

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 straightly transferrable to that, to the way  
2 that we used it in the brief, but it does  
3 reference performance capabilities of  
4 technology as a starting point. And we were  
5 looking at the GHG guidance that does say, in  
6 the case of a gas-fired plant, if it's  
7 considering single cycle for example, you  
8 should consider as an option combined cycle.  
9 Combined cycle isn't broken down into the  
10 world of turbines that are available on the  
11 market. Go larger, if you can, if that shows  
12 it's more efficient.

13           Instead, it was more us taking  
14 this application as it came in, a conventional  
15 combined cycle plant using modern F class  
16 turbines with the heat recovery steam  
17 generator and the duct burners. It's a  
18 standard type of permit. It is similar to the  
19 LCRA permit that we issued. It was the first  
20 permit issued, which, incidentally, in that  
21 case, the application came to us with the  
22 request to permit multiple options, and they

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 decided before public comment that the GE 7FA  
2 turbine was the one that they would go with.

3 JUDGE HILL: So can you cite to  
4 any permit where EPA basically allowed the  
5 size or model of the main emission unit to be  
6 selected after the permit is issued, as  
7 happened here? Are the --

8 MR. TOMASOVIC: As far as a  
9 regionally-issued permit, sir? No. The  
10 Washington State permit that is referenced in  
11 our brief is a delegated state. Sierra Club  
12 submitted adverse comments on it, and that was  
13 one case where they, for similar reasoning to  
14 us, decided that they would defer to the  
15 applicant's request to have multiple options  
16 and not make them pick one of two acceptable  
17 turbine models.

18 JUDGE HILL: Okay.

19 JUDGE MCCABE: Just going back to  
20 your point about the F class turbines, I'm  
21 wondering if what you're saying to us is that  
22 it is sufficient for the permitting authority

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 to look at that class of turbines and say,  
2 step one, combined cycle technology is the  
3 best available control technology here; and  
4 then when we get all the way down to step five  
5 to set the emission limit that anything within  
6 class F is good enough; is that what you're  
7 saying?

8 MR. TOMASOVIC: No, your Honor.  
9 The project did come to us with F class  
10 turbines. You may see that in the response to  
11 comments one of the things that Sierra Club  
12 had said is choose larger turbines, make a  
13 bigger power plant, and we quickly said that  
14 we didn't believe that was appropriate in our  
15 case because they had selected, they're  
16 looking at a power plant of a certain size  
17 using three different types of F class  
18 turbines.

19 But all of those, we're open to  
20 commenters, adverse commenters that may say,  
21 well, these three turbine models, of these  
22 three turbine models, this one doesn't show

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 anything that shows modern day efficiencies.  
2 But at the same time, it's likely not a good  
3 permit practice to say with absoluteness that  
4 this turbine that was designed in the last  
5 five years is not acceptable for BACT purposes  
6 or for project purposes in other cases  
7 because, if you rest solely on that one piece  
8 of information then the net heat rate  
9 expresses as the pounds per megawatt hour on  
10 a gross basis, you're not necessarily  
11 capturing all that is relevant to efficiency.

12 JUDGE HILL: What if La Paloma had  
13 said we're going to build a plant that's 637  
14 megawatts, no more, no less, and there's only  
15 one turbine on the market that will allow us  
16 to do it, even though there are several other  
17 F class turbines that are much more efficient?  
18 Would the region have any authority to look  
19 behind that?

20 MR. TOMASOVIC: I think general  
21 permit issuers do have authority to say have  
22 you considered this or that that's also

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 available. In that case, your Honor, I think  
2 you're presenting a case where the source is  
3 defined binarily.

4 JUDGE HILL: Exactly.

5 MR. TOMASOVIC: However, it  
6 doesn't necessarily mean that the selection of  
7 that turbine model is unjustified. If you are  
8 to look at, going back to the NSR workshop  
9 manual, I believe we cited, we said in our  
10 brief in one of our footnotes that customer  
11 selection factors can be based on a number of  
12 things, including reliability and efficiency,  
13 experience with the equipment. And all of  
14 those are things that you can find in the NSR,  
15 in the NSR workshop manual as an example of  
16 how you step into the BACT analysis for a  
17 turbine. It's really something that we come  
18 in with we have a contractual commitment to  
19 use these turbines, can you see what limits  
20 would apply to it at the front end?

21 JUDGE HILL: Let me ask if Judge  
22 Stein or Judge McCabe has anymore questions on

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 the turbine issue because then I want to move  
2 to solar real fast.

3 JUDGE STEIN: I do.

4 JUDGE HILL: Okay.

5 JUDGE STEIN: Did I hear you say  
6 that another facility in Region 6 that was  
7 recently permitted is using the same turbine  
8 as will be used by La Paloma?

9 MR. TOMASOVIC: Yes, your Honor.

10 JUDGE STEIN: And does the record  
11 reflect what that BACT limit is for that  
12 facility and how it compares to the BACT limit  
13 here?

14 MR. TOMASOVIC: Yes, your Honor.  
15 So the name of the facility is the LCRA  
16 Ferguson Plant. And I believe that was  
17 referenced in the statement of basis, as well  
18 as discussions sections of the response to  
19 comments. In all cases, looking at other  
20 facilities that are out there, including LCRA,  
21 we deemed the limits to be appropriate when  
22 they're placed in the appropriate context.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 The Sierra Club presents Palmdale, which isn't  
2 reflective of the same design that we're using  
3 that we permitted here. They referenced the  
4 Pioneer Valley, and we had to contextualize  
5 the limits that were assigned to the Pioneer  
6 Valley permit because that particular facility  
7 wasn't using duct burners.

8 JUDGE STEIN: Okay. So if I'm  
9 correct, the BACT emissions limit for the  
10 Lower Colorado River was 918 pounds of CO2 per  
11 megawatt hour. And the limit that we're  
12 looking at here is 934; is that correct? I'm  
13 not purporting to say that I have a correct  
14 understanding. I'm just trying to clarify.

15 MR. TOMASOVIC: Is this in the  
16 response to comments or statement of basis,  
17 your Honor?

18 JUDGE STEIN: Oh, it's in my  
19 little cheat sheet that somebody gave me.

20 JUDGE MCCABE: It's extracted.

21 MR. TOMASOVIC: I may be mistaken,  
22 but I believe the limits assigned for LCRA

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 were, in fact, on a net basis, so they  
2 wouldn't be directly comparable. But we might  
3 well have had some discussion that tried to  
4 reconcile them.

5 JUDGE MCCABE: Yes, the  
6 comparability of all of these numbers is  
7 somewhat perplexing to us, so we'll address  
8 that at the end because we're thinking that we  
9 might need some supplemental briefing to try  
10 to get us on an agreed-on comparison table  
11 here so that we at least understand, and that  
12 others who read the decision can understand  
13 the import of what we're deciding. Do you  
14 want to turn to solar?

15 JUDGE HILL: Yes. So Mr. Alonso's  
16 argument is, in essence, that including any  
17 solar into this project would have been  
18 redefining the source. Do you agree with  
19 that, or do you think the agency has any  
20 authority to consider some solar at an  
21 electric plant, even if it hasn't been  
22 proposed by the applicant?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MR. TOMASOVIC: Your Honor, I  
2 believe that the Board's precedent on  
3 redefinition of the source allows that a  
4 permit issuer, in their discretion, may  
5 require consideration of options that may  
6 constitute a redefinition of the source.  
7 However, if that is in conflict with the  
8 fundamental business purpose of the applicant,  
9 then it is against our policy to do that.

10 JUDGE HILL: Do you think that the  
11 agency has some -- okay. So you believe the  
12 agency has the authority to require  
13 consideration. Do you think the agency has  
14 the obligation to do so if it wasn't proposed  
15 if somebody raises it in comments, as happened  
16 here?

17 MR. TOMASOVIC: I believe that the  
18 agency's responsibilities in responding to the  
19 comments in many ways are calibrated off of  
20 the specificity of the comments that come to  
21 us. In this case, the comments that we  
22 received on solar are not in the same shape as

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 they came to the board in the petition in that  
2 they've attached the exhibits for two permits  
3 that weren't part of their comments that were  
4 submitted to us, and they specifically focused  
5 on Palmdale and Victorville as two facilities  
6 that we should have had a further discussion  
7 about in our response to comments.

8 But in terms of how the comments  
9 came to us, which actually raised the issue of  
10 solar in a lot of different ways where, at  
11 times, it wasn't even clear whether they were  
12 referencing photovoltaic versus steam,  
13 auxiliary contributions to efficiency, I  
14 believe that the region's responses were  
15 appropriate.

16 JUDGE HILL: Mr. Alonso  
17 essentially argued that our decision in  
18 Palmdale said that it is appropriate to  
19 classify addition of extra solar as  
20 essentially redefining the source, and he also  
21 cites to Sierra Pacific. Do you agree with  
22 that characterization of those decisions?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MR. TOMASOVIC: Our decision is  
2 based on the facts of our administrative  
3 record and not a broad reliance on those  
4 decisions stating that. As was argued in our  
5 brief, we think the administrative record  
6 shows that the consideration of solar options,  
7 at least as we understood it coming from the  
8 commenters, would redefine the source.

9 The administrative record does  
10 show, in fact, that the property limits are no  
11 more than 80 acres and, from that, it can be  
12 discerned that there is, based on the  
13 footprint of the plant, not a lot of  
14 additional acres, which might approximate the  
15 20 acres that the permittee was able to  
16 substantiate with the affidavit that they gave  
17 with their petition.

18 JUDGE HILL: So does the region  
19 believe it's not feasible to install any solar  
20 capacity at the site?

21 MR. TOMASOVIC: Well, depending on  
22 how that comment might be construed, your

1 Honor, rooftop solar is an option that  
2 presumably is not what the commenters were  
3 trying to talk about, although it's not always  
4 clear. In the case of the Palmdale decision,  
5 it does illustrate that as a rough measure to  
6 contribute 10 percent of that plant's total  
7 capacity.

8 JUDGE MCCABE: Does someone have a  
9 cell phone going? Where is that music coming  
10 from?

11 (Whereupon, the foregoing matter  
12 went off the record at 4:50 p.m.  
13 and went back on the record at  
14 4:52 p.m.)

15 JUDGE MCCABE: Okay. Let's  
16 proceed. We don't have to cut Mr. Ritchie  
17 off. Lovely music anyway.

18 MR. TOMASOVIC: I was saying, your  
19 Honor, as a background matter, the Region 6  
20 was aware of the factual setting that was  
21 recited by the Board in the Palmdale case,  
22 which was the fact that, to generate just 10

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 percent of the capacity for that Palmdale  
2 plant, it required 250 acres. And, in fact,  
3 and I believe some language in the opinion  
4 came close to this, you need acreage to be  
5 able to have power in a significant amount.  
6 You may well need more than 20 acres just to  
7 get steam that could be used in the process,  
8 but, you know, that's a different technical  
9 issue in any event.

10 If we were to just sort of roughly  
11 say 250 acres, 10 percent of the plant's power  
12 reduced down to 20 or 25 acres, you're talking  
13 about something that doesn't substantially  
14 influence the overall plant --

15 JUDGE HILL: But that's not in the  
16 analysis the region did in the record,  
17 correct?

18 MR. TOMASOVIC: No, your Honor.

19 JUDGE HILL: Okay.

20 JUDGE MCCABE: Is it the region's  
21 position that, as a matter of exercising its  
22 discretion, it would never consider solar, it

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 would always consider adding a supplemental  
2 solar or whatever we call it here to be  
3 redesign and, therefore, against at least the  
4 region's policy, if not the agency's, to even  
5 consider?

6 MR. TOMASOVIC: No, your Honor, I  
7 don't think anything in the region's response  
8 was intended to cut off comments on solar  
9 technology as a general matter for any other  
10 permitting case.

11 JUDGE MCCABE: You just think the  
12 comments here were insufficient to get you  
13 where you needed to go in order to give it  
14 serious consideration here; is that what  
15 you're saying?

16 MR. TOMASOVIC: Yes, your Honor.  
17 I mean, we had a bit of a technical discussion  
18 in there that it is the case that, for any  
19 process that uses fuel to generate heat, you  
20 can get that from something else, which might  
21 be geothermal or solar. And you could get  
22 into the myriad permutations that go on

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 forever in terms of whatever a commenter might  
2 bring, but it is --

3 JUDGE MCCABE: Comment clearly  
4 focused on solar in this case, so you don't  
5 need to go there.

6 MR. TOMASOVIC: However, there are  
7 other parts of the comment which seem to  
8 suggest that the, that, in their view, this  
9 project was defined to be within a range of  
10 capacity that could be energy generated by any  
11 means, which we disagree with because this is  
12 a combined cycle plant that's meant to use  
13 natural gas as its fuel and take advantage of  
14 the infrastructural advantages specific to  
15 that location, including the water  
16 availability of the pipelines and the local  
17 need for this particular kind of power to be  
18 delivered for grid stability reasons.

19 JUDGE MCCABE: I hate to put you  
20 on the spot, Mr. Tomasovic, but do you think  
21 you could reduce to one or two sentences the  
22 reason the region did not consider solar here

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 or considered it to be redesign that the  
2 region would not entertain?

3 MR. TOMASOVIC: In the way that  
4 the comments came, your Honor, we believe that  
5 that solar auxiliary preheat was not well  
6 defined because it was, it was actually raised  
7 as a substitute for duct burners when duct  
8 burners have a different purpose than solar  
9 auxiliary preheat. And I'm already past my  
10 two sentences but --

11 JUDGE MCCABE: That's okay.  
12 You're close enough. Thank you. Those are  
13 all the questions we have for you at this  
14 time, Mr. Tomasovic. Thank you. And, Mr.  
15 Bender, you have been very patient, and I bet  
16 you're watching your watch. National Airport  
17 flight at 7:00. You probably need to leave  
18 here by -- what would folks who are  
19 Washingtonians say, given that it is Wednesday  
20 rush hour before a storm?

21 JUDGE HILL: If you take a cab,  
22 I'd say 5:45 at the latest.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 JUDGE MCCABE: Okay. So 5:30;  
2 will that work for you, Mr. Bender?

3 MR. BENDER: I think so, your  
4 Honor.

5 JUDGE MCCABE: Okay. I would hate  
6 to give you short shrift after you were so  
7 gracious as to choose the last position or to  
8 suggest that your judgment perhaps might need  
9 to be revisited the next time you're offered  
10 that choice.

11 MR. BENDER: I wouldn't want to  
12 miss this even if I had already gone.

13 JUDGE MCCABE: Okay.

14 MR. BENDER: Is this better?  
15 Thank you, your Honors. I think, to address  
16 one thing that kind of permeates the briefs  
17 from respondents and some of the discussion  
18 here today, there's kind of two pieces or two  
19 sides of the same coin maybe. We're talking  
20 about size or capacity. We're talking about  
21 megawatts, right? And when we're talking  
22 about ERCOT or any other regional system

1 operator, the dispatch is to meet a load.  
2 We're talking about dispatching to meet a load  
3 in megawatts.

4 And the size of the units are  
5 different here. It's actually kind of a  
6 combination of things, turbines plus heat  
7 recovery, steam generator, turbine that adds  
8 up to certain numbers. It's 637 for the GE  
9 combination, for example. That's megawatts as  
10 their peak. You know, if you throttle full,  
11 that's what you're going to get.

12 The Siemens turbines can generate  
13 637. It's not that you have a turbine, you  
14 turn it on, and you get 637 megawatts, or you  
15 turn it off and you get zero, and it's a  
16 binary on or off situation.

17 In fact, the other argument or the  
18 other piece of this argument in the briefs was  
19 that turbines, as they get larger, get more  
20 efficient. And if you want a large turbine at  
21 a reduced rate, less than full, you're  
22 decreasing its efficiency, and that's simply

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 not true. And that's not true based on the  
2 evidence in this record because that last  
3 increment of power comes from duct burning,  
4 which is less efficient than the turbines and  
5 steam generator.

6 And so as you throttle down or as  
7 you de-rate or decrease your generation, all  
8 saying the same thing, you're actually, until  
9 you hit the point where the duct burners come  
10 off, you're actually improving the efficiency  
11 and decreasing the emission. And we can see  
12 that, among other places, in one of the tables  
13 that counsel for Region 6 pointed to in the  
14 response to comments where, in addition to net  
15 and gross, there's also, without duct burner  
16 fire, on page 11 of response to comments,  
17 which is Petition Exhibit 3, you can see that  
18 the GE, the smallest of the turbines piece, is  
19 7527.5 without duct burner firing. The  
20 biggest turbine, the Siemens 5, is 7771.7.  
21 Less efficient, right? And you only get the  
22 increased efficiency from the larger turbines

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 as a system because they're able to generate  
2 more of their power before turning the duct  
3 burners on.

4 JUDGE MCCABE: Well, does this  
5 mean you're happy to hear that they've  
6 selected the GE turbine?

7 MR. BENDER: If they have a permit  
8 limit that reflects what they could do. If  
9 the question is phrased differently, right?  
10 If the draft permit had come out and said our  
11 project purpose is to build a plant that's  
12 capable of generating 637 megawatts, you know,  
13 this would be a different case. The comments  
14 would have been different, and we may or may  
15 not be here.

16 But then we'd say, the comments  
17 would come in, among other things, something  
18 to the effect of the Siemens, you know, 5 or  
19 the Siemens 4 can generate 637 megawatts. In  
20 fact, when it does so, it does it at a reduced  
21 emission.

22 So we're dealing with emission

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 rates. The final permit emission limits are  
2 set based on operating full out. But full out  
3 is a different number of megawatts for each,  
4 right?

5 JUDGE MCCABE: Thank you for that  
6 clarification. Do you agree that the F class  
7 turbines are among the most efficient turbines  
8 available for combined cycle combustion  
9 technology?

10 MR. BENDER: I believe they're  
11 among. I don't know that they are the most  
12 efficient.

13 JUDGE MCCABE: Do you know of a  
14 class that's more efficient?

15 MR. BENDER: I don't. The  
16 question, though, is the emission limits, too,  
17 which is the end of everything. So we're  
18 talking about turbines and different turbines,  
19 but we're really talking about different  
20 turbines put in front of the same 271 megawatt  
21 steam generator in this case.

22 JUDGE MCCABE: Well, to you and to

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 EPA, of course, the emission limit is the  
2 ultimate most important thing here. But, of  
3 course, to the company, the most important  
4 thing is which turbine do they get to use and  
5 is it the one that will fit whatever their  
6 business purpose is?

7 Your petition -- I'm a little  
8 confused about something. Your petition says  
9 that you're not suggesting that the company  
10 should be required to pick any particular  
11 turbine but just that they should meet the  
12 lowest GHG limit that any of the turbines  
13 could meet. But aren't you, in effect, by  
14 doing that, forcing their choice of turbine?

15 MR. BENDER: No. It's not  
16 requiring a turbine. Whether you're forcing  
17 it or not raises some other internal issues,  
18 I think, at the company, which is, you know,  
19 their risk appetite for that headroom margin  
20 that's built in, how much they're actually  
21 going to operate because this is a 12-month  
22 rolling average and assumes operating at 100

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 percent, including those duct burners wide  
2 open, which is one of the least efficient ways  
3 to operate.

4 JUDGE MCCABE: So your preference  
5 would be that they have to build a bigger  
6 turbine and operate it at a lower load?

7 MR. BENDER: Our preference is  
8 they have to meet the emission limit that --

9 JUDGE MCCABE: But in concept.

10 MR. BENDER: To build a bigger  
11 turbine and operate it with less duct burning  
12 and using more of the waste heat from the  
13 turbine, the way that the three options are  
14 set up in this record is the most efficient.  
15 And --

16 JUDGE HILL: But that wasn't your  
17 comment, was it? Your comment was simply to  
18 pick the limit that reflects the lowest  
19 emission rate. Your comment wasn't  
20 essentially to recalculate the rate based on  
21 the lack of duct burning.

22 MR. BENDER: That's correct.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 Sorry. I'm trying to answer a question, a  
2 direct question. I'm not representing that  
3 that's what the comments were.

4 JUDGE HILL: Okay. Fair enough.  
5 I'm sorry to interrupt. Keep going.

6 MR. BENDER: I should specify this  
7 is based on our understanding from the record.  
8 Because the Siemens turbines are capable of  
9 basically more heat because they're bigger but  
10 they're going into the same size heat recovery  
11 steam generators, as would the GE turbines.  
12 More of the total heat going in is coming from  
13 waste heat from the turbines with the Siemens  
14 compared to the GE, so there's less need for  
15 duct burning. That's what --

16 JUDGE MCCABE: What is your goal  
17 here, Mr. Bender? Are you looking for the  
18 lowest total amount of GHG emissions that can  
19 possibly come out of this facility, or are you  
20 looking for something else?

21 MR. BENDER: We're looking for the  
22 lowest BACT rate, but we're also looking for

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 --

2 JUDGE MCCABE: But the BACT rate  
3 is based on efficiency, yes?

4 MR. BENDER: It's based on  
5 efficiency here, yes.

6 JUDGE MCCABE: Do you have any  
7 objection to that?

8 MR. BENDER: I'm sorry?

9 JUDGE MCCABE: Do you have any  
10 objection to EPA's basing the BACT rate on the  
11 energy efficiency of the turbines?

12 MR. BENDER: Not in this petition.

13 JUDGE MCCABE: Okay. Well, it is  
14 this petition we're talking about.

15 MR. BENDER: Right. It's --

16 JUDGE STEIN: But given that they  
17 have indicated that, depending on the timing,  
18 that they're going to go with the GE turbine,  
19 what is your position as to what the emissions  
20 limit should be for that turbine?

21 MR. BENDER: The emission limit  
22 for any of these turbines, based on this

1 record and the draft permit that we were able  
2 to comment on, should be -- I'll put it this  
3 way. If F class category of turbines,  
4 followed by heat recovery steam generator is  
5 the control option, and that's what we were  
6 able to comment on. And if that's the control  
7 option that they're going to treat as the same  
8 control option through steps one through four,  
9 then in step five the emission rate should be  
10 based on the lowest emission rate achievable  
11 by that class. And based on the record here,  
12 that's represented by the Siemens F4, at least  
13 that line in the permit, right?

14 So depending on how your question  
15 was intended, your Honor, if they came in and  
16 said draft permit, project purpose 637  
17 megawatts on peak 100-percent capacity, you  
18 know, we would look at what combination of  
19 turbine heat recovery steam generator gives  
20 you the lowest emission rate at that. But I  
21 want to be clear that's not this case, that's  
22 not this record.

1                   JUDGE STEIN: Well, I'm a little  
2 confused. I mean, I'm with you to a point,  
3 but what I thought I heard the region say is  
4 that when they chose the BACT limit that they  
5 chose that they couldn't necessarily translate  
6 between these different turbines in quite the  
7 same way that you were doing the translation.  
8 And, I mean, if, for example, you're saying  
9 that they need to meet emissions rate X, what  
10 if they can't meet that with this equipment?  
11 Does that mean that they can't install the  
12 equipment?

13                   MR. BENDER: If La Paloma cannot  
14 meet 909 pounds per megawatt hour gross with  
15 the GE equipment is the hypothetical?

16                   JUDGE STEIN: Yes.

17                   MR. BENDER: Yes, then they can't  
18 install that equipment.

19                   JUDGE MCCABE: So you are forcing  
20 their choice of turbine, in effect?

21                   MR. BENDER: Only as a secondary  
22 effect. But just like if you cannot meet a

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 BACT limit for S02 on a coal fire power plant  
2 with a dry scrubber, are you forcing the  
3 selection of a more efficient wet scrubber as  
4 a secondary effect? That's true.

5 JUDGE MCCABE: Do you think that's  
6 a fair analogy? We're talking here about the  
7 main emitting unit and the main unit that  
8 produces the capacity of product that the  
9 facility wants to produce. The choice between  
10 a wet and dry scrubber doesn't affect that.

11 MR. BENDER: Well, according to  
12 the region, it's a category, and it's not  
13 affecting the category. If the category, as  
14 a region, says is combined cycle turbine with  
15 heat recovery steam generator, then you're not  
16 changing anything. You may be foreclosing  
17 business choices that are made later, but I  
18 would suggest that's true with every BACT  
19 limit. There are choices that a permittee may  
20 want to make but cannot make because they have  
21 to comply with their BACT limit.

22 JUDGE HILL: So Mr. Tomasovic says

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 that, pointed out that the Siemens -- I'm  
2 going to get it wrong -- the Siemens 4 turbine  
3 has the lowest emission limit hourly but that  
4 the GE turbine has the lowest annual tons per  
5 year, primarily because it's operating at a  
6 lower capacity. Is your argument that the  
7 limit that the region should have set have  
8 been the lowest of each of those, or is your  
9 argument that they should use the limits that  
10 they got for the most efficient turbine, which  
11 was the Siemens 4?

12 MR. BENDER: I believe that the  
13 BACT limit is, the primary driver BACT limit  
14 is the pounds per megawatt hour, and that's  
15 the limit that we think that the La Paloma  
16 facility, whatever equipment it ultimately  
17 chooses, should meet. That will result in  
18 different tons on an annual basis, but tons on  
19 an annual basis is, I would submit, not a  
20 limiting limit. It assumes 100-percent  
21 operation. You know, it's basically, it's --

22 JUDGE HILL: Well, but here's my

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 point. If Mr. Alonso had gotten up and said  
2 it's most likely we're going to pick the  
3 Siemens 5 or, I'm sorry, the Siemens 4, then  
4 there's going to be more total emissions of  
5 GHGs, a lower rate but more total emissions.  
6 So by your argument, should the region have  
7 had to pick the lowest limit for each of the  
8 three parameters on which they set the limit?  
9 And if not, why not?

10 MR. BENDER: We didn't address the  
11 total tons because we don't feel that it's  
12 going to limit. If they decide that they want  
13 to generate 630 megawatts, that's the number  
14 that, multiplied by the emission rate, is  
15 going to generate the tons.

16 JUDGE HILL: But if they had  
17 picked the Siemens 4 or the Siemens 5, they  
18 could be operating at 735.

19 MR. BENDER: They could be  
20 operating at 735, but there are other things  
21 that go into it, obviously, your Honor, as I'm  
22 sure you're aware, of when they're dispatched,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 how they're dispatched. And the focus here is  
2 the per megawatt hours because that's the one  
3 that the Sierra Club sees as actually limiting  
4 emissions here because the annual caps are set  
5 at such a high rate that they're not going to  
6 be approached. Even the lowest is not going  
7 to be approached.

8 JUDGE MCCABE: Let me bring you  
9 back to this table that's -- I don't know if  
10 you have it. It's page 11 of the response to  
11 comments. These numbers are all starting to  
12 sound fungible, so let's try to anchor  
13 ourselves again. I'm looking at the middle  
14 column here that says output-based emission  
15 limit, which is net without duct burning. And  
16 for the GE turbine, that limit is 894, and for  
17 the Siemens 4 turbine is 909. They're picking  
18 the GE turbine. What limit do you want?

19 MR. BENDER: Well, first of all, I  
20 question the accuracy of these numbers because  
21 some of them are the same as the gross with  
22 duct burning.

1 JUDGE MCCABE: They're saying  
2 what?

3 MR. BENDER: The Siemens F4 number  
4 in that column is the same as the permit limit  
5 for that turbine, which is expressed as gross  
6 with duct burning. So looking at these right  
7 now, I suspect that they're not correct. Some  
8 of them may not be correct.

9 JUDGE MCCABE: Can we assume for  
10 the moment that these numbers are correct?

11 MR. BENDER: Yes.

12 JUDGE MCCABE: And if that turns  
13 it into a hypothetical question, so be it.  
14 I'm trying to understand where you're going  
15 there conceptually. I'm looking at a lower  
16 number, 894, you know, it's CO2 equivalence of  
17 per megawatt hour without duct burning, net  
18 without duct burning. It's 894 for the  
19 turbine they want. It's 909 for the one that  
20 you were saying was the most efficient  
21 turbine. Which limit do you want for the GE  
22 turbine? Do you want the 894 or do you want

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 the 909?

2 MR. BENDER: It depends on this,  
3 your Honor. It depends on whether we're going  
4 to set this as the ultimate rate, or if we're  
5 going to set another limit as the ultimate  
6 rate because this is a part, this is without  
7 duct burning, right? But the permit allows  
8 duct burning. So if we say we want 894.7  
9 without duct burning and then we'll leave the  
10 duct-burning caused emissions kind of  
11 unmeasured and unregulated as a different --

12 JUDGE MCCABE: Okay. Go to the  
13 next column with duct burning. You've got  
14 945.2 --

15 MR. BENDER: Yes.

16 JUDGE MCCABE: -- for the GE  
17 turbine. And just a hair under that, you've  
18 got 944.4 for the Siemens 4. Are you telling  
19 us that's what you want the Board to do, to  
20 tell the region that that kind of difference  
21 is significant and that they should force this  
22 company, when it installs the GE turbine, to

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 meet the 944 limit for the Siemens 4? Is that  
2 what you're asking us to do?

3 MR. BENDER: Your Honor, if that,  
4 if the limits were set based on this as final  
5 enforceable limits, based on that, I'm not  
6 sure that we would be here on this issue.

7 JUDGE HILL: So how much of a  
8 margin is too big? Because the region's  
9 initial submission is that, even with the  
10 limits that they actually set, the difference  
11 is 2.6 percent and that's just not that big.

12 JUDGE MCCABE: And looking at  
13 these latest numbers, they actually said the  
14 range for all three turbines there was, on  
15 that net with duct burning column, that the  
16 total range was 0.1 percent. So seeing how  
17 close those numbers are between 945 and 944,  
18 that's obviously a lot less than 0.1 percent.  
19 Is that a significant difference that the  
20 agency should be concerned about?

21 MR. BENDER: The limits we're  
22 talking about are the ones in the final

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 permit, which are gross. And they are --

2 JUDGE MCCABE: Okay. Would you  
3 like to point us to a different table to look  
4 at?

5 MR. BENDER: Sure. I'll point you  
6 to the permit, which is Exhibit 1 to our  
7 petition, and the permit limits themselves.  
8 Because the permits measured, we commented  
9 that the region should be looking at net,  
10 among other things. And the region said no.  
11 It made that choice. It made this permit the  
12 way it did, and so we're addressing it the way  
13 it came out. What we and EPA and the state  
14 can enforce are the limits, and the limits are  
15 what drive what we can count on as enforceable  
16 emission reductions.

17 JUDGE MCCABE: Wait a minute. You  
18 wanted the limits to be based on net?

19 MR. BENDER: We commented that you  
20 should look at the net emission rates, and the  
21 region said, no, we're going to base this on  
22 gross.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 JUDGE HILL: Okay. But my  
2 question is how do you respond to the argument  
3 the region made in its brief and that Mr.  
4 Tomasovic stated here, which is, okay, so the  
5 permits got gross and the difference in these  
6 gross numbers is 2.6 percent and that's in the  
7 noise?

8 MR. BENDER: It's not. And the  
9 reason why I know that it's too big to be  
10 insignificant is that the region thought that  
11 margins, even around that for different  
12 pieces, because the margin is an aggregate,  
13 was significant enough to start bumping the  
14 limit up. And when they got to step five,  
15 they said that's a big enough difference  
16 between these turbines that we can't expect  
17 the one to meet the limit for another. So I  
18 know because it's significant enough in step  
19 five that it should be significant enough in  
20 step one to not count them all as, you know,  
21 the same.

22 JUDGE HILL: So your argument, so

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 if their error was at step one, then what  
2 you're really saying is that the GE turbine is  
3 a different technology than the Siemens  
4 turbines?

5 MR. BENDER: It is a different --  
6 let me put it this way. Control option in  
7 step one should be the same as control option  
8 in step five. As counsel for La Paloma put  
9 it, it's a sequence, right? It starts at one,  
10 it goes to five, and the definition of the  
11 control option stays the same. And if, and  
12 we're saying we'll grant the argument that  
13 they should be treated as one option in step  
14 one, well, if that's the case, they should be  
15 treated as the same option in step five and  
16 the limit based on what that option, as a  
17 whole, can achieve. But if you're going to  
18 start parsing them, the appropriate time to  
19 parse between turbines, or, in this case,  
20 turbine plus heat recovery generator  
21 combination --

22 JUDGE HILL: Understood.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           MR. BENDER: -- is step one, so  
2           that we can look at their relative  
3           efficiencies, their relative costs, what they  
4           do emit at different levels at production.  
5           It's got to be one or the other. It makes  
6           hash out of the five-step process to look at  
7           one definition of control option in step one,  
8           right? And then look at a different  
9           definition of control option and start  
10          applying limits in step five. That's the  
11          argument. It has to be consistent all the way  
12          through.

13                 I think we would get to the same  
14          option or the same result whether we looked at  
15          them in step one as separate or if we applied  
16          the maximum control efficiency for that class,  
17          as a whole, in step five. But you run into  
18          problems when you separate them, and that's  
19          what we've done here.

20                 JUDGE MCCABE: Okay. Mr. Bender,  
21          could we back up again to the question that  
22          was raised by your saying that you preferred

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 and said in your comments that you preferred  
2 limits based on gross capacity. I was trying  
3 to use the table on page 11 of the response to  
4 comments to try to understand exactly what you  
5 want. If they're picking the GE turbine, you  
6 said the limits, these are net limits and  
7 gross is a better measure. Have you found a  
8 place where I can look at gross limits?

9 MR. BENDER: For what gross  
10 emissions are relative to --

11 JUDGE MCCABE: Is there any place  
12 in the record that we can look to see how  
13 these net limits would be stated as numbers  
14 for these turbines if it were based on gross?  
15 Is that in the record any place?

16 MR. RICHIE: Your Honor, if I may,  
17 this is Travis Richie. Page 16 of the  
18 statement of basis, which was included, I  
19 believe, as Exhibit AA of La Paloma's  
20 response, I believe has that same table listed  
21 with pounds of CO2 per megawatt hour on a  
22 gross basis with duct firing.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 JUDGE MCCABE: Thank you, Mr.  
2 Richie. So glad you stayed on the phone. I  
3 have this. Do the other judges have it?  
4 Okay. It's the same thing. Well, how are  
5 these different? They look like they're the  
6 same ones that we were looking at on page 11?  
7 What's the difference between the gross and  
8 the net rates?

9 MR. BENDER: That's what I was  
10 suggesting earlier that I'm not sure that  
11 they're correct.

12 JUDGE MCCABE: You're not sure  
13 which is correct?

14 MR. BENDER: I don't know.

15 JUDGE MCCABE: You don't know?

16 MR. BENDER: But I don't think the  
17 net and the gross can be the same number, and  
18 that's what I was maybe failing to highlight  
19 before.

20 JUDGE MCCABE: But whatever the  
21 gross is, you would prefer it? You just don't  
22 know what it is, or you're not sure which of

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 these numbers it is; is that what you're  
2 saying?

3 MR. BENDER: Your Honor, there has  
4 to be other details in the hypothetical to  
5 know the answer. It depends on if we're  
6 measuring. If we're measuring just what's  
7 coming out of the turbines or if we're  
8 measuring what's coming out of the stack  
9 because there's another pollution-causing  
10 device in the middle, and that's the duct  
11 burner. So if we're saying what's the net  
12 without duct burning and we're measuring it,  
13 but we're still allowing duct burning, it's a  
14 different question.

15 JUDGE MCCABE: Yes, I understand.  
16 This gets very complicated, which is why  
17 judges usually defer to the technical  
18 expertise of the EPA people that are charged  
19 with this. Now, in this case, let's try to  
20 bring it back to sort of principles that the  
21 Board can focus on more appropriately. I was  
22 hoping, through this argument, that people

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 would be able to give us the numbers that we  
2 should be looking at to consider this argument  
3 that I understand the region to be making that  
4 whatever the variation among these turbines is  
5 so close, the variation in the heat rates and,  
6 accordingly, the GHG limits is so close that  
7 it is something that is essentially  
8 equivalent, to use one phraseology, another  
9 negligible difference, marginal difference.  
10 Do you agree that these are so close that they  
11 are marginally different or essentially  
12 equivalent?

13 MR. BENDER: Two answers, your  
14 Honor. They are not. What the permit  
15 includes is the gross with duct burning, and  
16 that number, again, I would say those are  
17 different enough that the region thought  
18 necessary to differentiate between them. And  
19 if that's true, then it's not negligible and  
20 it's not inconsequential.

21 JUDGE HILL: So let me ask you a  
22 question. So if the region had said they're

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 close enough, so we're going to set the  
2 highest one, and if they happen to pick a  
3 turbine that we could limit more closely,  
4 we're comfortable with that.

5 In other words, based on that  
6 argument, okay, so if the region had instead  
7 concluded they are negligible, GE looked good  
8 enough, and so we're going to set the limits  
9 based on GE. And if they pick Siemens, they  
10 get a bennie out of it, would you have a basis  
11 for challenging?

12 MR. BENDER: Yes, for the same  
13 reason. Because the record says that 909.2 is  
14 achievable. And then we have --

15 JUDGE HILL: Well, but they would  
16 conclude that 909 is not achievable for GE.

17 MR. BENDER: I think it depends on  
18 what the record is to support that conclusion.  
19 And that's not this case and it's not this  
20 record.

21 JUDGE HILL: So the region's  
22 mistake was setting three different limits?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MR. BENDER: The region's mistake  
2 was setting three different limits for what it  
3 says is the same control. If it had  
4 identified them as three different control  
5 options in step one, and you have a continuity  
6 through the rest of the steps and it set three  
7 different limits, it would be a different  
8 problem, which is BACT is all limit and you  
9 would rank them and set them based on the top  
10 rank control option in step five. But, again,  
11 it depends on what happened in the prior four  
12 steps to be able to say whether that would  
13 have been a mistake or not, and that's not  
14 this record and it's not the basis that we had  
15 to appeal.

16 JUDGE MCCABE: Coming back to the  
17 factual question of the variation in these  
18 emission limits that the region has permitted  
19 for the three turbines, Mr. Tomasovic  
20 described them, it may not be fair to call  
21 this a range, but he mentioned numbers that,  
22 to my mind, ranged from 0.1 percent up to 2.7

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 percent. Is a 0.1 percent difference  
2 significant enough that the agency should have  
3 to distinguish between them in setting and  
4 distinguish between these turbine models and  
5 force the company's choice? Point one. If we  
6 just had point one. I realize there's a  
7 range, but just look at point one for a  
8 moment. Is that significant?

9 MR. BENDER: I think it's  
10 contextual. And I would say, although you  
11 asked that as a factual question, I would  
12 point to the Prairie State decision, your  
13 Honor.

14 JUDGE MCCABE: The what? Prairie  
15 State?

16 MR. BENDER: Because it's cited by  
17 both respondents to say when there's a  
18 negligible difference you don't have to  
19 consider them as separate control options.  
20 And I think that Prairie State actually stands  
21 for the opposite. On page 37 in the footnote,  
22 I think it's footnote 36, it rejects that

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 argument that just equivalency alone is  
2 sufficient to ignore a difference between two  
3 different control options. There has to be a  
4 demonstrated equivalency or a negligible  
5 difference and especially if that difference  
6 is based on emission factors or something else  
7 that is inherently also, perhaps not specific.

8 So if it's based on an emission  
9 factor that has a margin of error, that helps  
10 dictate what amount of difference between two  
11 emission rates may be negligible and, even if  
12 they are exactly the same, that's not enough  
13 to ignore them. You have to --

14 JUDGE MCCABE: If they're exactly  
15 the same?

16 MR. BENDER: To ignore one of the  
17 control options because of the requirement  
18 that you also look at what their collateral  
19 impacts are because two different controls  
20 options may have the same emission limit but  
21 they may have different collateral impacts --

22 JUDGE MCCABE: That's absolutely

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 true of a control option, but we're talking  
2 about two different turbines here. If the  
3 turbines had the same limit, would we be here?  
4 If they had the same GHG limit.

5 MR. BENDER: If they had the same  
6 GHG limit and it was --

7 JUDGE MCCABE: Because that's just  
8 the way they, say that was the manufacturer's,  
9 the vendor's number, and EPA permitted it at  
10 that number and there was no comparable that  
11 showed a better performance, why on earth  
12 would we require them to distinguish between  
13 those? What practical difference would that  
14 make?

15 MR. BENDER: In this record and to  
16 my knowledge, there is no other distinction  
17 between them, other than emission rates. But  
18 if you're saying, hypothetically, the emission  
19 rates are all the same --

20 JUDGE MCCABE: No, I'm simply  
21 following up on what you thought Prairie State  
22 stood for, that even if things are the same

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 you can't ignore the difference. I just think  
2 we're doing apples and oranges here because,  
3 in Prairie State, if I recall correctly, and  
4 maybe Judge Stein can help us out with this,  
5 I think they were comparing, you know, much  
6 larger differences.

7 Here, I'm concerned that we're  
8 getting down in the margins. We are getting  
9 dangerously close to micromanaging here on  
10 what this GHG emission limit should be. So is  
11 0.1 percent micromanaging? Is that a  
12 difference that we don't need to worry about?  
13 Is 0.5 percent -- 2.7 percent obviously is too  
14 much for you. You think that's over the level  
15 of significance. We're wondering where is  
16 that level of significance in difference? And  
17 I'm not talking about the exact numbers. I'm  
18 talking conceptually here. That's why I used  
19 percentages to iron it out.

20 If the range of differences  
21 between these two turbines and their GHG  
22 emission rates ranges somehow, and depending

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 on how you calculate it, from 0.1 percent to  
2 2.7 percent, why should we worry about this?  
3 Why should the region be required to  
4 distinguish?

5 MR. BENDER: Your Honor, the  
6 equivalency of emission rates is an issue or  
7 a concept that's tied together with the  
8 topdown BACT analysis process, and that was in  
9 Prairie State. That's the point of that  
10 footnote that I cited to. If you did this,  
11 again, this is not what was done, so, in the  
12 hypothetical, if they had ranked them as  
13 separate control options and they had assigned  
14 emission rates and there was somewhere  
15 between, I think it was 0.1 in your  
16 hypothetical difference and there was no other  
17 collateral impacts differences between them,  
18 would that be enough to say -- and it was not,  
19 and it was based on, you know, some emission  
20 calculations that, themselves, have some  
21 variable in them, I think, in that  
22 hypothetical, this would not be the issue for

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 appeal. It wouldn't be because, you know,  
2 we're assuming, we're assuming away all of the  
3 problems with this particular decision, which  
4 is they're not treated as separate, they're  
5 not distinguished in the first few steps, we  
6 don't know if there's collateral impact  
7 differences, and there's no record made to  
8 support those findings at each of the rest of  
9 the steps.

10 JUDGE MCCABE: So is the critical  
11 piece of your argument that they didn't  
12 differentiate between the turbines at step  
13 one? Is that really what Sierra Club's  
14 concerned about?

15 MR. BENDER: If they're going to  
16 differentiate between them in step five, they  
17 need to differentiate between them in step, I  
18 guess it would be one through four because  
19 then we'd have an opportunity to look at  
20 whether or not there are differences in  
21 emissions at that point and under what  
22 scenario and everything else that goes into a

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 five-step BACT process. And that was just  
2 shunted all to the side, and we only looked at  
3 the difference between them when we got to  
4 step five after the opportunity to address all  
5 those other issues had passed.

6 JUDGE MCCABE: Okay. Let's turn  
7 quickly, because I'm watching your flight time  
8 here, to solar. Is it your position that  
9 solar is feasible on this site? Supplemental  
10 solar, as you've described it. And if so,  
11 please explain how.

12 MR. BENDER: Your Honor, the  
13 comment was, step one, you need to cast as big  
14 a net as possible to identify potentially  
15 feasible, available and applicable, and we  
16 say, yes, it's available, it's applicable. Is  
17 it feasible? Well, we don't know the acreage.  
18 They say 20. We don't -- because we never got  
19 to this.

20 JUDGE MCCABE: There's a site plan  
21 in the record, isn't there?

22 MR. BENDER: There are some maps

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 in the record. We don't know --

2 JUDGE MCCABE: Have you looked at  
3 them?

4 MR. BENDER: I've looked at some  
5 of the maps in the record, yes.

6 JUDGE MCCABE: Have you looked at  
7 the site plan?

8 MR. BENDER: I'm not sure --

9 JUDGE MCCABE: The site plans  
10 shows where things are situated on the site,  
11 where the turbines will go and the other  
12 equipment, what the footprint of the site is,  
13 how much space is open or not.

14 MR. BENDER: I'm envisioning a  
15 color map with, I think, that information --

16 JUDGE MCCABE: Mine is not in  
17 color, but I saw one like that. Have you  
18 looked at that and, considering that, is it  
19 feasible? And, Judge Stein, please add your  
20 question.

21 JUDGE STEIN: If these maps show  
22 or you can deduce from what's in the record

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 that what is at play here is approximately 20  
2 acres, do you still contend that solar is  
3 feasible at this site?

4 MR. BENDER: I would say, to the  
5 extent it's scalable, it's feasible. Whether  
6 it's cost effective and whether it achieves  
7 emission reductions, I don't think, I don't  
8 know and I don't think any of us know, and  
9 that's the point. That's why you go through  
10 the five steps because you gather that  
11 information at the later steps. It was --

12 JUDGE STEIN: So -- I'm sorry.  
13 Finish. I didn't mean to interrupt.

14 MR. BENDER: It was excluded from  
15 step one as not, as redefining the source.  
16 And I think it would be inappropriate to  
17 assume fact findings from what we have, the  
18 limited amount of information we have in the  
19 record to say it would necessarily be rejected  
20 in the following steps, unlike in Palmdale  
21 where the issue of incremental increase was  
22 looked at and the record was clear that there

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 was zero space. And the difference between  
2 zero space for no addition and where to draw  
3 the line when there's some space but it may or  
4 may not be enough to make it feasible, cost  
5 effective, and everything else is something  
6 that needs to be done by a fact finder with  
7 the public input.

8 JUDGE STEIN: But how much effort  
9 and work must a permit applicant go through  
10 when they're primarily building a particular  
11 kind of plant and there's fairly limited  
12 space? I mean, do they need to go do a full  
13 scale investigation and develop models in  
14 space if what you're dealing with is a very  
15 small area? I mean, that's a question I'm  
16 struggling with because, you know, this is not  
17 Palmdale, and I don't buy the characterization  
18 of what Mr. Alonso said about what Palmdale  
19 stood for in terms of redefining the source.  
20 But I am troubled by what may be in the  
21 record, perhaps not as fulsome as someone  
22 would like, but there may be sufficient

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 information in the record to establish that  
2 there's only a very limited amount of space  
3 there. And if that's the case, are you still  
4 insisting that people do a full-scale analysis  
5 of solar under those circumstances?

6 MR. BENDER: I think that, when  
7 you get into the later steps, two, three,  
8 four, the scale of the analysis is probably  
9 relative to, you know, some reasonableness,  
10 right? But in step one, the whole point is  
11 you cast the net and then you start doing that  
12 analysis. And it would be inappropriate to  
13 start making assumptions because we don't  
14 agree with all the assumptions in La Paloma  
15 about hurricanes, about other things, and we'd  
16 like the ability to develop the record in  
17 response, depending on what is said about  
18 feasibility.

19 But feasibility wasn't discussed  
20 until the response to comments. And then it  
21 was discussed as not, not that it was not  
22 technically feasible but it was redefining the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 source. And based on, in our mind, in one of  
2 the main reasons that we brought this appeal  
3 is based on a very problematic definition of  
4 redefining the source.

5 JUDGE HILL: Mr. Bender, the region  
6 argues that Sierra Club's comments on this  
7 didn't really raise this issue to any level of  
8 specificity that you're now raising it in your  
9 brief or here. How do you respond to that?

10 MR. BENDER: When they say that,  
11 they point to one of the multiple comments  
12 looking at solar hybrid. And they say it was  
13 mentioned as an alternative to duct burning,  
14 in addition to other things that could be  
15 looked at as alternative to duct burning.  
16 Earlier in the comments, is the Palmdale  
17 permit and the CO2 BACT emission limit saying  
18 it's conservatively lower, they get that, and  
19 they get a chunk of it from solar, you need to  
20 look at solar because it's available, it's  
21 applicable, it meets the step one criteria,  
22 let's look at it. And that's what was

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 rejected.

2           Elsewhere, we said, instead of  
3 duct burning, did you consider these other  
4 things? And, yes, they're talking about the  
5 same concept, but they're talking about two  
6 different areas. So it's inappropriate to  
7 look at only one comment and say, well, that  
8 one comment about solar didn't raise this  
9 other issue when the other comment did.

10           JUDGE MCCABE: Are you suggesting  
11 that permitting authorities, whenever they're  
12 faced with a PSD application by someone who  
13 wants to build a power plant, have to analyze  
14 solar in all cases if they're not proposing it  
15 to begin with?

16           MR. BENDER: Solar hybrid in a  
17 combined cycle plant, when it's raised by the  
18 public --

19           JUDGE MCCABE: Okay. And that --

20           MR. BENDER: Then the region has  
21 an obligation to look at it.

22           JUDGE MCCABE: Expand on that,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 please. What do you mean by look at it?

2 MR. BENDER: Include it in step  
3 one or deem it redefining the source based on  
4 a correct interpretation of redefining the  
5 source. And here it was an incorrect  
6 interpretation of redefining the source. It  
7 should have made it into step one when raised  
8 by the public. And to go to your question,  
9 Judge Stein, how much detail they need to do  
10 to develop whether to reject it in later  
11 steps, I would agree there's some  
12 reasonableness to it. But I don't agree that,  
13 even assuming that 20 acres is all that there  
14 is, that we can say, based on this record,  
15 that it's reasonable that that's not enough to  
16 generate solar.

17 JUDGE STEIN: But if you have a  
18 circumstance where the BACT analysis has been  
19 done, the regions looked at it, there's been  
20 back and forth between the permit applicant  
21 and the permittee, I mean, and the region,  
22 they proposed the permit for comment, and a

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 comment comes in about solar, you're  
2 suggesting that they have to go redo the BACT  
3 analysis, or can't they simply respond to the  
4 comment by saying on this particular site, on  
5 these facts, we don't think solar is feasible  
6 for X, Y, and Z reason?

7 MR. BENDER: That's different than  
8 the answer here.

9 JUDGE STEIN: Why is it different  
10 than here? I mean, I understand what the  
11 region did in its analysis of redefining the  
12 source, you know, didn't do exactly what I'm  
13 describing here, but I'm concerned about  
14 taking us to a place where, in responding to  
15 a public comment, where there may be an answer  
16 that you have to go back to square one on the  
17 BACT analysis because I don't think you do.  
18 I think you need to respond to the comment.  
19 I think you need to respond fairly to the  
20 comment. But we'd never, I mean, how in the  
21 world would we ever get a permit out if every  
22 time there's a public comment that relates to

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 the BACT analysis you've got to go back and  
2 redo the BACT analysis? Yes, there may be  
3 cases where you need to supplement it, but I  
4 don't think we go back to square one.

5 MR. BENDER: Well, two responses,  
6 your Honor. Here we had raising solar in the  
7 context of another facility, a similar  
8 facility, that has solar hybrid and has a  
9 permit with lower limits. That's the context.  
10 So to the extent we're talking about, you  
11 know, how much or how real does this have to  
12 be to generate a more substantive response,  
13 that's the context.

14 In Knauf Fiberglass, I believe, K-  
15 N-A-U-F, however that's pronounced --

16 JUDGE MCCABE: Knauf.

17 MR. BENDER: Knauf Fiberglass.  
18 The first, the 1999 decision, a comment was  
19 raised another production process for  
20 fiberglass. The response was that's  
21 proprietary to a competitor. We don't have to  
22 look at it because we'll reject it later

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       anyways, so, you know, why look at it? And  
2       the Board reversed and said you can't pre-  
3       judge. That's the point of the process. You  
4       can't pre-judge the process. Go back, look at  
5       it, and make a record so we know and the  
6       public knows that you really did look at it  
7       and you really did document your analysis and  
8       we know you did your procedural job.

9                 That's what should be done here,  
10       and it follows that precedent. And I would  
11       suggest, if it's distinguishable, this is even  
12       a clearer case than Knauf because it's not  
13       proprietary that we know of. You can go out  
14       and buy it. So to the extent there's a line,  
15       this is even further on the petitioner's side  
16       of the line.

17                JUDGE MCCABE:    Mr. Bender, I'm  
18       worried about your plane. If you would like  
19       to take a minute to just wrap up, please do.  
20       And then we will let you go on your way. It's  
21       getting late.

22                MR. BENDER:     Sure.    Thank you,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 your Honors, and thank you for the opportunity  
2 to address these issues. From Sierra Club's  
3 perspective, this is an important permit to  
4 get right on these issues raised. And there  
5 are other issues that were commented on,  
6 potentially other issues that could have been  
7 raised. You know, I don't want to suggest  
8 that Sierra Club loves this permit, even if  
9 it's corrected, but this issue of what you  
10 have to consider and how you consider  
11 efficiency and how you consider supplemental,  
12 in this case solar, that helps improve the  
13 efficiency of a plant is critically important,  
14 especially as we start into greenhouse gas PSD  
15 permits, and getting the definition of what is  
16 the control option we're looking at correct  
17 and making sure that that's consistent all the  
18 way through the process and that we're  
19 correctly addressing efficiency. It's going  
20 to be critical, especially until we develop an  
21 end of the pipe technology that facilities  
22 start installing.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           The other is this now perennial  
2 redefinition of the source issue. I  
3 understand the Board's prior precedents, and,  
4 in some cases, unfortunately, they're being  
5 applied incorrectly. And this is one of those  
6 cases. And when that happens, it's important  
7 to correct it, make it clear and give guidance  
8 to not only Region 6 but other permitting  
9 authorities what redefining the source means  
10 and what it doesn't mean. And here it doesn't  
11 mean that if a control option is not within  
12 the two-sentence description of the  
13 application of the project purpose that it  
14 can't be considered because that opens a door  
15 to all kinds of problems, not just greenhouse  
16 gasses but every -- I mean, and SCR also  
17 wasn't in that two-sentence description.

18           Thank you, your Honor.

19           JUDGE MCCABE: Thank you very much.  
20 Well, thank you all for your presentations and  
21 for your valiant efforts to answer our very  
22 often detailed questions.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 I would make one observation that  
2 there's such factual confusion, at least in  
3 the argument around the issue of how do we  
4 compare apples to apples with the emission  
5 numbers that we really should be looking at  
6 for these turbines that there is a  
7 possibility, and I regret to say this because  
8 I know it's a PSD case and we are in a big  
9 hurry, but there's a possibility that we will  
10 ask you to do a supplemental briefing on that  
11 or ask you all perhaps to confer to get on one  
12 sheet, if it's possible, to give us some basis  
13 of comparison so that we have the facts  
14 straight in our opinion. It is a lot to ask  
15 of judges like us. We have some technical  
16 training, but we are not engineers, and it is  
17 really quite difficult for us to understand  
18 which numbers we should be comparing to which  
19 here.

20 We will, however, make a valiant  
21 effort to go back and to see if we can figure  
22 that out. And we'll only ask you to do a

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 supplemental briefing if we think it's very  
2 necessary. If we do do that, we will get to  
3 you quickly on that because we do intend to  
4 move quickly on making this decision. These  
5 are not easy issues. They are important  
6 issues, and we take your point, Mr. Bender,  
7 that, as we are entering the world of GHG BACT  
8 permitting, we do need to be careful about  
9 what precedent we're setting. But we also are  
10 very, very cognizant of the need for speed  
11 here because we don't want to hold up the  
12 building of something that should proceed  
13 unnecessarily.

14 So with that, we'll take this  
15 matter under submission with the caveat that  
16 you may get a request for a supplemental  
17 briefing. And we will wish you all safe  
18 travels home, those of you who are traveling  
19 far especially. And good luck catching that  
20 plane, Mr. Bender.

21 (Whereupon, the foregoing matter  
22 was concluded at 5:47 p.m.)

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

A	
AA 118:19	141:19
ability 28:21 54:13 134:16	<b>adds</b> 97:7
able 38:4 41:21 44:13 58:18 90:15 92:5 99:1 105:1,6 121:1 123:12	<b>adequately-devel...</b> 36:17
above-entitled 1:16	<b>administration</b> 68:16
absence 66:4	<b>administrative</b> 1:13 17:10 90:2,5 90:9
absolutely 20:8 25:2 27:17,20 30:5 125:22	<b>admission</b> 41:1
absoluteness 83:3	<b>adopt</b> 79:17
accept 76:15	<b>advanced</b> 16:8 24:1
acceptable 81:16 83:5	<b>advantage</b> 94:13
accuracy 110:20	<b>advantages</b> 94:14
achievable 29:4 105:10 122:14,16	<b>adverse</b> 68:8 81:12 82:20
achieve 36:12 44:10,13 116:17	<b>affect</b> 18:15,15 107:10
achieves 132:6	<b>affidavit</b> 90:16
acknowledged 33:3	<b>afternoon</b> 4:15 5:1 5:4,7
acreage 92:4 130:17	<b>agency</b> 1:2 3:1,3,11 4:5 11:4 34:15 64:12,16 77:21 87:19 88:11,12,13 113:20 124:2
acres 48:6,20 49:1 49:3 55:21 90:11 90:14,15 92:2,6 92:11,12 132:2 137:13	<b>agency's</b> 88:18 93:4
acted 43:6	<b>aggregate</b> 115:12
action 11:4	<b>ago</b> 35:17
actions 58:13 68:17	<b>agree</b> 45:17 64:12 69:16 87:18 89:21 100:6 121:10 134:14 137:11,12
actual 28:16	<b>agreed-on</b> 87:10
add 131:19	<b>agreeing</b> 43:1
add-on 61:2,5	<b>agreement</b> 10:18 31:6,7
adding 93:1	<b>agreements</b> 10:15 10:16,19 31:5
addition 89:19 98:14 133:2 135:14	<b>ahead</b> 6:11 7:20 24:14 51:4
additional 90:14	<b>Air</b> 3:13 10:20
address 10:12 11:16 87:7 96:15 109:10 130:4 141:2	<b>airport</b> 6:16 95:16
addressing 114:12	<b>airports</b> 7:14
	<b>allocate</b> 7:20
	<b>allow</b> 78:11 83:15
	<b>allowed</b> 4:13 54:12 59:19 77:8 81:4
	<b>allowing</b> 120:13
	<b>allows</b> 88:3 112:7
	<b>Alonso</b> 2:4 5:4,5 6:19,21 7:2 9:20 9:21 11:16,18 12:11,16 13:13,21 14:3,12,19 15:5 15:12,15,21 16:6 16:10 17:4,6 18:1 18:8,17 19:10,18 19:21 20:3,10,13 20:21 21:7,17,21 22:12,17 23:11,15 24:4,6,10,17 25:2 25:5,19 26:15 27:17 28:1,5,10 29:6 30:2,9,14,21 33:12 34:21 35:4 36:14,20,21 37:3 37:9,11,21 39:1 40:1,7,9 41:4,11 41:18 42:6,21 44:21 45:13 46:19 47:8 48:1,12,22 49:13,22 50:4,7 50:16 51:1,10,20 52:2,6,12,15,21 53:17 54:4,6 55:2 56:4 57:8 74:1 89:16 109:1 133:18
	<b>Alonso's</b> 62:20 87:15
	<b>alternative</b> 48:17 51:17 55:4 56:20 75:13 135:13,15
	<b>amended</b> 22:1 62:2
	<b>amount</b> 23:19 49:4 92:5 103:18 125:10 132:18 134:2
	<b>analogy</b> 107:6
	<b>analysis</b> 27:20 30:4 30:17 32:3 43:7 47:8 55:3 84:16
	92:16 128:8 134:4 134:8,12 137:18 138:3,11,17 139:1 139:2 140:7
	<b>analyze</b> 136:13
	<b>anchor</b> 110:12
	<b>annual</b> 60:12 75:2 75:5 108:4,18,19 110:4
	<b>answer</b> 10:7 18:7 21:4 36:20 47:22 47:22 56:1 103:1 120:5 138:8,15 142:21
	<b>answers</b> 8:9 121:13
	<b>anymore</b> 84:22
	<b>anytime</b> 23:22
	<b>anyway</b> 91:17
	<b>anyways</b> 140:1
	<b>apparent</b> 71:12 78:22
	<b>apparently</b> 42:15
	<b>appeal</b> 1:8 4:8 10:2 39:21 40:6 73:19 123:15 129:1 135:2
	<b>appealed</b> 41:13
	<b>Appeals</b> 1:1,19,21 1:22 4:4
	<b>appearances</b> 2:1 4:21
	<b>appears</b> 65:15
	<b>appetite</b> 101:19
	<b>apples</b> 127:2 143:4 143:4
	<b>applicable</b> 32:5 130:15,16 135:21
	<b>applicant</b> 58:5 87:22 88:8 133:9 137:20
	<b>applicant's</b> 81:15
	<b>application</b> 20:15 22:1 31:8 40:19 41:6,15,17 43:1 53:11 58:10 61:13 80:14,21 136:12 142:13
	<b>applications</b> 46:17 46:21
	<b>applied</b> 33:19 39:11 117:15 142:5
	<b>applies</b> 63:1
	<b>apply</b> 27:7 35:7,14 36:5 42:12 46:6 60:14 65:1 84:20
	<b>applying</b> 117:10
	<b>appreciate</b> 20:1
	<b>appreciative</b> 10:6
	<b>approached</b> 110:6 110:7
	<b>appropriate</b> 26:16 32:11 82:14 85:21 85:22 89:15,18 116:18
	<b>appropriately</b> 120:21
	<b>approvals</b> 10:14
	<b>approved</b> 28:20
	<b>approximate</b> 90:14
	<b>approximately</b> 7:21 60:3 77:2 132:1
	<b>April</b> 12:17,17,20 12:20,21 13:5 14:21 15:3 22:20 23:10,22 24:15
	<b>area</b> 49:9 57:2 133:15
	<b>areas</b> 136:6
	<b>argue</b> 28:16
	<b>argued</b> 63:6 89:17 90:4
	<b>argues</b> 135:6
	<b>arguing</b> 26:18 42:19
	<b>argument</b> 1:5 4:7 7:19 9:11 10:5 46:17 53:5 62:21 64:3 75:20 87:16 97:17,18 108:6,9 109:6 115:2,22 116:12 117:11 120:22 121:2

122:6 125:1 129:11 143:3 <b>Arizona</b> 45:7 <b>arrangements</b> 6:2 19:4 <b>articulated</b> 78:5 <b>aside</b> 53:8 <b>asked</b> 10:10 52:14 55:12 61:13 124:11 <b>asking</b> 9:9 20:17 36:4,16,19 57:14 113:2 <b>assert</b> 56:7 <b>assign</b> 63:19 69:10 70:19 71:3 76:10 <b>assigned</b> 15:10 60:7 67:9 73:22 74:17 86:5,22 128:13 <b>assigning</b> 61:8,16 61:17 63:12 71:4 <b>assignment</b> 77:8 <b>assigns</b> 70:12 <b>assume</b> 6:19,22 8:7 32:21 111:9 132:17 <b>assumes</b> 101:22 108:20 <b>assuming</b> 129:2,2 137:13 <b>assumptions</b> 134:13,14 <b>assured</b> 57:11 <b>attached</b> 89:2 <b>August</b> 21:2,4,10 <b>authorities</b> 45:3 55:7 69:9 136:11 142:9 <b>authority</b> 27:15 41:12 47:13 50:11 54:22 64:16 81:22 83:18,21 87:20 88:12 <b>automatically</b> 44:18 <b>auxiliary</b> 89:13	95:5,9 <b>availability</b> 94:16 <b>available</b> 27:22 28:4 32:4 68:14 80:10 82:3 84:1 100:8 130:15,16 135:20 <b>Avenue</b> 1:14 3:4,14 <b>average</b> 40:19,20 42:14 77:12 101:22 <b>averaging</b> 41:20 <b>aware</b> 33:14 91:20 109:22 <hr/> <b>B</b> <b>B</b> 44:17 <b>back</b> 6:11 29:16 48:19 51:4 63:21 64:1 81:19 84:8 91:13 110:9 117:21 120:20 123:16 137:20 138:16 139:1,4 140:4 143:21 <b>back-end</b> 62:14 <b>background</b> 91:19 <b>BACT</b> 26:17,22 29:2 30:17,19 31:22 33:13 35:19 36:1,1,8,17 39:7 39:13 43:6,12,14 43:16 44:8,18 45:19 46:12,13 47:6 55:3 60:5,6 63:18 64:16 65:10 66:7 83:5 84:16 85:11,12 86:9 103:22 104:2,10 106:4 107:1,18,21 108:13,13 123:8 128:8 130:1 135:17 137:18 138:2,17 139:1,2 144:7 <b>balance</b> 30:12 <b>base</b> 50:15 69:1	74:9 114:21 <b>based</b> 16:18,21 18:20,22 20:22 39:9 46:13 48:15 64:21 67:16 79:4 84:11 90:2,12 98:1 100:2 102:20 103:7 104:3,4,22 105:10,11 113:4,5 114:18 116:16 118:2,14 122:5,9 123:9 125:6,8 128:19 135:1,3 137:3,14 <b>baseload</b> 15:19,22 16:3,9,11 17:2 <b>basically</b> 31:3 36:3 38:1 39:5 46:16 46:22 56:22 62:2 64:2 81:4 103:9 108:21 <b>basing</b> 104:10 <b>basis</b> 17:5,6 18:21 36:3 61:20 65:10 65:21 68:1,5,6,12 68:14 69:3,4,5 70:15 71:8 78:22 83:10 85:17 86:16 87:1 108:18,19 118:18,22 122:10 123:14 143:12 <b>basket</b> 21:15 <b>beats</b> 29:16 <b>Bechtel</b> 11:13 <b>behalf</b> 2:2,9 3:1 5:5 <b>believe</b> 10:2 17:17 18:3 33:20 38:17 43:5,11 45:18 47:12 49:21,22 50:17 54:7 61:4 62:5 65:21 82:14 84:9 85:16 86:22 88:2,11,17 89:14 90:19 92:3 95:4 100:10 108:12 118:19,20 139:14 <b>benchmarking</b>	79:22 <b>Bender</b> 2:10,10 5:1 5:2,18 6:12,13,17 8:15 9:2 95:15 96:2,3,11,14 99:7 100:10,15 101:15 102:7,10,22 103:6 103:17,21 104:4,8 104:12,15,21 106:13,17,21 107:11 108:12 109:10,19 110:19 111:3,11 112:2,15 113:3,21 114:5,19 115:8 116:5 117:1 117:20 118:9 119:9,14,16 120:3 121:13 122:12,17 123:1 124:9,16 125:16 126:5,15 128:5 129:15 130:12,22 131:4,8 131:14 132:4,14 134:6 135:5,10 136:16,20 137:2 138:7 139:5,17 140:17,22 144:6 144:20 <b>beneficial</b> 23:3 <b>benefit</b> 68:17 <b>bennie</b> 122:10 <b>best</b> 7:13 8:11 44:9 64:22 82:3 <b>bet</b> 95:15 <b>better</b> 18:4 44:14 96:14 118:7 126:11 <b>bid</b> 19:4 23:1 25:13 <b>bidding</b> 30:3 <b>bids</b> 18:19 <b>big</b> 79:12 113:8,11 115:9,15 130:13 143:8 <b>bigger</b> 33:8 75:8 82:13 102:5,10 103:9 <b>biggest</b> 98:20	<b>binarily</b> 84:3 <b>binary</b> 97:16 <b>biomass</b> 50:9 <b>bit</b> 17:19 65:9 93:17 <b>bite</b> 70:9 <b>black</b> 55:20 <b>board</b> 1:1 3:22 4:4 10:3 28:20 33:15 34:2 36:4 39:2,17 41:14 43:5,19 45:19 47:3 49:15 49:19 50:8,12,18 50:22 54:12 55:14 58:15 78:19 89:1 91:21 112:19 120:21 140:2 <b>board's</b> 48:15 88:2 142:3 <b>Bracewell</b> 2:5 7:3 <b>brand</b> 56:22 <b>Brian</b> 3:2,10 5:8,10 <b>brief</b> 54:4 75:11 79:13 80:2 81:11 84:10 90:5 115:3 135:9 <b>briefing</b> 87:9 143:10 144:1,17 <b>briefly</b> 8:4 9:18 33:1 <b>briefs</b> 9:13 10:2 96:16 97:18 <b>bring</b> 67:10 94:2 110:8 120:20 <b>brings</b> 36:9 <b>broad</b> 50:18 90:3 <b>broken</b> 80:9 <b>brought</b> 135:2 <b>build</b> 31:15 32:6 48:6 49:8 51:18 51:20,22 54:15,17 54:18 56:9,11,18 64:7 83:13 99:11 102:5,10 136:13 <b>building</b> 1:14 56:14 56:18 75:7 133:10 144:12
--	---	---	--	---

<b>built</b> 39:15 101:20	107:8 108:6 118:2	<b>chalkboard</b> 72:5	<b>class</b> 26:19,21 35:7	131:17
<b>bumping</b> 115:13	<b>caps</b> 110:4	<b>challenge</b> 67:8 71:9	35:8,14 44:19	<b>Colorado</b> 41:12
<b>burner</b> 73:9 74:13	<b>capturing</b> 83:11	<b>challenges</b> 58:20	78:4,15 80:15	86:10
98:15,19 120:11	<b>carbon</b> 61:7	67:7	81:20 82:1,6,9,17	<b>column</b> 110:14
<b>burners</b> 73:17,20	<b>careful</b> 144:8	<b>challenging</b> 60:18	83:17 100:6,14	111:4 112:13
74:8,16 80:17	<b>Carlton</b> 59:3,9,10	122:11	105:3,11 117:16	113:15
86:7 95:7,8 98:9	<b>Carolina</b> 45:8	<b>change</b> 5:22 14:17	<b>classify</b> 89:19	<b>combination</b> 97:6,9
99:3 102:1	<b>case</b> 4:18 6:7 8:2,15	16:19 39:6	<b>clauses</b> 12:1,19	105:18 116:21
<b>burning</b> 53:1 98:3	12:14 26:12 40:13	<b>changing</b> 107:16	22:18	<b>combine</b> 9:2
102:11,21 103:15	41:1 43:17 50:8	<b>characterization</b>	<b>cleaner</b> 63:4	<b>combined</b> 26:20
110:15,22 111:6	56:2,3 58:22	89:22 133:17	<b>clear</b> 23:7 50:1	27:5 34:8,9,17
111:17,18 112:7,8	60:18 61:12,18	<b>characterized</b>	89:11 91:4 105:21	35:8,15,22 36:6
112:9,13 113:15	63:5 64:11 68:7	38:17	132:22 142:7	44:11,13 45:21
120:12,13 121:15	73:4,14,16 74:6	<b>charged</b> 120:18	<b>clearer</b> 140:12	47:2 80:8,9,15
135:13,15 136:3	74:16 78:14,21	<b>chart</b> 67:17,19,20	<b>clearinghouse</b>	82:2 94:12 100:8
<b>business</b> 16:2 25:20	80:6,21 81:13	<b>cheat</b> 86:19	27:19	107:14 136:17
30:22 51:13,16	82:15 84:1,2	<b>check</b> 6:9	<b>clearly</b> 38:13 44:12	<b>combustion</b> 26:20
52:8,11,19,22	88:21 91:4,21	<b>chief</b> 17:20	59:2 94:3	61:9 100:8
53:1,6,10,13	93:10,18 94:4	<b>choice</b> 8:16 14:18	<b>Clerk</b> 3:22	<b>come</b> 12:20,21 16:1
56:11 64:6 88:8	99:13 100:21	26:14 96:10	<b>client</b> 12:7 18:6	16:20 25:12 31:5
101:6 107:17	105:21 116:14,19	101:14 106:20	37:2	45:18 62:13 63:21
<b>buy</b> 52:1 133:17	120:19 122:19	107:9 114:11	<b>close</b> 11:5 13:14	64:20 65:4 66:5
140:14	134:3 140:12	124:5	17:4 49:5 53:20	82:9 84:17 88:20
	141:12 143:8	<b>choices</b> 107:17,19	69:1 92:4 95:12	98:9 99:10,17
<b>C</b>	<b>case-by-case</b> 36:2	<b>choose</b> 8:21 33:10	113:17 121:5,6,10	103:19
<b>C</b> 2:10 44:17	78:22	63:7,8,8,9 69:9	122:1 127:9	<b>comes</b> 43:17 98:3
<b>CA</b> 2:17	<b>cases</b> 58:14 60:5,16	77:14 82:12 96:7	<b>closely</b> 69:22 122:3	138:1
<b>cab</b> 95:21	61:1 78:8 83:6	<b>chooses</b> 108:17	<b>closing</b> 11:11 13:22	<b>comfortable</b> 122:4
<b>calculate</b> 128:1	85:19 136:14	<b>choosing</b> 24:2 69:1	14:5 20:22	<b>coming</b> 20:2 75:21
<b>calculation</b> 68:2	139:3 142:4,6	<b>chose</b> 65:5 67:22	<b>Club</b> 2:9,15 5:2,15	90:7 91:9 103:12
72:6	<b>cast</b> 130:13 134:11	106:4,5	5:18 8:15 36:3	120:7,8 123:16
<b>calculations</b> 128:20	<b>catching</b> 144:19	<b>chosen</b> 26:12	40:2 81:11 82:11	<b>comment</b> 32:18
<b>calibrated</b> 88:19	<b>category</b> 105:3	<b>chunk</b> 135:19	86:1 110:3 141:8	33:6 35:10 40:6
<b>California</b> 45:7	107:12,13,13	<b>circumstance</b>	<b>Club's</b> 53:5 64:3	72:7 78:4 81:1
<b>call</b> 14:14 24:19	<b>Catherine</b> 1:19	137:18	129:13 135:6	90:22 94:3,7
93:2 123:20	4:10	<b>circumstances</b>	141:2	102:17,17,19
<b>called</b> 44:7	<b>caused</b> 112:10	134:5	<b>CO2</b> 36:1 86:10	105:2,6 130:13
<b>capabilities</b> 74:10	<b>caveat</b> 144:15	<b>cite</b> 47:21 59:13	111:16 118:21	136:7,8,9 137:22
79:15 80:3	<b>cell</b> 4:12 91:9	81:3	135:17	138:1,4,15,18,20
<b>capable</b> 44:20	<b>Center</b> 1:8 2:2 4:7	<b>cited</b> 84:9 124:16	<b>coal</b> 53:1 107:1	138:22 139:18
99:12 103:8	8:3	128:10	<b>coast</b> 49:6	<b>commented</b> 114:8
<b>capacity</b> 17:3,22	<b>cents</b> 24:21	<b>cites</b> 89:21	<b>cognizant</b> 144:10	114:19 141:5
18:12 37:12,16,19	<b>certain</b> 21:10 23:19	<b>citing</b> 53:18	<b>coin</b> 96:19	<b>commenter</b> 94:1
47:19 63:9 64:7,8	33:17 41:18 43:2	<b>citizens</b> 32:16	<b>collateral</b> 125:18	<b>commenters</b> 32:9
64:9 75:3 90:20	44:12 82:16 97:8	<b>clarification</b> 100:6	125:21 128:17	32:17 34:15 71:15
91:7 92:1 94:10	<b>certainly</b> 20:15	<b>clarify</b> 18:7 86:14	129:6	72:10 82:20,20
96:20 105:17	25:11	<b>clarity</b> 69:13	<b>color</b> 47:5 131:15	90:8 91:2

<b>comments</b> 38:18 65:18 66:5 67:18 68:8 69:3 75:15 79:13 81:12 82:11 85:19 86:16 88:15 88:19,20,21 89:3 89:7,8 93:8,12 95:4 98:14,16 99:13,16 103:3 110:11 118:1,4 134:20 135:6,11 135:16	74:4 76:9,9,15,18 76:22 77:3 <b>complicated</b> 120:16 <b>comply</b> 16:16 36:17 38:1 42:13 43:9 107:21 <b>component</b> 30:15 30:16 55:13 56:16 <b>components</b> 10:22 12:6 <b>concentration</b> 60:10 <b>concept</b> 102:9 128:7 136:5 <b>conceptually</b> 111:15 127:18 <b>concerned</b> 113:20 127:7 129:14 138:13 <b>conclude</b> 122:16 <b>concluded</b> 50:22 122:7 144:22 <b>conclusion</b> 47:18 62:21 70:2 122:18 <b>concurrently</b> 31:3 <b>condensers</b> 46:5 <b>condition</b> 21:22 61:22 62:12 63:3 <b>conditions</b> 16:19 16:22 76:13 <b>confer</b> 143:11 <b>conference</b> 1:4 7:18 <b>conference/expe...</b> 4:6 <b>conflict</b> 88:7 <b>confused</b> 101:8 106:2 <b>confusion</b> 143:2 <b>conjunction</b> 73:8 <b>conservatively</b> 135:18 <b>consider</b> 13:1 34:2 36:4 54:10 55:5 61:14 66:5 80:8 87:20 92:22 93:1	93:5 94:22 121:2 124:19 136:3 141:10,10,11 <b>consideration</b> 28:22 88:5,13 90:6 93:14 <b>considered</b> 56:6 83:22 95:1 142:14 <b>considering</b> 80:7 131:18 <b>consistent</b> 65:2 117:11 141:17 <b>constitute</b> 88:6 <b>Constitution</b> 1:14 <b>constraints</b> 31:14 <b>construction</b> 10:12 10:15 11:7,9,11 11:14 <b>construed</b> 90:22 <b>consult</b> 18:6 19:18 37:2 <b>contend</b> 132:2 <b>context</b> 71:18 85:22 139:7,9,13 <b>contextual</b> 124:10 <b>contextualize</b> 86:4 <b>contingent</b> 11:2 <b>continuity</b> 123:5 <b>contract</b> 11:9 12:5 12:8,10,22 13:18 <b>contracts</b> 12:2 22:19 <b>contractual</b> 84:18 <b>contribute</b> 91:6 <b>contributions</b> 89:13 <b>control</b> 26:19,21 27:4 33:16,18 34:3,7,8 35:13 39:11,14 44:4 48:3 53:3 56:6 60:16,19 61:6 64:4,10 69:11 75:13 82:3 105:5 105:6,8 116:6,7 116:11 117:7,9,16 123:3,4,10 124:19	125:3,17 126:1 128:13 141:16 142:11 <b>controls</b> 125:19 <b>conventional</b> 61:5 80:14 <b>convert</b> 55:10 <b>cooling</b> 53:19 78:9 78:10 <b>Corporation</b> 11:13 <b>correct</b> 12:16 15:4 15:11,12 22:17 24:5 46:18 50:4 86:9,12,13 92:17 102:22 111:7,8,10 119:11,13 137:4 141:16 142:7 <b>corrected</b> 141:9 <b>correctly</b> 38:9 127:3 141:19 <b>cost</b> 30:15,16 132:6 133:4 <b>cost-keeping</b> 62:14 <b>costs</b> 117:3 <b>counsel</b> 3:3,12 4:21 5:10 98:13 116:8 <b>count</b> 75:2 114:15 115:20 <b>country</b> 45:3 57:20 <b>couple</b> 10:4 13:15 14:6 58:14 <b>course</b> 6:4 8:13 47:8 101:1,3 <b>Court</b> 10:9 <b>Courtroom</b> 1:13 <b>criteria</b> 29:11 34:4 135:21 <b>critical</b> 129:10 141:20 <b>critically</b> 141:13 <b>curious</b> 20:19 <b>current</b> 16:18,21 22:17 <b>currently</b> 10:13 11:22 22:19 31:13 <b>customer</b> 84:10 <b>cut</b> 76:15 91:16	93:8 <b>cuts</b> 74:8 <b>cutting</b> 74:4 <b>cycle</b> 26:21 27:5 34:8,9,17 35:8,15 35:22 36:6 44:12 44:13 45:21 73:6 80:7,8,9,15 82:2 94:12 100:8 107:14 136:17 <b>cycles</b> 46:5 47:2 <b>cycling</b> 15:19
<b>D</b>				
<b>D.C</b> 1:2 2:6 3:15 <b>Dallas</b> 3:5 5:8 <b>dangerously</b> 127:9 <b>data</b> 60:3 64:22 68:13 <b>date</b> 20:17 <b>David</b> 2:10 5:2 <b>day</b> 4:20 12:6 17:12 29:3 38:5 39:13 46:1,8,20 83:1 <b>days</b> 61:5 <b>DC</b> 1:15 <b>de-rate</b> 37:6,9,10 37:18 40:12 98:7 <b>de-rated</b> 38:13 <b>de-rating</b> 38:10 74:2 <b>deadline</b> 12:17 <b>dealing</b> 99:22 133:14 <b>debate</b> 47:14 <b>December</b> 10:3 <b>decide</b> 12:14 58:5 66:6 68:4 69:3,15 77:11 109:12 <b>decided</b> 63:19 64:20,21 68:15 71:7 74:5 77:7 81:1,14 <b>deciding</b> 33:22 87:13 <b>decision</b> 18:13,15 18:16 20:16 22:7				

23:17 24:15 27:16 30:20,22 31:21 58:21 59:3,16 62:1 63:16 64:3 66:1 79:2 87:12 89:17 90:1 91:4 124:12 129:3 139:18 144:4	<b>deprived</b> 32:16 <b>describe</b> 69:19,19 <b>described</b> 59:4 123:20 130:10 <b>describing</b> 138:13 <b>description</b> 142:12 142:17 <b>descriptions</b> 72:11 <b>design</b> 33:22 34:4,5 35:12 39:6 46:2,6 54:12,14 55:16 56:12,21 57:3,4 58:7 60:21 64:21 86:2	74:22 77:1 78:5 78:10 79:1,8,10 112:20 113:10,19 115:5,15 119:7 121:9,9 124:1,18 125:2,5,5,10 126:13 127:1,12 127:16 128:16 130:3 133:1	<b>discern</b> 58:20 <b>discerned</b> 90:12 <b>discretion</b> 66:4 68:21 77:20 88:4 92:22 <b>discussed</b> 134:19 134:21 <b>discussion</b> 8:10 15:14 87:3 89:6 93:17 96:17 <b>discussions</b> 85:18 <b>dismissed</b> 59:1,14 <b>dispatch</b> 15:18 29:19 97:1 <b>dispatched</b> 16:22 109:22 110:1 <b>dispatching</b> 16:15 97:2 <b>disproportionate</b> 73:21 <b>distinction</b> 126:16 <b>distinguish</b> 124:3,4 126:12 128:4 <b>distinguishable</b> 140:11 <b>distinguished</b> 129:5 <b>distorted</b> 65:8,9 <b>disturbs</b> 6:2,3 <b>divided</b> 72:8 73:1 <b>document</b> 79:13 140:7 <b>doing</b> 7:16 8:5 30:18 35:3 101:14 106:7 127:2 134:11 <b>door</b> 142:14 <b>Doster</b> 3:10 5:11 <b>draft</b> 41:21 42:4 99:10 105:1,16 <b>draw</b> 70:2 133:2 <b>drive</b> 32:6 114:15 <b>driver</b> 19:16 30:8 108:13 <b>drove</b> 17:20 <b>dry</b> 78:9 107:2,10 <b>dual</b> 31:3 50:9	<b>duct</b> 73:9,17,20 74:7,13,16 80:17 86:7 95:7,7 98:3,9 98:15,19 99:2 102:1,11,21 103:15 110:15,22 111:6,17,18 112:7 112:8,9,13 113:15 118:22 120:10,12 120:13 121:15 135:13,15 136:3 <b>duct-burning</b> 112:10 <b>duplicative</b> 71:6 <b>Durr</b> 3:22 4:3
<b>decisions</b> 58:18 89:22 90:4 <b>declare</b> 77:22 <b>decrease</b> 98:7 <b>decreasing</b> 97:22 98:11 <b>deduce</b> 131:22 <b>deem</b> 137:3 <b>deemed</b> 85:21 <b>defer</b> 81:14 120:17 <b>deference</b> 78:20 <b>deferred</b> 39:17 <b>define</b> 54:14 72:18 <b>defined</b> 34:22 49:14 64:6 84:3 94:9 95:6 <b>definition</b> 72:21 116:10 117:7,9 135:3 141:15 <b>degradation</b> 38:4 76:13 <b>delay</b> 31:11 <b>delegated</b> 45:15 81:11 <b>deletion</b> 22:4 <b>delivered</b> 94:18 <b>demand</b> 18:21 19:7 20:7 25:17 29:17 30:5,13 <b>demonstrated</b> 73:15 125:4 <b>departs</b> 7:8 <b>depending</b> 60:6 90:21 104:17 105:14 127:22 134:17 <b>depends</b> 112:2,3 120:5 122:17 123:11	<b>designed</b> 34:1 79:14 83:4 <b>designs</b> 63:10 <b>desire</b> 26:8 <b>detail</b> 137:9 <b>detailed</b> 142:22 <b>details</b> 120:4 <b>determination</b> 20:18 21:9 <b>determinative</b> 69:8 <b>determine</b> 23:2 <b>determined</b> 48:14 <b>develop</b> 20:5 27:9 46:12 52:7 133:13 134:16 137:10 141:20 <b>developed</b> 18:18 35:1 38:3 <b>developer</b> 13:7 20:4 30:22 <b>development</b> 42:2 42:9 <b>deviations</b> 76:12 <b>device</b> 33:16 34:3 48:3 56:6 120:10 <b>devices</b> 4:13 26:19 27:4 33:18 35:13 <b>dictate</b> 125:10 <b>dictated</b> 19:8 <b>difference</b> 6:7 65:17,20 67:3,5 71:10,11,12,13,14 71:15,22 72:14	<b>differences</b> 75:3,6 75:17 76:8 77:7 127:6,20 128:17 129:7,20 <b>different</b> 7:22 32:10 34:10,11 35:5,17,18 36:6 42:8,8 43:21 45:3 45:6 46:21 50:6 56:7 57:3 59:19 60:2,2,5,14 63:15 65:6,8,13 67:12 69:17 70:13,19,21 70:22 71:19 77:9 77:10,19,22 82:17 89:10 92:8 95:8 97:5 99:13,14 100:3,18,19 106:6 108:18 112:11 114:3 115:11 116:3,5 117:4,8 119:5 120:14 121:11,17 122:22 123:2,4,7,7 125:3 125:19,21 126:2 136:6 138:7,9 <b>differentiate</b> 63:11 121:18 129:12,16 129:17 <b>differently</b> 6:5 7:17 21:14 99:9 <b>difficult</b> 38:7 143:17 <b>difficulty</b> 22:16 <b>direct</b> 103:2 <b>direction</b> 25:9 <b>directly</b> 87:2 <b>disagree</b> 94:11	<b>discussed</b> 134:19 134:21 <b>discussion</b> 8:10 15:14 87:3 89:6 93:17 96:17 <b>discussions</b> 85:18 <b>dismissed</b> 59:1,14 <b>dispatch</b> 15:18 29:19 97:1 <b>dispatched</b> 16:22 109:22 110:1 <b>dispatching</b> 16:15 97:2 <b>disproportionate</b> 73:21 <b>distinction</b> 126:16 <b>distinguish</b> 124:3,4 126:12 128:4 <b>distinguishable</b> 140:11 <b>distinguished</b> 129:5 <b>distorted</b> 65:8,9 <b>disturbs</b> 6:2,3 <b>divided</b> 72:8 73:1 <b>document</b> 79:13 140:7 <b>doing</b> 7:16 8:5 30:18 35:3 101:14 106:7 127:2 134:11 <b>door</b> 142:14 <b>Doster</b> 3:10 5:11 <b>draft</b> 41:21 42:4 99:10 105:1,16 <b>draw</b> 70:2 133:2 <b>drive</b> 32:6 114:15 <b>driver</b> 19:16 30:8 108:13 <b>drove</b> 17:20 <b>dry</b> 78:9 107:2,10 <b>dual</b> 31:3 50:9	<b>E</b> <b>eager</b> 6:11 <b>earlier</b> 32:18 66:1 67:18 119:10 135:16 <b>ears</b> 35:3 <b>earth</b> 126:11 <b>East</b> 1:14 <b>easy</b> 74:3 144:5 <b>economic</b> 23:3 49:2 <b>economizer</b> 35:12 <b>effect</b> 99:18 101:13 106:20,22 107:4 <b>effective</b> 132:6 133:5 <b>effectively</b> 40:15 <b>efficiencies</b> 34:11 78:16 83:1 117:3 <b>efficiency</b> 30:13 34:15 35:6 38:12 63:11 64:5 65:17 69:11 71:15,17,18 71:20,21 72:15,15 72:16,19,21 79:7 83:11 84:12 89:13 97:22 98:10,22 104:3,5,11 117:16 141:11,13,19 <b>efficient</b> 15:9 17:11 33:8 34:18 35:12 41:3 57:2 60:22

64:10,11,15 65:11 70:17 73:12 80:12 83:17 97:20 98:4 98:21 100:7,12,14 102:2,14 107:3 108:10 111:20 <b>efficiently</b> 53:7 <b>effort</b> 57:4 133:8 143:21 <b>efforts</b> 142:21 <b>eggs</b> 21:14,15 <b>either</b> 19:8 32:16 40:12 <b>elaborate</b> 78:11 <b>electric</b> 87:21 <b>electricity</b> 70:16 <b>emission</b> 15:11 18:14 27:3,9,10 27:11 28:17 29:8 33:19 36:2 38:20 39:9 40:21 41:3 42:12 43:8 45:5 46:2,11 47:11 59:20 66:19 67:11 70:13 81:5 82:5 98:11 99:21,22 100:1,16 101:1 102:8,19 104:21 105:9,10,20 108:3 109:14 110:14 114:16,20 123:18 125:6,8,11,20 126:17,18 127:10 127:22 128:6,14 128:19 132:7 135:17 143:4 <b>emissions</b> 17:12 36:12 38:11 43:11 43:15,21 44:8,9 44:14 61:18,19 63:7 86:9 103:18 104:19 106:9 109:4,5 110:4 112:10 118:10 129:21 <b>emit</b> 117:4 <b>emitting</b> 107:7	<b>end-of-day</b> 39:8 <b>energies</b> 54:10 <b>energy</b> 1:8 2:2 4:7 8:3 30:4 31:14 35:5 49:18 51:17 51:17 53:6,12 56:5 78:17 94:10 104:11 <b>enforce</b> 114:14 <b>enforceable</b> 46:12 113:5 114:15 <b>enforcement</b> 62:18 <b>engine</b> 71:20 <b>engineering</b> 11:8 39:3 56:12,22 57:4 <b>engineers</b> 143:16 <b>engines</b> 77:10 <b>ensure</b> 29:2 <b>entering</b> 144:7 <b>entertain</b> 95:2 <b>entity</b> 19:9 <b>environment</b> 17:16 <b>environmental</b> 1:1 1:2,19,21,22 2:15 3:1,3,11 4:3,5 17:14,15 <b>envisioning</b> 131:14 <b>EPA</b> 1:14 5:8 7:7 9:1 17:9 23:9 39:18 47:16 57:9 57:11 81:4 101:1 114:13 120:18 126:9 <b>EPA's</b> 104:10 <b>EPC</b> 11:8 <b>equation</b> 29:19 <b>equipment</b> 59:19 61:9 63:10,10 65:1 84:13 106:10 106:12,15,18 108:16 131:12 <b>equivalence</b> 111:16 <b>equivalency</b> 125:1 125:4 128:6 <b>equivalent</b> 75:14 75:22 77:20 78:1	121:8,12 <b>ERCOT</b> 15:18 16:1 16:4,7,13,14,15 19:8 29:18 31:13 96:22 <b>error</b> 116:1 125:9 <b>escalation</b> 12:1,7 12:19 22:18 <b>especially</b> 5:21 125:5 141:14,20 144:19 <b>ESQ</b> 2:4,4,10,15 3:2,9,10 <b>essence</b> 63:4 87:16 <b>essential</b> 64:3 <b>essentially</b> 38:15 40:9 60:20 75:14 75:21,22 77:20 78:1 89:17,20 102:20 121:7,11 <b>establish</b> 39:12 134:1 <b>established</b> 33:21 36:13 45:8 <b>Eurika</b> 3:22 <b>evaluated</b> 68:8 <b>evaluations</b> 20:7 <b>evening</b> 6:12 7:15 <b>event</b> 92:9 <b>evidence</b> 98:2 <b>evolution</b> 26:22 <b>evolves</b> 35:19 <b>exact</b> 28:11 127:17 <b>exactly</b> 35:10 84:4 118:4 125:12,14 138:12 <b>example</b> 17:22 58:22 80:7 84:15 97:9 106:8 <b>exchanger</b> 35:12 <b>excluded</b> 132:14 <b>exclusively</b> 53:14 <b>Excuse</b> 16:6 <b>executed</b> 11:10 <b>exercising</b> 92:21 <b>exhaust</b> 35:13 46:5 <b>Exhibit</b> 98:17	114:6 118:19 <b>exhibits</b> 89:2 <b>existing</b> 12:1 <b>Expand</b> 136:22 <b>expect</b> 11:4 16:18 16:21 115:16 <b>expected</b> 77:5 <b>expecting</b> 9:8 21:2 25:13 <b>expedited</b> 1:5 7:19 <b>expediting</b> 10:1 <b>experience</b> 44:3 58:3,3 84:13 <b>expertise</b> 120:18 <b>experts</b> 52:9 <b>explain</b> 32:10 37:14 48:20 65:13 72:8 78:12 130:11 <b>explained</b> 73:11 <b>explanation</b> 48:20 <b>explanations</b> 76:6 <b>explore</b> 25:7 <b>express</b> 65:5 <b>expressed</b> 65:22 67:5 111:5 <b>expresses</b> 68:10 83:9 <b>extent</b> 16:15 17:14 19:12 30:7 33:17 39:2 40:2 41:18 47:9 132:5 139:10 140:14 <b>external</b> 19:9,15,16 <b>extra</b> 89:19 <b>extracted</b> 86:20	47:20 48:5 50:3 53:21 85:6,12,15 86:6 103:19 107:9 108:16 139:7,8 <b>fact</b> 26:12 43:16 67:11 78:3 87:1 90:10 91:22 92:2 97:17 99:20 132:17 133:6 <b>fact-based</b> 77:10 <b>factor</b> 17:20 64:22 77:9 125:9 <b>factors</b> 19:1 29:2 29:21 34:1 38:4 58:8 84:11 125:6 <b>facts</b> 47:18 69:13 69:14 70:1,2 90:2 138:5 143:13 <b>factual</b> 36:20,21 48:4 51:5 91:20 123:17 124:11 143:2 <b>failing</b> 119:18 <b>fair</b> 103:4 107:6 123:20 <b>fairly</b> 133:11 138:19 <b>familiar</b> 9:14 44:4 <b>far</b> 11:7 16:13 28:17 41:19 52:22 81:8 144:19 <b>fast</b> 85:2 <b>fax</b> 2:7,13 3:6,17 <b>feasibility</b> 55:5 134:18,19 <b>feasible</b> 49:2 90:19 130:9,15,17 131:19 132:3,5 133:4 134:22 138:5 <b>February</b> 1:12 10:20 <b>federal</b> 45:17 <b>federally-issued</b> 45:11 <b>feel</b> 9:19 70:10 109:11
--	---	---	--	--

<b>feels</b> 17:16	116:10,15 117:10	<b>form</b> 68:11	28:11,12 36:10,15	24:21 67:12 70:9
<b>fees</b> 12:7	117:17 123:10	<b>formal</b> 9:9	38:21 39:10 40:11	77:16 93:13 96:6
<b>Ferguson</b> 85:16	129:16 130:4	<b>format</b> 65:6,21	42:12,16,18 66:11	121:1 142:7
<b>fiberglass</b> 139:14	132:10	<b>forth</b> 137:20	73:15 81:1 97:8	143:12
139:17,20	<b>five-step</b> 117:6	<b>fossil</b> 54:10,17	98:18 99:6 103:11	<b>given</b> 8:8 33:19,20
<b>field</b> 49:9	130:1	<b>found</b> 118:7	103:14 104:18	42:1 49:9 64:5
<b>figure</b> 74:3 77:21	<b>flexibility</b> 13:7	<b>four</b> 30:16 35:5	106:15 108:4	95:19 104:16
143:21	24:18 25:21 26:6	46:15 105:8	110:16,18 111:21	<b>gives</b> 71:19 105:19
<b>final</b> 11:3,4 13:3	26:9,13 31:1 32:1	123:11 129:18	112:16,22 116:2	<b>glad</b> 20:3 119:2
14:7 21:13 23:9	32:14,20 33:22	134:8	118:5 122:7,9,16	<b>go</b> 7:19 8:17,21
23:16 25:22 26:2	38:6 61:13 74:9	<b>fourth</b> 71:2	<b>general</b> 3:12 5:10	23:1 24:22 25:14
41:21 42:5,7	<b>flight</b> 6:2,16 7:8	<b>fractions</b> 76:8	68:12 83:20 93:9	29:7 33:11 34:5
63:12 64:20 67:22	95:17 130:7	<b>frame</b> 22:9	<b>generalize</b> 60:17	38:13 39:22 47:16
67:22 100:1 113:4	<b>flights</b> 6:9	<b>Francisco</b> 2:17	<b>generally</b> 39:17	48:19 51:4,14
113:22	<b>Floor</b> 2:16	<b>free</b> 9:19 70:10	57:16 58:4	52:8,9 56:9,10
<b>finalized</b> 10:20	<b>Florida</b> 45:7,16	<b>front</b> 84:20 100:20	<b>generate</b> 91:22	57:20 69:5 70:5
41:7	62:9	<b>fuel</b> 48:17 50:9	93:19 97:12 99:1	70:10 80:11 81:2
<b>finalizing</b> 13:17	<b>focus</b> 9:16 110:1	54:10,17 56:8	99:19 109:13,15	93:13,22 94:5
<b>financial</b> 19:3	120:21	93:19 94:13	137:16 139:12	104:18 109:21
<b>financing</b> 11:2,2,5	<b>focused</b> 89:4 94:4	<b>full</b> 35:9 37:19 47:9	<b>generated</b> 94:10	112:12 131:11
13:14	<b>folks</b> 52:10 54:9,17	64:2 97:10,21	<b>generating</b> 53:6	132:9 133:9,12
<b>find</b> 58:14 78:7	95:18	100:2,2 133:12	99:12	137:8 138:2,16
79:21 84:14	<b>follow</b> 16:12 31:17	<b>full-scale</b> 134:4	<b>generation</b> 98:7	139:1,4 140:4,13
<b>finder</b> 133:6	31:20 39:1	<b>fulsome</b> 133:21	<b>generator</b> 46:6	140:20 143:21
<b>findings</b> 129:8	<b>follow-up</b> 20:12	<b>fundamental</b> 88:8	73:9 80:17 97:7	<b>goal</b> 103:16
132:17	<b>followed</b> 61:12	<b>fungible</b> 110:12	98:5 100:21 105:4	<b>goes</b> 6:13 12:6 56:4
<b>fine</b> 57:20	105:4	<b>further</b> 22:22 45:4	105:19 107:15	116:10 129:22
<b>Finish</b> 132:13	<b>following</b> 13:10	47:14 65:13 89:6	116:20	<b>going</b> 6:5 8:16
<b>fire</b> 56:19 98:16	126:21 132:20	140:15	<b>generators</b> 103:11	14:22,22 16:8
107:1	<b>follows</b> 140:10	<b>future</b> 29:12,13	<b>generous</b> 38:17	23:18 24:14,21
<b>fired</b> 56:15	<b>footnote</b> 124:21,22	69:2 77:17	40:3	25:15 28:14 32:5
<b>firing</b> 73:9 98:19	128:10	<hr/>	<b>geothermal</b> 93:21	35:18 42:17 58:6
118:22	<b>footnotes</b> 72:7	<b>G</b>	<b>getting</b> 9:15 40:13	58:7 60:5 62:2
<b>first</b> 4:20 5:20 8:18	84:10	<b>gas</b> 41:12 50:10	64:1 127:8,8	66:6 68:9 69:14
9:5,18,22 10:10	<b>footprint</b> 90:13	51:20 53:14,20,22	140:21 141:15	70:21 73:10 76:17
10:12 33:12 36:14	131:12	54:18 55:11 56:14	<b>GHG</b> 15:10 18:14	77:5 81:19 83:13
48:2,22 51:10	<b>force</b> 50:11 54:17	56:19 75:8 94:13	29:8 36:12 38:11	84:8 91:9 97:11
52:13,14,19 70:11	112:21 124:5	141:14	38:20 40:21 45:1	101:21 103:5,10
76:1 80:19 110:19	<b>forcing</b> 54:9 56:21	<b>gas-fired</b> 31:15	65:9 77:22 79:21	103:12 104:18
129:5 139:18	101:14,16 106:19	80:6	80:5 101:12	105:7 108:2 109:2
<b>fit</b> 20:8 25:19 101:5	107:2	<b>gasses</b> 142:16	103:18 121:6	109:4,12,15 110:5
<b>fits</b> 30:10	<b>forecast</b> 18:21 19:6	<b>gather</b> 132:10	126:4,6 127:10,21	110:6 111:14
<b>five</b> 8:22 24:21 27:1	25:17 29:17 30:11	<b>GE</b> 11:21 13:17	144:7	112:3,5 114:21
27:2,2 28:18 45:4	<b>foreclosing</b> 107:16	14:9,10,14,15	<b>GHGs</b> 69:11 70:17	116:17 122:1,8
45:22 46:1,9,9,10	<b>foregoing</b> 91:11	15:1,4 18:13	109:5	129:15 141:19
82:4 83:5 105:9	144:21	20:14 23:10,20	<b>Giuliani</b> 2:5	<b>good</b> 4:15 5:1,4,7
115:14,19 116:8	<b>forever</b> 94:1	24:2,11,14 26:3	<b>give</b> 8:16 16:4,7	6:3 31:15 61:8,19

82:6 83:2 122:7  
144:19  
**gotten** 109:1  
**government** 10:13  
**governments** 10:16  
**gracious** 96:7  
**grant** 116:12  
**greater** 37:16  
**greenhouse** 75:8  
141:14 142:15  
**grid** 70:16 94:18  
**gross** 65:10 67:5  
68:5,11,14,18  
70:15 71:5,9  
74:21 83:10 98:15  
106:14 110:21  
111:5 114:1,22  
115:5,6 118:2,7,8  
118:9,14,22 119:7  
119:17,21 121:15  
**groups** 32:17  
**guaranteed** 26:5  
**guarantees** 69:11  
**guess** 19:17 129:18  
**guidance** 66:5  
77:17 79:3,21  
80:5 142:7  
**guys** 13:5 54:16

---

**H**


---

**hair** 112:17  
**half** 7:12,20 66:14  
**hand** 62:8  
**happen** 13:20,20  
13:21 14:5 16:21  
25:16 33:9 58:9  
65:14 122:2  
**happened** 12:18  
58:15 81:7 88:15  
123:11  
**happening** 44:2  
**happens** 13:10,11  
29:13 60:1 142:6  
**happy** 99:5  
**hash** 117:6  
**hate** 94:19 96:5  
**head** 66:10

**headed** 34:14,16  
**headroom** 29:1  
38:3 39:16,19  
43:3 101:19  
**headrooms** 40:3  
**hear** 38:9,13 57:9  
85:5 99:5  
**heard** 29:14,17  
106:3  
**hearing** 1:16 40:9  
**heat** 15:8 18:14,20  
19:3 29:8,20  
35:12 37:20 38:19  
40:21 64:21 65:7  
66:11 72:8,10,11  
72:12,22 73:1,5,7  
73:8,21 74:22  
77:19 80:16 83:8  
93:19 97:6 102:12  
103:9,10,12,13  
105:4,19 107:15  
116:20 121:5  
**help** 18:9 127:4  
**helps** 125:9 141:12  
**high** 16:22 72:12  
110:5  
**higher** 17:12  
**highest** 15:10 122:2  
**highlight** 119:18  
**highly** 75:16  
**Hill** 1:20 4:10,17  
19:6,15,20 20:9  
20:11 21:5 24:13  
25:3,7 30:6,12,18  
31:19 37:15 41:9  
42:10 46:16 48:8  
53:4 54:2,5 57:10  
57:13,18,21 58:1  
59:13,17 60:15  
61:21 62:19 63:21  
65:12 66:9,18,22  
67:15 68:4,20  
72:1,18 73:3  
74:12,19 75:10  
76:14 77:16 79:11  
81:3,18 83:12  
84:4,21 85:4

87:15 88:10 89:16  
90:18 92:15,19  
95:21 102:16  
103:4 107:22  
108:22 109:16  
113:7 115:1,22  
116:22 121:21  
122:15,21 135:5  
**hire** 52:9  
**historical** 58:13  
**hit** 98:9  
**hold** 144:11  
**home** 25:12 144:18  
**homework** 51:3  
**Honor** 5:14 58:12  
59:16 67:21 70:4  
74:15 78:3 82:8  
84:1 85:9,14  
86:17 88:1 91:1  
91:19 92:18 93:6  
93:16 95:4 96:4  
105:15 109:21  
112:3 113:3  
118:16 120:3  
121:14 124:13  
128:5 130:12  
139:6 142:18  
**Honorable** 1:19,20  
1:22 4:9  
**Honors** 96:15  
141:1  
**hopefully** 6:6  
**hoping** 70:8 120:22  
**hour** 7:12,20 36:1  
60:12 73:1 77:13  
79:1 83:9 86:11  
95:20 106:14  
108:14 111:17  
118:21  
**hourly** 60:11 61:20  
108:3  
**hours** 110:2  
**HRS** 74:16  
**hurricane** 51:12  
53:8  
**hurricanes** 49:6,10  
134:15

**hurry** 143:9  
**hurting** 35:2  
**hybrid** 55:9 56:9  
56:10,12,21 57:4  
135:12 136:16  
139:8  
**hypothetical** 58:2  
106:15 111:13  
120:4 128:12,16  
128:22  
**hypothetically**  
22:13 126:18

---

**I**


---

**identical** 28:13  
**identified** 11:20  
20:13 26:20 27:6  
35:5 45:1,4 46:14  
48:3 123:4  
**identify** 33:17  
130:14  
**ignore** 125:2,13,16  
127:1  
**illustrate** 91:5  
**illustrates** 77:1  
79:7  
**impact** 17:15,16  
28:16 57:1 73:21  
75:8 129:6  
**impacts** 78:18  
125:19,21 128:17  
**implicate** 63:18  
**imply** 75:19  
**import** 87:13  
**important** 17:21  
18:11 29:21 64:1  
101:2,3 141:3,13  
142:6 144:5  
**importantly** 11:15  
**impose** 27:3 39:14  
**improper** 55:17  
**improve** 141:12  
**improving** 98:10  
**inappropriate**  
132:16 134:12  
136:6  
**incidentally** 80:20

**Include** 137:2  
**included** 73:22  
118:18  
**includes** 121:15  
**including** 12:2  
84:12 85:20 87:16  
94:15 102:1  
**inconsequential**  
121:20  
**incorrect** 137:5  
**incorrectly** 142:5  
**increase** 132:21  
**increased** 98:22  
**increment** 98:3  
**incremental** 132:21  
**indicate** 62:15  
**indicated** 104:17  
**inefficient** 73:16  
**influence** 73:17  
92:14  
**inform** 8:9 15:14  
**information** 14:4  
19:16 27:19 39:9  
47:21 72:13 83:8  
131:15 132:11,18  
134:1  
**infrastructural**  
94:14  
**inherent** 61:8,9,17  
**inherently** 61:1  
125:7  
**initial** 31:8 113:9  
**initially** 41:5  
**input** 60:2 133:7  
**ins** 18:1  
**inside** 43:14  
**insignificant**  
115:10  
**insisting** 134:4  
**install** 11:21 13:8  
23:4 30:20 47:19  
49:17 90:19  
106:11,18  
**installation** 35:11  
50:12  
**installed** 21:3  
28:12 46:3 48:4

**installing** 35:11  
 48:15,16 141:22  
**installs** 112:22  
**instance** 65:6 68:9  
 69:2 79:6  
**insufficient** 93:12  
**intend** 144:3  
**intended** 36:8 93:8  
 105:15  
**intent** 27:2 53:21  
**intention** 16:10  
 54:11  
**interest** 9:12,15  
**interested** 18:11  
 51:6 56:17  
**interesting** 36:10  
**internal** 19:7  
 101:17  
**interpretation**  
 137:4,6  
**interrupt** 103:5  
 132:13  
**introduce** 50:19  
**investigation**  
 133:13  
**iron** 127:19  
**iso** 76:12  
**issue** 10:8,10 26:11  
 39:21 43:4 45:18  
 47:14,16 48:2  
 49:16 51:12 53:8  
 55:20 64:1,2 68:8  
 72:9 85:1 89:9  
 92:9 113:6 128:6  
 128:22 132:21  
 135:7 136:9 141:9  
 142:2 143:3  
**issued** 60:9 61:11  
 66:2 80:19,20  
 81:6  
**issuer** 62:6,16  
 63:17 79:4 88:4  
**issuers** 60:2 64:19  
 66:3 77:14 78:21  
 83:21  
**issues** 33:2 39:18  
 67:10 101:17

130:5 141:2,4,5,6  
144:5,6

---

**J**


---

**January** 12:4,18  
 20:22 21:3,11  
**job** 140:8  
**joined** 5:9  
**judge** 1:19,21,22  
 4:15,16,16,17 5:3  
 5:6,12,16 6:15,18  
 6:22 7:6,10 9:4  
 11:15 12:9,13  
 13:9,19 14:1,8,13  
 15:2,6,13 16:4,7  
 16:17 17:5,18  
 18:5,9 19:6,15,20  
 20:1,9,11 21:5,16  
 22:6,13 23:5,6,13  
 23:21 24:5,8,13  
 25:1,3,7 26:7  
 27:13,21 28:2,8  
 29:6 30:6,12,18  
 31:17,19,20 34:6  
 35:2 36:9,19 37:1  
 37:8,10,13,15,17  
 38:8 39:20 40:5,8  
 41:9,16 42:3,10  
 43:13 45:10 46:16  
 47:7 48:8,10,19  
 49:11,21 50:5,14  
 50:17 51:2,18,22  
 52:4,12,17 53:4  
 54:2,5,20 55:8  
 57:7,10,13,18,21  
 58:1 59:7,10,13  
 59:17 60:15 61:21  
 62:19 63:21 65:12  
 66:9,18,22 67:15  
 68:4,20 69:12  
 70:8 72:1,4,18  
 73:3 74:12,19  
 75:10 76:1,4,14  
 76:20 77:16 79:11  
 79:18 81:3,18,19  
 83:12 84:4,21,21  
 84:22 85:3,4,5,10

86:8,18,20 87:5  
 87:15 88:10 89:16  
 90:18 91:8,15  
 92:15,19,20 93:11  
 94:3,19 95:11,21  
 96:1,5,13 99:4  
 100:5,13,22 102:4  
 102:9,16 103:4,16  
 104:2,6,9,13,16  
 106:1,16,19 107:5  
 107:22 108:22  
 109:16 110:8  
 111:1,9,12 112:12  
 112:16 113:7,12  
 114:2,17 115:1,22  
 116:22 117:20  
 118:11 119:1,12  
 119:15,20 120:15  
 121:21 122:15,21  
 123:16 124:14  
 125:14,22 126:7  
 126:20 127:4  
 129:10 130:6,20  
 131:2,6,9,16,19  
 131:21 132:12  
 133:8 135:5  
 136:10,19,22  
 137:9,17 138:9  
 139:16 140:3,17  
 142:19

**judges** 4:9 8:5 9:17  
 9:21 119:3 120:17  
 143:15

**judgment** 78:21  
 79:5 96:8

---

**K**


---

**K** 2:5 139:14  
**Kathie** 1:22 4:9  
**Kathleen** 20:4,4  
**keep** 17:8 45:19  
 103:5  
**keeping** 32:14,19  
**kilowatt** 72:22  
**kind** 62:21 70:20  
 72:15 94:17 96:16  
 96:18 97:5 112:10

112:20 133:11  
**kinds** 70:13 71:4  
 142:15  
**Knauf** 139:14,16  
 139:17 140:12  
**know** 9:19 13:4,6  
 15:15,17 17:7,9  
 18:1,22 21:2,12  
 25:10,14 29:15  
 30:11 33:13,18  
 34:2 35:21 39:5  
 39:17 43:2 44:5  
 45:12,14 46:4  
 49:4 51:4 53:2,10  
 54:1,16,19,20  
 55:3 57:1 58:5  
 60:20 68:6 92:8  
 97:10 99:12,18  
 100:11,13 101:18  
 105:18 108:21  
 110:9 111:16  
 115:9,18,20  
 119:14,15,22  
 120:5 127:5  
 128:19 129:1,6  
 130:17 131:1  
 132:8,8 133:16  
 134:9 138:12  
 139:11 140:1,5,8  
 140:13 141:7  
 143:8

**knowledge** 55:6  
 126:16

**known** 35:15  
**knows** 38:5 49:7  
 140:6

---

**L**


---

**La** 1:8 2:2 4:7 5:5  
 7:4 8:3,4,11,21  
 9:6 19:10 21:22  
 51:12 53:5 56:17  
 61:11 64:6,13  
 83:12 85:8 106:13  
 108:15 116:8  
 118:19 134:14  
**lack** 102:21

**land** 10:19 49:1,4  
 51:11 53:9 78:20  
**language** 69:18  
 92:3  
**large** 30:7 32:7  
 49:8 97:20  
**larger** 17:10 25:15  
 73:12 75:4 80:11  
 82:12 97:19 98:22  
 127:6  
**largest** 64:8 65:17  
 71:12 74:20,22  
**late** 33:5 140:21  
**latest** 95:22 113:13  
**Law** 2:15 3:13  
**LCRA** 41:6,10,21  
 80:19 85:15,20  
 86:22  
**lead** 57:10  
**leads** 26:9  
**leave** 21:20 29:10  
 47:15 95:17 112:9  
**leaving** 6:10  
**left** 4:17 48:6  
**legal** 47:18 76:3  
**let's** 13:11 25:7  
 91:15 110:12  
 120:19 130:6  
 135:22  
**letter** 71:16 72:8  
**level** 127:14,16  
 135:7  
**levels** 117:4  
**likelihood** 25:5  
**limit** 15:11 17:17  
 26:11,15,16 27:3  
 29:2 36:5,16,18  
 37:5 38:2,7,11,12  
 38:20 39:9 40:11  
 40:16,20 41:3  
 42:12,14,17,18  
 43:2,10,15 44:9,9  
 46:13,13 47:2,6  
 47:11 59:20 60:6  
 63:1 66:6,19 68:5  
 71:5,5 74:6 77:12  
 82:5 85:11,12

86:9,11 99:8	20:7 74:10 76:11	72:10 86:10 102:6	<b>math</b> 66:9	123:16 124:14
101:1,12 102:8,18	97:1,2 102:6	108:6 109:5	<b>matter</b> 1:7,16 14:5	125:14,22 126:7
104:20,21 106:4	<b>local</b> 10:18 49:7	111:15 135:18	47:3 61:15 70:2	126:20 129:10
107:1,19,21 108:3	94:16	139:9	91:11,19 92:21	130:6,20 131:2,6
108:7,13,13,15,20	<b>located</b> 27:14	<b>lowering</b> 40:16	93:9 144:15,21	131:9,16 136:10
109:7,8,12 110:15	<b>location</b> 94:15	<b>lowest</b> 101:12	<b>matters</b> 25:1	136:19,22 139:16
110:16,18 111:4	<b>logical</b> 62:21	102:18 103:18,22	<b>Matthew</b> 3:9 5:10	140:17 142:19
111:21 112:5	<b>look</b> 17:13 27:8,13	105:10,20 108:3,4	<b>maximize</b> 53:22	<b>McGillivray</b> 2:10
113:1 115:14,17	27:17,22 28:3,5	108:8 109:7 110:6	60:22	<b>mean</b> 16:2 20:10
116:16 122:3	34:9 46:11 49:12	<b>luck</b> 144:19	<b>maximum</b> 37:12	24:18,19 25:3,10
123:8 125:20	51:16 61:16 63:14		64:5 117:16	25:17,20 30:2,10
126:3,4,6 127:10	64:13 65:12,20	<b>M</b>	<b>McCabe</b> 1:19 4:10	33:1 36:22 37:15
135:17	66:16 70:18 75:5	<b>Madison</b> 2:12	4:15,16 5:3,6,12	39:1,6,8 42:21,22
<b>limited</b> 132:18	75:12 79:6 82:1	<b>main</b> 10:22 26:10	5:16 6:15,18,22	43:4 44:22 52:6
133:11 134:2	83:18 84:8 105:18	81:5 107:7,7	7:6,10 9:4 11:15	52:22 53:8,12,17
<b>limiting</b> 108:20	114:3,20 117:2,6	135:2	12:9,13 13:9,19	54:8 55:9,19
110:3	117:8 118:8,12	<b>maintain</b> 24:17	14:1,8,13 15:2,6	56:16 60:17,20
<b>limits</b> 21:20 39:13	119:5 124:7	25:21 26:5,8 31:1	15:13 16:4,7,17	67:16,17 75:20
43:21 60:6,10,11	125:18 129:19	<b>maintenance</b> 25:12	17:5,18 18:5,9	76:15 79:12 84:6
60:11,12,12,14	135:20,22 136:7	<b>making</b> 50:2 121:3	20:1 21:16 23:6	93:17 99:5 106:2
61:7,8,16 63:12	136:21 137:1	134:13 141:17	23:13,21 24:5,8	106:8,11 132:13
63:14,20 65:3,6	139:22 140:1,4,6	144:4	25:1 26:7 27:13	133:12,15 137:1
65:22 67:11 68:1	<b>looked</b> 21:13 28:19	<b>manages</b> 16:15	27:21 28:2,8 29:6	137:21 138:10,20
68:11 69:2,10,17	28:19 34:10 62:7	<b>manual</b> 84:9,15	35:2 36:9,19 37:1	142:10,11,16
70:6,13,14,19	68:9 117:14 122:7	<b>manufactured</b> 21:3	37:8,10,13,17	<b>meaningful</b> 48:5
71:1,5,7,9 72:13	130:2 131:2,4,6	<b>manufacturer</b> 47:4	38:8 39:20 40:5,8	66:7
73:5,22 74:7 75:6	131:18 132:22	<b>manufacturer's</b>	41:16 42:3 47:7	<b>meaningfully</b> 32:18
77:22 78:18 84:19	135:15 137:19	126:8	48:10,19 49:11,21	33:6
85:21 86:5,22	<b>looking</b> 27:3 30:11	<b>manufacturing</b>	50:5,14,17 51:2	<b>means</b> 37:17 94:11
90:10 100:1,16	32:3 58:12 66:10	12:12 23:20	51:18,22 52:4,12	142:9
108:9 113:4,5,10	69:15 70:1 71:8	<b>map</b> 131:15	52:17 54:20 57:7	<b>meant</b> 94:12
113:21 114:7,14	80:5 82:16 85:19	<b>maps</b> 130:22 131:5	59:7,10 69:12	<b>measure</b> 91:5
114:14,18 117:10	86:12 103:17,20	131:21	70:8 72:4 76:20	118:7
118:2,6,6,8,13	103:21,22 110:13	<b>margin</b> 38:16	79:18 81:19 84:22	<b>measured</b> 114:8
121:6 122:8,22	111:6,15 113:12	40:15 65:2 74:4	86:20 87:5 91:8	<b>measurement</b>
123:2,7,18 139:9	114:9 119:6 121:2	76:9,16,18,22	91:15 92:20 93:11	65:11
<b>line</b> 10:13 23:19	135:12 141:16	77:3 101:19 113:8	94:3,19 95:11	<b>measuring</b> 120:6,6
105:13 133:3	143:5	115:12 125:9	96:1,5,13 99:4	120:8,12
140:14,16	<b>looks</b> 69:22	<b>marginal</b> 75:17	100:5,13,22 102:4	<b>meet</b> 19:1 36:15
<b>list</b> 27:5 35:16,17	<b>lose</b> 31:12	121:9	102:9 103:16	37:5 38:4,10,19
<b>listed</b> 62:8 118:20	<b>lot</b> 33:22 68:12	<b>marginally</b> 121:11	104:2,6,9,13	40:11 41:2 42:17
<b>little</b> 6:5 17:19 33:7	75:18 89:10 90:13	<b>margins</b> 67:9 76:9	106:19 107:5	44:8 47:2,5 97:1,2
70:3 86:19 101:7	113:18 143:14	115:11 127:8	110:8 111:1,9,12	101:11,13 102:8
106:1	<b>love</b> 69:13	<b>market</b> 20:8 80:11	112:12,16 113:12	106:9,10,14,22
<b>LLC</b> 1:8 2:3 4:7	<b>Lovely</b> 91:17	83:15	114:2,17 117:20	108:17 113:1
<b>LLP</b> 2:5	<b>loves</b> 141:8	<b>Marks</b> 3:9 5:10	118:11 119:1,12	115:17
<b>load</b> 15:19 19:3	<b>lower</b> 41:11 42:17	<b>mass</b> 17:12,17	119:15,20 120:15	<b>meets</b> 135:21

<b>megawatt</b> 36:1 77:13 79:1 83:9 86:11 100:20 106:14 108:14 110:2 111:17 118:21	53:9 111:10 124:8 <b>monoxide</b> 61:7 <b>month</b> 14:2 22:14 <b>months</b> 41:8 <b>more-demanding</b> 41:2 <b>Mountain</b> 58:21 59:18 60:8 62:7 <b>move</b> 85:1 144:4 <b>multiple</b> 58:17 59:5 60:9 61:14 64:18 80:22 81:15 135:11 <b>multiplied</b> 109:14 <b>municipality</b> 53:19 <b>music</b> 91:9,17 <b>myriad</b> 93:22	<b>needed</b> 93:13 <b>needs</b> 133:6 <b>negligible</b> 121:9,19 122:7 124:18 125:4,11 <b>negotiate</b> 22:21 <b>negotiated</b> 12:19 22:19 <b>negotiations</b> 22:18 <b>net</b> 65:7,14,20 66:11 68:1,6,21 69:1,4 71:1 74:22 79:7 83:8 87:1 98:14 110:15 111:17 113:15 114:9,18,20 118:6 118:13 119:8,17 120:11 130:14 134:11 <b>never</b> 92:22 130:18 138:20 <b>new</b> 56:22 75:21 <b>news</b> 6:3 <b>noise</b> 115:7 <b>non-representative</b> 79:15 <b>non-snowy</b> 4:20 <b>normal</b> 7:17 9:10 <b>Normally</b> 8:13 <b>North</b> 45:7 59:4,11 <b>notes</b> 70:5,10 <b>notice</b> 1:16 6:1 13:16 16:8 24:1 62:6,9 <b>notices</b> 16:13,14 <b>notwithstanding</b> 33:6 <b>NSPS</b> 47:1 68:10 69:3 <b>NSR</b> 59:5 84:8,14 84:15 <b>number</b> 4:8,9 6:10 11:1 38:14 62:8 66:17,21 67:1 73:10 84:11 100:3 109:13 111:3,16 119:17 121:16	126:9,10 <b>numbers</b> 39:12 60:4 65:19 66:10 69:14 87:6 97:8 110:11,20 111:10 113:13,17 115:6 118:13 120:1 121:1 123:21 127:17 143:5,18 <b>numerically</b> 63:15 <b>NW</b> 1:14 2:5 3:14	<b>once</b> 11:3 21:18 27:1 41:20 61:22 <b>one-half</b> 71:10 <b>one-level</b> 35:21 <b>one-tenth</b> 67:4 <b>ones</b> 113:22 119:6 <b>online</b> 16:20 <b>open</b> 22:15 82:19 102:2 131:13 <b>opens</b> 142:14 <b>operate</b> 15:22 16:3 16:11 25:18 37:18 101:21 102:3,6,11 <b>operated</b> 15:19 16:9 17:3 <b>operating</b> 100:2 101:22 108:5 109:18,20 <b>operation</b> 38:6 61:19 108:21 <b>operational</b> 28:22 38:1 64:22 74:8 <b>operator</b> 97:1 <b>opinion</b> 92:3 143:14 <b>opportunity</b> 31:12 32:9,12,17 35:9 129:19 130:4 141:1 <b>opposed</b> 56:2 <b>opposite</b> 124:21 <b>option</b> 8:20 22:21 38:10,14 60:14 67:10 78:12 80:8 91:1 105:5,7,8 116:6,7,11,13,15 116:16 117:7,9,14 123:10 126:1 141:16 142:11 <b>options</b> 58:17 59:6 61:14 65:3 67:14 80:22 81:15 88:5 90:6 102:13 123:5 124:19 125:3,17 125:20 128:13 <b>oral</b> 1:5 4:6 7:19 9:10
<b>mentioned</b> 9:7 28:7 51:11 123:21 135:13 <b>merchant</b> 19:11 <b>mere</b> 76:8 <b>mess</b> 57:15 <b>methodology</b> 68:2 <b>micromanaging</b> 127:9,11 <b>middle</b> 110:13 120:10 <b>mind</b> 17:8 45:19 123:22 135:1 <b>Mine</b> 131:16 <b>minimal</b> 25:6 <b>minor</b> 59:2,5 <b>minute</b> 114:17 140:19 <b>minutes</b> 8:22 <b>missing</b> 11:1 <b>mistake</b> 122:22 123:1,13 <b>mistaken</b> 86:21 <b>mode</b> 73:7 <b>model</b> 51:16 70:20 81:5 84:7 <b>modeled</b> 41:14,16 <b>models</b> 34:11 81:17 82:21,22 124:4 133:13 <b>modern</b> 78:15 80:15 83:1 <b>modifications</b> 39:4 <b>modify</b> 62:13 <b>moment</b> 32:2,20	<hr/> <b>N</b> <hr/> <b>N-A-U-F</b> 139:15 <b>name</b> 57:14 59:8 85:15 <b>narrowly-written</b> 67:7 <b>National</b> 6:17,18 95:16 <b>natural</b> 50:10 53:14,20 54:18 56:19 94:13 <b>nearest</b> 77:13 <b>necessarily</b> 30:9 83:10 84:6 106:5 132:19 <b>necessary</b> 18:20 22:9 78:12 121:18 144:2 <b>need</b> 10:16 24:1 39:22 47:2,5,14 51:15 62:13 72:4 75:12 87:9 92:4,6 94:5,17 95:17 96:8 103:14 106:9 127:12 129:17 130:13 133:12 135:19 137:9 138:18,19 139:3 144:8,10	<hr/> <b>O</b> <hr/> <b>o'clock</b> 6:15 <b>OAPPS</b> 79:3 <b>objection</b> 104:7,10 <b>obligation</b> 55:18 88:14 136:21 <b>observation</b> 143:1 <b>obtain</b> 39:10 <b>obviously</b> 29:22 42:22 109:21 113:18 127:13 <b>occurring</b> 55:7 <b>offered</b> 96:9 <b>Office</b> 3:3,12,13 5:9,9 <b>OGC</b> 79:4 <b>Oh</b> 86:18 <b>okay</b> 5:3,16,19 6:18 9:4 14:8,14 15:2 15:13 16:17 17:18 19:20,22 20:9 23:13 37:3 40:7 48:22 51:2,10 54:5 57:7 58:1 59:17 66:18 68:20 73:3 74:19 81:18 85:4 86:8 88:11 91:15 92:19 95:11 96:1,5,13 103:4 104:13 112:12 114:2 115:1,4 117:20 119:4 122:6 130:6 136:19 <b>old</b> 57:20		

<b>oranges</b> 127:2	22:1 51:13 53:5	115:6 123:22	114:8 115:5	101:10 102:18
<b>order</b> 1:4 7:21 8:8	56:17 61:11 64:6	124:1,1 127:11,13	141:15	109:2,7 122:2,9
9:8 10:7 11:5	64:13 83:12 85:8	127:13 128:1,2	<b>permitted</b> 41:12	<b>picked</b> 14:9 43:22
12:15 15:18 17:1	106:13 108:15	<b>percentages</b> 127:19	56:13,20 58:16	44:5,18 109:17
51:16 67:12 70:20	116:8 134:14	<b>perennial</b> 142:1	71:4 85:7 86:3	<b>picking</b> 44:15
71:2 77:15 93:13	<b>Paloma's</b> 118:19	<b>performance</b> 68:13	123:18 126:9	110:17 118:5
<b>orderly</b> 70:7	<b>panel</b> 4:18	76:12 79:22 80:3	<b>permittee</b> 33:21	<b>Pico</b> 33:1
<b>orders</b> 16:1,16	<b>parameters</b> 54:14	126:11	36:16 43:9 90:15	<b>picture</b> 65:7,9
70:21	109:8	<b>performing</b> 44:20	107:19 137:21	<b>piece</b> 83:7 97:18
<b>ordinarily</b> 32:2	<b>parse</b> 116:19	77:6	<b>permittees</b> 34:4	98:18 129:11
<b>ordinary</b> 6:7	<b>parsing</b> 116:18	<b>period</b> 41:8 78:5	54:13	<b>pieces</b> 96:18 115:12
<b>Oregon</b> 45:7	<b>part</b> 29:19 52:10	<b>permeates</b> 96:16	<b>permitting</b> 27:15	<b>Pio</b> 33:1
<b>original</b> 21:20	55:16 60:19 63:16	<b>permit</b> 1:9 4:8	33:14 45:3,9	<b>Pioneer</b> 86:4,5
40:18	89:3 112:6	10:20 11:3,4 13:2	47:13 50:11 54:21	<b>pipe</b> 141:21
<b>output</b> 65:10 68:12	<b>particular</b> 22:7	13:3,12,13 14:7	55:7 58:13 68:15	<b>pipeline</b> 53:20,22
68:14,18 70:15,17	27:11 28:21 30:10	14:16,20 15:3	68:16,17 69:8	<b>pipelines</b> 94:16
74:21	34:14,17 43:8	21:8,11,13,19,22	81:22 93:10	<b>place</b> 10:19 12:14
<b>output-based</b>	86:6 94:17 101:10	22:1,3,8,11,14	136:11 142:8	23:19 26:1 66:7
110:14	129:3 133:10	23:9,18,22 26:1,2	144:8	67:22 118:8,11,15
<b>outs</b> 18:2	138:4	26:14 31:2,4,11	<b>permutations</b>	138:14
<b>outset</b> 20:12	<b>particularly</b> 55:4	35:9 38:18 40:18	70:22 93:22	<b>placed</b> 15:17 78:17
<b>outside</b> 43:11	<b>parties</b> 4:22 7:22	40:20 41:5,6 42:7	<b>perplexing</b> 87:7	85:22
<b>over-compliance</b>	<b>parts</b> 94:7	42:14 43:1 57:5	<b>perspective</b> 17:14	<b>places</b> 98:12
42:20	<b>party</b> 7:21	58:4,9,15 59:2,5	23:4 29:5 141:3	<b>plan</b> 15:21 16:2
<b>overall</b> 73:21 75:9	<b>PAS-TX-1288-G...</b>	60:1,2,9,13 61:11	<b>pertinent</b> 76:7	25:18,20 52:11
78:18 92:14	4:8	61:15,21 62:2,6,7	<b>petition</b> 59:1 67:8	56:11 130:20
<b>oversight</b> 19:14	<b>passed</b> 130:5	62:9,16,17 63:4	89:1 90:17 98:17	131:7
	<b>Paterson</b> 2:11	63:13,15,16 64:18	101:7,8 104:12,14	<b>plane</b> 140:18
	<b>path</b> 42:2,9	64:19,20 65:16	114:7	144:20
	<b>patient</b> 95:15	66:3 67:22 68:1	<b>petitioner</b> 8:14	<b>planned</b> 6:14 12:3
	<b>paying</b> 12:7	68:19 69:6,10	38:16 49:17 50:10	21:18
	<b>peak</b> 97:10 105:17	70:12 71:7 72:12	<b>petitioner's</b> 140:15	<b>plans</b> 5:22 131:9
	<b>peaking</b> 74:10	77:14,17 78:20	<b>petitioners</b> 5:2	<b>plant</b> 17:2 19:11
	<b>Pennsylvania</b> 3:14	79:4 80:18,19,20	26:11 63:6 73:18	23:20 31:16 34:1
	<b>people</b> 8:18,19	80:22 81:4,6,9,10	79:9	41:13 48:17 49:5
	34:12 56:8 120:18	83:3,21 86:6 88:4	<b>phase</b> 32:18	50:9 53:18 54:11
	120:22 134:4	99:7,10 100:1	<b>phone</b> 5:13 91:9	55:9,16 56:12,15
	<b>percent</b> 26:5 37:4	105:1,13,16 111:4	119:2	56:18,19,21 57:4
	65:18 66:14 67:3	112:7 114:1,6,7	<b>phones</b> 4:12	57:5 59:4,12
	67:4,6 68:3 69:20	114:11 121:14	<b>photovoltaic</b> 89:12	60:21 64:7 71:18
	69:21,21,22 71:11	133:9 135:17	<b>phrase</b> 75:22 79:20	71:21 72:16,19,21
	71:13,21,22 72:14	137:20,22 138:21	79:21	73:2 74:10 75:8
	74:20 75:4,7	139:9 141:3,8	<b>phrased</b> 99:9	80:6,15 82:13,16
	76:16,18,22 77:2	<b>permittee</b> 8:3 26:17	<b>phraseology</b> 121:8	83:13 85:16 87:21
	79:8,10 91:6 92:1	<b>permits</b> 42:5 45:1,2	<b>pick</b> 33:4,4,7,7	90:13 92:2,14
	92:11 102:1	45:11,12,14,17	47:10,12 64:13	94:12 99:11 107:1
	113:11,16,18	66:1 69:2 89:2	68:21 81:16	133:11 136:13,17

141:13	<b>pound-per-hour</b> 70:15	<b>prepared</b> 10:6 11:18 16:13 19:19 37:4	43:12,14 44:8 92:7 93:19 117:6 128:8 130:1 139:19 140:3,4 141:18	23:9 31:4,11 33:14 45:2 136:12 141:14 143:8
<b>plant's</b> 91:6 92:11	<b>pounds</b> 60:11 77:13 79:1 83:9 86:10 106:14 108:14 118:21	<b>PRESENT</b> 3:20	139:19 140:3,4 141:18	<b>public</b> 35:8,20 81:1 133:7 136:18 137:8 138:15,22 140:6
<b>plants</b> 16:20 54:18 56:9,9,10	<b>power</b> 11:13 19:11 29:18 31:15 40:13 56:15 58:21 59:18 60:8 62:7 71:18 71:21 72:15,18,21 73:1 82:13,16 92:5,11 94:17 98:3 99:2 107:1 136:13	<b>presentations</b> 9:9 142:20	<b>processed</b> 41:7	<b>published</b> 59:16
<b>play</b> 132:1	<b>practical</b> 61:15 126:13	<b>presented</b> 10:7	<b>processes</b> 35:6	<b>purely</b> 58:2
<b>plays</b> 17:15	<b>practice</b> 8:13 45:9 62:5 83:3	<b>presenting</b> 4:22 84:2	<b>procurement</b> 11:8 13:17	<b>purporting</b> 69:7 86:13
<b>please</b> 4:12,13 9:12 9:19 59:8 65:13 70:9 130:11 131:19 137:1 140:19	<b>practices</b> 35:6 44:22 61:9	<b>presents</b> 86:1	<b>produce</b> 53:11,13 107:9	<b>purpose</b> 19:2 24:19 27:2 46:9,10 53:10,13,17 55:11 64:6 72:19 88:8 95:8 99:11 101:6 105:16 142:13
<b>plenty</b> 7:11	<b>Prairie</b> 28:21 124:12,14,20 126:21 127:3 128:9	<b>presiding</b> 4:11	<b>produces</b> 107:8	<b>purposes</b> 51:7 62:18 63:12 68:15 68:16 83:5,6
<b>plus</b> 38:2 65:1 97:6 116:20	<b>pre</b> 10:14 140:2	<b>pressure</b> 13:5	<b>product</b> 30:22 107:8	<b>pursuant</b> 1:16
<b>PM</b> 61:7	<b>pre-heat</b> 48:1,2,16 49:2,14 54:7	<b>presumably</b> 91:2	<b>production</b> 117:4 139:19	<b>put</b> 12:14 13:16 21:14 52:14 53:2 53:8 63:3 74:7 94:19 100:20 105:2 116:6,8
<b>point</b> 16:18 22:20 23:8 27:8 32:9 50:7 57:8 79:11 80:4 81:20 98:9 106:2 109:1 114:3 114:5 124:5,6,7 124:12 128:9 129:21 132:9 134:10 135:11 140:3 144:6	<b>pre-judge</b> 140:4	<b>presume</b> 9:13	<b>products</b> 28:14,15	<b>putting</b> 13:4 66:7
<b>pointed</b> 98:13 108:1	<b>precedent</b> 33:14 48:15 88:2 140:10 144:9	<b>pretty</b> 17:4 33:21 49:5	<b>Program</b> 2:15	<b>puzzled</b> 40:17
<b>points</b> 33:3 44:22	<b>precedents</b> 142:3	<b>prevent</b> 24:14	<b>progression</b> 45:19 46:11	
<b>policy</b> 88:9 93:4	<b>precise</b> 58:7	<b>preview</b> 16:5	<b>project</b> 18:18 19:2 20:4 31:12 42:8 48:7 55:6 82:9 83:6 87:17 94:9 99:11 105:16 142:13	<b>Q</b>
<b>pollution</b> 53:2	<b>prefer</b> 57:21 119:21	<b>previous</b> 44:22	<b>projects</b> 10:11 20:6	<b>qualify</b> 23:14
<b>pollution-causing</b> 120:9	<b>preference</b> 53:15 102:4,7	<b>price</b> 25:1,3 29:22 30:7,13	<b>pronounce</b> 57:14	<b>quarter</b> 77:3
<b>poorly</b> 79:14	<b>preferred</b> 11:20 69:4 117:22 118:1	<b>primary</b> 29:15 30:8 108:13	<b>pronounced</b> 139:15	<b>question</b> 15:16 19:13 21:4 22:10 22:15 24:16 32:15 36:10,22 42:11 47:17 48:4 51:5 55:12 56:2 58:2 75:11 76:3 99:9 100:16 103:1,2 105:14 110:20 111:13 115:2 117:21 120:14 121:22 123:17 124:11 131:20 133:15 137:8
<b>position</b> 69:16 92:21 96:7 104:19 130:8	<b>preheat</b> 95:5,9	<b>principal</b> 55:11	<b>proper</b> 55:16	<b>questioning</b> 29:16
<b>possibility</b> 71:1 143:7,9	<b>preliminarily</b> 11:19 20:13	<b>principles</b> 120:20	<b>properly</b> 43:6	
<b>possible</b> 17:8 32:1 43:20 47:17 51:7 53:7 130:14 143:12	<b>preliminary</b> 14:9 14:15 21:9 24:9	<b>prior</b> 123:11 142:3	<b>property</b> 90:10	
<b>possibly</b> 37:6,8 46:20 103:19	<b>preparation</b> 6:3 15:16	<b>probably</b> 6:2 14:21 21:12 37:21 43:3 52:15,17,18 76:17 95:17 134:8	<b>proposal</b> 68:11	
<b>potentially</b> 130:14 141:6		<b>problem</b> 23:15 44:15,17 47:7 123:8	<b>propose</b> 40:19,20 77:18	
<b>pound</b> 35:22		<b>problematic</b> 135:3	<b>proposed</b> 46:3,12 47:20 49:19 68:10 87:22 88:14 137:22	
		<b>problems</b> 117:18 129:3 142:15	<b>proposing</b> 136:14	
		<b>procedural</b> 140:8	<b>proprietary</b> 139:21 140:13	
		<b>procedure</b> 7:17	<b>Protection</b> 1:2 3:1 3:3,11 4:5	
		<b>proceed</b> 9:5 22:7 91:16 144:12	<b>provided</b> 65:19	
		<b>proceeding</b> 20:20	<b>provision</b> 62:10	
		<b>process</b> 12:4 19:5 23:1 30:3 31:4,22 32:15,19 33:5,10 34:19,19 39:8	<b>PSD</b> 1:8,9 4:8 11:3	

<p><b>questions</b> 8:7,9 9:17 10:7 18:10 19:22 55:17 57:10 57:12 84:22 95:13 142:22</p> <p><b>quickly</b> 82:13 130:7 144:3,4</p> <p><b>quite</b> 16:11 50:5 65:8 106:6 143:17</p> <p><b>quote</b> 36:11 75:16</p> <hr/> <p style="text-align: center;"><b>R</b></p> <hr/> <p><b>R</b> 1:19</p> <p><b>Radiation</b> 3:13</p> <p><b>raise</b> 34:20,21 40:6 55:17 135:7 136:8</p> <p><b>raised</b> 58:20 73:19 89:9 95:6 117:22 136:17 137:7 139:19 141:4,7</p> <p><b>raises</b> 88:15 101:17</p> <p><b>raising</b> 135:8 139:6</p> <p><b>Randolph</b> 1:20 4:10</p> <p><b>range</b> 45:6 64:5 69:21 77:6 94:9 113:14,16 123:21 124:7 127:20</p> <p><b>ranged</b> 123:22</p> <p><b>ranges</b> 127:22</p> <p><b>rank</b> 67:12 70:19 123:9,10</p> <p><b>ranked</b> 128:12</p> <p><b>rate</b> 18:20 27:10 36:12 37:20 38:12 63:7 65:7 66:12 72:9,11,12,22 73:1,5,7,22 74:22 83:8 97:21 102:19 102:20 103:22 104:2,10 105:9,10 105:20 106:9 109:5,14 110:5 112:4,6</p> <p><b>rates</b> 15:9 18:14,15 19:3 28:17 29:8,9 29:20 40:21,21</p>	<p>45:6 64:21 77:19 100:1 114:20 119:8 121:5 125:11 126:17,19 127:22 128:6,14</p> <p><b>rays</b> 57:1</p> <p><b>RBLC</b> 59:22 60:3,4 62:8</p> <p><b>re-designing</b> 48:18</p> <p><b>reached</b> 10:4</p> <p><b>read</b> 9:13 63:4 72:17 87:12</p> <p><b>readable</b> 62:18</p> <p><b>ready</b> 11:14</p> <p><b>real</b> 85:2 139:11</p> <p><b>realize</b> 6:1 124:6</p> <p><b>really</b> 5:20 10:5 17:16 25:3 30:6 31:11 38:7 40:16 56:4 67:20 69:4 69:17 74:7 84:17 100:19 116:2 129:13 135:7 140:6,7 143:5,17</p> <p><b>reason</b> 14:17 50:21 62:19 75:10 77:11 94:22 115:9 122:13 138:6</p> <p><b>reasonable</b> 67:8 69:5 77:8 137:15</p> <p><b>reasonableness</b> 134:9 137:12</p> <p><b>reasoning</b> 81:13</p> <p><b>reasons</b> 73:13 94:18 135:2</p> <p><b>rebuttal</b> 8:22</p> <p><b>recalculate</b> 102:20</p> <p><b>recall</b> 43:19 50:20 127:3</p> <p><b>receive</b> 11:3 14:6 22:8</p> <p><b>received</b> 88:22</p> <p><b>receiving</b> 11:3</p> <p><b>recited</b> 91:21</p> <p><b>reclaimed</b> 53:18</p> <p><b>recognized</b> 54:13</p> <p><b>recognizing</b> 10:1</p>	<p>33:13</p> <p><b>reconcile</b> 87:4</p> <p><b>record</b> 8:6 17:10 20:14 23:7 42:21 47:21 48:9,11,13 48:14 49:12,14 51:8 53:16 54:3 55:22 56:16 76:6 85:10 90:3,5,9 91:12,13 92:16 98:2 102:14 103:7 105:1,11,22 118:12,15 122:13 122:18,20 123:14 126:15 129:7 130:21 131:1,5,22 132:19,22 133:21 134:1,16 137:14 140:5</p> <p><b>recording</b> 4:13</p> <p><b>records</b> 9:14</p> <p><b>recovery</b> 73:8 80:16 97:7 103:10 105:4,19 107:15 116:20</p> <p><b>redefine</b> 90:8</p> <p><b>redefining</b> 49:15 49:20 50:1,13,20 87:18 89:20 132:15 133:19 134:22 135:4 137:3,4,6 138:11 142:9</p> <p><b>redefinition</b> 88:3,6 142:2</p> <p><b>redesign</b> 54:9 93:3 95:1</p> <p><b>redesigning</b> 56:8</p> <p><b>redo</b> 51:16 138:2 139:2</p> <p><b>reduce</b> 43:10 94:21</p> <p><b>reduced</b> 92:12 97:21 99:20</p> <p><b>reductions</b> 114:16 132:7</p> <p><b>refer</b> 8:4 14:10</p> <p><b>reference</b> 62:3 80:3</p>	<p><b>referenced</b> 81:10 85:17 86:3</p> <p><b>references</b> 67:18</p> <p><b>referencing</b> 89:12</p> <p><b>reflect</b> 61:19 85:11</p> <p><b>reflected</b> 61:10</p> <p><b>reflective</b> 76:10 86:2</p> <p><b>reflects</b> 27:10 44:9 99:8 102:18</p> <p><b>region</b> 3:1,4 5:8 15:10 21:6,12,17 26:16,20 27:7 28:19 35:4 36:13 38:20 39:10 41:7 41:13,19 43:6,15 48:14 58:4 64:18 66:2 83:18 85:6 90:18 91:19 92:16 94:22 95:2 98:13 106:3 107:12,14 108:7 109:6 112:20 114:9,10 114:21 115:3,10 121:3,17,22 122:6 123:18 128:3 135:5 136:20 137:21 138:11 142:8</p> <p><b>region's</b> 55:18 69:16 89:14 92:20 93:4,7 113:8 122:21 123:1</p> <p><b>regional</b> 3:3 96:22</p> <p><b>regionally-issued</b> 81:9</p> <p><b>regions</b> 69:9 137:19</p> <p><b>regret</b> 143:7</p> <p><b>regular</b> 17:5,6</p> <p><b>regulated</b> 19:11</p> <p><b>regulators</b> 49:7</p> <p><b>regulatory</b> 19:14</p> <p><b>reheat</b> 46:4</p> <p><b>reject</b> 137:10 139:22</p> <p><b>rejected</b> 132:19</p>	<p>136:1</p> <p><b>rejects</b> 124:22</p> <p><b>relate</b> 25:11</p> <p><b>relates</b> 20:19 138:22</p> <p><b>relation</b> 70:17</p> <p><b>relative</b> 18:14 20:18 29:7 117:2 117:3 118:10 134:9</p> <p><b>relevant</b> 56:1 76:2 83:11</p> <p><b>reliability</b> 84:12</p> <p><b>reliance</b> 90:3</p> <p><b>rely</b> 24:3</p> <p><b>remaining</b> 6:19</p> <p><b>remove</b> 22:2</p> <p><b>renegotiate</b> 12:22</p> <p><b>renewable</b> 51:13,17 54:10 55:5 56:5</p> <p><b>repeat</b> 59:7</p> <p><b>report</b> 10:11</p> <p><b>representative</b> 7:1</p> <p><b>represented</b> 105:12</p> <p><b>representing</b> 7:4 103:2</p> <p><b>request</b> 80:22 81:15 144:16</p> <p><b>require</b> 36:15 88:5 88:12 126:12</p> <p><b>required</b> 10:14 92:2 101:10 128:3</p> <p><b>requirement</b> 62:12 62:15 63:19 125:17</p> <p><b>requires</b> 21:22</p> <p><b>requiring</b> 101:16</p> <p><b>research</b> 45:4</p> <p><b>reserve</b> 8:22 23:18</p> <p><b>reserving</b> 12:14 26:13</p> <p><b>resources</b> 51:14</p> <p><b>respond</b> 16:1 115:2 135:9 138:3,18,19</p> <p><b>responded</b> 52:13</p> <p><b>respondents</b> 96:17 124:17</p>
--	---	--	--	--

<b>responding</b> 88:18 138:14	<b>Ross</b> 3:4	<b>se</b> 53:14	38:20 40:20 42:14	<b>significance</b> 127:15 127:16
<b>response</b> 65:18 67:17 75:14 79:13 82:10 85:18 86:16 89:7 93:7 98:14 98:16 110:10 118:3,20 134:17 134:20 139:12,20	<b>rough</b> 91:5	<b>seated</b> 4:14 57:9	42:18 62:12 68:5 74:5 76:18,21 77:11 82:5 100:2 102:14 108:7 109:8 110:4 112:4 112:5 113:4,10 122:1,8 123:6,9	<b>significant</b> 75:19 79:2 92:5 112:21 113:19 115:13,18 115:19 124:2,8
<b>responses</b> 89:14 139:5	<b>roughly</b> 20:17 35:5 92:10	<b>second</b> 8:17,21 25:8 49:5 51:12 76:3	<b>setting</b> 43:18 47:1 91:20 122:22 123:2 124:3 144:9	<b>similar</b> 61:2 80:18 81:13 139:7
<b>responsibilities</b> 88:18	<b>round</b> 77:12	<b>secondary</b> 106:21 107:4	<b>seven</b> 6:15 45:1	<b>simple</b> 73:6
<b>rest</b> 8:10 15:14 83:7 123:6 129:8	<b>ruled</b> 49:16	<b>sections</b> 85:18	<b>shape</b> 88:22	<b>simplify</b> 62:17 77:15
<b>resting</b> 57:11	<b>run</b> 7:14 37:15 45:22 64:14 117:17	<b>see</b> 18:6 34:8 36:7 38:8 55:19,20 58:18 60:5 66:16 75:21 82:10 84:19 98:11,17 118:12 143:21	<b>sheet</b> 86:19 143:12	<b>simply</b> 44:2 60:22 97:22 102:17 126:20 138:3
<b>restrictions</b> 7:5	<b>rush</b> 95:20	<b>seeing</b> 43:20 113:16	<b>Shore</b> 59:4,11	<b>single</b> 59:20 76:2 80:7
<b>result</b> 30:3 108:17 117:14	<b>S</b>	<b>seen</b> 55:2 68:6	<b>short</b> 6:1 11:5 96:6	<b>sir</b> 59:22 72:20 75:1 81:9
<b>resulted</b> 19:4	<b>S</b> 2:11	<b>sees</b> 110:3	<b>shortly</b> 11:10,12	<b>site</b> 11:21 12:6 90:20 130:9,20 131:7,9,10,12 132:3 138:4
<b>resulting</b> 55:3	<b>S02</b> 107:1	<b>select</b> 14:22 15:1,3 18:13 29:14 36:11 41:21 42:16 62:22	<b>show</b> 59:21 60:13 65:19 82:22 90:10 131:21	<b>situated</b> 131:10
<b>retrain</b> 51:15	<b>safe</b> 144:17	<b>selected</b> 11:17 14:15 18:2 22:3,5 41:22 42:4 43:15 61:10 81:6 82:15 99:6	<b>showed</b> 126:11	<b>situation</b> 43:20 51:12 54:21 55:15 74:3 97:16
<b>reversed</b> 140:2	<b>safety</b> 65:2 77:9	<b>selecting</b> 13:1 24:7 25:21 29:21	<b>shows</b> 53:16 67:5 67:20 77:4 80:11 83:1 90:6 131:10	<b>size</b> 17:22 18:12 32:7,10 33:4,6,15 34:3,7 44:19 58:7 73:20 74:13,13 81:5 82:16 96:20 97:4 103:10
<b>revise</b> 21:19	<b>San</b> 2:17	<b>selection</b> 17:21 18:22 20:22 21:1 21:19 24:12 62:1 62:16 64:2 84:6 84:11 107:3	<b>shrift</b> 96:6	<b>sizing</b> 33:2
<b>revisited</b> 96:9	<b>Sandra</b> 2:4 7:3	<b>sell</b> 29:18	<b>shunted</b> 130:2	<b>slightly</b> 7:16,22
<b>revisiting</b> 22:10	<b>satisfy</b> 26:16	<b>sending</b> 70:16	<b>side</b> 7:7 130:2 140:15	<b>small</b> 32:7 75:19 133:15
<b>Richard</b> 2:4 5:5	<b>saving</b> 9:15	<b>sense</b> 12:3 68:18	<b>Siemens</b> 24:20,22 25:10 28:8,10,13 36:13 38:21 42:12 66:12 97:12 98:20 99:18,19 103:8,13 105:12 108:1,2,11 109:3,3,17,17 110:17 111:3 112:18 113:1 116:3 122:9	<b>smallest</b> 15:8 64:8 71:10 98:18
<b>Richie</b> 5:14,15,19 118:16,17 119:2	<b>saw</b> 68:12 131:17	<b>sentence</b> 72:2	<b>Sierra</b> 2:9,15 5:2 5:15,18 8:15 36:3 40:2 50:8,21 53:4 64:3 81:11 82:11 86:1 89:21 110:3 129:13 135:6 141:2,8	<b>Smith</b> 20:5
<b>Richie's</b> 35:3	<b>saying</b> 24:20 28:6 30:7 38:14 42:11 44:1,2,16 63:2 67:16,19 69:6 79:22 81:21 82:7 91:18 93:15 98:8 106:8 111:1,20 116:2,12 117:22 120:2,11 126:18 135:17 138:4	<b>sentences</b> 94:21 95:10		<b>Snyder</b> 2:4 7:3
<b>right</b> 4:16 7:10 9:16 11:1,5,12 14:14 22:21 23:15 26:10 30:19 31:13 51:3 67:15 70:3 74:19 96:21 98:21 99:9 100:4 104:15 105:13 111:6 112:7 116:9 117:8 134:10 141:4	<b>says</b> 61:22 63:17 101:8 107:14,22 110:14 122:13 123:3	<b>set</b> 35:21 36:2		<b>solar</b> 47:16 48:1,2 48:16,16 49:2,8 49:14,18 50:3,12 50:19 51:15 52:3
<b>rise</b> 4:3	<b>scalable</b> 132:5			
<b>risk</b> 32:21 101:19	<b>scale</b> 133:13 134:8			
<b>Ritchie</b> 2:15 91:16	<b>scenario</b> 73:19 75:3 129:22			
<b>River</b> 41:11 86:10	<b>scenarios</b> 74:18			
<b>rolling</b> 101:22	<b>schedule</b> 10:5			
<b>rooftop</b> 91:1	<b>scheduled</b> 7:12			
<b>Room</b> 1:13	<b>scheduling</b> 1:4 8:8			
	<b>SCR</b> 52:14 61:6 142:16			
	<b>scrubber</b> 44:6 107:2,3,10			

54:7 55:13,15 56:5,9,15,18 57:1 85:2 87:14,17,20 88:22 89:10,19 90:6,19 91:1 92:22 93:2,8,21 94:4,22 95:5,8 130:8,9,10 132:2 134:5 135:12,19 135:20 136:8,14 136:16 137:16 138:1,5 139:6,8 141:12 <b>solar-generating</b> 47:19 <b>solely</b> 83:7 <b>solutions</b> 39:4 <b>somebody</b> 32:5 44:16 86:19 88:15 <b>somewhat</b> 40:16 43:18 87:7 <b>soon</b> 13:19 <b>sorry</b> 7:2 19:19 28:1 35:4,4 41:9 42:3 45:2 50:16 103:1,5 104:8 109:3 132:12 <b>sort</b> 19:16 25:8 47:1 55:19 74:13 92:10 120:20 <b>sought</b> 49:17 50:10 <b>sound</b> 70:9 110:12 <b>sounds</b> 54:19 <b>source</b> 33:20 34:5 48:18 49:15,20 50:1,13,20 54:9 56:8,19 58:8 59:2 84:2 87:18 88:3,6 89:20 90:8 132:15 133:19 135:1,4 137:3,5,6 138:12 142:2,9 <b>South</b> 53:7 <b>space</b> 49:1 131:13 133:1,2,3,12,14 134:2 <b>speaking</b> 5:17,19	64:17 <b>speaks</b> 42:22 <b>special</b> 21:21 62:11 <b>specific</b> 19:21 20:17 36:3 94:14 125:7 <b>specifically</b> 89:4 <b>specificity</b> 88:20 135:8 <b>specified</b> 30:16 59:20 <b>specify</b> 103:6 <b>specs</b> 61:17 <b>speed</b> 144:10 <b>spot</b> 12:11 94:20 <b>square</b> 138:16 139:4 <b>stability</b> 94:18 <b>stack</b> 120:8 <b>staff</b> 39:18 52:9 <b>standard</b> 79:16 80:18 <b>standing</b> 11:14 <b>standpoint</b> 76:3 <b>stands</b> 124:20 <b>start</b> 8:2 9:22 11:11 11:14 13:15 26:18 57:13 78:3 115:13 116:18 117:9 134:11,13 141:14 141:22 <b>start-up</b> 67:11 70:14 <b>starting</b> 80:4 110:11 <b>starts</b> 116:9 <b>startup</b> 74:21 <b>state</b> 28:21 45:16 69:8 81:10,11 114:13 124:12,15 124:20 126:21 127:3 128:9 <b>state-issued</b> 45:11 45:14 <b>stated</b> 53:10,13 115:4 118:13 <b>statement</b> 23:14	50:18 85:17 86:16 118:18 <b>states</b> 4:4 45:15 54:22 <b>stating</b> 90:4 <b>status</b> 1:4 4:6 7:18 8:7 10:11 <b>stayed</b> 119:2 <b>stays</b> 116:11 <b>steam</b> 35:13 46:5 73:8 80:16 89:12 92:7 97:7 98:5 100:21 103:11 105:4,19 107:15 <b>Stein</b> 1:22 4:10,16 22:6,13 23:5 31:17,20 34:6 43:13 45:10 55:8 84:22 85:3,5,10 86:8,18 104:16 106:1,16 127:4 131:19,21 132:12 133:8 137:9,17 138:9 <b>step</b> 26:22 27:1,1,2 27:20 28:18 30:16 32:3 33:13,16,17 35:1 45:20 46:1,8 46:9,10,14 48:3 54:8 55:4 56:6 82:2,4 84:16 105:9 115:14,18 115:20 116:1,7,8 116:13,15 117:1,7 117:10,15,17 123:5,10 129:12 129:16,17 130:4 130:13 132:15 134:10 135:21 137:2,7 <b>steps</b> 31:21 45:22 105:8 123:6,12 129:5,9 132:10,11 132:20 134:7 137:11 <b>stood</b> 126:22 133:19	<b>storm</b> 95:20 <b>straight</b> 143:14 <b>straightly</b> 80:1 <b>Street</b> 2:5,11,16 <b>strictly</b> 19:7 <b>structured</b> 58:16 <b>struggling</b> 43:17 55:14 133:16 <b>studies</b> 51:15 <b>study</b> 57:1 <b>subcontractors</b> 52:5 <b>subject</b> 29:7,10 <b>submission</b> 113:9 144:15 <b>submit</b> 22:1 43:1 58:9 108:19 <b>submitted</b> 10:3 31:2 41:5 46:20 81:12 89:4 <b>substantially</b> 92:13 <b>substantiate</b> 90:16 <b>substantive</b> 139:12 <b>substitute</b> 95:7 <b>subtle</b> 77:7 78:18 <b>suddenly</b> 22:15 <b>sufficient</b> 81:22 125:2 133:22 <b>suggest</b> 70:22 94:8 96:8 107:18 140:11 141:7 <b>suggested</b> 55:10 <b>suggesting</b> 47:10 101:9 119:10 136:10 138:2 <b>Suite</b> 2:6,11 <b>supplement</b> 139:3 <b>supplemental</b> 87:9 93:1 130:9 141:11 143:10 144:1,16 <b>supplied</b> 27:11 <b>supply</b> 10:17 19:2 <b>support</b> 47:22 122:18 129:8 <b>supposed</b> 7:15 34:20 39:15 47:13 <b>sure</b> 13:9 14:12	16:11 18:8 21:11 23:6 24:10 29:18 30:14,14,21 53:15 109:22 113:6 114:5 119:10,12 119:22 131:8 140:22 141:17 <b>surprise</b> 8:8 <b>survive</b> 54:7 <b>suspect</b> 8:5 111:7 <b>swamped</b> 76:17 <b>system</b> 78:17 96:22 99:1 <hr/> <b>T</b> <hr/> <b>table</b> 5:9 87:10 110:9 114:3 118:3 118:20 <b>tables</b> 98:12 <b>take</b> 4:21 28:22 38:15 39:13 40:14 43:10 45:21 46:1 46:3,10 47:9 52:8 57:8,10 62:3,20 94:13 95:21 140:19 144:6,14 <b>takes</b> 25:8 <b>talk</b> 11:19 16:14 74:20 75:12 79:12 91:3 <b>talked</b> 33:2 <b>talking</b> 14:1 30:19 47:18 50:2,6 54:8 71:20 72:16 74:2 92:12 96:19,20,21 97:2 100:18,19 104:14 107:6 113:22 126:1 127:17,18 136:4,5 139:10 <b>talks</b> 75:15 79:13 <b>tax</b> 10:16 31:6 <b>TCEQ</b> 10:19 61:11 61:21 <b>technical</b> 27:19 39:18 63:16 78:21 79:5 92:8 93:17
--	--	--	---	--

120:17 143:15 <b>technically</b> 134:22 <b>technological</b> 78:10 <b>technologies</b> 27:6 27:18 32:4 34:22 39:11,14 46:4 61:3 75:13 <b>technology</b> 27:10 28:12 33:10,18 34:7,8,17 35:7,14 44:4,7,10,11,19 45:20,21 46:13 49:3 60:16,19 61:6 64:4,10 78:7 79:16 80:4 82:2,3 93:9 100:9 116:3 141:21 <b>tell</b> 17:19 26:4 34:12 112:20 <b>telling</b> 23:8 24:10 55:21 69:20 112:18 <b>tells</b> 51:8 <b>ten</b> 35:17,18 38:5 60:4 <b>tense</b> 29:12 <b>tenth</b> 68:3 <b>term</b> 18:4 71:16 76:2 <b>terminology</b> 67:13 <b>terms</b> 18:3,12 22:19 25:16 31:5 76:11 78:6 89:8 94:1 133:19 <b>Texas</b> 16:2 31:14 31:16 45:8 49:6 53:7 <b>thank</b> 5:12,19,21 7:6 9:21 15:15 23:5 57:7 95:12 95:14 96:15 100:5 119:1 140:22 141:1 142:18,19 142:20 <b>thanking</b> 10:1 <b>theirs</b> 41:17 42:4 <b>thing</b> 40:17 61:5	70:11 96:16 98:8 101:2,4 119:4 <b>things</b> 16:20 29:15 46:6 58:12 60:17 73:10 77:15 82:11 84:12,14 97:6 99:17 109:20 114:10 126:22 131:10 134:15 135:14 136:4 <b>think</b> 7:11 9:6 12:20 13:6 34:16 36:15,18 39:7,20 42:10 43:13 44:21 45:20 52:13,21 53:4 54:15 55:9 55:12,14 58:11 60:18 63:22 64:19 66:15 72:4,7 75:6 76:7,22 77:21 78:19 83:20 84:1 87:19 88:10,13 90:5 93:7,11 94:20 96:3,15 101:18 107:5 108:15 117:13 119:16 122:17 124:9,20,22 127:1 127:5,14 128:15 128:21 131:15 132:7,8,16 134:6 138:5,17,18,19 139:4 144:1 <b>thinking</b> 34:7 87:8 <b>thinks</b> 40:3 <b>third</b> 8:17 <b>third-party</b> 20:7 30:4 52:10 <b>thought</b> 8:11 106:3 115:10 121:17 126:21 <b>threat</b> 49:9 <b>three</b> 4:18 13:8 15:8 18:19 21:20 29:9 31:8 34:10 40:22,22 42:15 43:7,21 45:5 46:7	46:17,20 58:21 59:18 60:8 62:7 65:2,3 70:12,18 70:21 74:17 77:18 82:17,21,22 102:13 109:8 113:14 122:22 123:2,4,6,19 134:7 <b>throttle</b> 97:10 98:6 <b>throw</b> 71:16 <b>thrown</b> 75:18 <b>tied</b> 128:7 <b>time</b> 6:3,9,16 7:11 7:13 8:22 9:12,15 10:12 20:15 21:6 21:9,15 22:9 23:20 25:20 31:2 31:15 32:2 37:4 50:19 52:8,13,19 62:12 66:4 76:13 83:2 95:14 96:9 116:18 130:7 138:22 <b>times</b> 89:11 <b>timing</b> 21:8 42:1 104:17 <b>tiny</b> 67:20 <b>today</b> 5:22 6:5 8:11 9:10 20:5 26:10 26:18 35:16,17 96:18 <b>today's</b> 51:6 <b>told</b> 21:12 64:13 <b>Tomasovic</b> 3:2 5:7 5:8 7:8 57:16,17 57:18,19,19,22,22 58:1,11 59:9,11 59:15,21 61:4 62:4 63:5 64:17 65:15 66:15,20 67:2,21 68:7,22 70:4,11 72:3,6,20 73:4 74:15 75:1 76:5,21 78:2 79:20 81:8 82:8 83:20 84:5 85:9	85:14 86:15,21 88:1,17 90:1,21 91:18 92:18 93:6 93:16 94:6,20 95:3,14 107:22 115:4 123:19 <b>tomorrow</b> 13:12,14 14:16,20 23:22 24:20 26:2 <b>ton</b> 60:12 70:13 75:2,5 <b>tonight</b> 7:5 <b>tons</b> 74:21 108:4,18 108:18 109:11,15 <b>top</b> 123:9 <b>topdown</b> 128:8 <b>total</b> 38:11 77:3 91:6 103:12,18 109:4,5,11 113:16 <b>totally</b> 36:6 57:3 <b>town</b> 6:11,20 <b>tracked</b> 59:22 <b>training</b> 143:16 <b>transferrable</b> 80:1 <b>translate</b> 106:5 <b>translation</b> 106:7 <b>travel</b> 5:22 6:9 7:5 <b>traveling</b> 144:18 <b>travels</b> 144:18 <b>Travis</b> 2:15 5:15 118:17 <b>treat</b> 105:7 <b>treated</b> 116:13,15 129:4 <b>tried</b> 87:3 <b>troubled</b> 133:20 <b>true</b> 73:13 98:1,1 107:4,18 121:19 126:1 <b>try</b> 7:13 13:11 31:4 70:5 87:9 110:12 118:4 120:19 <b>trying</b> 19:1 25:11 31:4 57:5 60:21 86:14 91:3 103:1 111:14 118:2 <b>turbine</b> 11:17,20	11:22 12:2,5,10 12:12 13:17 14:10 14:11,15 15:1,4,7 17:21 18:2,13 20:14 21:1,18 22:8 23:2,10,17 24:2,7,11,15,21 25:22 26:3 29:14 29:22 31:6 36:10 36:13,15 38:22 39:4 40:12 41:22 41:22 42:7,13,16 42:19 47:5,11 58:6,17 59:5 60:14 61:17 62:1 62:22 63:2 64:8,9 64:12,14 66:11 67:13 70:20 73:2 73:15 74:14 76:10 78:8,9 81:2,17 82:21,22 83:4,15 84:7,17 85:1,7 97:7,13,20 98:20 99:6 101:4,11,14 101:16 102:6,11 102:13 104:18,20 105:19 106:20 107:14 108:2,4,10 110:16,17,18 111:5,19,21,22 112:17,22 116:2 116:20 118:5 122:3 124:4 <b>turbines</b> 13:2,8 17:10 18:19 22:2 22:4 25:16 26:21 27:7,22 28:3,6,7,9 28:10,11,19 29:9 31:8 34:9,10,18 36:7 38:21 40:22 43:7 46:7 51:19 51:21 54:18 55:11 61:6 62:3 73:6,7 73:12 75:15 77:18 78:4,6,15 80:10 80:16 81:20 82:1 82:10,12,18 83:17
--	--	---	---	---

84:19 97:6,12,19 98:4,18,22 100:7 100:7,18,18,20 101:12 103:8,11 103:13 104:11,22 105:3 106:6 113:14 115:16 116:4,19 118:14 120:7 121:4 123:19 126:2,3 127:21 129:12 131:11 143:6 <b>turn</b> 4:12 32:11 47:15 87:14 97:14 97:15 130:6 <b>turning</b> 99:2 <b>turns</b> 41:20 111:12 <b>two</b> 10:22 14:2 22:2 22:4 27:20 29:14 29:20 31:10 32:3 33:13,16 35:1 36:5 38:14,19 40:10 44:21 45:5 62:3 66:13 76:5 77:22 81:16 89:2 89:5 94:21 95:10 96:18,18 121:13 125:2,10,19 126:2 127:21 134:7 136:5 139:5 <b>two-sentence</b> 142:12,17 <b>TX</b> 3:5 <b>TX-1288-GHG</b> 1:10 <b>type</b> 48:17 66:6 74:10 78:16 80:18 <b>types</b> 60:6,10 82:17 <b>typically</b> 58:8	<b>understand</b> 6:10 16:19 26:7,10 31:22 33:3 87:11 87:12 111:14 118:4 120:15 121:3 138:10 142:3 143:17 <b>understanding</b> 14:4 15:7 21:17 22:16 23:12 32:8 38:9 59:18 86:14 103:7 <b>understood</b> 17:18 90:7 116:22 <b>unexpected</b> 29:13 <b>unfeasible</b> 52:16 <b>unfortunately</b> 142:4 <b>unit</b> 15:22 16:3 18:12 27:9,12 32:10 33:19 36:2 37:9,11 38:1 39:6 39:15 41:3 43:9 43:22 44:14 46:2 46:11 52:8 81:5 107:7,7 <b>unit-specific</b> 27:9 <b>United</b> 4:4 54:22 <b>units</b> 27:14 28:17 40:22 43:8 45:5,6 97:4 <b>unjustified</b> 84:7 <b>unmeasured</b> 112:11 <b>unnecessarily</b> 144:13 <b>unregulated</b> 112:11 <b>unusual</b> 43:18 <b>up-front</b> 31:10 <b>use</b> 29:13 31:7 40:19 46:4 47:4 52:4 53:18,22 60:22 64:9 65:14 67:12 69:18 72:10 74:7 75:20 84:19 94:12 101:4 108:9	118:3 121:8 <b>uses</b> 78:8,9 93:19 <b>usual</b> 7:19 8:1 <b>usually</b> 120:17 <b>utilize</b> 17:7	<hr/> <b>V</b> <hr/> <b>valiant</b> 142:21 143:20 <b>valid</b> 26:17 <b>Valley</b> 86:4,6 <b>value</b> 72:10,22 <b>variability</b> 28:15 29:1 <b>variable</b> 76:11 128:21 <b>variation</b> 121:4,5 123:17 <b>varies</b> 62:5 <b>variety</b> 58:12 <b>various</b> 12:1 31:21 63:10 <b>vast</b> 49:4 <b>vendor</b> 39:9 <b>vendor's</b> 126:9 <b>versus</b> 57:5 89:12 <b>Victorville</b> 89:5 <b>view</b> 94:8 <b>voluntarily</b> 43:10 <b>vulnerable</b> 49:6	<b>wanted</b> 31:20 114:18 <b>wanting</b> 31:22 <b>wants</b> 107:9 136:13 <b>Washington</b> 1:2,15 2:6 3:15 4:20 45:16 81:10 <b>Washingtonians</b> 95:19 <b>wasn't</b> 19:19 73:18 78:5 86:7 88:14 89:11 102:16,19 134:19 142:17 <b>waste</b> 102:12 103:13 <b>watch</b> 95:16 <b>watching</b> 95:16 130:7 <b>water</b> 10:17,18 31:7 53:19,19 94:15 <b>way</b> 9:5 13:11 18:17 24:16 27:1 48:5 63:20 69:4 78:19 80:1 82:4 95:3 102:13 105:3 106:7 114:12,12 116:6 117:11 126:8 140:20 141:18 <b>ways</b> 38:19 40:10 64:19 88:19 89:10 102:2 <b>we'll</b> 7:19 9:5,5 14:14 87:7 112:9 116:12 139:22 143:22 144:14 <b>we're</b> 9:8,14 10:5 18:10 19:11 24:19 29:15 47:18 51:6 57:5 69:6,14 72:16 79:18 82:19 83:13 86:2,11 87:8,13 96:19,20 96:21 97:2 99:22 100:17,19 103:21 103:22 104:14	107:6 109:2 112:3 112:4 113:21 114:12,21 116:12 120:5,6,7,11,12 120:13 122:1,4,8 126:1 127:2,7,15 129:2,2 139:10 141:16,18 144:9 <b>we've</b> 7:11 9:13 33:2 117:19 <b>weakening</b> 63:18 <b>Wednesday</b> 1:11 95:19 <b>week</b> 14:2 24:1 <b>weeks</b> 10:4 13:15 14:2,6,6 <b>welcome</b> 4:19 5:3,6 <b>went</b> 18:18 20:6 31:3 39:7 91:12 91:13 <b>weren't</b> 52:18 89:3 <b>Westerberg</b> 2:10 <b>wet</b> 78:9 107:3,10 <b>white</b> 55:20 <b>WI</b> 2:12 <b>wide</b> 102:1 <b>wind</b> 52:2 54:18 <b>window</b> 31:12 <b>wish</b> 144:17 <b>wondering</b> 79:18 81:21 127:15 <b>word</b> 8:18,19 <b>words</b> 74:12 75:18 122:5 <b>work</b> 31:10 32:12 39:16 96:2 133:9 <b>workable</b> 29:3 <b>worked</b> 41:19 42:1 <b>works</b> 10:18 <b>workshop</b> 84:8,15 <b>world</b> 69:22 80:10 138:21 144:7 <b>worried</b> 140:18 <b>worry</b> 127:12 128:2 <b>worst</b> 61:18 <b>wouldn't</b> 27:21 28:2 58:17,19
<hr/> <b>U</b> <hr/> <b>U.S</b> 1:2 3:3,11 <b>ultimate</b> 65:10 101:2 112:4,5 <b>ultimately</b> 108:16 <b>uncertainties</b> 76:11 <b>unclear</b> 70:3		<hr/> <b>W</b> <hr/> <b>wait</b> 31:10 33:9 114:17 <b>want</b> 9:22 26:4,4 31:17 33:7,11 40:14 54:15,16,17 56:11,13,18 57:20 63:21 64:14 66:16 69:12 74:9 77:16 85:1 87:14 96:11 97:20 105:21 107:20 109:12 110:18 111:19,21 111:22,22 112:8 112:19 118:5 141:7 144:11			

87:2 96:11 129:1 <b>wrap</b> 140:19 <b>writer</b> 61:15 <b>writers</b> 77:17 <b>written</b> 79:3 <b>wrong</b> 108:2	<b>1201</b> 1:14 <b>13-10</b> 1:8 4:9 <b>1455</b> 3:4 <b>16</b> 118:17 <b>1999</b> 139:18 <b>1st</b> 12:4,17,17,20 12:20,21 13:6 14:21 15:3 22:20 23:10,22 24:16	<b>320</b> 2:11 <b>3412</b> 72:8 <b>36</b> 124:22 <b>37</b> 124:21	<b>7771.7</b> 98:20 <b>7FA</b> 11:22 13:17 14:9 81:1
<hr/> <b>X</b> X 106:9 138:6	<hr/> <b>2</b>	<hr/> <b>4</b>	<hr/> <b>8</b>
<hr/> <b>Y</b> Y 2:4 138:6 <b>year</b> 60:12 70:14 74:21 75:2,5 108:5 <b>years</b> 31:10 35:17 35:18 38:5 43:19 78:16 83:5	<hr/> <b>2</b> 2 76:18 77:2 <b>2.6</b> 67:18 113:11 115:6 <b>2.7</b> 65:17 67:6 69:21,22 71:13,21 74:20,22 79:8 123:22 127:13 128:2 <b>20</b> 48:6,20 49:1 55:21 90:15 92:6 92:12 130:18 132:1 137:13 <b>2000</b> 2:5 62:9 <b>20006</b> 2:6 <b>2001</b> 58:21 59:4,15 <b>2013</b> 10:21 11:10 21:4 <b>2014</b> 1:12 <b>202</b> 2:7,7 3:16,17 <b>20460</b> 3:15 <b>211</b> 2:11 <b>214</b> 3:5,6 <b>25</b> 79:1 92:12 <b>250</b> 92:2,11 <b>250-something</b> 49:3 <b>271</b> 100:20 <b>27th</b> 10:3 <b>2nd</b> 2:16,16	<hr/> <b>4</b> 4 99:19 108:2,11 109:3,17 110:17 112:18 113:1 <b>4:50</b> 91:12 <b>4:52</b> 91:14 <b>415</b> 2:17	<hr/> <b>8</b> 8 7:9 <b>80</b> 90:11 <b>828-5861</b> 2:7 <b>85</b> 2:16 <b>857-4824</b> 2:7 <b>894</b> 110:16 111:16 111:18,22 <b>894.7</b> 112:8
<hr/> <b>Z</b> Z 138:6 <b>zero</b> 97:15 133:1,2	<hr/> <b>2</b>	<hr/> <b>5</b>	<hr/> <b>9</b>
<hr/> <b>0</b> 0.1 69:20,21 79:9 113:16,18 123:22 124:1 127:11 128:1,15 0.5 127:13	<hr/> <b>2</b> 2000 2:5 62:9 <b>20006</b> 2:6 <b>2001</b> 58:21 59:4,15 <b>2013</b> 10:21 11:10 21:4 <b>2014</b> 1:12 <b>202</b> 2:7,7 3:16,17 <b>20460</b> 3:15 <b>211</b> 2:11 <b>214</b> 3:5,6 <b>25</b> 79:1 92:12 <b>250</b> 92:2,11 <b>250-something</b> 49:3 <b>271</b> 100:20 <b>27th</b> 10:3 <b>2nd</b> 2:16,16	<hr/> <b>5</b> 5 98:20 99:18 109:3 109:17 <b>5:30</b> 96:1 <b>5:45</b> 95:22 <b>5:47</b> 144:22 <b>50</b> 77:13 <b>500</b> 2:6 <b>53703</b> 2:12 <b>564-3276</b> 3:16 <b>564-5603</b> 3:17	<hr/> <b>9</b>
<hr/> <b>1</b> 1 114:6 <b>1.2</b> 71:22 72:14 <b>10</b> 75:4 91:6,22 92:11 <b>100</b> 26:4 37:4 101:22 <b>100-percent</b> 17:3 21:10 50:2 105:17 108:20 <b>11</b> 65:19 67:17 98:16 110:10 118:3 119:6 <b>1152</b> 1:13 <b>12</b> 1:12 76:22 <b>12-month</b> 101:21 <b>12.6</b> 76:20 <b>1200</b> 3:14	<hr/> <b>3</b> 3 98:17 <b>3:23</b> 1:16 4:2 <b>30</b> 76:16 <b>310-3561</b> 2:13 <b>310-3566</b> 2:12	<hr/> <b>6</b> 6 3:1,4 5:8 35:5 41:7,13,19 43:6 48:14 64:18 66:2 75:6 85:6 91:19 98:13 142:8 <b>608</b> 2:12,13 <b>630</b> 109:13 <b>637</b> 53:11 83:13 97:8,13,14 99:12 99:19 105:16 <b>665-2182</b> 3:6 <b>665-9725</b> 3:5	
	<hr/> <b>3</b>	<hr/> <b>7</b>	
		<hr/> <b>7</b> 7 75:7 <b>7:00</b> 6:14 95:17 <b>735</b> 53:11 109:18 109:20 <b>75202</b> 3:5 <b>7527</b> 66:12 <b>7527.5</b> 98:19 <b>7771</b> 66:13	

C E R T I F I C A T E

This is to certify that the foregoing transcript

In the matter of: La Paloma Energy Center

Before: US EPA

Date: 02-12-14

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

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701