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BEFORE THE  
CALIFORNIA STATE WATER RESOURCES CONTROL BOARD  
  
CALIFORNIA WATERFIX WATER )  
RIGHT CHANGE PETITION )  
HEARING )

JOE SERNA, JR. BUILDING  
  
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY  
  
COASTAL MEETING ROOM  
  
1001 I STREET  
  
SECOND FLOOR  
  
SACRAMENTO CALIFORNIA  
  
PART 2 REBUTTAL

Tuesday, August 28, 2018  
9:30 A.M.

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Reported By: Deborah Fuqua, CSR No. 12948  
(a.m. session)  
Candace Yount, CSR No. 2737  
(p.m. session)



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1 Tuesday, August 28, 2018 9:30 a.m.

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3 PROCEEDINGS

4 CO-HEARING OFFICER DODUC: Good morning,  
5 everyone. It is 9:30. Welcome back to this Water  
6 Right Change Petition Hearing for the California  
7 WaterFix project. I'm Tam Doduc. To my right is Board  
8 Chair and Co-Hearing Officer Felicia Marcus. Board  
9 Member DeeDee D'Adamo will be watching the webcast  
10 today. To my left are Andrew Deeringer and Jean McCue.  
11 We are also being assisted today by Mr. Long and  
12 Ms. Rasisis.

13 Just quickly, the announcements. Please take  
14 a look around, identify the exit closest to you. In  
15 the event of an emergency, an alarm will sound; we will  
16 evacuate using the stairs down to the first floor and  
17 meet up in the park across the street. If you're not  
18 able to use the stairs, please flag down one of the  
19 safety monitors, and you will be directed into a safe  
20 area.

21 Secondly, please make sure that, when you  
22 speak today, that the microphone is turned on and the  
23 green light is lit and you begin by stating your name  
24 and affiliation. We are recording as well as  
25 webcasting the hearing, and our court reporter is back



1 with us as always.

2 Thank you.

3 And third and most importantly, please take a  
4 moment and make sure that all of your noise-making  
5 devices are on silent, vibrate, do not disturb.

6 Before we proceed, I do have one housekeeping  
7 matter and announcement I want you all to be aware of.  
8 As we are approaching the end of rebuttal, presentation  
9 of rebuttal cases as well as cross-examination, we  
10 already received a couple of requests informally during  
11 the course of this hearing with respect to surrebuttal.

12 As you all know, surrebuttal is at the  
13 discretion of the Hearing Officers. So what we would  
14 like to do is carve out some time Friday morning, first  
15 thing when we reconvene on Friday, to hear oral  
16 requests from parties on the matter of surrebuttal.

17 In making your requests, please be very  
18 specific in terms of the topics you are requesting, the  
19 rebuttal testimony or evidence to which you propose to  
20 respond with your request, and --

21 Was there anything else we need from them?

22 I think that's it.

23 We will not be accepting written requests,  
24 either through e-mail or otherwise. So please try to  
25 be here Friday morning. If you're not able to attend,

1 please coordinate with other parties. But that's when  
2 we would like to hear oral requests from all the  
3 parties regarding surrebuttal.

4 Any questions? Any other housekeeping  
5 matters?

6 MR. WASIEWSKI: Hi, Tim Wasiewski for the San  
7 Joaquin Tributaries Authority. I just want to take a  
8 moment to remind the Board that we have a pending  
9 motion to strike certain portions of the 2010 flow  
10 criteria report. I guess I expected that that motion  
11 might be decided at the same time that the various  
12 other motions to strike DWR's rebuttal testimony on the  
13 flow criteria report might be decided also, but that  
14 didn't happen. So, just didn't want that issue to fall  
15 into the cracks.

16 I also wanted to point out that, you know, at  
17 this point, we made that motion two weeks ago, and  
18 nobody has opposed it. So the resolution of it should  
19 be fairly straightforward if it's dealt with in the  
20 same way that other motions to strike that have been  
21 unopposed in this proceeding have been dealt with.

22 And the final point is if I could put in a  
23 request now for the amount of time that we're going to  
24 request for cross-exam of DWR's remaining witnesses?

25 CO-HEARING OFFICER DODUC: Okay.

1           MR. WASIEWSKI: Okay. Thank you. If we could  
2 have two hours, please. That's all.

3           CO-HEARING OFFICER DODUC: All right. Thank  
4 you. And you may assume whatever you like, but your  
5 motion is still under consideration.

6           Mr. Jackson.

7           MR. JACKSON: Yes. On behalf of --

8           CO-HEARING OFFICER DODUC: Yes, Mr. Shutes  
9 made your request yesterday.

10          MR. JACKSON: Okay. Thank you.

11          CO-HEARING OFFICER DODUC: Very efficient.

12          Everyone else, if you're going to -- just hold  
13 on to your requests for now. We'll get to them. I  
14 want to make sure we at least get through this panel  
15 first before we deal with the whole logistics of trying  
16 to schedule and arrange cross-examination of that  
17 panel.

18          Anything else?

19          (No response)

20          CO-HEARING OFFICER DODUC: All right. Thank  
21 you all. This is going to be a busy week with a lot of  
22 uncertainties with respect to the schedule. I will say  
23 in advance I appreciate everyone's patience and  
24 flexibility in working with us through this week.

25          All right. With that, to whom shall I turn?

1 Ms. Meserve? Mr. Jackson? Ms. Des Jardins?

2 Oh, hold on, please. Mr. Mizell just stood  
3 up.

4 MR. MIZELL: Yes, so I would just like to make  
5 some objections to Dr. Williams's testimony. I'm not  
6 sure if this is when you want to handle those or after  
7 they're sworn in.

8 CO-HEARING OFFICER DODUC: I believe they've  
9 all been sworn in. They've already participated and  
10 testified previously.

11 Correct, Counselors?

12 MR. JACKSON: Correct.

13 CO-HEARING OFFICER DODUC: Mr. Mizell.

14 MR. MIZELL: Yes, if we could bring up  
15 Dr. Williams' Part 2 testimony.

16 MS. RAISIS: Did you want the original or the  
17 recently submitted errata?

18 MR. MIZELL: My objections I have marked on a  
19 document that was available, I believe, three days ago.  
20 So if the recently submitted errata was what  
21 Ms. Des Jardins sent around last night, I would go with  
22 the original.

23 MS. DES JARDINS: They're essentially  
24 missing -- there were just some minor corrections to  
25 some exhibit numbers referenced in the document, I

1 noticed.

2 CO-HEARING OFFICER DODUC: Thank you because I  
3 was not aware that there was a new submission last  
4 night.

5 MS. DES JARDINS: Yeah.

6 MR. MIZELL: Thank you.

7 If we can go to Page 2, please, at the top.

8 The Department is objecting to Section 1 of  
9 Dr. Williams's testimony. This section deals  
10 exclusively with seepage, and as stated in the very  
11 beginning of this section, Dr. Williams is responding  
12 to existing conditions at Clifton Court Forebay and  
13 not citing to any testimony or exhibits that were  
14 presented during the Part 2 cases in chief, nor can he  
15 identify a change within the Supplemental EIR/EIS  
16 that's being proposed that would tie these seepage  
17 changes of the existing conditions into appropriate  
18 rebuttal testimony.

19 If we were to reference your ruling from  
20 August 14th, it was on a very similar issue with regard  
21 to Clifton Court LP and the attempt to subpoena one of  
22 our witnesses to speak to very similar issues.

23 Since there's no -- been no identification of  
24 how the Supplemental EIR would alter the seepage in  
25 this manner and there's been no identification of

1 how this issue was not previously available to be  
2 discussed during Part 2, then we would object as being  
3 improper rebuttal testimony.

4 CO-HEARING OFFICER DODUC: Response.

5 MS. DES JARDINS: I do have a pending motion  
6 for reconsideration of the hearing ruling striking the  
7 notice calling Tim Wehling.

8 And there was very specific testimony in  
9 Part 1 by Pirabaroban that the foundations for  
10 Clifton Court Forebay would be -- the embankments  
11 would be constructed and the foundations for the  
12 existing embankments would be improved as part of the  
13 project.

14 CO-HEARING OFFICER DODUC: The then-proposed  
15 project?

16 MS. DES JARDINS: Yes, and so there's very --  
17 the specific changes cited in the Supplemental EIR, the  
18 first notice we have that these weren't being -- so  
19 that made the whole issue of the existing embankments  
20 moot in the -- that they said that there would be a  
21 complete new hazard evaluation and it would clearly --  
22 improving the foundations would clearly address any  
23 hazard issues from seepage.

24 So at this point, the -- and the other issue  
25 is that the technical memo -- so the DWR's Dams and

1 Canals section did -- Ms. Womack did make a formal  
2 letter to the then-acting Director Coyle about the  
3 seepage. And --

4 CO-HEARING OFFICER DODUC: Hold on,  
5 Ms. Des Jardins. Ms. Des Jardins, enough, please.

6 MS. DES JARDINS: Yeah.

7 CO-HEARING OFFICER DODUC: All this is still  
8 part of nothing that I don't think is different from  
9 the previous issue that Mr. Mizell raised to which we  
10 struck.

11 So I am granting Mr. Mizell's motion to strike  
12 that portion of Dr. Williams' testimony.

13 MS. MESERVE: Just to be --

14 CO-HEARING OFFICER DODUC: And also -- I'm  
15 sorry, Ms. Meserve.

16 MS. MESERVE: Just to --

17 CO-HEARING OFFICER DODUC: Let me get  
18 something clear. If not, then we'll go back and check  
19 our record.

20 But, Ms. Des Jardins, I believe we ruled  
21 orally on your request for -- or motion for  
22 reconsideration, and that was denied.

23 MS. DES JARDINS: Thank you. I wasn't aware  
24 that it had been ruled on. I --

25 CO-HEARING OFFICER DODUC: Hold on.

1 Ms. Meserve wanted to speak first.

2 MS. DES JARDINS: Yes.

3 MS. MESERVE: Yes, good morning. I think just  
4 to be clear, though, with respect to the seepage  
5 testimony, it appears that this is a change in design  
6 that is -- does stem from the modification to the  
7 project. It just happens that the SEIR doesn't discuss  
8 it.

9 But I think, as Ms. Des Jardins has explained,  
10 if you look at what was represented by DWR in Part 1,  
11 it is a change. And so I'm not sure how we would  
12 address it except through the rebuttal testimony that  
13 is presented here.

14 CO-HEARING OFFICER DODUC: I suggest you read  
15 the ruling responding to Clifton Court LP's issue.

16 With that, we're moving on.

17 Mr. Mizell.

18 MR. MIZELL: Yes, if we could turn to Page 4,  
19 please, at the bottom.

20 So my next objections go to Section 2. They  
21 begin at the bottom of Page 5, starting with the last  
22 sentence on that page, "Masuod Mansari did a study."  
23 So from that sentence to the end of the section, again,  
24 the Department would object to these, being improper  
25 rebuttal testimony.



1           What Section 2 essentially is arguing is,  
2 leading up to that sentence, that there are no changes  
3 identified between the Final EIR and the Supplemental  
4 EIR. And Dr. Williams provides his -- his conclusion  
5 based upon outlining the -- the testimony presented in  
6 Part 2 with the sentence that says "because the  
7 required geotechnical evaluations."

8           Now, everything after that proceeds to  
9 essentially break new ground in rebuttal testimony.  
10 It's -- it is not -- it's not tied to the remainder of  
11 the section.

12           So I'm trying to maybe be a little bit clearer  
13 here.

14           The first section of Section 2 explains how  
15 there are no changes between the SEIR and the Final  
16 EIR. That is a -- that is a perfectly acceptable  
17 observation to make. But to then use the absence of  
18 change to bring in new testimony about the topic, we  
19 believe, goes too far.

20           So it's the new information being presented  
21 after the conclusion that there is no change exhibited  
22 between the two documents that we would object to as  
23 being improper rebuttal testimony.

24           CO-HEARING OFFICER DODUC: Response?

25           MS. DES JARDINS: I'd like to bring up -- he's

1 mischaracterizing what is being responded to. And I'd  
2 like to bring that up on Page 5.

3 I'd like to scroll up, please. And please  
4 scroll all the way up a little further. So scroll up  
5 to Department of Water Resources.

6 So there was a specific document that was  
7 introduced on cross-examination that indicated all of  
8 the following were -- would like to be advanced.

9 Let's scroll down.

10 And so John Bednarski testified on  
11 cross-examination that there would be modifications  
12 made to the facilities that are presently shown in the  
13 map books. We could bring up that section, but he  
14 testified that he expected it would only be  
15 refinements.

16 And this is specifically responding to that  
17 cross-examination testimony by John Bednarski. And I  
18 underlined the geotechnical information and about the  
19 extent of the project changes that could be made given  
20 that the engineering design manager is going to  
21 reevaluate all of the things that are listed in the  
22 testimony.

23 CO-HEARING OFFICER DODUC: Thank you.

24 Understood. Motion denied.

25 I'm sorry, Mr. Jackson. Did I just cut you

1 off?

2 MR. JACKSON: But in a beautiful way.

3 MR. MIZELL: If we could go to Page 7, please.

4 So on Page 7, looks like the -- starting on the fifth  
5 line down, the sentence reads, "Top layers of soils in  
6 the Central Delta," the Department would move to strike  
7 beginning on that sentence through the end of Section  
8 3.

9 Again, if we read the sentence directly before  
10 that -- this starts at the end of Line 2, "But the maps  
11 in the Final EIR and the Supplemental EIS do not show  
12 the proposed borrow areas, that's correct." So what we  
13 have here is the testimony identifying that there has  
14 been no change between the FEIR and the Supplemental  
15 EIR.

16 There's also no citation to evidence about  
17 geotechnical exploration for borrow sites. What we  
18 have here is a citation to Dr. Earle's testimony about  
19 unreasonable impacts to wildlife, which does not at any  
20 point discuss the locations of borrow sites, nor the  
21 content of potential borrow sites is identified or not  
22 identified in the environmental documents.

23 So we would object to everything from the  
24 sentence -- you know, the sentence we just read, "The  
25 top layers of soils in the Central Delta" through the

1 end as being improper rebuttal testimony based upon a  
2 lack of citation to any changes or Part 2 evidence or  
3 testimony.

4 CO-HEARING OFFICER DODUC: Ms. Des Jardins,  
5 response.

6 MS. DES JARDINS: I thought that this had  
7 referenced -- there was cross-examination on March 9th,  
8 2018 of both Mr. Bednarski and Dr. Earle on the borrow  
9 pits. And it starts at --

10 If we could pull that up.

11 It starts on --

12 CO-HEARING OFFICER DODUC: There's no need.  
13 Go ahead with your explanation.

14 MS. DES JARDINS: Yeah, it starts on 140, and  
15 it specifically asks Mr. Bednarski about whether the  
16 location of the borrow pits has been determined and  
17 asks Mr. Earle about whether, as a result, the impacts  
18 on terrestrial species has been adequately analyzed.  
19 And it's responding to the assertion of Dr. Earle that,  
20 in spite of not having locations determined, that the  
21 impacts on terrestrial species are nevertheless  
22 adequately analyzed.

23 And it's -- Dr. Williams provides -- and some  
24 of this -- the geotechnical issues are just about  
25 what's required to get the borrow. And specifically --

1 so it's specifically -- there are siting restrictions  
2 on where they might get the borrow. And it's only  
3 brought in for that purpose, to -- to indicate -- and  
4 there's also maps and soil sections --

5 CO-HEARING OFFICER DODUC: If you would like  
6 to stop, I will deny the motion.

7 MS. DES JARDINS: Thank you.

8 MR. MIZELL: I would like to respond.

9 CO-HEARING OFFICER DODUC: No, Mr. Mizell.  
10 Move on.

11 MR. MIZELL: That's all I have.

12 CO-HEARING OFFICER DODUC: All right. Let us  
13 begin.

14 SEAN WIRTH, CLYDE THOMAS WILLIAMS

15 and DAVID FRIES,

16 called as Part 2 Rebuttal witnesses  
17 by Protestant Groups 31, 37, and 48,  
18 having been previously duly sworn,  
19 were examined and testified further  
20 as hereinafter set forth:

21 DIRECT EXAMINATION BY MS. DES JARDINS

22 MS. DES JARDINS: I'd like to start with  
23 Dr. David Fries, who will testify about impacts to  
24 avian species. Dr. Fries is chair of the San Joaquin  
25 County Audubon Society Conservation Committee.

1           WITNESS FRIES: Okay. My name is David Fries.  
2 I'm here to testify for California Sportfishing and for  
3 Deirdre Des Jardins, California Water Resources [sic].

4           I have testimony, rebuttal testimony for three  
5 or four items that Dr. Earle commented on, one of them  
6 adaptive management, some comments in rebuttal about  
7 effects on certain avian species, and some rebuttal on  
8 Dr. Rischbieter -- Mr. Rischbieter's testimony on  
9 recreation, and, finally, Mr. Bednarski's statement  
10 that there would be no significant impacts on  
11 transportation and navigation in the Delta.

12           So with that --

13           MR. JACKSON: First, just to note --

14           WITNESS FRIES: -- CSPA-505.

15           MR. JACKSON: Right. Dr. Fries, is CSPA-505 a  
16 true and correct copy of your rebuttal testimony --

17           WITNESS FRIES: Yes, it is.

18           MR. JACKSON: -- in Part 2?

19           And you have already filed your statement of  
20 qualifications in this?

21           WITNESS FRIES: Yes, DDJ-214.

22           MR. JACKSON: All right. Thank you very much.  
23 Please summarize your testimony.

24           WITNESS FRIES: Okay. So I started it. So  
25 I'll continue. So jumping to my first item --

1           Scroll down, please, to the words titled  
2 "Adaptive Management."

3           Dr. Earle --

4           A little farther, please.

5           Quickly though, just let me state a quote from  
6 Dr. Earle's oral testimony in Phase 2. He says,  
7 relative to adaptive management, that there's four  
8 phases; the first phase is planning, and then he goes  
9 on to say, in quote, "The phase" -- "This phase,"  
10 meaning Phase 1, "for instance, has already been done  
11 effectively in the Biological Opinions and Incidental  
12 Take Permit."

13           My rebuttal to that is that's not a good  
14 understanding of what adaptive management is. Adaptive  
15 management requires continued planning. It can't be  
16 done on any project that's only 5 to 10 percent formed.

17           There's no surveys for birds. There's no  
18 detail as to where anything's going to happen, just  
19 some promises. But it's fairly naive, in my opinion,  
20 for anyone with an understanding of adaptive management  
21 to state that planning is already done on Phase 1 of  
22 adaptive management.

23           With that, I'll just go on now to talk about  
24 impacts on avian species.

25           Scroll down, please.

1           Dr. Earle and other DWR persons giving  
2 testimony have said over and over that the project,  
3 WaterFix, would cause no significant impacts on  
4 wildlife, birds, or if there was an impact, it was  
5 mitigated to the point there was no significant final  
6 impact -- without reading through the exact words.

7           My point is that they have not done  
8 significant scientific research, best science; they  
9 have not identified areas where these birds exist; and  
10 that their adaptive management activities, proposed  
11 activities, aren't sufficient in many, many cases.

12           So I'm going to talk about three birds in  
13 particular. I want to talk about the black rails. I  
14 want to talk about Swainson's hawks. I want to talk  
15 about the tricolored blackbirds.

16           So in all those cases, Dr. Earle and others  
17 have testified that there's no significant impacts or  
18 the impacts would be less than significant with  
19 mitigation.

20           Okay. So looking at the data on the black  
21 rail --

22           Can you put up, please, Figure 12-18 of the  
23 exhibit that's in State Water Resources Control Board  
24 113. It's the Draft EIR.

25           And this is a map that they use -- I'll just



1 keep going while he's finding that. And it's not a  
2 very good map, by the way, something I learned much --  
3 it's a map that DWR's used to identify where black rail  
4 habitat is within the Delta within the construction  
5 project.

6 And they claim in the Draft EIR that only six  
7 acres of black rail habitat will be affected by the  
8 project.

9 My rebuttal is that they haven't done proper  
10 surveys. They haven't used their own data.

11 Mr. Bradbury had published a paper, co-author  
12 on a paper, DDJ-246, that gave great detail on where  
13 black rail habitat is in the Delta. That data seems to  
14 have been ignored in their making their map.

15 And I don't know whether you can put it up.

16 MS. DES JARDINS: Excuse me.

17 I believe it's SWRCB-113. It's a Supplemental  
18 EIR/EIS.

19 Was that what you were referring to, Doctor,  
20 the Supplemental EIR/EIS?

21 WITNESS FRIES: The Supplemental EIR/EIS.

22 MS. DES JARDINS: SWRCB-113.

23 MR. JACKSON: Yeah, and let's do get it up  
24 before you continue.

25 WITNESS FRIES: Yeah, well. . .

1 MS. MESERVE: If we could please stop the  
2 clock.

3 WITNESS FRIES: Look at Table 12-18, "Impacts  
4 on California Black Rail Model Habitat." It's in  
5 Exhibit SWRCB-113, Pages 12 to 23, in that area.

6 May I suggest we skip that because the map's  
7 no good. Could we have, Mr. Long -- perhaps go to  
8 Google Maps and just Google Potato Slough.

9 MS. DES JARDINS: Excuse me. Let's just -- I  
10 believe it's Figure 12-18, California Black Rail  
11 Distribution and Habitat and the study vicinity.

12 Is this it? Scroll down, please. Scroll down  
13 further. Scroll down more. Scroll out -- zoom out a  
14 little.

15 WITNESS FRIES: That's about it.

16 MS. DES JARDINS: Yeah.

17 WITNESS FRIES: So you can't see much because  
18 the yellow areas is supposed to be where the rail is.  
19 You really can't see it. It's a very large map with  
20 not much detail.

21 MS. DES JARDINS: Zoom out a little more,  
22 please.

23 WITNESS FRIES: But anyhow, of that, you can  
24 see the tunnels go right down the middle of the Delta.  
25 And the purple spots are where rails have been

1 identified. And in that area of the whole project, the  
2 Draft Administrative EIR says there's only six acres of  
3 black rail habitat affected. And my rebuttal is that  
4 they left out a lot of important habitat that should  
5 be included.

6 And quickly, I have it listed in my rebuttal  
7 testimony that there's areas within Stone Lakes that --  
8 where rails have been identified. The map doesn't even  
9 show Stone Lakes National Reserve on the map, much less  
10 the black rail territory -- habitat.

11 If you kept going down then, to the south, the  
12 tunnel route, you would come to the portion crossing  
13 Bouldin Island where a dock -- it's a -- a barge  
14 landing, dock is proposed.

15 In that exact area, there are four small  
16 Islands that Dr. Bradbury -- Mr. Bradbury has  
17 identified as black rail habitat. It's not clear that  
18 they're included.

19 If you keep going further south on the tunnel  
20 map, you come to the area to the south end of Venice  
21 Island, where another barge landing is proposed. Next  
22 to that is a large park, Mandeville Tip County Park.  
23 It's beautiful black rail habitat where black rails  
24 have been identified.

25 You keep going south from that, you come to --

1 to Mandeville Island, where another barge landing is  
2 proposed. Adjacent to that landing is a large wetland  
3 area where black rails have been identified, sighted.

4           If you go then into Mandeville Island -- you  
5 can't see it on the map there, but there's a number of  
6 wetlands where black rails have been found on  
7 Mandeville. It's not clear if that's cited in -- the  
8 six acres.

9           Going further down past Mandeville Island,  
10 between Mandeville and Bacon Island, there is a number  
11 of small islands, one fairly large one where black  
12 rails have been identified. In both of the published  
13 surveys, it's not clear that those islands are included  
14 in the habitat that could be affected.

15           And then, finally, in my last Point 7 on my  
16 testimony, WaterFix has been required in their ITP to  
17 mitigate for Delta smelt a large area of wetland, 1500  
18 acres. And that land that will have to be used as  
19 smelt mitigation is potential habitat for black rails.  
20 And it's cited in documents that up to a thousand acres  
21 of that is habitat for black rails.

22           So my question would be where in this six  
23 acres is that thousand acres?

24           So my point is WaterFix just hasn't really  
25 identified the habitat where these rails are. So to

1 state that there's no impact and that there wouldn't be  
2 any impact with mitigation is just a false statement.

3           Besides that, I would like to emphasize that  
4 these black rails are very difficult to identify where  
5 they are. They don't respond to calls very often, so  
6 they can be there, and you can't tell they're there.  
7 And no matter, you know, two or three, four repeats,  
8 you might not find them. So it's difficult to find  
9 them.

10           So beyond that, when you try to mitigate for  
11 them, mitigation for black rails has never been done.  
12 The habitat's never been done successfully. So any  
13 attempt has to be long-term. It's very subject to  
14 failure, and it cannot be done on a one-to-one acreage  
15 basis. There has to be multiple attempts, and  
16 hopefully one or two of the attempts might come to  
17 fruition, successful habitat for the black rails  
18 within, you know, four or five years maybe but nothing  
19 quick. You can't grow this heavy cover that these  
20 birds need in a short term.

21           There's some statements about black rails  
22 running into transmission lines. It's really pretty  
23 bogus in my mind. If you put up a transmission line, a  
24 bird's going to fly into it. So it's possible. So you  
25 can't say that the bird's not going to fly into it.

1 And the statement is mitigations -- that they're going  
2 to put bird deflectors on. Black rails fly at night.  
3 They can't see these deflectors.

4 And these birds are very small. If they did  
5 hit power lines, you would never find them in the  
6 Delta. They're -- you can put them in your hand.  
7 They're six-inch birds. So a bird flying into  
8 something out there -- and besides the lines, there's  
9 probably more probability of them hitting the  
10 transmission posts or the cranes that are in this area  
11 sticking up.

12 Okay. I'm going to keep going.

13 MS. MESERVE: Madam Hearing Officer,  
14 Dr. Fries was under the impression in preparation,  
15 unfortunately, that he had 30 minutes to present. And  
16 it was a surprise to him when I told him this morning  
17 that that was incorrect. I don't know if you could  
18 provide additional time for him, but if not, we're  
19 going to have to move on to our other witnesses.

20 CO-HEARING OFFICER DODUC: Dr. Fries, your  
21 written testimony is extensive.

22 WITNESS FRIES: Yes.

23 CO-HEARING OFFICER DODUC: So if you want to  
24 just take a few minutes and run down the highlights  
25 that remain, we can then move on to the next witness.

1           WITNESS FRIES: Okay. So then --

2           CO-HEARING OFFICER DODUC: I think we are  
3 following, so it's well written.

4           WITNESS FRIES: The Swainson hawk, mitigation  
5 for this is not even, in my opinion. Also there's  
6 three things that are -- three mitigation AMMs that are  
7 cited in the documents. One is to plant trees 20 feet  
8 high for these birds. No respectable Swainson hawk  
9 will build its nest in a 20-foot-high or a sapling.  
10 It's going to take years for those trees to mature,  
11 then they might. So for immediate impact, that's not a  
12 significant mitigation.

13           You jump on to -- the next mitigation they  
14 talk about is that they're going to identify all the  
15 trees on this 38-mile route that you could -- that have  
16 Swainson's nest or might have Swainson's nest. And  
17 they're going to get a biologist out there for the  
18 first two weeks in June and then later in June for  
19 another two weeks for each of these trees.

20           There's hundreds of trees along this route.  
21 So where are they going to find a hundred or more  
22 trained biologists who could identify one hawk from  
23 another on these specific dates year after year? I  
24 just think it's a -- it's a naive mitigation.

25           And then, finally, they say that Swainson's

1 hawk forging habitat will be protected within three  
2 miles of a known Swainson hawk tree and within 50 miles  
3 of the project.

4 Well, that doesn't make any sense. How can  
5 something be within three miles and in 50 miles? I  
6 mean, it's just -- and besides, these birds can't fly  
7 more than 20 miles from their nest site for successful  
8 forging.

9 So it's just -- the mitigation won't save  
10 these birds. They're no-take. You kill one, it's a  
11 significant and unavoidable.

12 Tricolored blackbirds, jumping quickly to it,  
13 there's a problem with the Delta smelt mitigation.  
14 Again, there's a thousand acres of tricolored blackbird  
15 habitat that's affected, much of it for nesting and  
16 roosting.

17 They promise that, for mitigation, they're  
18 going to give equal mitigation acreage for foraging.  
19 They're going to mitigate twice for habitat roosting --  
20 for roosting habitat protection in perpetuity is twice,  
21 is the exact words they use, and for roosting  
22 mitigation thrice, three times.

23 They identify over a thousand acres of -- and  
24 2,000 acres maybe of black -- of tricolored blackbird  
25 roosting and nesting habitat. They'd have to mitigate



1 maybe 6,000 acres, "thrice," for -- and it's not  
2 realistic.

3 I could go on. Let me just hit a couple  
4 things relative to recreation, jump in there.

5 Mr. Rischbieter's statement, he contradicts  
6 himself. And he makes two statements that WaterFix  
7 will reasonably protect recreation. And then he goes  
8 on on another page that construction and operation will  
9 not result in any unreasonable impact. But if you read  
10 through his -- he has three statements, at least, where  
11 he says the Final EIR identifies that there is  
12 significant and unavoidable effects on recreation. And  
13 then again, "However, due to the dispersed effects of  
14 the recreation experience across the Delta, it is not  
15 certain that mitigation would reduce the level to" --  
16 "of impacts to less than significant."

17 And then, again, he says, "Thus, this  
18 temporary construction impact to recreation and boating  
19 impact would be significant and unavoidable during  
20 construction." So how can one conclude that there's no  
21 impact when you've got three statements that says there  
22 is significant and unavoidable impacts?

23 Jumping just quickly to Mr. Bednarski's  
24 statements about transportation and navigation, I'm  
25 really bothered by this because I spend a lot of time

1 on Bouldin in the Delta. And let me just read one  
2 comment from -- well, two things.

3 In the Draft Supplemental EIR, it stated that  
4 there would be six feet of depth left around these  
5 barge landings. My boat has a seven-foot draft, so six  
6 feet is not good for most sailboats. We'll be aground.  
7 These barges that they said, they have an 8 1/2-foot  
8 draft. So you can't operate boats under the  
9 circumstances that they're proposing.

10 Also, I'd like to say that these large barges  
11 loaded with heavy tunnel segments and bulk materials  
12 have poor maneuverability. You've got a boat pushing a  
13 giant barge down the narrow Delta waterways. There's  
14 going to be collisions. There's going to be groundings  
15 of boats. It's unsafe. It just shouldn't be allowed.

16 And besides, they haven't decided which size  
17 barge they're going to use. Everything that  
18 Mr. Bednarski proposes for the number of barges is  
19 based on a larger barge. They could easily be required  
20 to take smaller barges, which would greatly increase  
21 the number of trips and so forth. So it's all  
22 planning; there's nothing definite about the project.

23 MS. MESERVE: Okay. I think we better move on  
24 to the next witness.

25 CO-HEARING OFFICER DODUC: Thank you. That

1 actually covers that quite well. And I think your  
2 permit terms, the eight permit terms that you proposed  
3 are there.

4 WITNESS FRIES: Yes.

5 CO-HEARING OFFICER DODUC: So with that, thank  
6 you, Dr. Fries.

7 Let's go ahead and put 30 minutes back on the  
8 clock for the remaining witnesses.

9 MS. MESERVE: Thank you, Madam Hearing  
10 Officer.

11 And we're going to move on to Mr. Sean Wirth  
12 now to discuss the more avian impacts and concerns from  
13 Save Our Sandhill Cranes.

14 DIRECT EXAMINATION BY MS. MESERVE

15 MS. MESERVE: So, Mr. Wirth, is Save --  
16 SOSC-80 a true and correct copy of your testimony?

17 MR. WIRTH: It is.

18 MS. MESERVE: And SOSC-81 --

19 If we could put that up on the screen.

20 Is that a true and correct copy of your  
21 PowerPoint?

22 WITNESS WIRTH: Yes, it is.

23 MS. MESERVE: And then SOSC-83 and 84 and the  
24 Administrative Draft EIR and the other cited exhibits  
25 are what you relied upon in preparing your testimony,

1 correct?

2 WITNESS FRIES: That is correct.

3 MS. MESERVE: And SOSC-82 is a copy of your  
4 statement of qualifications, is it not?

5 WITNESS WIRTH: It is.

6 MS. MESERVE: And you previously testified as  
7 an expert in Part 2 case in chief on April 10th, 2018;  
8 is that correct?

9 WITNESS WIRTH: That's correct.

10 MS. MESERVE: And if you'd go ahead and go  
11 through your PowerPoint now, thank you.

12 WITNESS WIRTH: Okay. My name is Sean Wirth.  
13 I'm the Conservation Chair for Save Our Sandhill  
14 Cranes, the Conservation Chair for the Mother Lode  
15 Chapter of the Sierra Club, 24 Northern California  
16 Counties. I'm on the board of the Environmental  
17 Council of Sacramento and the Co-Chair for Habitat  
18 2020.

19 All the photographs in this PowerPoint are  
20 since the last presentation that I did. They're all  
21 new and shows what a great rich resource the Delta is  
22 for photographers looking to take good picture of  
23 birds.

24 Go to the next slide, please.

25 There's a couple of quick comments on adaptive

1 management. Dr. Earle puts a lot of confidence in  
2 adaptive management in his original testimony.  
3 Adaptive management is now the industry standard.  
4 That's how we do things.

5 It doesn't work so well if the inputs are  
6 political rather than scientific. We're talking about  
7 water here.

8 One way is to look at the 2002 salmonid  
9 die-off on the Klamath to see where politics can get in  
10 the way of what would have been good science. So it's  
11 a concern. We're not as confident adaptive management  
12 is going to get the job done.

13 Next slide, please.

14 Transmission lines are still a problem.  
15 Dr. Earle asserts that the CWF measure [sic] will  
16 reasonably protect birds and die-offs [sic] from  
17 collisions with power lines relative to current  
18 conditions.

19 CO-HEARING OFFICER DODUC: Mr. Wirth.

20 WITNESS WIRTH: Yes?

21 CO-HEARING OFFICER DODUC: I think you need to  
22 slow down a little bit for the court reporter.

23 WITNESS WIRTH: I'm sorry. I was trying to  
24 keep well within my 15 minutes. I'll slow down  
25 significantly.

1           So there were no AMMs offered to protect birds  
2 flushed by construction disturbance. There weren't  
3 AMMs offered to try to avoid flushing. So this is a  
4 huge project, tons of trucks, a huge change on the  
5 landscape. Birds are going to be flushed. They're  
6 going to fly out; they're going to be stressed.  
7 They're going to potentially fly into power lines.

8           This was not addressed. There was no  
9 mitigation for this. There was, however, a no-net-take  
10 strategy that was employed for the greater Sandhill  
11 crane, which is a fully protected species.

12           The plan was to put diverters on existing  
13 lines to make up for birds that will hit new and  
14 temporary lines. And again, this did not take into  
15 account additional strikes due to flushing from the  
16 construction projects.

17           Next slide, please.

18           So this brings up the question about the  
19 flight diverters. So flight diverters likely provide  
20 only limited protection.

21           Even if you account and accept the 60 percent  
22 effectiveness provided in the various environmental  
23 documents, that means that 40 percent of strikes are  
24 still happening. This is for a California fully  
25 protected no-take species.

1           The main study they relied upon for coming up  
2 with their 60 percent reduction was the Brown and  
3 Drewien paper. This was done in a very clear-skied  
4 valley in Colorado.

5           If you take a look at the very foggy Delta,  
6 birds can't see the lines because it's dark or foggy;  
7 they're going to hit them with diverters or not, pure  
8 and simple.

9           Next slide, please.

10           Brings up the question how effective are  
11 flight diverters. Effectiveness is likely exaggerated.  
12 The Murphy study looked at crippling and nocturnal  
13 biases. It was able to determine that carcasses are  
14 often scavenged. Anybody who's spent time in the Delta  
15 looking at birds is aware coyotes are a very common  
16 presence there. You often see them foraging around the  
17 edge of where the cranes are roosting.

18           If a crane got hit by a power line, that would  
19 be a definite windfall. Crippled birds, birds that hit  
20 the lines but aren't killed, they can move away, end up  
21 not being counted.

22           We need to combine carcass searches with  
23 remote sensing with dioptics to get a real idea of what  
24 that actual effectiveness is. That hasn't been done.

25           Next slide, please.

1           No-take is an absolute, and this standard was  
2 not met. The effectiveness in the literature ranges  
3 from 10 percent to 81 percent. We need more studies to  
4 determine what actual mortality rates are for the  
5 greater Sandhill crane. Absent such studies, the  
6 severity impact is unknown. The Heath study was the  
7 only one to take a look at this issue in the Delta.

8           They looked at distribution lines. And it was  
9 stated in there that this study's reported estimates of  
10 fatalities did not account for biases due to searcher  
11 inefficiency, scavenger removal, habitat, and  
12 crippling. Therefore, it is likely they are  
13 conservative, and the total number of collisions  
14 occurring with power line is considerably higher than  
15 reported here. It's a real concern. I don't think  
16 it's been addressed well.

17           Next slide, please.

18           Locating transmission lines along existing  
19 rights of way will be ineffectual. This was an idea to  
20 put the power lines in an existing footprint in the  
21 hopes of minimizing the chances that birds would hit  
22 them.

23           Next slide, please.

24           So now these birds are going to have to fly  
25 higher to get over the new lines to avoid them. In the



1 cross-examination, Dr. Earle suggested this could be  
2 argued to increase visibility. But it at low-to-no  
3 visibility situations where strikes are mostly likely  
4 anyway, in the fog and at night. So it's not the best  
5 argument, countering the problem with that particular  
6 strategy.

7 Next slide, please.

8 No-take is an absolute. The way around it,  
9 underground all transmission lines, put markers on all  
10 existing lines. Underground the new lines because that  
11 avoids take from new infrastructure, markers on all  
12 existing lines because we're going to be flushing  
13 cranes during this 14-year-long project, and that will  
14 keep them from hitting existing power lines.

15 Next slide, please.

16 Habitat mitigation. Is losing almost 5,000  
17 acres of greater Sandhill crane habitat and mitigating  
18 at a one-to-one ratio better than the status quo?  
19 Dr. Earle thinks it's actually better than the  
20 status-quo.

21 Next slide, please.

22 I argue it's uncertain at best. The Delta has  
23 a low probability of urbanizing. If you put in a mall,  
24 you're not going to rip it out to put in a Sandhill  
25 crane habitat. Are we really on track to lose,

1    however, 50 percent of available greater Sandhill crane  
2    habitat in that landscape? Are we going to lose  
3    50 percent of the crop mosaic over time? There's no  
4    way to know that. There's absolutely no way to know  
5    that.

6            There's been a big movement towards vineyards  
7    and orchards based upon water availability and various  
8    other things. There's no way to tell what will happen  
9    over the long-term.

10           But what we know for sure, in the same way  
11   we're not going to rip out malls to put in Sandhill  
12   crane habitat, we're not going to rip out shafts and  
13   intakes and remove very expensive engineered wetlands  
14   to provide Sandhill crane habitat.

15           Next slide, please.

16           A confident opinion, one way or the other,  
17   whether it's better to wipe out a bunch of crane  
18   habitat and mitigate? To make that assertion is more  
19   of a divination than a substantiated consideration.  
20   Nobody could know that. And given the numbers we're  
21   talking about, it's a pretty bold statement.

22           Next slide, please.

23           As for changes in the Administrative Draft  
24   SEIR, the idea that a reduced footprint of impact is  
25   inherently less damaging and therefore needs no

1 additional analysis does not properly consider that the  
2 project is not homogenous landscape and that moving  
3 structures and facilities to new locations, even though  
4 the overall number of those structures and 'cilities  
5 [sic] might be reduced, may result in increased impacts  
6 that merit analysis.

7 I read that one fast, but it's in the  
8 PowerPoint, so you can just copy it off of that.

9 Move to the next slide, please.

10 So an example to illustrate this would be  
11 looking at Staten Island. And I particularly want to  
12 focus on that northern shaft. So there's been a  
13 reduction in the overall structure; it's on Staten  
14 Island. But that northern shaft is really a concern.  
15 What I'd like to do is skip Slide 15 and go to Slide  
16 16.

17 I need my glasses for this.

18 So if you look along the tunnel alignment,  
19 there's a bit of a square just down from where the  
20 island kicks out to the east. That's the new shaft  
21 location.

22 Can we go to Slide 17.

23 Slightly different scale, but you can tell  
24 from this one that that shaft location is very, very  
25 close to the levee in that northern part of the island.

1           Go back to 16 again.

2           So you can see, it's pushed way far in the  
3 south. That just happens to be on one of the most  
4 productive temporary roost sites for Sandhill cranes on  
5 the island. As an example, there's no consideration or  
6 analysis of loss of temporary roosting and forage  
7 habitat due to having poor sight lines as a result of  
8 the new shaft placement.

9           In the original alignment, it was very close  
10 to the levee. You're not going to have cranes that are  
11 roosting to the north of that because you're way too  
12 close to the levee, way too close to the shaft.

13           Now you have a situation where you have a  
14 fairly big area that also has very poor sight lines,  
15 likely no longer usable by Sandhill cranes. They like  
16 long site lines to feel protected.

17           That shaft structure is huge. It's enormous.  
18 It's 517 feet by 281, drops at a 5-degree angle. It's  
19 an enormous structure. There's a good chance that the  
20 entire area to the north of the shaft will be unusable  
21 for roosting because of poor sight lines.

22           I was not able to see any analysis of that. I  
23 was not able to see that impact listed in terms of the  
24 numbers of acres that are impacted for temporary roost  
25 sites. And that's an example, a single example.

1           We move to Slide 19.

2           Similarly, noise impacts on the project, none  
3 were addressed. It was assumed that all of the  
4 original analysis was adequate. But you're going to  
5 have new noises on different parts of the landscape,  
6 different roost areas, different foraging areas  
7 potentially. And there's no way to tell what that  
8 impact is going to be.

9           Muck piles have been moved. They're moving  
10 stuff from one place to another, moving across the  
11 landscape in different ways. There's no analysis to  
12 see how it's going to impact cranes or any other  
13 terrestrial species. But I don't think relying upon  
14 the original analysis gets job done.

15           Slide No. 20, please.

16           Impacts to wetlands are still huge and  
17 unreasonable. The main change was the shift in doing a  
18 bunch of work in the Clifton Forebay. But there are  
19 lots of other important aquatic features that are still  
20 impacted, and it's still a huge impact in general on  
21 the landscape.

22           And the last slide.

23           The impacts to cranes under the revised  
24 project are still significant. Temporary foraging  
25 impacts are reduced. But there's a substantial

1 increase in temporary roosting and forage habitat, but  
2 I don't think it was fully analyzed. I think there's a  
3 lot of it that was left out.

4 Counting on cranes to avoid construction sites  
5 isn't really a great argument because the construction  
6 is going to come to them in the way of large trucks  
7 moving muck and in the way of people going to work in  
8 their vehicles, in the way of people coming to address  
9 an emergency at unexpected times potentially flushing  
10 these birds out.

11 And the -- the Supplemental Draft still relies  
12 on that 60 percent effectiveness of the transmission  
13 lines, which we felt from the very beginning was  
14 inadequate.

15 And that is basically the conclusion of my  
16 presentation.

17 That photograph was taken on the night before  
18 the red blue moon and the lunar eclipse. So I just  
19 stood out in a field until a crane flew out in front of  
20 that gigantic beautiful moon. And that was on Staten  
21 Island, almost where the new shaft is going to be.

22 CO-HEARING OFFICER DODUC: I think you should  
23 offer photography tours.

24 WITNESS WIRTH: I'm make you a deal. If you  
25 stop this project, I will.

1 CO-HEARING OFFICER DODUC: No deals. Sorry.

2 WITNESS WIRTH: Worth a try.

3 DIRECT EXAMINATION BY MS. DES JARDINS

4 MS. DES JARDINS: Okay. Dr. Williams, is

5 DDJ-300 a copy of your testimony?

6 WITNESS WILLIAMS: Yes.

7 MS. DES JARDINS: And were some minor

8 corrections to exhibit numbers submitted as

9 DDJ-300-Errata?

10 WITNESS WILLIAMS: Okay. Are we -- just

11 clarification. Are we still dealing with seepage

12 regarding --

13 CO-HEARING OFFICER DODUC: No.

14 MS. DES JARDINS: No, no.

15 CO-HEARING OFFICER DODUC: Dr. Williams, if

16 you would bring the microphone closer to you.

17 WITNESS WILLIAMS: Okay. Dr. Tom Williams.

18 Good morning.

19 MS. DES JARDINS: Dr. Williams, can you answer

20 the question? The corrections were submitted as

21 DDJ-300-Errata, correct?

22 WITNESS WILLIAMS: Yes.

23 MS. DES JARDINS: And DDJ-162 remains a true

24 and correct copy of your statement of qualifications,

25 correct?

1 WITNESS WILLIAMS: Yes.

2 MS. DES JARDINS: Please summarize your  
3 testimony.

4 WITNESS WILLIAMS: Okay. Based upon this  
5 morning, the borrow areas, it's been reported that  
6 there's not going to be any significant change in the  
7 borrow areas. However, it's because we don't know  
8 where they are.

9 The borrow areas, as suggested, would be  
10 someplace close to the alignment of the tunnels and the  
11 shafts. However, there's been no detailed or even  
12 down-to-a-quarter section of any locations for specific  
13 borrowing.

14 And the problem comes that, if you have no  
15 unreasonable impacts on the original EIR, and no  
16 additional impacts on the supplemental, and they're all  
17 based upon no information, it's kind of still a basic  
18 problem and especially given the magnitude of not only  
19 the borrow but also the spoiling.

20 That is, where will the spoils from the  
21 tunnels and the shaft excavations that are unsuitable  
22 for local reuse, where will they go, and how will they  
23 get there?

24 And you want to talk about wetlands? You  
25 will have a lot of water in the Delta borrow pits. And



1 how will it be managed? If you prohibit it from  
2 coming in -- that is no seepage -- that will be  
3 one thing. But I don't think they can afford  
4 that.

5           So there's basic problems that we don't know  
6 where the borrow pits were; we don't know where the  
7 supplemental borrow pits will be; and we don't have  
8 the geotechnical to validate any consideration  
9 regarding the character of the borrow, how much  
10 borrow there's going to be, and what will have to be  
11 done to the borrow. So not even rough orders of  
12 magnitude.

13           One estimate was that not more than 15-foot  
14 deep, the borrow pits would be. However, that means  
15 you'll have about 12 feet of water standing in them  
16 unless they do drainage cont- -- seepage control.

17           So there's several things. And borrow is  
18 highly visible. That is, you've got a lot of trucks, a  
19 lot of equipment operating in close proximity to,  
20 quotes, official wetlands. But then you're going to be  
21 making wetlands. But they will be largely unsuitable  
22 for many birds to use.

23           What will go into them? Tunnel muck? Maybe.  
24 We don't know. And we don't have the locations of the  
25 pipelines for the tunnel muck. And we don't have the

1 haul routes for the trucks. And we have no locations  
2 for the borrow pits themselves.

3           Therefore, without that sort of information,  
4 how can we make any cost estimates? I don't know how  
5 they made cost estimates.

6           And the one example that we have for  
7 tunneling, I'd say if you don't have the geological  
8 borings, how can you consider where you're going to put  
9 a borrow pit, much like where you're going to put a  
10 tunnel or a shaft?

11           And the basic element is inadequate  
12 geotechnical produces cost overruns and needs to be  
13 documented as to what is going to be the cost overrun  
14 or estimated; 30 percent overrun? Could be. We don't  
15 know.

16           And that's because we don't know the basic  
17 geotechnical and groundwater information for any borrow  
18 pit that's been even considered. So there's -- and in  
19 that total inadequacy of both the original and  
20 Supplemental EIRs regarding borrow pits -- how many?  
21 where are they? how deep? how big? and what are you  
22 going to do after them?

23           And the mitigation does not consider as to if  
24 you have 160 acres of borrow pit and you've gotten  
25 borrow from it, what's going to go back in it? Is it

1 just going to be allowed to collapse and seep full?

2 And it will, in the Delta.

3 So cost estimates based upon no information is  
4 largely conjecture or based upon past experience. But  
5 who has such experience? It's not shown in the  
6 documents. So, I'll -- I can go on for seepage,  
7 but. . .

8 MS. DES JARDINS: Dr. Williams, I would like  
9 to -- could we -- I would like to show the graph on  
10 Page 9 of your testimony and explain that.

11 Could we bring up DDJ-300, Page 9, please.

12 And zoom out.

13 WITNESS WILLIAMS: Okay. This projection,  
14 overruns. And this is -- and might I say, I was one of  
15 the responsible supervisors for the largest -- second  
16 largest overruns on the Red Line Phase 1 subway tunnels  
17 in Los Angeles.

18 The structural engineer and I were competing  
19 because we had little paragraphs that said "await  
20 instructions," and that goes to overhead on the  
21 contractor. And I guarantee Tudor is very, very, very,  
22 very good. He was our first contractor on Red Line.

23 So if you have a lot of information, you go  
24 down to the lower right. If you don't have much  
25 information, you go up to the upper left.

1           And basically, he pays for what he gets. If  
2 you don't pay it in the front end, you're going to  
3 pay it in the back end. And back end can be very,  
4 very expensive. But we don't even have an order of  
5 magnitude estimate as to what we're going to need,  
6 where it's going to come from, how it's going to get to  
7 and from.

8           And then I always go back -- the borrow pits  
9 are pits. Are they going to be filled? Are they going  
10 to be mitigated so that there's beautiful wetlands?  
11 I've done wetlands, too.

12           But it's a matter that, right now, you don't  
13 have the information. Get the information. Get some  
14 borings. Get at least one example of, say, 160 acres  
15 of borrow pit, and see what will happen, so. . .

16           MS. DES JARDINS: Thank you.

17           Dr. Fries does have a correction to --

18           CO-HEARING OFFICER DODUC: Dr. Fries or  
19 Dr. Williams?

20           MS. DES JARDINS: Dr. Fries does.

21           Dr. Williams, is it acceptable to submit the  
22 corrections in writing for Dr. Williams? They were  
23 just minor corrections.

24           WITNESS WILLIAMS: Yes, just --

25           MS. DES JARDINS: There was some errors that I

1 noted in --

2 CO-HEARING OFFICER DODUC: Is this what you  
3 e-mailed last night to all the parties?

4 MS. DES JARDINS: Yes.

5 WITNESS WILLIAM: Yes.

6 CO-HEARING OFFICER DODUC: Okay. And  
7 Dr. Fries' had -- there were -- there was two minor  
8 corrections that Dr. Fries' had.

9 CO-HEARING OFFICER DODUC: If you could read  
10 those into the record, Dr. Fries.

11 WITNESS FRIES: Yes. My testimony, Page 5,  
12 Lines 22 to 23, it should read "would not" -- I left  
13 the "not" out -- "decrease." It's just a minor change.

14 And then on Page 13, I've tried to make SOME  
15 estimates, calculations on the size of these tunnel  
16 segments. And I've read someplace that there was five  
17 or six segments per diameter, and it didn't work out.

18 Anyhow, my -- my numbers there are wrong. It  
19 should read that the tunnel arch would be 14 feet and  
20 that they would be about 5 feet in width, so --

21 MR. JACKSON: And that is where in your  
22 testimony?

23 WITNESS FRIES: That sentence is on Page 13,  
24 Line 21. It should change to "14 and 5," from "26 and"  
25 something, I don't know, 40 maybe. They don't make

1 much difference in the testimony. They're just small  
2 corrections.

3 CO-HEARING OFFICER DODUC: All right. If that  
4 is all, the only cross-examination I have is DWR for  
5 about 20 minutes. Is that still correct?

6 MR. MIZELL: (Nods head)

7 CO-HEARING OFFICER DODUC: All right. If it's  
8 okay with the court reporter, we will do that, and then  
9 we will take our break.

10 CROSS-EXAMINATION BY MR. BERLINER

11 MR. BERLINER: Good morning. My name is  
12 Tom Berliner, and I'm an attorney with the Department  
13 of Water Resources.

14 Gentlemen, it's good to have you here. I have  
15 very brief testimony. I have essentially one question  
16 for -- is it Dr. or Mr. Wirth?

17 WITNESS WIRTH: Mr. Wirth.

18 MR. BERLINER: And I have about 15 questions  
19 for Dr. Fries. And I do not have any questions for  
20 Dr. Williams.

21 MR. DEERINGER: Excuse me. I'm sorry to  
22 interrupt. Could I ask the witnesses to please turn  
23 the names plate toward the court reporter here.

24 CO-HEARING OFFICER DODUC: She is definitely  
25 more important than Mr. Berliner.

1           MR. BERLINER: Yes, absolutely. And if I say  
2 I name, I figure one of you is likely to look this way,  
3 so. . .

4           First question is for Mr. Wirth. Do you have  
5 your testimony handy?

6           WITNESS WIRTH: I do.

7           MR. BERLINER: And I'm going to refer you to  
8 Page 9, Lines 23 and 24. Here, you state that other  
9 than Dr. Earle's statement, there's been no commitment  
10 to underground power lines.

11           Did you review the AMMs for this project?

12           WITNESS WIRTH: I did.

13           MR. BERLINER: Isn't it true that AMM 20  
14 provides for the undergrounding of new power lines in  
15 high risk zones for the greater Sandhill crane?

16           WITNESS WIRTH: Yes, that's correct.

17           MR. BERLINER: So there's more commitment than  
18 Dr. Earle's statement, correct?

19           WITNESS WIRTH: Yes.

20           MR. BERLINER: The remainder of my questions  
21 are for Dr. Fries.

22           CO-HEARING OFFICER DODUC: Yes, but I have to  
23 note for the record you said one question for  
24 Dr. Wirth, but it was actually three.

25           MR. BERLINER: You know, as I was asking the

1 first question in the way that I asked it, I realized,  
2 aw, this is going to be more than one question. But I  
3 thought I would break it down. And when I -- you know,  
4 when you read it, it looks like one. Then when you go  
5 to say it out loud, it's like it will be clearer if I  
6 break it up.

7 CO-HEARING OFFICER DODUC: And I'm used to  
8 attorneys and their one question by now, Mr. Berliner.

9 MR. BERLINER: Well, you do know the  
10 difference between an attorney and an engineer; we  
11 can't do math.

12 MR. JACKSON: And you think that's the only  
13 difference?

14 MR. BERLINER: It's one of the differences.

15 Sir, are you familiar with the CNDDDB database?

16 WITNESS FRIES: I'm some familiar with it,  
17 yes.

18 MR. BERLINER: And you recognize this document  
19 as being -- the full name of it is the California  
20 Natural Diversity Database, correct?

21 WITNESS FRIES: Yes.

22 MR. BERLINER: And it's prepared primarily by  
23 the California Department of Fish and Wildlife,  
24 correct?

25 WITNESS FRIES: That's correct.



1           MR. BERLINER: And typically it's called the  
2 special animal list; is that right?

3           WITNESS FRIES: I don't know that, but --

4           MS. DES JARDINS: Excuse me. I have an  
5 objection. Dr. Fries doesn't testify about the  
6 California Natural Community [sic] Database.

7           CO-HEARING OFFICER DODUC: Mr. Berliner?

8           MR. BERLINER: Well, Dr. Fries testifies about  
9 bird surveys. And the database is a source of bird  
10 surveys that was used by -- is one of the sources for  
11 bird surveys that was used by the Department.

12           And on Page 3 at Line 7 of his testimony,  
13 Dr. Fries states that the WaterFix failed to do proper  
14 bird surveys. So I'm asking him some foundational  
15 questions about his familiarity of sources for bird  
16 surveys.

17           CO-HEARING OFFICER DODUC: All right.  
18 Overruled.

19           MR. BERLINER: So since -- down to my next  
20 question. On Page 3 of your testimony, you state that  
21 the California WaterFix failed to do proper bird  
22 surveys.

23           Isn't it true that the -- we call it the CWF,  
24 California WaterFix -- that the CWF analysis used  
25 databases such as the special bird list or special

1 animal list and field surveys?

2 WITNESS FRIES: The question --

3 MS. DES JARDINS: Objection --

4 CO-HEARING OFFICER DODUC: Hold on. One at a  
5 time for the court reporter.

6 MS. DES JARDINS: I do have an objection that  
7 this is vague, and Mr. Berliner should specify what  
8 specific information. It was very general what he  
9 referred to.

10 CO-HEARING OFFICER DODUC: I believe he listed  
11 some specific studies.

12 WITNESS FRIES: I can answer that question  
13 pretty straightforward.

14 CO-HEARING OFFICER DODUC: Okay.

15 WITNESS FRIES: I'm familiar with those lists.  
16 I know that Fish and Wildlife is a limited budget.  
17 They don't do these surveys often.

18 And in their write-up of it, they say that  
19 they haven't identified all of -- of the areas for  
20 one -- some cases they overestimate, and some cases  
21 they underestimate.

22 So that is one source that should be  
23 considered, but there's many sources that were not  
24 considered, which is what bothers me because the DWR  
25 WaterFix should be using the best available science and

1 all of it, not just picky pieces that give the result  
2 they wish to have.

3 MR. BERLINER: Are you aware that the WaterFix  
4 also did field surveys?

5 WITNESS FRIES: I know. I cited one of them  
6 that Mr. Bradbury did but didn't consider in writing  
7 the EIR.

8 MR. BERLINER: In your testimony on Page 4,  
9 you provided some areas where black rail has been  
10 observed. Are these based on your personal  
11 observations?

12 WITNESS FRIES: Mostly they are based on the  
13 survey done by Dan Gifford in the late 1990s -- yeah,  
14 1990s. And it was the survey then that Mr. Bradbury  
15 and Dr. Zhou did, published, which gave specific  
16 sightings for the bird in these different areas.

17 And I also consult heavily with eBird. And  
18 eBird reports aren't considered by DWR but are pretty  
19 factual and dependable listings of sightings of the  
20 birds.

21 MR. BERLINER: Are you aware that Dr. Zhou and  
22 Dr. Bradbury consult with the Department of Water  
23 Resources?

24 WITNESS FRIES: Yes. Obviously they work for  
25 them. I pointed it out in my testimony.

1           MR. BERLINER. On Page 6 of your testimony --  
2 and feel free to refer to your testimony if you like.  
3 You have do you have a copy of it handy?

4           WITNESS FRIES: I have a short form of it.

5           MR. BERLINER: We can put it up on the screen  
6 so you can observe it there. Mr. Jackson has one for  
7 you.

8           WITNESS FRIES: What page? 6?

9           MR. BERLINER: On Page 6, Lines 4 and 5, you  
10 indicate that the Final EIR/EIS states that up to  
11 2.9 inches of settlement is expected on the surface  
12 site, correct?

13           WITNESS FRIES: That's for -- that's what DWR  
14 has put in the EIR. That's your -- your number. So I  
15 guess it's correct.

16           MR. BERLINER: Did you read the document, sir?

17           WITNESS FRIES: I read the documents, yes.

18           I also read a number of documents,  
19 publications by a Dr. Daniele Festa from the Delft  
20 Institute. And she's probably the major expert on  
21 tunneling in soft soils.

22           And in those publications --

23           CO-HEARING OFFICER DODUC: I'm sorry.

24           MR. BERLINER: I don't mean to interrupt you,  
25 but --

1 CO-HEARING OFFICER DODUC: You've answered the  
2 question, Dr. Fries. Thank you.

3 WITNESS FRIES: Okay.

4 MR. BERLINER: If your attorney wants you to  
5 elucidate more, they'll ask you follow-up questions.

6 WITNESS FRIES: Okay.

7 MR. BERLINER: While the FEIR/EIS does state  
8 up to 2.9, don't they also indicate there that it can  
9 be zero to 2.9 inches?

10 WITNESS FRIES: Yes.

11 MR. BERLINER: And doesn't the -- doesn't it  
12 also state that the effects would be reduced with  
13 implementation of various mitigation measures and other  
14 environmental commitments that are included in the  
15 Final EIR/EIS?

16 MS. DES JARDINS: Objection, assumes facts not  
17 in evidence.

18 CO-HEARING OFFICER DODUC: Mr. --

19 MS. DES JARDINS: Vague.

20 CO-HEARING OFFICER DODUC: -- Berliner.

21 MR. BERLINER: State Water Board Exhibit 102,  
22 Page 9-288 would be the source of that statement.

23 CO-HEARING OFFICER DODUC: Do you need to see  
24 that, Dr. Fries?

25 WITNESS FRIES: No. I just saw no analysis of

1 how this potential sinking of land -- subsidence of  
2 land potential. It should be considered.

3 We have no-take birds. If there's going to be  
4 a three-inch settlement possible, it should be  
5 considered in protecting no-take birds. That's my  
6 simple statement.

7 MR. BERLINER: So when you use the expression  
8 "no-take birds," what do you mean by that?

9 WITNESS FRIES: I mean that these birds are on  
10 the California National [sic] Endangered Species List,  
11 and one is not legally -- legally able to kill one of  
12 these birds or displace it from its nesting site or  
13 disturb it even. I can't go out and play -- legally, I  
14 can't go out and play the call for a black rail without  
15 a permit to do it because I'm disturbing that bird.

16 MR. BERLINER: And are you aware of the  
17 different status of listings?

18 WITNESS FRIES: Yes. Oh, yes, very aware.

19 MR. BERLINER: I just want to make sure we're  
20 understanding, so when you use that term, I know what  
21 you're referencing.

22 WITNESS FRIES: Yes.

23 MR. BERLINER: Thank you. Regarding the  
24 Swainson's hawk, on Page 6 -- bottom of 6, top of 7 of  
25 your testimony, you state that a thorough survey should

1 be done before the construction sites are designated.

2 Isn't it true that AMM 18 requires  
3 pre-construction surveys for Swainson's hawk?

4 WITNESS FRIES: That's interesting. Yes, it  
5 states that that's the case.

6 MR. BERLINER: And in particular, they're  
7 supposed to look for nesting sites, correct?

8 WITNESS FRIES: Nesting sites and potential  
9 nesting sites is what I read.

10 MR. BERLINER: You mentioned the planting of  
11 trees as a compensation measure for necessary sites,  
12 and you expressed concern that 20-foot trees would take  
13 years to mature?

14 WITNESS FRIES: I stated that a 20-foot tree  
15 wouldn't be acceptable for any respectable Swainson  
16 hawk for a nest, and would take some time for it to  
17 ensure it lived -- you plant a tree that big, if it  
18 lived, it might at some time in the future be  
19 acceptable.

20 MR. BERLINER: Are you aware that 20 feet  
21 would be essentially the minimum and that it would be  
22 at least 20 feet at all?

23 WITNESS FRIES: Yes, I read that.

24 MR. BERLINER: So we talked about your -- your  
25 use of the phrase as a protected no-take species. Are

1 you contending the Swainson's hawk is a protected  
2 no-take species?

3 WITNESS FRIES: Yes, it is.

4 MR. BERLINER: So do you understand the  
5 difference between a species that's listed as  
6 threatened or dangered -- or endangered or a species of  
7 special concern?

8 WITNESS FRIES: Yes, I do.

9 MR. BERLINER: And you're aware that, in  
10 California, we actually do have a category for species  
11 that you cannot take at all?

12 WITNESS FRIES: Yes, I do.

13 MR. BERLINER: Are you contending that  
14 Swainson's hawk is something other than listed as a  
15 threatened species?

16 WITNESS FRIES: I think it's a no-take  
17 species.

18 MR. BERLINER: Are you aware that the  
19 Swainson's hawk is covered in the Incidental Take  
20 Permit that was issued by the Department of Fish and  
21 Wildlife?

22 WITNESS FRIES: Yes, I read that ITP.

23 MR. BERLINER: And do you recall that the ITP  
24 listed the Swainson's hawk as threatened?

25 WITNESS FRIES: Yes, it did.



1           MR. BERLINER: So that's different than a  
2 no-take species correct?

3           WITNESS FRIES: Not necessarily. I think it's  
4 listed as a threatened no-take species. But if I'm  
5 wrong, I'm wrong.

6           MR. BERLINER: If you're curious, take a look  
7 at the State Water Board Exhibit 107 on Page 88.

8           Regarding tricolored blackbirds, on Page 8 of  
9 your testimony at Line 17, you indicate that the  
10 tricolored blackbird is also a State-listed endangered  
11 or no-take species, correct?

12          WITNESS FRIES: That's correct.

13          MR. BERLINER: Okay. And isn't it true that  
14 the tricolored blackbird is listed as a candidate?

15          WITNESS FRIES: No, it's been approved now.

16          MR. BERLINER: Can we in fact, Mr. Long, pull  
17 up State Water 107, Page 88.

18          WITNESS FRIES: I think maybe it wasn't listed  
19 at the time the EIR was written, but in the last six  
20 months, it's been put on the list.

21          MR. BERLINER: So on this list in the ITP,  
22 it's listed as a candidate. Are you suggesting that's  
23 a mistake?

24          WITNESS FRIES: Yes.

25          MR. BERLINER: We'll come back to that then.

1           Let's move to recreation for just a second.

2           You indicate in your testimony on the bottom  
3 of Page 10, starting at Line 24 to the top of Page 11  
4 through Line 5 that the 2006 Water Quality Control Plan  
5 failed to protect certain recreation values. I'm  
6 paraphrasing?

7           WITNESS FRIES: Yes.

8           MR. BERLINER: Are you familiar with the Water  
9 Quality Control Plan?

10          WITNESS FRIES: Some I am, yes, not heavily.  
11 It's not my area of expertise.

12          MR. BERLINER: And I take it, then, that you  
13 may not be familiar with the fact that the Water Board  
14 concluded that meeting the municipal and industrial  
15 standards on Table 1 of the Water Quality Control Plan  
16 would adequately protect recreational beneficial uses  
17 for Rec 1 and Rec 2?

18          WITNESS FRIES: I'm not aware of that  
19 directly.

20          MR. BERLINER: If you're curious, you can  
21 refer to State Water Board Exhibit 27 at Page 10.

22          WITNESS FRIES: What I was referring to in my  
23 thought was that WaterFix is going to divert a lot of  
24 water from the Sacramento River and there was going --  
25 there would be saltwater intrusion into the Delta. And

1 this saltwater intrusion would cause potentially  
2 adverse effects on boating and swimming in certain  
3 areas.

4 MR. BERLINER: Bear with me just a second. I  
5 think I may only have one more.

6 CO-HEARING OFFICER DODUC: Engineering one or  
7 lawyer one?

8 MR. BERLINER: Well, it's sort of more of a  
9 biologist one.

10 CO-HEARING OFFICER DODUC: Oh, dear.

11 MR. BERLINER: I got my biology degree in law  
12 school, so. . .

13 Could I confer with my colleagues for just a  
14 second? I think this will speed it up.

15 CO-HEARING OFFICER DODUC: Actually, why don't  
16 we go ahead and take our break now, then we will return  
17 at 11:10.

18 (Recess taken)

19 CO-HEARING OFFICER DODUC: All right. It's  
20 11:10. Let's do a quick time check before we return to  
21 Mr. Berliner to complete his cross-examination.

22 At this time, do you anticipate or would you  
23 like to request redirect, Ms. Meserve? Ms. Des Jardins?

24 MS. MESERVE: Yes. We have a few questions on  
25 redirect. We'll probably take about five minutes.

1 CO-HEARING OFFICER DODUC: For?

2 MS. MESERVE: Dr. Fries and for Mr. Wirth.

3 CO-HEARING OFFICER DODUC: On what particular  
4 issues?

5 MS. MESERVE: Well, I feel uncomfortable  
6 announcing that prior to Mr. Berliner's cross being  
7 complete.

8 CO-HEARING OFFICER DODUC: Oh, true. Okay.  
9 Good point.

10 I think what I would like to do is at least  
11 try to get through Clifton Court as well as County of  
12 Sacramento before we take our lunch break, but if my  
13 sugar level falls and I'm starving, that might change,  
14 depending on how things go. But based on my estimates  
15 for cross that I currently have, we should be able to  
16 do it by around 12:30, 12:45 or so.

17 So we'll take a break then and then just focus  
18 the afternoon on Mr. Burke. Unless there's been some  
19 changes, I'm anticipating at least three hours of cross  
20 for Mr. Burke, including two hours from the joint State  
21 Water Contractors and DWR cross.

22 Is that still correct?

23 MR. MIZELL: (Nods head)

24 CO-HEARING OFFICER DODUC: All right. So  
25 based on that and based on the fact that we will be

1 taking a long lunch, let's go ahead and have  
2 Mr. Stroshane join Mr. Nakagawa tomorrow morning.

3 MS. MESERVE: Thank you.

4 CO-HEARING OFFICER DODUC: And a reminder to  
5 all those who are not here, but hopefully you're all  
6 watching the webcast, if you wish to request  
7 cross-examination for the Department of Water  
8 Resources' remaining witnesses -- that would be  
9 Dr. Acuna, Dr. Hutton, Dr. Hanson and Dr. Phillis -- to  
10 please e-mail in your request with a time estimate.

11 And for those of you here, let's go ahead and  
12 do it now.

13 I have Mr. Jackson. Yesterday, Mr. Shutes  
14 spoke on your behalf, but I don't think I noted down  
15 specific amount of time.

16 So would you like to fill that in?

17 MR. JACKSON: About an hour.

18 CO-HEARING OFFICER DODUC: An hour, okay.

19 I also have requests from South Delta,  
20 Group 45. This morning, the San Joaquin Tributary  
21 Authority requested 120. We just received a request  
22 from NRDC for two hours. Others?

23 MR. EMRICK: City of Antioch. This is Matthew  
24 Emrick, City of Antioch. City of Antioch requests 30  
25 minutes.

1 CO-HEARING OFFICER DODUC: Group number,  
2 please?

3 MR. EMRICK: 27.

4 CO-HEARING OFFICER DODUC: 27. Thank you.

5 MR. EMRICK: And then we'll reserve Clifton  
6 Court for 10 minutes.

7 CO-HEARING OFFICER DODUC: Anyone else?

8 MS. DES JARDINS: Deirdre Des Jardins,  
9 Group 37, and I'd like to request up to an hour and a  
10 half.

11 MS. MESERVE: Osha Meserve for Group 47, 20  
12 minutes for Mr. Burke.

13 CO-HEARING OFFICER DODUC: I'm sorry?

14 MS. MESERVE: We were asking -- we were on the  
15 DWR panel?

16 CO-HEARING OFFICER DODUC: Yes.

17 MS. MESERVE: Sorry. Twenty minutes for DWR.  
18 I'm sorry.

19 CO-HEARING OFFICER DODUC: All right. That's  
20 all I have from here. We'll see if we have any more  
21 requests come in through the e-mail. Please get that  
22 in no later than our lunch break because when we return  
23 I'd like to be able to map out the rest of this week.

24 All right. With that, Mr. Berliner.

25 MR. BERLINER: Yes. Thank you very much.

1           Dr. Fries, I just want to close the discussion  
2 that we had on the status of the tricolored blackbirds.  
3 I will represent to you that I have open on my iPad  
4 here the Special Animals list for August 2018, and it  
5 does list the tricolored blackbird as a candidate  
6 species, but you may be correct.

7           My question --

8           MS. DES JARDINS: I --

9           CO-HEARING OFFICER DODUC: Ms. Des Jardins,  
10 let's hear his question first, please.

11           MR. BERLINER: My question to you, sir, is if  
12 indeed the status of the tricolored blackbird has  
13 changed from what it was designated under the ITP when  
14 the ITP was issued, assuming that the ITP does not  
15 allow for a change in status of any of the species that  
16 it covered, would an amendment or change to that ITP be  
17 required, if possible, to authorize the take of  
18 tricolored blackbirds?

19           CO-HEARING OFFICER DODUC: I think you need  
20 to --

21           MS. MESERVE: Objection, calls for a legal  
22 conclusion.

23           CO-HEARING OFFICER DODUC: Hold on.

24           I think you need to unpack it a little for me,  
25 Mr. Berliner.

1 MS. DES JARDINS: And I would like to phrase  
2 my objection. I object and I move to strike the  
3 reference to the statement open on Mr. Berliner's iPad.  
4 That is not providing facts in evidence.

5 If Mr. Berliner wants to provide something for  
6 the record, he can submit it on a flash drive.

7 CO-HEARING OFFICER DODUC: Fine. We'll strike  
8 that portion.

9 I believe, Mr. Berliner, you can ask your  
10 question without it.

11 MR. BERLINER: I believe I can.

12 Dr. Fries, if the status of the tricolored  
13 blackbird has changed, is it your understanding that,  
14 if it is capable of being permitted, that a revision to  
15 the permit might be necessary?

16 MR. JACKSON: I'm going to object on the  
17 grounds it calls for a legal conclusion.

18 MS. DES JARDINS: I'd also like to object that  
19 this is beyond the scope of Dr. Fries' testimony. He  
20 did not testify about whether or not the ITP would need  
21 to be changed.

22 CO-HEARING OFFICER DODUC: I'm sustaining the  
23 objections.

24 MR. BERLINER: You know what? I'll just  
25 withdraw it. That will conclude --



1 CO-HEARING OFFICER DODUC: You don't get to  
2 withdraw a question to which I've already sustained an  
3 objection, Mr. Berliner.

4 MR. BERLINER: Let's put it this way. I'm not  
5 going to pursue it any further in trying to explore if  
6 there's a question I can ask that won't be objected to.

7 CO-HEARING OFFICER DODUC: Thank you,  
8 Mr. Berliner.

9 You might as well stay because, at this point,  
10 I believe there is redirect.

11 MS. MESERVE: Yes. So to answer your prior  
12 question, Madam Hearing Officer, I wanted to ask a  
13 couple of clarifying questions about which Dr. Fries  
14 was asked regarding the California Natural Diversity  
15 Database as well as a statement regarding the listing  
16 status of the Swainson's hawk as well as the -- I'm not  
17 sure if this is appropriate, but with respect to the  
18 tricolored blackbird status.

19 CO-HEARING OFFICER DODUC: Okay.

20 MS. MESERVE: And then with respect to  
21 Mr. Wirth, I have a question regarding AMM 20 that he  
22 was asked about.

23 CO-HEARING OFFICER DODUC: Okay.

24 REDIRECT EXAMINATION BY MS. MESERVE

25 MS. MESERVE: So, starting with you,

1 Dr. Fries, and thinking about the CNDDDB database that  
2 was discussed in questions that you received from  
3 Mr. Berliner, are you aware that the database is a  
4 positive detection database that shows when species  
5 were detected?

6 MR. BERLINER: Objection, beyond the scope of  
7 this witness's testimony.

8 CO-HEARING OFFICER DODUC: You asked him about  
9 the database, Mr. Berliner.

10 MR. BERLINER: I did, and at first I received  
11 an objection from his advisors that that was beyond the  
12 scope of his testimony.

13 CO-HEARING OFFICER DODUC: I believe --

14 MR. BERLINER: And I laid the foundation for  
15 my question, but I did not ask him questions about how  
16 the list was put together. And that's where this  
17 question is going to.

18 CO-HEARING OFFICER DODUC: Ms. Meserve.

19 MS. MESERVE: There were a couple questions  
20 about the database that I think we would like the  
21 chance to clarify Dr. Fries's answers based on what the  
22 database actually is because all questions regarding  
23 the database were not -- were not presented.

24 There were some questions about it, and the  
25 indication from the questions that were asked were

1 misleading to the extent that it indicates what the  
2 database means.

3 CO-HEARING OFFICER DODUC: Oh, dear. Your  
4 inferences do not expand the scope.

5 MS. DES JARDINS: I would like to point out  
6 that the questions were specifically about whether the  
7 database included surveys.

8 CO-HEARING OFFICER DODUC: I didn't hear that  
9 last part.

10 MS. MESERVE: I'm just trying to clarify about  
11 the existence of surveys. Mr. Berliner's question went  
12 to whether surveys had occurred, and so I'm trying to  
13 clarify what that means.

14 CO-HEARING OFFICER DODUC: Let's hear the  
15 question again.

16 MS. MESERVE: Are you aware, Dr. Fries, that  
17 the CNDDDB database is a positive detection database  
18 that shows when species actually are detected?

19 WITNESS FRIES: Yes.

20 CO-HEARING OFFICER DODUC: Mr. Berliner, I'm  
21 overruling your objection.

22 Go ahead. He answered already, "Yes."

23 MS. MESERVE: Does that mean that, if the  
24 species is not shown in a location in the database,  
25 that they are not in those locations?

1           WITNESS FRIES: It just means they're not  
2 reported there. It could be there.

3           MS. MESERVE: So thinking of your testimony on  
4 Page 3, Lines 7 and 8 regarding the absence of adequate  
5 surveys, and elsewhere in your testimony, do you stand  
6 by your opinion that proper surveys have not been done?

7           WITNESS FRIES: Yes.

8           MS. MESERVE: And then, Dr. Fries, looking at  
9 your testimony on Page 8, you mentioned -- on Line 10  
10 you referred to the Swainson's hawk as a no-take  
11 species. Isn't it true in fact that, under CSSA, the  
12 Swainson's hawk is listed as a threatened species?

13           WITNESS FRIES: It's threatened. And I guess  
14 it is not no-take. You can have an ITP to take that  
15 bird.

16           MS. MESERVE: So that would be a correction to  
17 your testimony on Page 8?

18           WITNESS FRIES: Yes, I would say so.

19           MS. MESERVE: Thank you.

20           And with respect to the tricolored blackbird,  
21 were you aware -- and it appears you referred to the  
22 fact that it was listed as threatened by the Department  
23 of Fish and Wildlife in April of 2018?

24           WITNESS FRIES: Yes, that's correct.

25           MS. MESERVE: Okay. And now for the redirect

1 I have of Mr. Wirth, if we could please put up the  
2 SWRCB-111, which is the MMRP for this project.

3 And what I'd like to do is go to AMM 20, which  
4 Mr. Wirth was asked about. And that's on pdf Page 275,  
5 please. And that's SWRCB-111 and pdf Page 275.

6 And if we can scroll down toward the bottom of  
7 that page so that Mr. Wirth can see the measures.  
8 Maybe zoom out a tiny bit because there's a few more  
9 dots on the following page.

10 Now, Mr. Wirth, you were asked about whether  
11 AMM 20 required the undergrounding of transmission  
12 lines in high-risk zones for greater Sandhill crane,  
13 correct?

14 WITNESS WIRTH: Correct.

15 MS. MESERVE: And looking at the language on  
16 Page 4-32, Lines 23 and 24, what does that language  
17 say?

18 If we could just scroll up a tiny bit.

19 WITNESS WIRTH: It says that the performance  
20 standard will be accomplished by any one or a  
21 combination of the following. So it's essentially a  
22 menu. It doesn't say it's going to do any particular  
23 one.

24 And the use of "commitment" in my rebuttal  
25 referred to they don't commit to any one of those.

1 There's not a specific commitment. And the purpose of  
2 my statement wasn't so much about whether or not we're  
3 going to underlie -- underground in one particular  
4 area. It was that, if they claim they underground at  
5 all, it should be for all lines.

6 MS. MESERVE: And with respect -- looking at  
7 the provision in the third bullet down that refers to  
8 undergrounding in high-risk zones, is there a qualifier  
9 on that, or is that item in the menu of options?

10 WITNESS WIRTH: Well, it says "new lines," but  
11 there's no proviso that's what they have to do. They  
12 could use a natural gas generator. They could design  
13 the alignment away from a high-risk area. There's no  
14 commitment to doing any particular thing in any  
15 particular area, not according to the menu provided.

16 MS. MESERVE: So, Mr. Wirth, thinking back to  
17 your testimony on Page 9, Lines 23 and 24, regarding  
18 the no commitment to underground, do you stand by that  
19 statement?

20 WITNESS WIRTH: Yes, I do.

21 MS. MESERVE: Thank you.

22 CO-HEARING OFFICER DODUC: Recross,  
23 Mr. Berliner?

24 MR. BERLINER: No, thank you.

25 CO-HEARING OFFICER DODUC: All right. Thank

1 you very much, gentlemen.

2 MR. JACKSON: At this point, I believe CSPA,  
3 CWIN, and AquAlliance have one more witness.

4 CO-HEARING OFFICER DODUC: I believe so.

5 MR. JACKSON: And you want us to wait until  
6 then --

7 CO-HEARING OFFICER DODUC: Yes.

8 MR. JACKSON: -- to put in all of our  
9 evidence, correct?

10 CO-HEARING OFFICER DODUC: Correct.

11 And, Ms. Meserve, the same goes for you.

12 But, Ms. Des Jardins, I believe --

13 MS. DES JARDINS: That concludes my case in  
14 chief. And at this point, I would like to submit all  
15 the exhibits in my exhibit list, with the inclusion of  
16 DWR-300-Errata [sic], into evidence. I did provide the  
17 updated errata in the updated exhibit list last night.

18 CO-HEARING OFFICER DODUC: Objections?

19 MR. MIZELL: Tripp Mizell for DWR.

20 We would object to the admission of DDJ-301,  
21 -302, -303, -304, -305 as being related to or cited  
22 within the struck portions of Dr. Williams' testimony  
23 about seepage.

24 And we would object to DDJ-326 as beyond the  
25 scope of appropriate rebuttal. It relates to

1 financing. It was not a part of Dr. Williams's  
2 testimony in any way, shape, or form, and therefore,  
3 it's a -- basically an orphaned exhibit. It doesn't  
4 have a relation back to testimony that was presented in  
5 Part 2 cases in chief or any evidence submitted at that  
6 point.

7 CO-HEARING OFFICER DODUC: Have you noted down  
8 those objections, Ms. Des Jardins?

9 MS. DES JARDINS: Yes. Do you want me to  
10 respond now or respond in writing?

11 CO-HEARING OFFICER DODUC: I think I would  
12 prefer you to respond in writing since there were quite  
13 a number of them.

14 MS. DES JARDINS: I can do that.

15 CO-HEARING OFFICER DODUC: All right. If you  
16 need Mr. Mizell to repeat it for the record?

17 MS. DES JARDINS: Yes, please.

18 CO-HEARING OFFICER DODUC: Mr. Mizell.

19 MR. MIZELL: Certainly. DDJ-301, -302, -303,  
20 -304, -305 as related to the struck testimony of  
21 Dr. Williams. DDJ-326 as improper rebuttal testimony.

22 CO-HEARING OFFICER DODUC: All right. With  
23 that, thank you very much, Dr. Williams, Dr. Fries, and  
24 especially Mr. Wirth for once again sharing with us  
25 your wonderful photos.



1           With that, I will now ask Ms. Womack to come  
2 up.

3           Mr. Mizell.

4           MR. MIZELL: Yes. We have a question about  
5 what was stated by Ms. Des Jardins on -- she referenced  
6 DWR-300-Errata as something she was submitting into  
7 evidence. We're unaware of where -- she would be  
8 submitting a Part 1 errata exhibit of DWR's into the --  
9 into the record.

10           Did she intend to say "DDJ-300-Errata," which  
11 was --

12           MS. DES JARDINS: I -- I -- I thought I said  
13 DDJ-300-Errata.

14           MR. MIZELL: Okay. Thank you.

15           MS. DES JARDINS: And, yes, it was simply the  
16 minor corrections to Dr. Williams' testimony. Thank  
17 you.

18           CO-HEARING OFFICER DODUC: All right.

19                           SUZANNE WOMACK,  
20 called as a Part 2 Rebuttal witness  
21 by Clifton Court LP, having been  
22 previously duly sworn, was examined  
23 and testified further as hereinafter  
24 set forth:

25           MS. THOR: Emily Thor for the Department of

1 Water Resources. The Department would like to move to  
2 strike a portion of Clifton Court LP's testimony as  
3 beyond the scope of proper rebuttal.

4 CO-HEARING OFFICER DODUC: Hold on. Let's  
5 wait for Mr. Emrick to get back before we hear your  
6 objection.

7 All right. Please state your objection.

8 MS. THOR: If we could have CCLP-15 revised  
9 put on the screen, please, and if we could go to  
10 Page 4, the operations and maintenance section.

11 The Department objects to this section as  
12 being improper rebuttal testimony as it does not cite  
13 to any Part 2 case-in-chief testimony.

14 Additionally, as the quoted text states, it  
15 does not indicate any sort of change between the  
16 approved project and the proposed project.

17 CO-HEARING OFFICER DODUC: Response?

18 MR. EMRICK: Well, I think that -- and I'll  
19 defer to Ms. Womack, too.

20 I believe this is proper because I think it  
21 does go to the Supplemental EIR. I think that's what  
22 these -- these questions are asking is what is going to  
23 be the impacts, operation and maintenance impacts,  
24 based upon the new alignment and the new structures  
25 and facilities that they were going to put down at

1 Clifton Court.

2 CO-HEARING OFFICER DODUC: I will say that I  
3 was a bit confused when I saw this section as well  
4 because it's a list of questions rather than testimony.

5 WITNESS WOMACK: Well, if you rec- -- well,  
6 that's because in the Supplemental EIR/EIS, which I'd  
7 referred to as DSEE Point -- 3.2.3, they said they  
8 don't need it; the operations are all the same.

9 And it isn't until we received the CER,  
10 DWR-1304 and 1305 and 1306, the conceptual engineering  
11 reports, that we start to unpack all the operation  
12 changes there are.

13 So I have questions. Remember, all I have  
14 when I'm writing this is the Supplemental EIR, and I  
15 have all these questions. I have a lot more questions  
16 now.

17 CO-HEARING OFFICER DODUC: You are here  
18 testifying --

19 WITNESS WOMACK: I'm --

20 CO-HEARING OFFICER DODUC: -- presenting  
21 rebuttal testimony. These are questions --

22 WITNESS WOMACK: Yes.

23 CO-HEARING OFFICER DODUC: -- not evidence.

24 This is the engineer playing attorney here.

25 The purpose of you presenting rebuttal testimony is for

1 you to present your evidence rebutting petitioners' or  
2 other people's testimony.

3 So what we're looking to you is your  
4 testimony, not questions.

5 MR. EMRICK: Maybe I can make a suggestion  
6 that this be treated as sort of general testimony as to  
7 what Ms. Womack considers to be lacking in the  
8 Supplemental EIR, specifically DSEE 3.2.3.

9 MR. DEERINGER: So, rhetorical question?

10 MR. EMRICK: Rhetorical.

11 CO-HEARING OFFICER DODUC: All right. Goes to  
12 weight. Is that all?

13 MS. THOR: (Nods head)

14 CO-HEARING OFFICER DODUC: All right. You may  
15 begin, Ms. Womack.

16 DIRECT TESTIMONY BY MS. WOMACK

17 WITNESS WOMACK: Thank you. I wanted to make  
18 a note. My father could not be here today. My mother  
19 has a broken foot and got a walking boot last night, so  
20 he didn't want to leave her at 90. So I'm on my own,  
21 but I do have Matt.

22 So my qualifications are pretty much the way  
23 they've been throughout. I've gotten a little smarter;  
24 not much.

25 Testimony. So from the start of the

1 California WaterFix hearings, DWR and DOI have  
2 repeatedly promised that no legal users of water will  
3 be harmed by the California WaterFix.

4 MR. EMRICK: Before you get started, maybe we  
5 can say that you're summarizing your written testimony,  
6 which is CLP Exhibit --

7 WITNESS WOMACK: Revised 50.

8 MR. EMRICK: Revised 50.

9 WITNESS WOMACK: Yeah.

10 MR. EMRICK: Thank you.

11 WITNESS WOMACK: And I -- yeah, I won't be  
12 reading all of it. But the very beginning I think is  
13 important.

14 Since 2006, CCLP's property has been a key  
15 parcel in the approved project. Since that time, we've  
16 been told numerous times our property will be damaged  
17 and we'll be made whole.

18 Then in July, DWR said, "Oh, we'll no longer  
19 need this."

20 We should be celebrating, but we're not.  
21 We're going to be harmed in multiple ways, all stemming  
22 from the poorly built and maintained CCF. But now we  
23 find out -- after this testimony is submitted, I found  
24 out that there is an awful lot of missing information  
25 and a lot of modeling not done. I don't have the

1 impacts. But I'll get back to my point.

2 The point of the WaterFix is to fix the CCF  
3 and all the problems caused and all the fish that's  
4 been killed. If under the new plan the CCF is not  
5 extensively modified, the safety and productivity of  
6 our farm will continue to be imperiled. So. . .

7 MR. EMRICK: Here. Can you hold that? I  
8 think this mike is --

9 WITNESS WOMACK: Thank you. Oh, that's much  
10 better.

11 So basically, you know, as we've been waiting,  
12 we've been under a cloud of condemnation for nearly 20  
13 years. We haven't been able to do what we wanted to  
14 do. We've been waiting, waiting, waiting. And now  
15 we're told that -- you know, that, "Oh, you can do what  
16 you want."

17 Also, in the original DEIR, there were -- they  
18 identified seepage problems, flooding problems, all  
19 sorts of damages that they were going to fix with the  
20 Clifton Court Forebay.

21 Furthermore, the existing embankments don't  
22 meet the DHCCP flood protection.

23 So all of those reasons -- now DWR wants to  
24 just leave the forebay the way it is after identifying  
25 all of these problems and create a new forebay. So

1 basically they just want to cut and run without fixing  
2 the Clifton Court Forebay. And I think that is another  
3 cloud they're putting on our property.

4           So we won't talk about seepage. We won't talk  
5 about water quality. We won't talk about levee  
6 failure. We won't talk about the permit that says  
7 there won't be any harm.

8           We'll move on to operations and  
9 maintenance which, of course, the main thing is the  
10 proposed project will not modify the project  
11 operations discussed and evaluated for the approved  
12 project.

13           What it doesn't say is there's a lot of new  
14 operations. But I'll get into that in surrebuttal,  
15 hopefully.

16           I wanted to look at -- you know, when I wrote  
17 this, I didn't know how operations and maintenance --  
18 how will they be worked out? And it turns out, good  
19 reason; that, you know, the -- there's going to be all  
20 sorts of things where they're going to require  
21 operations between the -- the DWR and Reclamation will  
22 be working together. There's all sorts of things.

23           So when I say -- will operations and  
24 maintenance have two divisions? They have DFD --that's  
25 Delta Field Division -- you know, for Clifton Court and

1 one for the Byron Tract Forebay.

2 I have all kinds of questions there, and I  
3 don't know what else -- at this point when I wrote  
4 this, I had nothing other than questions because there  
5 were no answers because they said there weren't going  
6 to be any changes in operations.

7 I went as simple as a security fence. It  
8 sounds minimal.

9 But could I have CCLP-55, please?

10 Seems like it's not a big deal but, you know,  
11 are they going to maintain the same -- here's a  
12 security fence. This one's pretty secure. But you see  
13 all the weeds and stuff? This is -- this was taken at  
14 the end of July.

15 Are they going to continue to maintain fences  
16 like this? This is a security fence. This is what  
17 keeps people from coming into the South Clifton Court  
18 Forebay. Are they going to do that on the Byron Tract  
19 Forebay? Boy, I wrote that wrong, "BFT." Sorry about  
20 that -- Byron Tract Forebay. Are they going to have  
21 these fences? Are they going to continue to only  
22 maintain part of it?

23 You see how there's a clear line and then it  
24 stops? That's not a secure fence. That's something  
25 that trespassers hide behind. And I just wonder if



1 they're going to do that for the Byron Tract Forebay as  
2 well. That's the Delta Field Division in charge. I'm  
3 very concerned.

4           Could I have CCLP-56?

5           Another way I'm concerned is that these are  
6 the embankments of the Clifton Court Forebay. This is  
7 how they maintained them. I believe this was 2010-'11.  
8 These are animal burrows that you see.

9           Since then -- well, I don't know if they fixed  
10 it or not because they've allowed the grass to grow.  
11 But this -- are they going to maintain embankments the  
12 same way for -- are they going to continue this with  
13 Clifton Court Forebay, or are they going to --  
14 especially now that they're fixing it, the rodents are  
15 a place -- nesting rodents are going to cause seepage  
16 in embankment or berm failure.

17           There are -- let's see. There are -- there  
18 are 13,000 -- over 13,000 people living in Discovery  
19 Bay. They allow squirrels and vermin and animal  
20 burrows that could have serious repercussions. It  
21 already is serious for Clifton Court. This concerns us  
22 greatly.

23           Let's see. And like I said, there are so many  
24 more operations and maintenance that I would really  
25 like a chance to address in surrebuttal. So I will

1 move on.

2           Recreation. Always recreation. You remember  
3 the fence. So we're back to CCLP-19-33. Basically,  
4 you know, the construction of the new Byron Tract  
5 Forebay will exasperate [sic] the trespassing and  
6 vandalism problem on our property. They say that there  
7 will be indirect effects on recreation and experiences  
8 may occur as a result of the impaired access,  
9 construction noise, negative visual effects, overall  
10 construction, and geotechnical exploration may occur  
11 year round and last from 2.5 to 11 years.

12           Given our -- this is -- let's see. I think if  
13 you scroll down -- oh, this is where it's left open and  
14 you can see people out there that have gone through.

15           We've -- you know, this is ongoing. I can  
16 show year after year of fishermen.

17           We believe -- when you close off for the Byron  
18 Tract Forebay where most people do their fishing,  
19 people will migrate to us. And again, I've noted that  
20 the Supplemental EIR basically says, "Hey, you're going  
21 to be on the South Clifton Court Forebay. You can go  
22 there." And that's in other testimony.

23           But, you know, there's no -- we believe the  
24 adverse effects will cause bank fishermen to gravitate  
25 to our property. Again, there's no parking, restroom

1 facilities on the south side of CCF. People have to --

2 If you can go back to A again, scroll back  
3 to A.

4 People have to go over a ditch. In this case,  
5 they used a piece of lumber. That child -- you know,  
6 that freaked me out that day. That was before I had a  
7 cell phone. These were just pictures. But this is a  
8 huge problem.

9 If we could -- thank you.

10 Moving on. Transportation congestion. When  
11 Highway 4 to the -- is backed up, basically the highway  
12 to Stockton, between Discovery Bay and Stockton,  
13 there's been cases where there's been emergencies.  
14 When that happens, the Byron Highway, it takes 10 to 20  
15 minutes just to get on the Byron Highway, to turn onto  
16 it. So anything that happens on Highway 4 impacts our  
17 roadways at Clifton Court.

18 Seismic risk. Again, we don't have levees at  
19 Clifton Court that the -- at the forebay. I don't  
20 believe that they're high enough to meet the standards,  
21 the construction standards. That was, I believe, in  
22 the EIR, the original one.

23 And of course there's -- the Byron Tract  
24 Forebay is going to be put on the Tracy Fault or nearer  
25 to the Tracy Fault. As well, I believe, there's more

1 of a fault with the tunnels -- the south tunnels  
2 that -- I've been in earthquakes, two earthquakes at  
3 Clifton Court, and I know there are earthquakes there.

4 Finally, the control structure on the DMC  
5 intake. When I wrote this, I had squares where the  
6 project is. They have supplied -- DWR supplied no  
7 drawings of the control structure.

8 Now, in the CER, they have a spiffy thing, but  
9 there's nothing to show what this 14.8 structure will  
10 look like.

11 And in the future with -- hopefully with  
12 surrebuttal, I can explain. And I know as an engineer  
13 you can't put a structure on an intake that requires  
14 Jones Pumping Plant to pull the water through and put a  
15 structure there, and then say, "I'm not hurting your  
16 water rights because I moved it."

17 This just isn't working. And I don't want to  
18 go into it a lot now. I just want to be able to say  
19 that this -- you know, I -- I have -- and I'll provide  
20 in the next thing. I have water rights that are  
21 guaranteed by the U.S. government that they'll give me  
22 the water, bring the water to me. And it's not going  
23 to happen if there's a big control structure.

24 I won't go on any more because I know -- oh,  
25 except if I could have CCLP-57. Perhaps you can kind

1 of see.

2 This is our diversion point, and it was put in  
3 in 1955 by the --

4 It's going to have to move around. Let's see.

5 This was taken in 2000- --

6 If you could rotate that, that would be very  
7 nice. Yeah.

8 This is -- this is before all the boards were  
9 taken for fishermen to build fires at night. The bass  
10 requires night fishing. This was put in according to  
11 CVP instructions in 1955. It wasn't -- it was not --  
12 it's never been -- my father has never been allowed to  
13 change it. And now you can --

14 Is there a reason we can't rotate that?

15 MS. RAISIS: It's a pdf.

16 WITNESS WOMACK: It's a pdf. Oh, I'm sorry  
17 about that. It's my limited -- anyway.

18 You can see it's right in the middle. It's  
19 way in the middle of the DMC intake, which is of course  
20 part of the CVP facility.

21 CO-HEARING OFFICER DODUC: Hold on,  
22 Ms. Womack.

23 It's a pdf? You should be able to go to  
24 "view" and "rotate view."

25 WITNESS WOMACK: Oh, awesome. Perfect.

1           And you can see the -- you know, this says  
2   it's a dirt, but there's -- actually, you can see the  
3   rock. They did rock this and actually build it up.

4           So this is, yeah, what happens when fishermen  
5   come and want to fish and are cold at night.

6           Anyway, you can see it's right in the middle.  
7   It's kind of alarming that the control structure -- you  
8   know, putting a gate on one side of it and cutting off  
9   the pump -- as an engineer -- I'm not an engineer. I  
10  can't figure it out. And there's a lot of times when  
11  the control structure, of course, will be closed.

12           Again, this is all stuff that wasn't in the  
13  Supplemental. And I really, really need a chance for  
14  more information from DWR on this to -- you know, to  
15  know what I'm dealing with, just -- or something,  
16  because this is serious to my water rights as  
17  contracted with the CVP.

18           Okay. Thank you so much.

19           CO-HEARING OFFICER DODUC: Thank you.

20           I believe there is cross-examination by DWR.

21           MR. MIZELL: We have no questions.

22           CO-HEARING OFFICER DODUC: Ms. Des Jardins is  
23  coming up.

24           Given the limited nature of Ms. Womack's  
25  testimony and the fact that she did cover it pretty

1 well, what additional -- what topics are you planning  
2 on exploring?

3 MS. DES JARDINS: I did want to ask her about  
4 some of the -- some of the statements on Page 5 of her  
5 testimony regarding the control structure, the DMC  
6 intake, and seismic risk, and also about the number of  
7 people.

8 CO-HEARING OFFICER DODUC: All right.

9 CROSS-EXAMINATION BY MS. DES JARDINS

10 MS. DES JARDINS: The DSOD.

11 So can we go to Page 5, please, of  
12 Ms. Womack's testimony.

13 Ms. Womack, you refer here to the new Byron  
14 Tract Forebay being designed and constructed according  
15 to DSOD requirements, correct?

16 WITNESS WOMACK: Yes. That's what I read.

17 MS. DES JARDINS: But you have concerns about  
18 the effectiveness of DSOD because of ignoring serious  
19 problems at Clifton Court Forebay, correct?

20 WITNESS WOMACK: Yes. I -- yes. I'm very  
21 concerned about our safety at Clifton Court.

22 CO-HEARING OFFICER DODUC: Mr. Mizell -- nope.  
23 You're just standing and stretching your legs. Okay.

24 MR. MIZELL: I thought I'd --

25 MS. DES JARDINS: And you have the -- you did

1 try to -- did you try to report your concerns to  
2 DSO- -- DOSD [sic]?

3 MR. MIZELL: Objection.

4 CO-HEARING OFFICER DODUC: And the basis of  
5 your objection?

6 MR. MIZELL: Beyond the scope of her rebuttal  
7 testimony.

8 CO-HEARING OFFICER DODUC: Ms. Des Jardins.

9 MS. DES JARDINS: I was just. . .

10 CO-HEARING OFFICER DODUC: Fishing?

11 MS. DES JARDINS: No. It was a question about  
12 the basis of Ms. Womack's question about how effective  
13 the Division of Safety of Dams is. She does  
14 specifically reference it in here.

15 CO-HEARING OFFICER DODUC: All right.  
16 Overruled.

17 WITNESS WOMACK: I've had numerous times that  
18 I've requested information from both -- well, I've  
19 requested through DWR at times, and then also I've  
20 made -- I've requested information on the dam at  
21 Clifton Court Forebay.

22 I've been told I can't get that information.  
23 Only the people that own it can get information. I've  
24 seen structures -- I've seen structures on the -- oh,  
25 I've seen structures on the --



1 CO-HEARING OFFICER DODUC: All right. Hold  
2 on.

3 WITNESS WOMACK: Yes.

4 CO-HEARING OFFICER DODUC: Mr. Mizell.

5 MR. MIZELL: Yes, I'd like to object to the  
6 answer as being beyond the scope of rebuttal testimony  
7 and surprise testimony.

8 We have a rhetorical question, apparently, in  
9 her testimony that's being used as a door to open this  
10 to a laundry list of new information that's not within  
11 the scope of her written testimony.

12 MS. DES JARDINS: I -- Ms. Womack, I would  
13 like to just ask you a very specific question.

14 CO-HEARING OFFICER DODUC: Hold on. Hold on.  
15 Do you have a response to Mr. Mizell's  
16 objection?

17 MS. DES JARDINS: It -- this was not -- this  
18 was not intended to open up a laundry list.

19 It was a very specific question of  
20 Ms. Womack, raising -- did she -- has she raised  
21 issues of serious problems at Clifton Court Forebay?  
22 And what's the basis of her concern about the  
23 effectiveness of Division of Safety of Dams?

24 I do accept that the -- I would also argue  
25 that Ms. Womack's inability to get any information from

1 Division of Safety of Dams is also relevant to her, the  
2 concern that she expressed.

3 CO-HEARING OFFICER DODUC: Be as that may,  
4 that is outside the scope. Objection sustained.

5 MS. DES JARDINS: Ms. Womack, can I ask you  
6 again just what's the basis of your concern you express  
7 here that -- about whether Division of Safety of Dams  
8 is effective?

9 CO-HEARING OFFICER DODUC: Mr. Mizell.

10 MR. MIZELL: Yes, I'd like to renew my  
11 objection. I am unable to find a reference in her  
12 testimony stating that DSOD is ineffective.

13 There is quite a lot of language that has been  
14 struck that, you know, might have been a link. But  
15 that was struck by the Board previously. So I would  
16 like a more specific citation if we could.

17 CO-HEARING OFFICER DODUC: Where is the  
18 citation, Ms. Des Jardins?

19 MS. DES JARDINS: Ms. Womack, you state since  
20 DWR is choosing to ignore serious programs at Clift- --  
21 CCF and fix them, one has to wonder how effective is  
22 DOS- -- DOSD, correct?

23 WITNESS WOMACK: Yes, exactly. If you  
24 identify all these problems and then you say, "Oh,  
25 we're not going to fix it. Oh, it's not our project."

1 CO-HEARING OFFICER DODUC: Again, I see  
2 Mr. Mizell's objection that this is a rhetorical  
3 question which is now being expanded to introduce new  
4 evidence.

5 The objection is sustained.

6 MS. DES JARDINS: Okay. I'd like to go down  
7 further.

8 You reference -- the Supplemental EIR/EIS  
9 states that Byron Tract Forebay would be located closer  
10 to development areas than Clifton Court Forebay,  
11 correct?

12 WITNESS WOMACK: Yes, that's correct.

13 MS. DES JARDINS: And more water would be  
14 impounded behind berms instead of within an excavation,  
15 correct?

16 WITNESS WOMACK: Yes.

17 MS. DES JARDINS: And that this would result  
18 in a greater risk to loss of property, personal injury,  
19 and death?

20 WITNESS WOMACK: Yes.

21 CO-HEARING OFFICER DODUC: Is there a question  
22 here, or are you just simply reading Ms. Womack's  
23 testimony into the record again?

24 MS. DES JARDINS: Ms. Womack, so your concern  
25 here is that the revised plan potentially puts many

1 more people at risk?

2 WITNESS WOMACK: Absolutely. I'm very  
3 concerned, and it's much -- it's so close to Discovery  
4 Bay, and there are so many people, and there are --  
5 there's only -- there's not many roadways.

6 CO-HEARING OFFICER DODUC: And again,  
7 Ms. Des Jardins, I'm begging you to please make use  
8 of your cross-examination time to add information  
9 and evidence to the record, not simply just  
10 reaffirming what we all can read in Ms. Womack's  
11 testimony.

12 MS. DES JARDINS: If I could -- could I bring  
13 up the Supplemental EIR/EIS Map Book, M -- M3-4? It's  
14 Exhibit SWRCB-113, the map book M3-M4 and Page 11,  
15 please.

16 And can we scroll out a bit? Scroll out.  
17 Scroll out more. Can we -- yeah, scroll out a bit  
18 more.

19 So, Ms. Womack, does this map book show the  
20 location of the new Byron Tract Forebay?

21 WITNESS WOMACK: Yes.

22 MS. DES JARDINS: And is the area north of the  
23 forebay Discovery Bay?

24 WITNESS WOMACK: Yes.

25 MS. DES JARDINS: And is that what you refer

1 to as the proximity?

2 WITNESS WOMACK: Yes, I believe it's 0.4 miles  
3 away on a very flat land, you know, that's -- yeah.

4 MS. DES JARDINS: And can we scroll down to  
5 Page 12, please.

6 And does this show -- this shows the southern  
7 part of Clifton Court Forebay, correct?

8 WITNESS WOMACK: Yes.

9 MS. DES JARDINS: And how close it is to Byron  
10 Tract Forebay?

11 WITNESS WOMACK: Yes.

12 MS. DES JARDINS: So this facility that's  
13 illustrated on these maps is part of your concern; is  
14 that correct?

15 WITNESS WOMACK: Absolutely.

16 MS. DES JARDINS: So -- and, Ms. Womack, are  
17 you concerned about the proximity of Clifton Court  
18 Forebay to the new Byron Tract Forebay?

19 WITNESS WOMACK: I -- I believe it can  
20 cause -- yeah, I believe there could be problems if the  
21 forebay, Clifton Court Forebay, fails.

22 MS. DES JARDINS: Thank you. I would like to  
23 go back to Page 5 of your testimony. And just asking  
24 you, so you -- you state here that your pump sits right  
25 in the middle of the DMC intake; is that correct?

1           WITNESS WOMACK: Yes. It was put there by an  
2 arrangement when the -- our property was taken for the  
3 Tracy Fish -- what's now called the Tracy Fish  
4 Facility.

5           A floodgate was taken, and in exchange, the  
6 CVP, the Bureau, the DOI gave us a very -- a contract  
7 that they would deliver water to us. We went from  
8 having a floodgate to having a pump in the middle that  
9 they specified.

10           So we were -- we lost, but we do have a  
11 contract that says they will deliver.

12           MS. DES JARDINS: And so -- so your concern  
13 here is that the control structure will impede your  
14 access to water at that pump; is that correct?

15           WITNESS WOMACK: Well, absolutely.

16           CO-HEARING OFFICER DODUC: That's what it says  
17 in her testimony.

18           WITNESS WOMACK: Well, but as I -- you know,  
19 when this was written, I didn't have the operations  
20 that told me later on that the Byron Tract Forebay, the  
21 North -- the North Delta, you know -- North Delta  
22 isolation --

23           CO-HEARING OFFICER DODUC: Ms. Womack,  
24 Mr. Mizell has an objection.

25           WITNESS WOMACK: Of course he does.

1           MR. MIZELL: Yes. It's going beyond the  
2 question.

3           CO-HEARING OFFICER DODUC: And beyond the  
4 scope. Sustained.

5           WITNESS WOMACK: Okay. As long as I get a  
6 chance somewhere to talk about these operations that  
7 are going to affect -- they're going to close down the  
8 whole structure.

9           CO-HEARING OFFICER DODUC: Hold on. There's  
10 no question pending.

11          WITNESS WOMACK: Oh, I'm sorry.

12          MS. DES JARDINS: And finally, just to  
13 summarize your testimony, I wanted to go back up to  
14 Page 2 of your testimony.

15          WITNESS WOMACK: Yes.

16          MS. DES JARDINS: And you're concerned that,  
17 under the new plan with CCF not being extensively  
18 modified, you're concerned about the safety and  
19 productivity of your farm?

20          WITNESS WOMACK: Absolutely, absolutely. We  
21 haven't been afforded protection, any protection, you  
22 know, no protection whatsoever. No -- you know,  
23 just -- there's nothing. They're just walking away,  
24 saying "here's a problem," and walking away.

25          I'm very concerned. This has been 50 years

1 since the CCF was put in. This is the first time I've  
2 been able to talk about damages; 50 years. In another  
3 50 years, I'll be dead, hopefully.

4 MS. DES JARDINS: And you reference a cloud of  
5 condemnation, and there's a -- you -- it -- you have a  
6 concern about being even able to sell your land?

7 WITNESS WOMACK: Oh, absolutely, absolutely.  
8 You know, there's -- there's a cloud. The last 20  
9 years, there's been a cloud of, "Oh, we're going to  
10 take your property. Oh" -- you know, and then other  
11 people certainly aren't interested, and farmers aren't  
12 interested in farming. It's very hard to get a farmer.

13 This has cost us an enormous amount of money,  
14 and there's been no mitigation.

15 MS. DES JARDINS: Thank you. That concludes  
16 my cross-examination, Ms. Womack.

17 CO-HEARING OFFICER DODUC: Mr. Emrick.

18 MR. EMRICK: If that's all there is to  
19 cross-exam, I just have one thing I wanted to clarify.  
20 I think you defined it when you started talking about  
21 it, but you talked about the CER, and that's the  
22 Conceptual Engineering Report; is that correct?

23 WITNESS WOMACK: Yes.

24 MR. EMRICK: I don't have anything else other  
25 than to ask Ms. Womack to move her testimony and



1 exhibits into evidence, and then I have one question  
2 after she does that.

3 CO-HEARING OFFICER DODUC: Any objections?

4 MS. THOR: Emily Thor for DWR. We would  
5 object to CCLP-52, -53, and -54. These were cited in  
6 support of testimony that was struck by the Board under  
7 their July 27th ruling and are outside the scope.

8 CO-HEARING OFFICER DODUC: If that is indeed  
9 the case, and staff will confirm, then those will not  
10 be moved into the exhibits.

11 Otherwise, the rest will be.

12 MS. THOR: Thank you.

13 MR. EMRICK: Thank you.

14 (Exhibits CCLP-50-R, CCLP-55, CCLP-56, and  
15 CCLP-57 admitted into evidence)

16 MR. EMRICK: And then the question I had is  
17 when these proceedings started, Ms. Womack was  
18 directed, I believe, by the Board to meet with DWR, and  
19 there was a transcript of that meeting under oath.

20 And we're wondering where in the scope of  
21 testimony, evidence, and so forth this fits in?

22 CO-HEARING OFFICER DODUC: I don't believe it  
23 was my intention at the time to include that in the  
24 testimony -- in the record.

25 It was my intention that DWR -- well,

1 Petitioners DWR meet with Ms. Womack to identify  
2 whether there are issues that could be addressed that  
3 are properly addressed outside of these hearings.

4 MR. EMRICK: Okay.

5 WITNESS WOMACK: But it refers to transcript  
6 of proceedings, and there indeed have been a lot of --  
7 there's many things in here that were said, and has  
8 been nothing. I mean, there's --

9 CO-HEARING OFFICER DODUC: To my knowledge --

10 WITNESS WOMACK: Can I move this into  
11 evidence?

12 CO-HEARING OFFICER DODUC: To my knowledge, no  
13 one has, one, moved it into evidence or has used it in  
14 any case-in-chief or rebuttal testimony.

15 WITNESS WOMACK: I did refer to it when I had  
16 my questions for surrebuttal cross. I don't know -- I  
17 mean cross rebuttal. I have, you know -- I don't know.  
18 I've -- I've -- I've referred to them there. I'd like  
19 to be able to refer to them, especially as we -- if we  
20 move to surrebuttal.

21 CO-HEARING OFFICER DODUC: Response or  
22 objections?

23 MR. MIZELL: Tripp Mizell, DWR.

24 The Department would object to moving that  
25 into evidence. It's a transcript of a meeting that

1 took place outside of the hearing. DWR did hire a  
2 court reporter to sit in on that meeting. This is the  
3 transcript. We mailed a copy to Ms. Womack.

4 But it is not part of the transcript being  
5 developed for this hearing. It was for DWR's own  
6 purposes and for Ms. Womack's reference later, back to  
7 recall what that external meeting discussed.

8 So to the extent that it has not been  
9 referenced to date by any -- any of the testimony or  
10 exhibits, that -- we don't believe that it's proper to  
11 submit it into testimony now.

12 CO-HEARING OFFICER DODUC: Hold on.

13 MS. MORRIS: I would join the objection for  
14 two different reasons. It's outside the scope, as the  
15 Hearing Officer indicated. It was on issues that were  
16 unrelated to this hearing, so it's not proper. And  
17 secondly, it shouldn't have come in as evidence because  
18 it wasn't sworn testimony. It was a transcript of a  
19 conversation, and nobody has the opportunity to  
20 cross-examine, and we probably don't need to because  
21 it's outside the scope of this hearing.

22 CO-HEARING OFFICER DODUC: All right.

23 WITNESS WOMACK: It was in regard to  
24 recreation, very directly. It was in regard, uh -- to  
25 many things, and it was ordered by you. You required

1 DWR meet with me.

2 CO-HEARING OFFICER DODUC: To discuss matters  
3 that are outside of the scope of this hearing and  
4 should be addressed outside the scope of this hearing.

5 At this time, Mr. Emrick, I'm not accepting  
6 that into the record.

7 MR. EMRICK: Thank you.

8 CO-HEARING OFFICER DODUC: All right. With  
9 that, County of Sacramento.

10 AMBER VESELKA and CHRISANDRA FLORES,  
11 called as Part 2 Rebuttal witnesses by  
12 the County of Sacramento Water Agency,  
13 were examined and testified as  
14 hereinafter set forth:

15 (Witnesses Veselka and Flores duly sworn  
16 on Page 103)

17 CO-HEARING OFFICER DODUC: Mr. Ferguson.

18 MR. FERGUSON: Thank you. Aaron Ferguson for  
19 the County of Sacramento.

20 The County of Sacramento is going to be  
21 presenting rebuttal testimony from Chrisandra Flores  
22 and Amber Veselka.

23 DIRECT EXAMINATION BY MR. FERGUSON

24 MR. FERGUSON: So I'm going to start with  
25 Ms. Flores. She's going to address agricultural

1 issues.

2 So, Ms. Flores, is SACO-24 a true and correct  
3 copy of your testimony?

4 WITNESS FLORES: It is.

5 MR. FERGUSON: And is SACO-25 a true and  
6 correct copy of your statement of qualifications?

7 WITNESS FLORES: Yes.

8 MR. FERGUSON: And did you rely on SAC-026 and  
9 SAC-27 in developing your testimony?

10 WITNESS FLORES: I did.

11 MR. FERGUSON: Can you please go ahead and  
12 summarize your rebuttal testimony.

13 WITNESS FLORES: So, good afternoon. My name  
14 is Chrisandra Jo Flores. I am the Chief Deputy  
15 Agricultural Commissioner for Sacramento County's Ag  
16 Department.

17 And back in March of 2018, Julie Jensen, the  
18 Ag Commissioner, testified in front of this Board  
19 regarding the impacts of the California WaterFix  
20 project to Sacramento County Delta agriculture. She  
21 described the types of agriculture grown in the area  
22 and economic value of these agricultural businesses.

23 She testified that approximately a thousand  
24 acres of Sacramento County farmland would be lost to  
25 permanent agriculture due to the California WaterFix

1 approved project.

2 CO-HEARING OFFICER DODUC: Ms. Flores, if I  
3 might interrupt.

4 Mr. Ferguson, have your witnesses taken the  
5 oath?

6 MR. FERGUSON: No. Excuse me. They have not.

7 CO-HEARING OFFICER DODUC: Please stand and  
8 raise your right hand.

9 (Witnesses comply)

10 CO-HEARING OFFICER DODUC: Do you swear or  
11 affirm that the testimony you're about to give is the  
12 truth?

13 WITNESS FLORES: Yes.

14 WITNESS VESELKA: Yes.

15 CO-HEARING OFFICER DODUC: Including the  
16 testimony that you have already given?

17 WITNESS FLORES: Yes.

18 WITNESS VESELKA: Yes.

19 (Witnesses duly sworn)

20 CO-HEARING OFFICER DODUC: Thank you.

21 WITNESS FLORES: Okay. So she also estimated  
22 the economic loss to the agricultural industry in  
23 Sacramento County using Dr. Jeffery Michael's testimony  
24 and calculations that were based on year 2009 economic  
25 conditions.

1           She estimated a loss in agricultural revenue  
2 of \$1.9 million per year; a loss of 24 jobs per year;  
3 and a loss in income of \$1.9 million per year in  
4 2009 rev- -- or 2016 dollars. Excuse me.

5           Due to the proposed changes to the California  
6 WaterFix project evaluated in the Department of Water  
7 Resources WaterFix EIR/EIS Supplement, my testimony  
8 will focus on the additional potential impacts to  
9 Sacramento County's ag industry.

10           The proposed project includes changes, as you  
11 know, to the locations of the reusable tunnel material  
12 storage areas in the vicinity of the Intermediate  
13 Forebay. An additional 44 acres of Important Farmland  
14 will be permanently converted to nonagricultural uses.  
15 An additional 119 acres of Williamson Act contracted  
16 land will also be permanently converted in Sacramento  
17 County.

18           These lands are some of the most fertile and  
19 productive agricultural lands in the state of  
20 California. They're very productive ag soils. And  
21 this permanent conversion means a loss of agricultural  
22 food production sites, employment opportunities,  
23 wildlife value, and scenic open space.

24           The permanent conversion has also a negative  
25 economic impact. In using Dr. Jeffery Michael's

1 calculations, I have roughly calculated the economic  
2 impact to Sacramento County, putting 44 additional  
3 Important Farmland acres at a value of about 1949 per  
4 acre in loss of revenue. And the permanent conversion  
5 of the additional 44 acres of Important Farmland would  
6 equal a loss of one additional job and then  
7 approximately 86,000 per year in income.

8           The loss of Williamson Act contracted lands in  
9 regards to the conversion and permanent loss of these  
10 lands will also not only have a negative effect on  
11 those subject parcels but also adjacent Williamson Act  
12 contracted lands. Non-compatible uses adjacent to  
13 farming operations can negatively affect the way the  
14 farm is managed, accessibility, pest management,  
15 operations, harvest operations, et cetera. And  
16 landowners are likely to experience these adverse  
17 effects.

18           In conclusion, I'd like to say that the  
19 additional impacts to Important Farmland in Williamson  
20 Act contracted lands in Sacramento County from the  
21 proposed project changes will further exacerbate the  
22 severe impacts to the Delta area ag industry and the  
23 Delta community as a whole. Thank you.

24           CO-HEARING OFFICER DODUC: Thank you.

25           Actually, before we move on, let's make sure



1 that the court reporter knows that's Mr. Ferguson, not  
2 Mr. Hitchings.

3 THE COURT REPORTER: Right.

4 CO-HEARING OFFICER DODUC: Okay.

5 THE COURT REPORTER: Thank you. I appreciate  
6 that.

7 MR. FERGUSON: Can I ask two clarifying  
8 questions, please?

9 Ms. Flores, can you -- you mentioned lost --  
10 if I understood you correctly, lost revenue. And I'll  
11 just -- also I think you mentioned lost income. Could  
12 you please just clarify, based on your calculations  
13 with the loss of the additional 44 acres, what the lost  
14 revenue is and what the lost income is?

15 WITNESS FLORES: Yeah. So according to our  
16 calculations, the loss in revenue is 1,949 per acre.  
17 So assuming 44 more acres of converted farmland, this  
18 loss in revenue would be about \$86,000 per year, and  
19 that's in 2009 dollars.

20 MR. FERGUSON: And then for the loss of  
21 income?

22 WITNESS FLORES: The loss of income is  
23 approximately \$82,000 per year.

24 MR. FERGUSON: Thank you.

25 MR. BURKE: Okay. Good afternoon. I'm

1 Bill Burke with Sacramento County Counsel. I'm going  
2 to have a few questions for County's witness, Ms. Amber  
3 Veselka.

4 DIRECT EXAMINATION BY MR. BURKE

5 MR. BURKE: Ms. Veselka, can you please state  
6 your name for the record.

7 WITNESS VESELKA: Amber Veselka.

8 MR. BURKE: And is Exhibit SACO-28 a true and  
9 correct copy of your written testimony?

10 WITNESS VESELKA: Yes.

11 MR. BURKE: And are Exhibits SACO-29  
12 through -33 true and correct copies of various excerpts  
13 from the Admin Draft Supplemental EIR?

14 WITNESS VESELKA: Yes.

15 MR. BURKE: And is Exhibit SACO-34 a true and  
16 correct copy of your written statement of  
17 qualifications?

18 WITNESS VESELKA: There is a misstatement in  
19 my qualifications in that exhibit, SACO-34. I started  
20 working with Sacramento County Regional Parks in 2004  
21 as a recreation specialist, stationed down at the  
22 Cosumnes River Preserve. And in 2008, I was then  
23 promoted as the rec supervisor to oversee the work at  
24 CRP. So there's a misstatement there. Worked at the  
25 preserve as a rec specialist, and it's actually since

1 2004.

2 MR. BURKE: Okay. And with that correction,  
3 that is your exhibit, SACO-34?

4 WITNESS VESELKA: Yes.

5 MR. BURKE: What is your current job title?

6 WITNESS VESELKA: I'm a recreation supervisor  
7 with Sacramento County Regional Parks.

8 MR. BURKE: And can you briefly give us a  
9 summary of your academic and professional background as  
10 they relate to your testimony?

11 WITNESS VESELKA: Sure. So my statement of  
12 qualifications lists that I've been working with the  
13 County since 2004. I oversee and manage the County  
14 Regional Delta sites, the facilities, activities, and  
15 recreation opportunities in the Delta region, as well  
16 as work at the Cosumnes River Preserve.

17 I oversee three advisory councils. One of  
18 them is County Service Area 4C, which serves recreation  
19 programs to the Delta community. And I have a  
20 bachelor's degree in recreation -- parks, recreation,  
21 and tourism from the University of North Carolina  
22 Greensboro.

23 MR. BURKE: Okay. In preparation for your  
24 testimony, did you read portions of the California  
25 WaterFix Admin Draft Supplemental EIR?

1           WITNESS VESELKA: Yes. I read Chapters 3, 15,  
2 17, 23, portions of 12 -- of the Admin Draft  
3 Supplemental EIR as well as portions of the Final EIR  
4 as necessary to become familiar with the proposed  
5 project.

6           MR. BURKE: Okay. And based on your review of  
7 the EIR, have you formed an opinion as to how the  
8 project, as revised in the Supplemental, would affect  
9 Stone Lakes National Wildlife Refuge?

10           WITNESS VESELKA: So the realignment of the  
11 tunnel route increases the impacts to Stone Lakes  
12 National Wildlife Refuge. Stone Lakes is a refuge  
13 along the Pacific Flyway. It consists of a mosaic of  
14 habitats, including wetlands, grassland, riparian  
15 areas, and it's home to over 200 species of birds and  
16 numerous other fish and wildlife.

17           Stone Lakes National Wildlife Refuge and the  
18 Cosumnes River Preserve work together to preserve and  
19 protect a contiguous corridor for wintering Pacific  
20 Flyway migration birds and the flora and fauna of the  
21 Delta region. Stone Lakes provides recreation  
22 opportunities for visitors to hike, bird watch,  
23 photograph, and paddle.

24           As development continues and Sacramento County  
25 grows, there are fewer places that people can escape in

1 nature. The refuge depends on a quiet, undisturbed  
2 environment. The new North Tunnel alignment will shift  
3 almost a half a mile closer to Stone Lakes National  
4 Wildlife Refuge. The tunnel route will be now as close  
5 as 100 to 200 feet closer to Stone Lakes.

6 The Final EIR previously concluded significant  
7 and unavoidable long-term reduction in recreation  
8 opportunities and experiences. Those impacts on  
9 recreation included access, noise, visual character,  
10 and reduced wildlife viewing.

11 Also, the EIR's indirect impact area will now  
12 encroach even further into Stone Lakes -- Stone Lakes  
13 National Wildlife Refuge. The increase in the  
14 proximity of the tunnel route and with ten-plus years  
15 of construction, this constitutes a substantial  
16 increase in the severity of previously identified  
17 impact.

18 Moreover, it constitutes an adverse impact to  
19 public interest. There will also be increased exposure  
20 and an increase in magnitude of noise, ground-boring  
21 vibration, and visible impacts, all closer to Stone  
22 Lakes National Wildlife Refuge.

23 Additionally, there is an increase in the  
24 amount of parcels subject to significant noise impact,  
25 97 more residential parcels than before the revision.

1 Also, expect severity of noise impact to increase due  
2 to the closer proximity. This will also impact the  
3 recreational parcels.

4           There will also be an impact on the wildlife  
5 which is a key component of the recreational  
6 opportunity and experience at Stone Lakes. There will  
7 be impacts through artificial lighting, geotechnical  
8 boring, and construction-related noise, dust and visual  
9 disturbance caused by grading, filling, and contouring  
10 and other ground-disturbing operations outside the  
11 project footprint.

12           Impacted species include the Sandhill cranes,  
13 western pond turtles, yellow warblers, Swainson's  
14 hawks, tricolored blackbirds, and burrowing owls, as  
15 well as many other species.

16           MR. BURKE: Okay. And also, based on your  
17 review of the EIR and Supplemental -- Admin  
18 Supplemental EIR, have you formed an opinion as to how  
19 the changes in the project with respect to RTM areas  
20 would affect the Cosumnes River Preserve?

21           WITNESS VESELKA: Yes. There's been a  
22 substantial increase in the size of the RTM area  
23 adjacent to the Cosumnes River Preserve. The Preserve  
24 consists of over 50,000 acres of wildlife habitat and  
25 agricultural lands owned by seven land-owning partners.

1 Sacramento County along with State, federal, nonprofits  
2 are all part of this cooperative partnership at the  
3 Preserve.

4           The Preserve is centered along the Cosumnes  
5 River, its floodplains and riparian habitat. CRP, or  
6 Cosumnes River Preserve, provides recreation  
7 opportunities for over 60,000 visitors annually to  
8 hike, bird-watch, photograph, and paddle. The Preserve  
9 has strong environmental education programs and has  
10 brought out as many as 10,000 students for field trips  
11 or service learning opportunities in one year.

12           The Preserve's visitors and wildlife, like the  
13 refuge, depend upon quiet, undisturbed environment.  
14 This substantial increase in the size of RTM,  
15 reconfiguration of the three RTM areas that are now  
16 near the Preserve would result in a 352-acre total site  
17 on either side of Twin Cities Road -- 275 to the north  
18 and 75 to the south.

19           The reconfiguration appears to actually be a  
20 consolidation of RTM areas, including previous sites  
21 near the Intermediate Forebay, resulting in an  
22 additional 156 acres of RTM area at 10 to 15 feet in  
23 height immediately north of the Preserve. This will be  
24 a substantial increase in the visual impacts to users,  
25 visitors, hikers of the Cosumnes River Preserve.

1           The existing topography in and around the  
2 Preserve is typically flat valley floor. This would be  
3 a drastic difference and constitutes incrementally  
4 significant and unnatural addition to the surrounding  
5 scenery.

6           MR. BURKE: And have you formed an opinion as  
7 to how the changes in the project would affect Staten  
8 Island?

9           WITNESS VESELKA: Yes. So Staten Island is  
10 part of the Cosumnes River Preserve. It's a 9,000-plus  
11 acre island and one of the more important sites there  
12 for the protected greater Sandhill crane in the Delta.  
13 The shaft site on the northern portion of Staten  
14 Island, originally proposed for 10 acres, will now be  
15 39 acres, for a 29-acre increase.

16           Also, the revised project would also add a  
17 10-acre safe haven work area to Staten Island for a  
18 total of three such areas.

19           Staten Island is characterized by agricultural  
20 uses and wildlife habitat, but like the majority of the  
21 preserved ag land, they're farmed in a  
22 wildlife-friendly manner that benefits the wildlife.  
23 Staten Island benefits primarily migratory waterfowl,  
24 especially the Sandhill cranes.

25           Additional project elements increase the



1 substantial adverse impact to the public interest in  
2 terms of visual impacts.

3 MR. BURKE: And I have no further questions.

4 CO-HEARING OFFICER DODUC: Thank you.

5 I have cross estimates from DWR for 30  
6 minutes. Is that still the case?

7 MR. MIZELL: I will avoid saying I just have  
8 one question, so I will say I have very few questions,  
9 and I think we can do it in much shorter than 30  
10 minutes.

11 CO-HEARING OFFICER DODUC: Fifteen?

12 MR. MIZELL: Easily.

13 CO-HEARING OFFICER DODUC: All right. I also  
14 have a request from Ms. Des Jardins for 20 minutes.

15 Is that still the case?

16 MS. DES JARDINS: I believe I only have, like,  
17 about two questions, so it shouldn't --

18 CO-HEARING OFFICER DODUC: Engineering, too,  
19 right?

20 MS. DES JARDINS: It could be engineering,  
21 too. Thank you.

22 CO-HEARING OFFICER DODUC: I'm trying to  
23 determine whether we continue or we break for lunch  
24 now.

25 Ms. Meserve?

1 MS. MESERVE: Group 47, 15 minutes, please.

2 CO-HEARING OFFICER DODUC: Let's try do it  
3 before 1:00. All right.

4 Mr. Mizell.

5 CROSS-EXAMINATION BY MR. MIZELL

6 MR. MIZELL: Okay. If we could bring up  
7 SACO-28, please. And I'll be looking at Page 2, top of  
8 Page 2, Lines 2 and 3.

9 So, Ms. Veselka, on Lines 2 and 3, you mention  
10 that the facility, the tunnel footprint will now be as  
11 close as 100 to 200 feet from the refuge.

12 Are you aware of what the closest surface  
13 impact will be to the refuge?

14 WITNESS VESELKA: Surface impact? What is a  
15 surface impact, closest surface impact?

16 MR. BURKE: Objection, vague.

17 CO-HEARING OFFICER DODUC: I was wondering the  
18 same, Mr. Mizell.

19 MR. MIZELL: Very well. What is the closest  
20 impact that will be on the surface of the ground and  
21 not underground in relation to the refuge?

22 WITNESS VESELKA: The closest impact would be  
23 the visual impacts, the noise impacts; the impacts to  
24 the wildlife I believe was in my testimony as well.  
25 The wildlife depends on the quiet, undisturbed

1 environment. So the noise impacts is the mainly  
2 significant impact.

3 MR. MIZELL: And you're aware that the tunnel  
4 is underground by several hundred feet; is that  
5 correct?

6 WITNESS VESELKA: That's correct.

7 MR. MIZELL: So you're asserting in your  
8 testimony that, despite several hundred feet of earth  
9 between the tunnel and the refuge, that there would be  
10 surface impacts?

11 MS. VESELKA: Yes.

12 CO-HEARING OFFICER DODUC: My understanding  
13 was we're talking about construction.

14 MS. VESELKA: Correct.

15 CO-HEARING OFFICER DODUC: Mr. Mizell, I'm  
16 confused.

17 MS. DES JARDINS: Excuse me. I have an  
18 objection in that Mr. Mizell's question misstates the  
19 evidence, and I don't believe that the tunnel is  
20 several hundred feet below the surface.

21 MR. BURKE: I would add on to that, that that  
22 was a bit of a lead to my witness, and it does misstate  
23 DWR's own information in the EIR.

24 CO-HEARING OFFICER DODUC: Mr. Mizell, let's  
25 backtrack a little bit and help me understand. Are you

1 referring -- are your questions being directed to  
2 Ms. Veselka in terms of the construction impact that's  
3 in her testimony?

4 MR. MIZELL: That's correct. I'm trying to  
5 inquire as to precisely what construction mechanism  
6 she's concerned about being within 100 to 200 feet of  
7 the refuge.

8 CO-HEARING OFFICER DODUC: Might we just ask  
9 her that directly?

10 MR. MIZELL: I believe I did, and she  
11 responded.

12 CO-HEARING OFFICER DODUC: Noise?

13 MR. MIZELL: Noise and visual impacts.

14 Now, the visual impacts would imply that  
15 something is going on on the surface within 100 to 200  
16 feet of the refuge. So my questions go to precisely  
17 what part of construction does she believe will be on  
18 the surface 100 to 200 feet from the refuge?

19 CO-HEARING OFFICER DODUC: Thank you for  
20 clarifying.

21 WITNESS VESELKA: Well, the tunnels are moved  
22 a half a mile closer to the Stone Lakes National  
23 Wildlife Refuge.

24 MR. MIZELL: And the tunnels will be  
25 underground, correct?

1 WITNESS VESELKA: Correct.

2 MR. MIZELL: So is there a surface impact --  
3 or I'm sorry. That was a confusing term earlier.

4 Is there anything with regards to the visual  
5 impacts that you've referenced in your testimony that's  
6 going to occur within 100 to 200 feet of the refuge?

7 WITNESS VESELKA: I believe my testimony  
8 states the impacts that I think would be impacted to  
9 the Stone Lakes. So -- and I believe I stated there  
10 would be some artificial lighting, geotechnical boring,  
11 construction-related noise, dust, and visual  
12 disturbance.

13 MR. MIZELL: So it's your understanding that  
14 visual -- that artificial lighting would occur within  
15 100 to 200 feet of the refuge?

16 WITNESS VESELKA: Yes, it's my understanding  
17 that might occur.

18 MR. MIZELL: Thank you. No further questions.

19 CO-HEARING OFFICER DODUC: Thank you,  
20 Mr. Mizell.

21 Ms. Meserve, Ms. Des Jardins, the two of you  
22 can flip coins as to who goes first.

23 CROSS-EXAMINATION BY MS. MESERVE

24 MS. MESERVE: Good afternoon. I have a couple  
25 of questions for Ms. Veselka regarding the impacts on

1 recreational resources as well as a couple for  
2 Ms. Flores regarding the economic impacts. So I'll  
3 just keep with Ms. Veselka, if that's all right.

4 I represent Stone Lakes National Wildlife  
5 Refuge Association, Friends of Stone Lakes, and Local  
6 Agencies of the North Delta.

7 So looking at your testimony, Ms. Veselka, on  
8 Page 2 you refer to a statement in the Admin Draft EIR  
9 regarding no additional impacts.

10 In your preparing for this testimony, did you  
11 find any discussion of impacts on the refuge from  
12 moving the alignment closer?

13 WITNESS VESELKA: No, I did not see them  
14 discuss any additional impacts.

15 MS. MESERVE: And then at Page 5 of your  
16 testimony on Line 28, you discuss the Cosumnes River  
17 Preserve. What kinds of uses are there at the Cosumnes  
18 River Preserve?

19 WITNESS VESELKA: Hiking, bird watching,  
20 photography, kayaking, canoeing, paddling along the  
21 waterways.

22 MS. MESERVE: And with respect to the  
23 relocation of the muck, were you able to locate any  
24 figure that showed the relationship of that new muck  
25 location to the Preserve?

1 WITNESS VESELKA: No, I was not.

2 MS. MESERVE: And would you be concerned about  
3 the noise from the placement of that muck in that  
4 location and the effect it would have on the uses of  
5 Cosumnes River Preserve?

6 WITNESS VESELKA: Yes, I would.

7 MS. MESERVE: And why is that?

8 WITNESS VESELKA: There's lots of paddlers, so  
9 I would be concerned with some of the paddlers that go  
10 as well as the bird watchers and photographers with  
11 some of the visual impacts. As I said, it's a flat  
12 valley floor, so something that's 10 to 15 feet would  
13 create a substantial visual impact.

14 MS. MESERVE: What about the noise of the  
15 placement of that material during the construction  
16 period, would you be concerned about that?

17 WITNESS VESELKA: Yes, though I'm not exactly  
18 sure what that would entail.

19 MS. MESERVE: Did you find any discussion of  
20 that effect on the Cosumnes River Preserve in the  
21 Sup- -- in the Admin Draft SEIR?

22 WITNESS VESELKA: Not that I recall.

23 MS. MESERVE: So is it fair to say you would  
24 be concerned both about the construction phase as well  
25 as long-term with that muck placement in that location?

1           WITNESS VESELKA: That is correct. And the  
2 substantial increase in size.

3           MS. MESERVE: And then on Page 7 of your  
4 testimony, you discuss the Staten Island changes to the  
5 configuration of the project.

6           With respect to Staten Island, what would you  
7 say the level of recreational use is, based on your  
8 experience?

9           WITNESS VESELKA: During crane-viewing season  
10 which is -- the cranes arrive usually around mid  
11 September through early -- early March, there is a lot  
12 of bird watching in that area, especially November  
13 through January, which is the main part of the season  
14 for bird watchers, and there is high recreation use on  
15 the island.

16           MS. MESERVE: So if there was construction  
17 occurring on this island, would you think that would  
18 interfere with those recreational users being out there  
19 on the island?

20           WITNESS VESELKA: Definitely, yes.

21           MS. MESERVE: How do you think it would  
22 interfere?

23           WITNESS VESELKA: There would be a substantial  
24 adverse impact to the public interest of the visual  
25 impacts as well as probably increased traffic and



1 noise.

2 MS. MESERVE: And currently, the condition of  
3 the island is fairly quiet, would you say?

4 WITNESS VESELKA: Yes.

5 MS. MESERVE: So would you be concerned about  
6 whether the cranes, for instance, would continue to use  
7 that island for habitat?

8 WITNESS VESELKA: Yes, I would be concerned.

9 MS. MESERVE: And in your review of the  
10 Supplemental Draft EIR, did you find any additional  
11 mitigation or avoidance measures to try to address the  
12 increase in disturbance on Staten Island that you  
13 discuss in your testimony?

14 WITNESS VESELKA: No, I did not.

15 MS. MESERVE: Thank you.

16 Ms. Flores, on Page 3, starting at Line 10,  
17 you calculate lost revenue from additional acres of  
18 farmland that would be converted under the revised  
19 proposed project; is that correct?

20 WITNESS FLORES: It is.

21 MS. MESERVE: And with respect to that  
22 calculation, is there a reason you chose to use  
23 Dr. Michael's 2009 numbers?

24 WITNESS FLORES: I did that for consistency  
25 with Ms. Jensen's earlier testimony in March.

1 MS. MESERVE: And according to Dr. Michael's  
2 testimony, which you cite, SDWA-134-R, his calculated  
3 loss per acre was \$1949 on an average where  
4 construction impacts were proposed to occur as of 2009;  
5 is that correct?

6 WITNESS FLORES: That's my understanding, yes.

7 MS. MESERVE: Have you tried to look at  
8 lost-revenue analyses that were more specific to  
9 Sacramento County parcels that would be permanently  
10 converted?

11 WITNESS FLORES: I did. We every year ask  
12 farmers through a crop report survey to provide revenue  
13 data to us, and I was able to look up specific parcel  
14 data based on their reports and -- and the GIS data  
15 that we have in-house.

16 MS. MESERVE: And what did that show?

17 CO-HEARING OFFICER DODUC: Hold on, please.

18 Mr. Mizell.

19 MR. MIZELL: Yes. At this point, I'd like to  
20 object to this question as being beyond the scope of  
21 her rebuttal testimony. At no point does she reference  
22 additional sources of economic analysis that she  
23 consulted.

24 CO-HEARING OFFICER DODUC: Ms. Meserve.

25 MS. MESERVE: She discusses a calculation she

1 made, and I wanted to test that because it was based on  
2 an average. So my question was simply, you know, what  
3 else -- how else we might look at that number.

4 MR. MIZELL: Elaborating upon a clear  
5 calculation in her testimony with additional sources of  
6 data would constitute surprise testimony, in our  
7 understanding.

8 CO-HEARING OFFICER DODUC: Sustained.

9 MS. MESERVE: So just looking at the  
10 \$1949-per-acre figure, you've confirmed that's an  
11 average, right?

12 WITNESS FLORES: Correct.

13 MS. MESERVE: And if you were to look at  
14 something that was not an average and more specific  
15 information, might you come up with a different figure?

16 WITNESS FLORES: Yes.

17 MS. MESERVE: And would that figure likely be  
18 greater?

19 CO-HEARING OFFICER DODUC: Hold on.

20 Mr. Mizell.

21 MR. MIZELL: Yes. Same objection. Specifics  
22 that go beyond the calculation provided in her rebuttal  
23 testimony are out of -- are surprise testimony.

24 CO-HEARING OFFICER DODUC: Let's just say it  
25 could be higher; it could be lower.

1 Move on, please, Ms. Meserve.

2 MS. MESERVE: At the conclusion of your  
3 testimony, you mention that you've calculated this  
4 permanent conversion to be 5 percent more Important  
5 Farmland in Sacramento County than was assumed under  
6 the previously approved project.

7 And would you -- in your position and with  
8 your experience, would you characterize that 5 percent  
9 as being relatively minor?

10 WITNESS FLORES: Any -- any permanent  
11 conversion of agricultural land in our Delta area would  
12 not be minor. We only have a limited amount of  
13 agricultural land to produce food on, and any  
14 conversion of that land is not a minor impact, in my  
15 opinion.

16 MS. MESERVE: And would you agree with the  
17 statement that farmland -- new farmland cannot be  
18 created?

19 WITNESS FLORES: New soils cannot -- you can  
20 improve soils, but it's -- with today's development  
21 pressures, it's really hard to find new farmland.

22 MS. MESERVE: Thank you. No further  
23 questions.

24 CO-HEARING OFFICER DODUC: And now for  
25 Ms. Des Jardins with her two questions.

1 CROSS-EXAMINATION BY MS. DES JARDINS

2 MS. DES JARDINS: Yes, good afternoon.

3 Deirdre Des Jardins with California Water Research.

4 And I'd like to go to Page 5 of Ms. Veselka's  
5 testimony.

6 And, Ms. Veselka, in this section, you discuss  
7 aesthetic impacts of the -- of the tunnel -- reusable  
8 tunnel materials and the conclusion about no  
9 significant -- about -- that -- that the impact would  
10 be significant and unavoidable with mitigation,  
11 correct?

12 WITNESS VESELKA: That is correct.

13 MS. DES JARDINS: And I'd like to go to -- can  
14 we go to Exhibit SWRCB-113. And I would like to pull  
15 up -- which is the Supplemental EIR/EIS. And I'd like  
16 to pull up Chapter 17, Aesthetics, and Page 17-11.  
17 It's Page 11. And if we can go down to the bottom.

18 So this is the discussion of the incremental  
19 impact --

20 Scroll down, please.

21 -- you're referring to partly, correct?

22 WITNESS VESELKA: I'm not seeing exactly where  
23 you're referring to.

24 MS. DES JARDINS: The incremental -- where it  
25 says "incremental impact."

1 WITNESS VESELKA: Oh, yes.

2 MS. DES JARDINS: Can we scroll up further to  
3 the next page.

4 And so is Mitigation Measure AES-1c, "Develop  
5 and Implement a Spoil/Borrow and Reusable Tunnel  
6 Material Area Management Plan," the core part of that  
7 finding that the -- if -- the incremental impacts would  
8 be reduced?

9 MS. MORRIS: Objection --

10 CO-HEARING OFFICER DODUC: Hold on.

11 Ms. Morris.

12 MS. MORRIS: Thank you. This is outside the  
13 scope of this witness's testimony. She does cite to  
14 this to say that it's a similar change but not to the  
15 mitigation measure. And this question goes beyond the  
16 scope by asking her if she took into consideration the  
17 mitigation measure in coming to her opinion.

18 MS. DES JARDINS: I'm --

19 CO-HEARING OFFICER DODUC: Hold on.

20 Are you trying to ascertain the basis for her  
21 conclusion?

22 MS. DES JARDINS: That's what I was about to  
23 say.

24 CO-HEARING OFFICER DODUC: Ms. Veselka, did  
25 you consider this?

1 WITNESS VESELKA: I did not.

2 CO-HEARING OFFICER DODUC: Thank you.

3 MS. DES JARDINS: Okay. That concludes my  
4 questions.

5 CO-HEARING OFFICER DODUC: Do you wish to  
6 request any redirect?

7 MR. BURKE: One question.

8 CO-HEARING OFFICER DODUC: With respect to?

9 MR. BURKE: On cross, the statement that the  
10 tunnel would be several hundred feet below ground.

11 CO-HEARING OFFICER DODUC: Okay.

12 REDIRECT EXAMINATION BY MR. BURKE

13 MR. BURKE: Ms. Veselka, do you recall on  
14 cross when the State's attorney asked you a question,  
15 referred to the tunnel being located several hundred  
16 feet below ground?

17 CO-HEARING OFFICER DODUC: And let's make sure  
18 when you say "the State's attorney," you're talking to  
19 DW- -- about DWR?

20 MR. BURKE: DWR.

21 MS. VESELKA: Yes.

22 MR. BURKE: Yes.

23 Is it your understanding that the tunnel is --  
24 will be several hundred feet below ground?

25 WITNESS VESELKA: Is that --

1 MR. BURKE: Or if you don't know --

2 WITNESS VESELKA: I don't know exactly how --  
3 how many feet underground the tunnel will be. I was  
4 just assuming that that's what it was, since that is  
5 what he said.

6 MR. BURKE: Okay. Thank you.

7 CO-HEARING OFFICER DODUC: Any recross?

8 (No response)

9 CO-HEARING OFFICER DODUC: All right. Well,  
10 thank you very much for your patience and bearing with  
11 us today.

12 At this time do, you wish to move your  
13 exhibits into the record?

14 MR. BURKE: We do.

15 MR. FERGUSON: Yes.

16 CO-HEARING OFFICER DODUC: Are there any  
17 objections?

18 (No response)

19 CO-HEARING OFFICER DODUC: Not hearing any,  
20 they are in the record.

21 (Exhibits SACO-24, SACO-25, SACO-26,  
22 SACO-27, SACO-28, SACO-29, SACO-30,  
23 and SACO-31, admitted into evidence)

24 CO-HEARING OFFICER DODUC: Thank you very  
25 much. At this time, we will take our lunch break. We



1 are going into closed session on another matter, but we  
2 will reconvene -- oh, let's make it 2:00 o'clock.

3 (Whereupon, the luncheon recess was taken  
4 at 12:44 p.m.)

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1 Tuesday, August 28, 2018 2:00 p.m.

2 PROCEEDINGS

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4 CO-HEARING OFFICER DODUC: All right. It is  
5 2 o'clock. Welcome back.

6 And I don't know if Mr. Long knows the  
7 answer -- I might have to ask -- wait till Miss McCue  
8 comes back. But I don't know if we've received any  
9 additional e-mail requests with respect to cross of  
10 DWR's final witnesses.

11 (Pause in proceedings.)

12 MR. DEERINGER: Pardon me.

13 If I could ask Miss Meserve to remind me,  
14 because you told me earlier about a request from Contra  
15 Costa County, I believe it was?

16 MS. MESERVE: Yes. Contra Costa and Solano  
17 are Group 25, and they had requested 20 minutes,  
18 please.

19 CO-HEARING OFFICER DODUC: All right. So, at  
20 this time, it looks like -- Well, hopefully -- I hope  
21 we will be able to get through Mr. Burke today. If  
22 not, then we'll ask him to come back tomorrow.

23 But, tomorrow, we will definitely get to the  
24 two witnesses for Groups 19, 24 and 31. That would be  
25 Mr. Tim Stroshane and Mr. Nakagawa. I can never say

1 his name. Hmm.

2           And I so far have estimates of about two hours  
3 for their cross, which means that we will then get to  
4 DWR's final four witness sometime in the late morning.

5           And if there's no other housekeeping matter, I  
6 will now turn this over to Mr. Ruiz.

7           MR. RUIZ: Good afternoon. Dean Ruiz for the  
8 South Delta Water Agency parties.

9           And I have Tom Burke here prepared to  
10 summarize his testimony.

11           We might need just a little bit more than the  
12 5 -- the 15 minutes. There are -- Before he starts and  
13 after I verify the documents, there's a couple small  
14 little word changes in the -- in the text that results  
15 from the changed charts, which were the issue a couple  
16 weeks ago. And they're very small, and so I'll have  
17 him go through those once we -- once we get through  
18 this.

19           So Mr. Burke's already been sworn in.

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Thomas Burke,  
called as witness by the Central Delta  
Water Agency and South Delta Water Agency  
(Delta Agencies), having previously been  
duly sworn, was examined and testified  
further as follows:

DIRECT EXAMINATION BY

MR. RUIZ: Mr. Burke, can you -- 323 -- Is  
SDWA-323-R, Revised, a true and correct copy of your  
Part 2 rebuttal testimony in terms of the written  
summary?

WITNESS BURKE: Yes, it is.

MR. RUIZ: And is SDWA-324 a true and correct  
copy of your PowerPoint?

WITNESS BURKE: Yes, it is.

MR. RUIZ: And does SDWA-323-R-Errata,  
consisting of eight pages, which is eight graphs,  
relate to your SDWA-323 testimony?

WITNESS BURKE: Yes, it does.

MR. RUIZ: And is SDWA-324-Errata a true and  
correct copy of those same eight charts but with  
respect to your PowerPoint testimony?

WITNESS BURKE: Yes, it is.

MR. RUIZ: And before we begin, are there a

1 few small changes on three different pages of your  
2 323-R Revised testimony that you want to provide for  
3 the record at this point in time?

4 WITNESS BURKE: Yes, I do.

5 MR. RUIZ: Okay.

6 WITNESS BURKE: Good afternoon, Chair Doduc  
7 and Board Members.

8 After we had made these changes to the  
9 cross-section plots that were in my testimony, I went  
10 back through the written testimony to make sure that  
11 the verbiage that referenced those plots was correct  
12 with these changes.

13 So, in that regard, I have six separate  
14 changes that I'd like to make.

15 The first one is on Page 17, Line 23.

16 MR. RUIZ: Go slowly so that --

17 WITNESS BURKE: Oh, okay.

18 CO-HEARING OFFICER DODUC: If we could pull  
19 that up, it would be helpful, Mr. Long.

20 (Exhibit displayed on screen.)

21 MR. LONG: Sorry. Which page?

22 MS. McCUE: 17, I think, Line 23.

23 MR. LONG: Sorry. Which page?

24 MS. McCUE: Oh, you know what? I think  
25 they're just certain pages. I think he means the --

1 MR. RUIZ: Page 17.

2 MS. McCUE: There's 323-R and then  
3 323-R-Errata. So I think he had pulled up R-Errata.  
4 But you meant 323-R?

5 WITNESS BURKE: Yes, that's correct, 323-R.  
6 (Exhibit displayed on screen.)

7 WITNESS BURKE: On Line 23 of that page, I  
8 would like to have -- replace "20" with a "two to  
9 three." The number two, two and a three. So  
10 (reading):

11 ". . . A flow area that is roughly two to  
12 three times larger than it is in the  
13 actual cross-section."

14 (Pause in proceedings.)

15 WITNESS BURKE: The second change I have is on  
16 Page 17 also, and it's on Line 26. And we want to  
17 change the phrase "at the bottom of" and replace that  
18 with the phrase "barely within."

19 CO-HEARING OFFICER DODUC: Hold on, please.

20 Miss Morris.

21 MS. MORRIS: Thank you.

22 Stefanie Morris, State Water Contractors.

23 So, this is the third time we're changing this  
24 testimony. And when the changes came in and we  
25 objected to the new bathymetry being adjusted and

1 coming in, as well as surprise testimony, the witness  
2 and his attorney said that the opinions weren't  
3 changing, and now we're changing wording in the  
4 testimony.

5           So, it's one thing, I think, to change a  
6 calculation which, to me, I assume would change, but  
7 I'm not sure why we're making wording changes, again, a  
8 third time. And I think I've prepared for crossing  
9 Mr. Burke at least four times at this point.

10           CO-HEARING OFFICER DODUC: Mr. Burke,  
11 Mr. Ruiz, I understand that these are corrections.

12           MR. RUIZ: These are simply corrections that  
13 relate to the changed charts, the changed bathymetry  
14 analysis, which was the reason why we ended up with a  
15 delay in his testimony, and that's all they are. They  
16 were -- All they are is corrections to his testimony.

17           CO-HEARING OFFICER DODUC: And help me just  
18 understand.

19           What is the difference between "at the bottom  
20 of" and, was it "barely within"?

21           WITNESS BURKE: In the original  
22 cross-sections, the bottom of the existing channel was  
23 right at the mean water level that was computed by  
24 DSM-2. So it actually wasn't even within the wetted  
25 area that DSM-2 was representing.



1           Now, as we've moved the DSM-2 cross-section up  
2 2.3 feet, the bottom of the existing channel is  
3 slightly below the mean water level as computed by the  
4 DSM-2 model.

5           So it's barely within the water level of the  
6 DSM-2 frame. It's not out of it as it was previously.

7           CO-HEARING OFFICER DODUC: Noted, Miss Morris,  
8 but these are corrections and I would rather have  
9 corrections in the record.

10           Are there many of these, Mr. Burke?

11           WITNESS BURKE: There's six altogether.

12           CO-HEARING OFFICER DODUC: Okay.

13           MR. RUIZ: I would --

14           MR. DEERINGER: That was two.

15           MR. RUIZ: That was two of them. I would just  
16 like to note if the Hearing Officers recall the way  
17 this developed is, there was a significant verbal  
18 motion after we had submitted the errata the day  
19 before -- the night before.

20           That resulted in law and motion practice. And  
21 the ruling didn't come out till yesterday afternoon.  
22 And so I wasn't going to send more changes or do  
23 anything else to confuse things until we had the  
24 ruling.

25           And then Mr. Burke went through and I said,

1 "Well, is there anything in here that would be a little  
2 bit less -- statements that need to be revised slightly  
3 or corrected slightly based on the change in bathymetry  
4 just in the chart?"

5 So he's just simply correcting those now.

6 CO-HEARING OFFICER DODUC: Thank you,  
7 Mr. Ruiz. So it's our fault. Okay.

8 MR. RUIZ: No, not at all. No.

9 I just didn't want to send more -- any other  
10 additional changes or anything of that nature while  
11 this was pending.

12 CO-HEARING OFFICER DODUC: All right. Let's  
13 continue, Mr. Burke.

14 WITNESS BURKE: Okay. The third change is on  
15 Page 17, Line 26 through 27. I would like to remove  
16 the whole sentence that starts with "The actual  
17 channel."

18 (Exhibit displayed on screen.)

19 WITNESS BURKE: That's correct.

20 CO-HEARING OFFICER DODUC: Because now it's  
21 barely within. Got it.

22 WITNESS BURKE: Yeah. The fourth chain is --  
23 change is on Page 18, Line 5.

24 (Exhibit displayed on screen.)

25 WITNESS BURKE: And replace "5 to 20 percent"

1 with "30 to 50 percent."

2 (Pause in proceedings.)

3 WITNESS BURKE: The fifth change is on  
4 Page 23, Line 11.

5 (Exhibit displayed on screen.)

6 WITNESS BURKE: Replace the phrase "between  
7 one-third to" with the phrase "a little less than."

8 (Pause in proceedings.)

9 WITNESS BURKE: And the final change, Change  
10 Number 6, is on Page 23, Line 14. Replace the phrase  
11 "one-third" with the phrase "approximately."

12 CO-HEARING OFFICER DODUC: So actually  
13 replacing "one-third to"?

14 WITNESS BURKE: Yeah, replace the phrase  
15 "one-third to."

16 (Pause in proceedings.)

17 CO-HEARING OFFICER DODUC: Is that all,  
18 Mr. Burke?

19 WITNESS BURKE: I'm just checking that last  
20 change to see if that makes sense.

21 (Pause in proceedings.)

22 CO-HEARING OFFICER DODUC: Hmm.

23 WITNESS BURKE: Yeah. I'm sorry. We need to  
24 replace the phrase "between one-third" to  
25 "approximately."

1 CO-HEARING OFFICER DODUC: All right.

2 Miss Morris, in fairness to you, if you would  
3 like to take a break after Mr. Burke presents his  
4 direct testimony to go over your cross-examination  
5 questions in light of these changes, we will certainly  
6 accommodate that.

7 MS. MORRIS: Maybe just at the end.

8 CO-HEARING OFFICER DODUC: That's what I  
9 meant, at the end of his direct.

10 MS. MORRIS: I just -- I'll just go and then  
11 if I -- if I could just end on the break so I could  
12 have a few minutes to check these and see if I have any  
13 other questions. But I can -- I can go and then just  
14 use the break time --

15 CO-HEARING OFFICER DODUC: Okay.

16 MS. MORRIS: -- to look over matters.

17 CO-HEARING OFFICER DODUC: All right. With  
18 that, then, please continue, Mr. Ruiz.

19 MR. RUIZ: Mr. Burke, are you prepared to  
20 present your written testimony at this point?

21 WITNESS BURKE: Yes, I am.

22 MR. RUIZ: Please proceed.

23 WITNESS BURKE: Could you bring up SDWA-324-R,  
24 please.

25 CO-HEARING OFFICER DODUC: R.

1 (Exhibit displayed on screen.)

2 WITNESS BURKE: I believe that's just the  
3 errata. We want the actual 324-R.

4 MR. RUIZ: Just 324. SDWA-324.

5 (Exhibit displayed on screen.)

6 WITNESS BURKE: Thank you.

7 I put a lot of information in the PowerPoint  
8 to present today and it's going to take more than 15  
9 minutes, so I'm going to skip over a lot of this  
10 because it's already included in my written testimony  
11 and the PowerPoint slides itself. And I'll try to just  
12 summarize the information that I'm presenting here and  
13 we can address anything in questions.

14 In the course of reviewing the Petitioners'  
15 Part 2 testimony, I've developed several opinions to  
16 rebut the assertions that were presented in their  
17 exhibits.

18 My opinions primarily involve the Petitioners'  
19 assertion that the WaterFix Project does not have an  
20 impact on salinity and water levels in the Delta.

21 My opinions specifically address testimony  
22 presented by Mr. Erik Reyes and Miss Tara Smith and  
23 Dr. Michael Bryan. These opinions have been described  
24 in detail in my written rebuttal testimony so, in  
25 consideration of time, I'll just summarize them here.

1 Next slide, please.

2 (Exhibit displayed on screen.)

3 WITNESS BURKE: My review of the Petitioners'  
4 modeling and model output shows the Project will have  
5 an impact on the Central and South Delta by increasing  
6 the channel salinity. It does result in significant  
7 change in the water surface elevations and will  
8 exacerbate the existing non-compliance with D-1641 in  
9 the South Delta. It will also result in an increase in  
10 reverse flows in Old and Middle River.

11 And, significantly, in the process of  
12 evaluating these claims by the Petitioners, I found  
13 significant discrepancies in the channel geometry of  
14 the existing channels than what is presently being used  
15 in the DSM-2 model.

16 Those discrepancies are so significant that,  
17 in my opinion, the Petitioners' model is incapable of  
18 accurately representing the flow conditions in the  
19 No-Action Alternative, making that comparison for  
20 No-Action Alternative and for many other scenarios  
21 inaccurate as well.

22 Next slide, please.

23 (Exhibit displayed on screen.)

24 And next slide, please.

25 (Exhibit displayed on screen.)

1           WITNESS BURKE: Although my opinions were  
2 based on the Petitioners' testimony presented in their  
3 Part 2 case in chief, the information that I used to  
4 rebut that testimony falls into three separate  
5 categories.

6           One is the information submitted by the  
7 Petitioners in both Parts 1 and Part 2 of this hearing,  
8 new analysis that I conducted on modeling data  
9 presented for the H3+ scenario and the Petitioners'  
10 model output for that H3+ scenario.

11           Next slide, please.

12           (Exhibit displayed on screen.)

13           WITNESS BURKE: In response and to evaluate  
14 Petitioners' Part 2 testimony, I performed several  
15 different types of analysis.

16           I performed an analysis to determine the  
17 change in salinity between the H3+ and the No-Action  
18 Alternative.

19           I compared the 2018 channel survey data of the  
20 South Delta channels to the geometry that's presently  
21 being represented in the DSM-2 model.

22           I also evaluated the existing and proposed  
23 compliance with the D-1641 requirements for the South  
24 Delta.

25           And I evaluated instream temperature

1 characteristics of the South -- of the Sacramento River  
2 near the North Delta diversions.

3 Next slide, please.

4 (Exhibit displayed on screen.)

5 WITNESS BURKE: And next slide, please.

6 (Exhibit displayed on screen.)

7 WITNESS BURKE: And next slide, please.

8 (Exhibit displayed on screen.)

9 WITNESS BURKE: The first analysis that I  
10 conducted was to determine if there were no salinity  
11 changes in South Delta channels as was testified to by  
12 the Petitioners.

13 I used the output from the Petitioners' DSM-2  
14 models to compare the difference in salinity on a daily  
15 basis between the WaterFix H3+ scenario and the  
16 No-Action Alternative.

17 Next slide, please.

18 (Exhibit displayed on screen.)

19 WITNESS BURKE: I performed this analysis at  
20 ten different locations across the Central and South  
21 Delta. This map here shows three of the locations in  
22 the Central Delta, SDN-2, SDN-9 and DB-6.

23 MR. RUIZ: And, just for the record, the maps  
24 are corrected in your errata -- 324-Errata --  
25 correct? -- in terms of the locations?



1 WITNESS BURKE: That's correct, yeah.

2 MR. RUIZ: So you may want to refer them to  
3 the 3 -- SDWA-324-Errata for those maps.

4 Those two maps were corrected in the errata;  
5 correct.

6 WITNESS BURKE: That's correct.

7 If we could pull up the errata, we can take a  
8 look at the adjusted locations for those computation  
9 points.

10 (Exhibit displayed on screen.)

11 MS. McCUE: No, that's the testimony.

12 MR. RUIZ: That's -- That's correct, yes.

13 MS. McCUE: Sorry.

14 WITNESS BURKE: Yeah.

15 (Exhibit displayed on screen.)

16 WITNESS BURKE: That's perfect. Thank you.

17 This shows the three locations in the Central  
18 Delta which is SDN-5, SDN-6, SDN-10.

19 Next slide, please.

20 (Exhibit displayed on screen.)

21 WITNESS BURKE: No. Actually, next slide in  
22 the errata. I'm sorry.

23 (Exhibit displayed on screen.)

24 WITNESS BURKE: And this is the map of the  
25 South Delta showing the locations of the other

1 computation points where we evaluated the change in  
2 salinity from the No-Action Alternative to the H3+  
3 scenario.

4 Back to the original, 324, please.

5 (Exhibit displayed on screen.)

6 WITNESS BURKE: Next slide.

7 (Exhibit displayed on screen.)

8 WITNESS BURKE: And next slide.

9 (Exhibit displayed on screen.)

10 WITNESS BURKE: Here are a few of the examples  
11 of the difference in salinity between the H3+ model and  
12 the No-Action Alternative.

13 I ran the model for an 80-year period of  
14 record from 1923 through 19 -- I think it was 1980.  
15 And we wanted to look at what the changes in salinity  
16 would be between the H3+ scenario and No-Action  
17 Alternative throughout that full period of record.

18 That full period of record allows us to look  
19 at the changes that would occur during wet periods, dry  
20 periods, and normal water year periods, so you can see  
21 if there's any trend that's occurring when the salinity  
22 is changing.

23 As we looked through the graph, you can see  
24 there are periods of time when the salinity is  
25 increased and a period of time where the salinity is

1 decreased. But, overall, the increase in salinity are  
2 of a greater magnitude and occur more frequently than  
3 the periods when the salinity is decreased.

4           During periods when the salinity has  
5 increased, that increase is frequently over 200  
6 microsiemens per centimeter, often achieving increases  
7 of 300 microsiemens per centimeter increase over the  
8 No-Action Alternative.

9           Next slide, please.

10           (Exhibit displayed on screen.)

11           WITNESS BURKE: The actual run period was 1923  
12 through 2003.

13           Here's a location on the Middle River at  
14 Howard Road Bridge where the increase in salinity is a  
15 bit more pronounced.

16           As you can see in this plot, there are many  
17 more periods where there's an increase in salinity  
18 rather than being -- having a decrease in salinity.

19           And throughout the period of record, there  
20 will be times when there will be an increase and  
21 decrease. But as you can see from some of these plots,  
22 the increases are much more frequent and have a much  
23 greater magnitude than the decreases are.

24           Next slide, please.

25           (Exhibit displayed on screen.)

1           WITNESS BURKE: One of the things I wanted to  
2 point out that came out of the analysis is that these  
3 increases in salinity that we're seeing here between  
4 the WaterFix scenario and the No-Action Alternative are  
5 not isolated spikes due to irrational behavior of the  
6 model.

7           When you have an increase in salinity between  
8 the WaterFix scenario and the No-Action Alternative,  
9 these are large increases in salinity and they occur  
10 over extended durations of time. And they also occur  
11 over different water year-types. We found that  
12 increases in salinity can occur in critical years,  
13 normal years, and above-average water years.

14           This is a plot of 1987 which was a critically  
15 dry water year on Old River. And as you can see, there  
16 are increases in salinity up to 50 and sometimes over  
17 100 microsiemens per centimeter. And as you can see  
18 from the plot, the durations are extensive, lasting  
19 several months at a time.

20           And this particular location is at the Old  
21 River at Tracy, D-1641 compliance point.

22           So, if we have an increase in salinity at this  
23 location for the H3+ scenario and we're already having  
24 problems trying to meet the D-1641 criteria here, it's  
25 only going to be worse under the WaterFix scenario.

1 Our ability to meet the D-1641 requirements are going  
2 to be worse.

3 Next slide, please.

4 (Exhibit displayed on screen.)

5 WITNESS BURKE: Here's a similar plot for a  
6 different water year-type. This is for a wet water  
7 year. This was 1996.

8 And, again, you can see there are some periods  
9 when you actually had a decrease in salinity for this  
10 location, but for the majority of time, for this  
11 particular water year, you have an increase in salinity  
12 sometimes up to 100 or 150 microsiemens per centimeter,  
13 which is a significant increase for this location.  
14 And, also, it occurs for -- as you can see in the  
15 plot -- an extended duration.

16 Next slide, please.

17 (Exhibit displayed on screen.)

18 WITNESS BURKE: This is a plot for an  
19 above-normal year, 1973, again at the Old River at  
20 Tracy D-1641 compliance point.

21 And, again, you can see there are extensive  
22 periods of time when the salinity for the H3+ scenario  
23 is increased over the No-Action alternative.

24 Next slide, please.

25 (Exhibit displayed on screen.)

1           WITNESS BURKE: Another thing we looked at  
2 when we were evaluating the testimony by the  
3 Petitioners was how well is the model able to evaluate  
4 the differences between the different scenarios and the  
5 No-Action Alternative.

6           And looking at that analysis, we realized that  
7 there are some issues that have been brought up over  
8 time of the low water levels in the South Delta.

9           Looking at the DSM-2 model output, though, we  
10 couldn't duplicate those results. We found that those  
11 low-level incidences that are being reported by the  
12 farmers didn't show up in the modeling record.

13           So we went out and we collected some survey  
14 data on Old River and Middle River to try to compare  
15 that survey data to the actual data that's being used  
16 within the DSM-2 model.

17           The map that we have here is several  
18 cross-sections that we took on Middle River that are  
19 upstream and downstream of Undine Road. There's eight  
20 cross-sections altogether.

21           Next slide, please.

22           (Exhibit displayed on screen.)

23           WITNESS BURKE: This is a plot of one of those  
24 cross-sections. This is MR-1. This is the most  
25 downstream cross-section on Middle River.

1 MR. RUIZ: Let me stop you for a second.

2 Is this where you should be referring to the  
3 errata, 324-Errata?

4 WITNESS BURKE: That's correct, yeah. This --

5 MR. RUIZ: Then let's put up 324-Errata.

6 (Exhibit displayed on screen.)

7 WITNESS BURKE: Thank you.

8 Yeah, this is the cross-section, the adjusted  
9 cross-section, and I can go through that very quickly  
10 again.

11 Our initial submittal included cross-sections  
12 that were compared at two different datums. We  
13 adjusted the datum of the cross-sections that were  
14 surveyed or that were in DSM-2 so they matched the  
15 NAVD 88 data that's being used by DWR today.

16 And as you can see here, that there's a fair  
17 difference in cross-sectional area below the mean DSM-2  
18 water level.

19 You can see the DSM-2 channel itself goes down  
20 to about elevation -3 to -4, and the actual  
21 cross-section, the inverted elevations, roughly about  
22 elevation +2.

23 The cross-sectional area below the mean water  
24 level is roughly half from what the DSM-2 model  
25 cross-section would have.

1           Now, that's a significant issue in this case  
2 because, in a tidal situation, when you've got a  
3 specified tidal range, you're going to get -- any  
4 change in cross-sectional area will result in roughly a  
5 proportional change in discharge at that location.

6           Now, in a regular stream, you wouldn't  
7 necessarily see that because the water would back up  
8 behind the cross-section and flow over the top, so the  
9 water level would change.

10           Here, in a tidal situation, that water level  
11 can't change. We're kind of locked into the tidal  
12 range. So a reduction in area has a very similar  
13 reduction in discharge at that location. So a  
14 50 percent reduction in area equates generally to a  
15 50 percent reduction in discharge.

16           Next cross-section, please.

17           (Exhibit displayed on screen.)

18           MR. RUIZ: Still on 324-R-Errata; correct?

19           WITNESS BURKE: That's correct, yeah. I think  
20 we've got three that we'll continue in the errata.

21           (Exhibit displayed on screen.)

22           WITNESS BURKE: Here's another cross-section,  
23 MR-2 -- (sneezing) excuse me -- MR-2 which is the next  
24 cross-section upstream --

25           CO-HEARING OFFICER DODUC: I'm sorry,



1 Mr. Burke.

2           If you could, please, since we're switching  
3 back and forth, if you could also identify the page  
4 number, the line number.

5           WITNESS BURKE: Oh, okay.

6           This is Slide Number 18, and we're looking at  
7 the errata.

8           And as you can see from this cross-section --  
9 or comparison of the two cross-sections, the red dotted  
10 line is the cross-section that's presently being  
11 represented in the DSM-2 channel -- or DSM-2 model.

12           The solid cross-section with circles is the  
13 existing channel geometry. And, again, similar to the  
14 previous cross-section we looked at, you're getting  
15 a -- roughly half of the cross-sectional flow area in  
16 the actual channel as is presently being represented by  
17 the DSM-2 model. That reduction in cross-sectional  
18 area, again, will give you roughly half the flow rate  
19 through this channel.

20           Next slide, please.

21           (Exhibit displayed on screen.)

22           MR. RUIZ: And the number on this slide,  
23 Mr. Burke, in the errata?

24           WITNESS BURKE: This will be Slide Number 19.

25           And this is another cross-section. This is

1 the upstreammost cross-section of the cross -- one of  
2 the upstreammost cross-sections of the cross-sections  
3 that were taken on Middle River.

4           Again, you can see that there's a significant  
5 difference in area between the existing channel and the  
6 channel that's being represented in the DM -- DSM-2  
7 model, roughly about a 5-foot difference in elevation  
8 from the channel invert, from one cross-section to the  
9 next.

10           Next slide, please, going back to 324.

11           (Exhibit displayed on screen.)

12           WITNESS BURKE: One more, please.

13           (Exhibit displayed on screen.)

14           WITNESS BURKE: There we go.

15           And this is Slide Number 20 in 324.

16           This is a photograph at Middle River at Undine  
17 Bridge. This photograph was taken in 2007 showing the  
18 low water level that's experienced in the channel.

19           This seems to corroborate the data that we're  
20 seeing from the existing channel geometry as surveyed  
21 this last summer, in 2018, and the water levels that we  
22 would be expected to see in the -- at low tidal period.

23           Next slide, please.

24           (Exhibit displayed on screen.)

25           WITNESS BURKE: We also collect survey data on

1 Old River and Sugar Cut.

2 This is a map showing the location of those  
3 cross-sections. We've got six cross-sections that we  
4 collected on Old River and two cross-sections that we  
5 collected on Sugar Cut.

6 Next slide, please.

7 (Exhibit displayed on screen.)

8 WITNESS BURKE: And we need to go to the  
9 errata for this.

10 MR. RUIZ: Yes. Can you go to 324-R for this  
11 next slide.

12 And please identify the slide number.

13 (Exhibit displayed on screen.)

14 WITNESS BURKE: And this is Slide Number 22.

15 And, here again, as we were seeing in the  
16 cross-sections that we had described for Middle River,  
17 this is on Sugar Cut. It's Site Number SUG-2.

18 And, again, at this -- on this plot, we have  
19 the channel -- DSM-2 channel as a red dashed line and  
20 we have the actual survey channel as a solid line with  
21 red circles.

22 Here, as we saw in some of the other plots,  
23 we're getting roughly a 50 percent reduction in flow  
24 area for the actual channel as compared to the channel  
25 that's included within DSM-2.

1           And then, again, as on Middle River, that  
2 50 percent reduction in area is generally going to give  
3 you about a 50 percent reduction in flow rate through  
4 here.

5           (Timer rings.)

6           MR. RUIZ: If we could request just a few more  
7 minutes so he can wrap up.

8           CO-HEARING OFFICER DODUC: About five minutes?

9           MR. RUIZ: Five would be --

10          WITNESS BURKE: Yeah. We can do it this in  
11 five or less, yeah.

12          And next slide, please.

13          (Exhibit displayed on screen.)

14          This would be Slide Number 23, but we want the  
15 one from the errata, please.

16          (Exhibit displayed on screen.)

17          WITNESS BURKE: And I will quickly go through  
18 this.

19          This is a slide of Old River. It's Site  
20 Number OR-4 and, again, it's showing the difference  
21 between the DSM-2 channel geometry and the existing  
22 channel geometry.

23          Next slide, please.

24          (Exhibit displayed on screen.)

25          WITNESS BURKE: And this is Slide Number 24.

1           And, again, we're showing the difference in  
2 the DSM-2 channel geometry and the actual channel  
3 geometry.

4           This is Site OR-5. And in this chan -- For  
5 this particular location, the situation's actually  
6 reversed. The existing channel's actually much deeper  
7 than the channel that's being represented within the  
8 DSM-2 model. The existing channel's down to about  
9 elevation -12 or so with the existing channel invert at  
10 around -4, a big difference in flow area.

11           Now, in this particular location, you have a  
12 greater conveyance capacity, and you actually see more  
13 water flowing through the channel than you would in the  
14 DSM-2 channel cross-section.

15           Back to 324, please.

16           (Exhibit displayed on screen.)

17           WITNESS BURKE: This is Slide Number 25.

18           And this is a slide that was presented as an  
19 exhibit by DWR. We thought it was an important slide  
20 to look at, so I included it in my presentation as  
21 well.

22           And what this is, is an evaluation of the  
23 percent of non-compliance at the Old River at Tracy  
24 compliance point, D-1641 compliance point, for a  
25 variety of water years from 2006 through 2015.

1           And what it shows for these different water  
2 years is the percentage of non-compliance time for Old  
3 River at Tracy for each of these years.

4           And as you can see, for 2006, it was  
5 compliant, but that was a very wet water year.

6           For 2007, 50 percent -- 58 percent of the time  
7 it was not compliant.

8           For 2008, again, a 50 percent.

9           For 2009, 73 percent.

10          2010, 92 -- I'm sorry. I'm reading the wrong  
11 numbers. I'd like to go back and correct that.

12          For 2007, roughly a 30 percent non-compliance.

13          I was reading the percent of average water  
14 year.

15          For 2008, a little less than 30 percent.

16          For some of the drier years, you can see,  
17 like, 2009 up to 60 percent non-compliance.

18          2014 up to 80 percent non-compliance.

19          And the point of this whole exercise is to  
20 show that we're already having salinity issues that  
21 we're not able to meet the compliance requirements of  
22 D-1641. So any increase in the salinity that we would  
23 experience within this area of the South Delta will  
24 only exacerbate our ability to meet compliance at that  
25 location.

1 Next slide, please.

2 (Exhibit displayed on screen.)

3 WITNESS BURKE: This is Slide Number 26.

4 And one of the last things I did in this  
5 analysis was to evaluate Dr. Bryan's testimony as to  
6 the ability of the Sacramento River to be in thermal  
7 equilibrium with the air temperature when that water  
8 gets to the North Delta diversions.

9 We wanted to take a look at this particular  
10 area to find out whether or not that thermal  
11 equilibrium was actually being reached.

12 In his testimony, he relied on looking at  
13 models that were developed in the EIR, but he stated  
14 that he did not need to look at any actual data. We  
15 thought that was kind of strange, so we thought it's  
16 really important to be able to compare the model  
17 results to what the actual data is saying at this  
18 location.

19 So what I did is, I looked at the air  
20 temperature at Sacramento State University and the  
21 water temperature and flow data that was collected at  
22 the Freeport Gage to look at what the difference is  
23 between the water temperature and air temperature for a  
24 variety of flows in three separate summer months.

25 Next slide, please.

1 (Exhibit displayed on screen.)

2 WITNESS BURKE: This is a slide showing the  
3 difference in water temperature, air minus the water  
4 temperature on the Y-Axis, and the Sacramento River  
5 flow along the X-Axis.

6 And, as you can see, as the flow increases,  
7 you generally get a larger difference between the air  
8 temperature and the water temperature, starting at  
9 around five-degree temperature difference at lower  
10 discharges up to 15-degree temperature differences at  
11 higher discharges.

12 We feel that that difference between the air  
13 temperature and water temperature is significant enough  
14 that it deems a further evaluation to determine whether  
15 or not thermal equilibrium is actually being reached,  
16 because if thermal equilibrium isn't being reached,  
17 then the diversion through the North Delta are removing  
18 large volumes of good quality cold water that could  
19 help to support habitat and reduce algal bloom growth  
20 in the north part of the Delta.

21 Next slide, please.

22 (Exhibit displayed on screen.)

23 WITNESS BURKE: Next slide, please.

24 (Exhibit displayed on screen.)

25 WITNESS BURKE: Those are just two more plots



1 for July and August.

2 Next slide, please.

3 (Exhibit displayed on screen.)

4 WITNESS BURKE: Okay. To summarize briefly:

5 My analysis has shown that, contrary to the  
6 Petitioners' testimony that there will be increases in  
7 salinity in the Central and South Delta, my previous  
8 exhibits submitted for this hearing show a marked  
9 reduction in water level downstream of the Head of Old  
10 Middle Barrier extending for a significant difference  
11 into Old and Middle Rivers.

12 Previously, exhibits submitted for this  
13 hearing also indicated an increase in reverse flows  
14 that will go through Old and Middle River.

15 Evaluation of the channel geometry in the  
16 South Delta indicates a significant discrepancy between  
17 the channels which are incorporated into the DSM-2  
18 model and the channels that exist in reality.

19 This difference will result in significantly  
20 different flow rates, water surface elevations, and  
21 salinity distribution throughout the South Delta.

22 The air and flow and stage prediction will  
23 likely make comparison of flow or stage for any of the  
24 different scenarios inaccurate.

25 Thank you.

1 CO-HEARING OFFICER DODUC: Thank you,  
2 Mr. Burke.

3 Miss Morris, are you still prepared to proceed  
4 or would you like a break?

5 MS. MORRIS: I'm ready.

6 CO-HEARING OFFICER DODUC: All right.

7 (Pause in proceedings.)

8 MS. MORRIS: I just apologize for shuffling a  
9 lot of papers.

10 I do have one request: We have now -- I'm  
11 trying to keep track of it all.

12 We have two revised documents, and then we  
13 have two separate documents that are erratas. And my  
14 request is that Mr. Ruiz and Mr. Burke take all -- now  
15 that the motions have been ruled on -- consolidate  
16 everything and track changes and replace the figures so  
17 that we're looking at one document. So, when we're  
18 doing the briefing, the record is clear as -- and  
19 people aren't citing to or using the wrong evidence.

20 CO-HEARING OFFICER DODUC: I think that is  
21 most reasonable.

22 MR. RUIZ: Yes. We appreciate that. We're  
23 planning on doing that. That's reasonable.

24 Thank you.

25 MS. MORRIS: I have a couple quick questions.

1 CROSS-EXAMINATION BY

2 MS. MORRIS: Looking at Exhibit SDWA -- I have  
3 a lot of questions. Do you want me to give you the  
4 topics? Sorry. I just had a couple of cleanup ones at  
5 first.

6 CO-HEARING OFFICER DODUC: Why don't you do  
7 the cleanups and then we'll look at the topics.

8 MS. MORRIS: Okay. Looking at SDWA-324 --  
9 (Exhibit displayed on screen.)

10 MS. MORRIS: -- and looking at Slide 25.  
11 (Exhibit displayed on screen.)

12 MS. MORRIS: Good afternoon, Mr. Burke, by the  
13 way.

14 You showed this table and you just testified  
15 that this was a table that was important to DWR and so  
16 you thought you would include it.

17 But isn't it true that this is not a DWR  
18 table? This is your table; correct?

19 WITNESS BURKE: No. I believe that was  
20 included in a DWR exhibit. I believe I have that down  
21 someplace if you want to --

22 MS. MORRIS: Okay. I'll help you a little  
23 bit.

24 Let's look at SDWA-323-R on Page 31.  
25 (Exhibit displayed on screen.)

1 MS. MORRIS: And -- Oops. Sorry.

2 (Exhibit displayed on screen.)

3 MS. MORRIS: You state that this data was  
4 based on a plot by Petitioners' exhibit, which is  
5 DWR-402.

6 If you want to scroll down, that's at Lines 12  
7 to 13 and the table's below.

8 (Scrolling through document.)

9 MS. MORRIS: And then if we look at DWR-402,  
10 it is a completely different table.

11 So, did you want to refresh -- Does that  
12 refresh your recollection that this is not a DWR table;  
13 rather, a table that you plotted?

14 MR. RUIZ: I'm sorry. Is DWR-402 up there as  
15 well? I'm missing something.

16 MS. MORRIS: It can be.

17 WITNESS BURKE: Just for clarity, so we can  
18 sort this out.

19 CO-HEARING OFFICER DODUC: I think the  
20 distinction you're trying to make, Miss Morris, is this  
21 is not a DWR table, but I believe Mr. Burkes' testimony  
22 was that the data was obtained from a DWR table.

23 WITNESS BURKE: That's what I understand,  
24 yeah. I would have to go back and take a look and see  
25 how this was put together.

1 I thought it was the actual graph but maybe I  
2 did plot this up from DWR data.

3 MS. MORRIS: I'm trying to correct the record,  
4 because he did say it was a DWR table.

5 CO-HEARING OFFICER DODUC: I heard that as  
6 well, yes.

7 MS. MORRIS: So, to the extent that I would  
8 just want the record to be clear that SDWA-324,  
9 Slide 25, and SDWA-323, Page -- Revised, Page 31, the  
10 table are not DWR tables as previously testified to.

11 CO-HEARING OFFICER DODUC: As previously  
12 testified in his oral testimony today.

13 But he looks to correct it in his written  
14 testimony; right?

15 WITNESS BURKE: Yeah. It stated that it was  
16 based on Petitioners' exhibit, not presented by the  
17 Petitioner.

18 (Pause in proceedings.)

19 MS. MORRIS: You didn't do anything -- When  
20 you made this table, you didn't change any of the DSM-2  
21 data. You took it and -- from DWR-402 and you made no  
22 changes to that data; is that correct?

23 WITNESS BURKE: I wouldn't have made any  
24 changes, no.

25 (Pause in proceedings.)

1 MS. MORRIS: I'm going to have to come back  
2 and clean this up after a break.

3 I'd like to look at your testimony,  
4 SDWA-323-revised. This is one of the changes -- in the  
5 section, one of the changes you made starting on  
6 Line 23.

7 MR. RUIZ: What page are you referring to?  
8 Page 17?

9 MS. MORRIS: Page 17, Line 23 -- Line 24.

10 And, Mr. Burke, you corrected to say that the  
11 flow area is roughly, instead of 20 times, two to three  
12 times larger than the actual cross-section; is that  
13 correct?

14 WITNESS BURKE: That's correct.

15 MS. MORRIS: And in the next sentence, you say  
16 that's a very large difference, and that -- that  
17 statement was in the context of 20 times larger.

18 So, would you agree that two to three times is  
19 not a very large difference?

20 WITNESS BURKE: I would say two to three times  
21 is actually quite a large difference. The 20 times is  
22 incomprehensible.

23 MS. MORRIS: Oh. Well, it was your word  
24 choice, so I was just trying to understand the context  
25 because you said 20 times was a very large difference.

1           So do you think two to three times is the same  
2 as 20 times?

3           WITNESS BURKE: Yeah. Two to three --

4           MR. RUIZ: Hold on.

5           That's -- Objection: That misstates his  
6 testimony; it's been asked and answered.

7           CO-HEARING OFFICER DODUC: I believe it has  
8 been asked and answered.

9           You stand by your testimony, then, Mr. Burke,  
10 that the sentence on Line 24 -- beginning on Line 24 is  
11 still correct.

12          WITNESS BURKE: I do. Two to three times  
13 change in the area -- fold change in the area is a very  
14 significant change to channel geometry.

15          MS. MORRIS: Because I'd like to ask you some  
16 questions about the methodology for looking at channel  
17 morphology that you used in your testimony.

18          And my first question is: The 2018 bathymetry  
19 data that you collected, did you collect that yourself?

20          WITNESS BURKE: No. I contracted that out to  
21 a surveying firm.

22          MS. MORRIS: And what was that firm?

23          WITNESS BURKE: CLE Engineering, C-L-E.

24          MS. MORRIS: And what kind of equipment did  
25 they use to gather that bathymetry data?

1           WITNESS BURKE: I'm not sure exactly what the  
2 correct terminology is. But it's a multibeam survey  
3 system setup that was attached to the bottom of a  
4 survey boat, and they made multiple passes up and down  
5 the river collecting thousands of data points.

6           And then put that data into a more  
7 comprehensive channel survey that gave us  
8 cross-sections and calculated lines for the channel  
9 itself.

10          MS. MORRIS: Okay. And on Middle River, there  
11 was -- was it nine cross-sections?

12          WITNESS BURKE: I believe eight  
13 cross-sections, if I remember.

14          MS. MORRIS: Eight cross-sections.

15          And did you have -- I'm assuming you had a  
16 contract with CLE Engineering to do that?

17          WITNESS BURKE: I did, yeah.

18          MS. MORRIS: And does that contract specify  
19 any requirements for their equipment in terms of  
20 calibration?

21          WITNESS BURKE: My understanding is, they  
22 calibrate their equipment before each survey job  
23 because they've got to set it up on the boat from  
24 scratch each time they do a survey.

25          MS. MORRIS: But you -- you weren't there and



1 you didn't verify that. You're just relying on what  
2 you were told.

3 WITNESS BURKE: Yeah. They're the experts in  
4 surveying so I rely on their knowledge and background.

5 MS. MORRIS: Mr. Burke, is it fair to say a  
6 large part of your rebuttal testimony is speaking to  
7 the fundamentals of the DSM-2 model?

8 WITNESS BURKE: There's a -- I wouldn't --

9 MR. RUIZ: Hold on, please.

10 I was going to object as vague in terms of a  
11 "large part of your testimony."

12 CO-HEARING OFFICER DODUC: And fundamental.

13 Please clarify, Miss Morris.

14 MS. MORRIS: Your testimony largely is  
15 rebuttal testimony of DSM-2 modeling presented by the  
16 Petitioners; correct?

17 WITNESS BURKE: Well, my rebuttal testimony is  
18 based on their assertions that there are no adverse  
19 impacts from salinity or depth.

20 And now I'm addressing that: How could they  
21 determine that if the model itself is not giving them  
22 accurate results?

23 MS. MORRIS: Right. But you're using -- And  
24 you also, in a big portion of your testimony or certain  
25 portions, you look at DSM-2 results yourself and make

1 opinions about water quality; correct?

2 WITNESS BURKE: That's correct. With the  
3 model as it is, we evaluated the results.

4 MS. MORRIS: Do you know if DSM-2 as used by  
5 the Petitioners has been calibrated?

6 WITNESS BURKE: Yes, it has.

7 MS. MORRIS: And do you understand how channel  
8 geometry, boundary conditions, and other DSM-2 inputs  
9 were developed for calibration of the model?

10 WITNESS BURKE: There's a lot of different  
11 inputs that go into calibration. I'm not familiar with  
12 every one that they used.

13 MS. MORRIS: Do you understand that DSM-2 can  
14 be applied in a predictive mode if the boundary  
15 conditions were based on observed historical data?

16 (Pause in proceedings.)

17 WITNESS BURKE: I think if the boundary  
18 conditions were based on observed and historical data  
19 and the model accurately reflected the existing  
20 geometry and flow patterns within the Delta, it could  
21 be used as in a predictive mode.

22 MS. MORRIS: Do you --

23 CO-HEARING OFFICER DODUC: Could you . . .

24 (Pause in proceedings.)

25 CO-HEARING OFFICER DODUC: Okay. Sorry.

1 Miss Des Jardins was stomping down the aisle  
2 to the microphone.

3 MS. MORRIS: Do you understand that DSM-2  
4 should not be used in predictive mode if there are  
5 inputs from CalSim?

6 MR. RUIZ: I'm just going to object as vague  
7 and ambiguous in terms of "inputs."

8 MS. MORRIS: I think his modeling --

9 CO-HEARING OFFICER DODUC: I think he  
10 understood.

11 Mr. Burke, are you able to answer, or do you  
12 need more clarification?

13 WITNESS BURKE: No, I think I understand the  
14 question.

15 But there's -- I would need more data on what  
16 those CalSim inputs are to know whether or not they're  
17 sufficient and adequate to be -- allow the model to be  
18 used in a predictive mode.

19 MS. MORRIS: Well, do you understand that  
20 CalSim is used to predict a future condition rather  
21 than to show historical conditions?

22 WITNESS BURKE: I know it can, yes.

23 MS. MORRIS: Okay. So, if CalSim --

24 MS. DES JARDINS: Excuse me.

25 CO-HEARING OFFICER DODUC: Hold on,

1 Miss Morris.

2 MS. DES JARDINS: I do object that that  
3 misstates the evidence.

4 (Pause in proceedings.)

5 MS. DES JARDINS: The question, do you know  
6 that CalSim predicts the future, does misstate the  
7 evidence about the model.

8 MS. MORRIS: I think he answered.

9 MS. DES JARDINS: I'd like to strike the  
10 question and his response.

11 CO-HEARING OFFICER DODUC: Overruled.

12 Please proceed, Miss Morris.

13 MS. MORRIS: Do you understand that a DWR  
14 witness has said that you cannot use CalSim in  
15 predictive mode because it simulates a projected future  
16 condition?

17 MR. RUIZ: I would object to the question as  
18 vague and ambiguous in terms of if -- which witness are  
19 we talking about, and put it in a little more context.

20 MS. MORRIS: He's rebutting testimony  
21 specifically about predictive mode and the use of  
22 DSM-2, and I'm exploring his knowledge of DSM-2 and  
23 CalSim and how they interrelate because he's providing  
24 pretty significant opinions about water quality based  
25 on those and about understanding the modeling. So

1 I'm --

2 CO-HEARING OFFICER DODUC: I understand.

3 But Mr. Ruiz's objection was for you to be a  
4 little bit more specific in terms of which witnesses  
5 you're referring to.

6 MS. MORRIS: Which witnesses did you rely upon  
7 in your section of the testimony relating to using  
8 DSM-2 in a predictive fashion?

9 WITNESS BURKE: Mr. Ruiz's comments.

10 MR. RUIZ: This is another --

11 MS. MORRIS: Mr. Reyes?

12 MR. RUIZ: -- example of mixing Mr. Reyes and  
13 myself again.

14 WITNESS BURKE: Mr. Reyes, yes.

15 CO-HEARING OFFICER DODUC: Don't follow my  
16 example, Mr. Burke.

17 MS. MORRIS: So now that we have a specific  
18 person in mind, I'll reask the question with a specific  
19 person.

20 Do you understand that Mr. Reyes testified  
21 that you cannot use CalSim in a predictive mode because  
22 it's simulating a projected future condition?

23 WITNESS BURKE: I would have to know what it  
24 is they're trying to predict and what data it is that  
25 CalSim II is developing.

1           Our analysis is primarily based on DSM-2  
2 analysis and its ability to be used in a predictive  
3 mode, not CalSim II.

4           MS. MORRIS: But you're rebutting testimony  
5 about using things in a predictive mode, and what I'm  
6 asking you is trying to get your understanding of  
7 CalSim modeling.

8           So why don't we step back and try this a  
9 different way.

10          I may need more than two hours.

11          If -- You understand that the Petitioners'  
12 modeling uses CalSim to compare the No-Action  
13 Alternative with, for example, H3+.

14          WITNESS BURKE: Oh. What variables are you  
15 talking about comparing with CalSim II?

16          MS. MORRIS: You understand what the inputs  
17 are for H3+?

18          WITNESS BURKE: Yes, I do.

19          MS. MORRIS: Okay. Do you understand CalSim  
20 modeling? Have you ever looked at CalSim modeling?

21          WITNESS BURKE: Yes, I have.

22          MS. MORRIS: Okay. So my question is: Do you  
23 understand that CalSim -- the CalSim modeling used in  
24 this proceeding is comparing a No-Action Alternative  
25 based on -- based -- compared with H3+?

1 WITNESS BURKE: Would you repeat that again,  
2 please.

3 MS. MORRIS: Sure.

4 Do you understand that the modeling that was  
5 used by the Petitioners, the CalSim modeling, is  
6 comparing a No-Action Alternative with an H3+  
7 Alternative?

8 WITNESS BURKE: Yes, I do.

9 MS. MORRIS: And do you understand that those  
10 are comparing -- it's comparing the differences because  
11 about it's looking at a future condition?

12 WITNESS BURKE: It's looking at a different  
13 scenario, a different operational scenario.

14 MS. MORRIS: But it's looking at a future  
15 condition; is it not?

16 WITNESS BURKE: Both the No-Action Alternative  
17 and the CalSim Project scenarios are looking at a  
18 future scenario for hydrology.

19 MS. MORRIS: Right. Correct. Thank you.

20 And DSM-2 --

21 MS. DES JARDINS: Excuse me.

22 MS. MORRIS: -- on the other hand --

23 MS. DES JARDINS: Excuse me.

24 CO-HEARING OFFICER DODUC: Miss Des Jardins,  
25 your interruptions are really not helpful.

1           I mean, we're all trying to understand a very  
2 complicated issue. And as long as Mr. Burke  
3 understands the questions and is able to answer, I  
4 would like to focus on him and the information that he  
5 is providing.

6           MS. DES JARDINS: Okay. Thank you.

7           But I would like to just, for the record,  
8 lodge an objection that the . . .

9           Whether CalSim could just be used in a  
10 comparative mode without adequate calibration or  
11 validation was covered extensively in Part 1.

12           Mr. Burke's testimony does not discuss CalSim,  
13 and I believe this is straying considerably beyond the  
14 scope of Mr. Burke's testimony.

15           And to the extent that it's making assertions  
16 about the modeling, that -- that, you know, there were  
17 very serious issues brought out in Part 1 with  
18 whether -- whether even the assertion the model could  
19 just be used in comparative mode.

20           I don't think it's -- It -- It introduce  
21 testimony into the record that's inappropriate or is  
22 not within the scope.

23           CO-HEARING OFFICER DODUC: Well, if I were to  
24 go on that premise, I would have struck Mr. Burke's  
25 testimony when DWR made that motion.



1 So objection denied, overruled, whatever.

2 Miss Morris, proceed, please.

3 MS. MORRIS: Thank you.

4 So, looking at -- back at your resumi,  
5 SDWA-75, it mentions DSM-2 used only in one project  
6 starting in 2014.

7 Do you have any other experience with DSM-2  
8 modeling prior to 2014?

9 WITNESS BURKE: No. I believe that 2014 was  
10 the first time I had used the DSM-2 model.

11 But over the past 30 years, I've probably used  
12 a dozen different hydrodynamic models to do different  
13 types of studies. DSM-2 is just another model in the  
14 toolboxes that Hydrologists and Hydraulic Engineers  
15 use.

16 MS. MORRIS: You said in the past you attended  
17 DSM-2 User Group meetings; correct?

18 WITNESS BURKE: That's correct.

19 MS. MORRIS: And by participating in DSM-2  
20 User Groups, were you involved in either developing or  
21 calibrating DSM-2 -- the DSM-2 model used by  
22 Petitioners in this proceeding?

23 MR. RUIZ: I'm just going to object as outside  
24 the scope of his rebuttal testimony.

25 If she wanted to voir dire and challenge him

1 as an expert, that should have been back in Part 1  
2 after he's been submitted and deemed an expert.

3 CO-HEARING OFFICER DODUC: Miss Morris.

4 MS. MORRIS: I think that I have a couple of  
5 questions and this is the last one. I think it goes to  
6 his understanding of DSM-2.

7 I think we've seen a number of corrections,  
8 just a misunderstanding of bathymetry, and I'm just  
9 trying to understand.

10 He represents in his resumi that he was  
11 involved in that. And I'm trying to understand the  
12 extent of his involvement, not to disqualify him as an  
13 expert.

14 MR. RUIZ: Same -- Same objection.

15 CO-HEARING OFFICER DODUC: All right.  
16 Overruled.

17 Proceed.

18 MS. MORRIS: Do you need me to repeat the  
19 question?

20 WITNESS BURKE: Please.

21 MS. MORRIS: When you said you participated in  
22 DSM-2 User Groups, did you -- were you involved in  
23 either developing or calibrating the DSM-2 model used  
24 by the Petitioners in this proceeding?

25 WITNESS BURKE: The calibration for this

1 particular version of the model was done about nine  
2 years ago, so I didn't participate in that.

3 MS. MORRIS: So the answer's no?

4 WITNESS BURKE: The answer's no.

5 MS. MORRIS: Thank you.

6 Looking at your testimony, SDWA-353-Revised  
7 (sic), Page 3.

8 MR. RUIZ: 323, you mean?

9 MS. MORRIS: 323 -- sorry -- Revised, Page 3.

10 (Exhibit displayed on screen.)

11 MS. MORRIS: Line 8.

12 If you could look at that.

13 And my question is: You mention existing  
14 conditions. I'm trying to understand what you mean by  
15 that.

16 When you say "existing conditions," do you  
17 mean historic observed conditions?

18 WITNESS BURKE: Let me go ahead and read that  
19 sentence to understand what it was I was referring to.

20 (Pause in proceedings.)

21 WITNESS BURKE: What I'm referring to in that  
22 sentence is the ability for the model to accurately  
23 reflect the hydrodynamics and water quality as it  
24 existed in real-time for the cross-sections of the  
25 channel geometry that are there.

1           It isn't referring to the No-Action  
2 Alternative or either different scenarios. It just is  
3 reflecting the ability of any model to be able to  
4 accurately reflect hydrodynamics and the water quality  
5 conditions of a system that it's trying to represent.

6           MS. MORRIS: My question was a lot simpler  
7 than that. So, I understand your explanation.

8           But on Line 11, you say (reading):

9           ". . . Existing conditions will be  
10 incorrect."

11          I'm trying to understand if, by "existing  
12 conditions," do you mean historic, observed conditions?

13          MR. RUIZ: And I think he answered the  
14 question.

15          MS. MORRIS: I don't --

16          CO-HEARING OFFICER DODUC: Hold on. Let -- I  
17 did not understand the answer.

18          So, if -- Mr. Burke, if you could try again  
19 for me.

20          WITNESS BURKE: What I'm referring to in these  
21 sentences here is the ability for the model to  
22 accurately reflect a channel that it's trying to  
23 represent, and that's what I refer to as the existing  
24 condition.

25          You take a model, you develop the channel

1 cross-sections, the boundary conditions, and then you  
2 run flow through that model.

3           It needs to be able to accurately reflect the  
4 velocity, the depth, the flow rate within that model.  
5 That would be the existing conditions.

6           Once you calibrated it or validated the fact  
7 that you could match those existing conditions, then  
8 you can take that model and you can apply to a  
9 No-Action Alternative or to any different scenario that  
10 may be developed as part of the Project.

11           CO-HEARING OFFICER DODUC: And your question,  
12 Miss Morris?

13           MS. MORRIS: My question is -- He's explaining  
14 how he compared things and my question really goes to,  
15 when you're comparing the model to what he's saying  
16 existing conditions is, is he talking about historic --  
17 observed historical conditions, or is it something  
18 else? That's what I'm trying to understand.

19           MR. RUIZ: And I -- I think he answered that.

20           CO-HEARING OFFICER DODUC: He answered with  
21 respect to existing channel condition on Line 9.

22           Are you looking at Line 10?

23           MS. MORRIS: I'm looking at Line 11 --

24           CO-HEARING OFFICER DODUC: Oh, okay.

25           MS. MORRIS: -- that says (reading):

1           ". . . Any change to that existing  
2           condition will be incorrect."

3           CO-HEARING OFFICER DODUC: So what do you mean  
4 when you use the term "existing condition" in Line 11,  
5 Mr. Burke?

6           WITNESS BURKE: In Line 11, I'm still  
7 referring to the actual channel as it exists.

8           When you develop your model, you calibrate it  
9 to an existing condition. And you may look at historic  
10 flow patterns and data that you collected in order to  
11 determine whether your model is accurately reflecting  
12 how that channel --

13          CO-HEARING OFFICER DODUC: So -- I'm sorry.

14          So, in Line 11, when you're discussing  
15 existing condition, meaning Petitioners' analysis of  
16 any change to that existing condition will be  
17 incorrect, that existing condition, are you talking  
18 about hydronamic (sic) condition or channel condition?

19          WITNESS BURKE: I'm talking about the  
20 hydrodynamic condition that's based on that channel.

21          CO-HEARING OFFICER DODUC: And when you say  
22 existing hydrodynamic condition, what do you mean by  
23 that?

24          WITNESS BURKE: I would -- That would probably  
25 be more appropriate being referred to the calibration

1 conditions that the model is developed to represent.

2 MS. MORRIS: Thank you.

3 CO-HEARING OFFICER DODUC: Does that help?

4 MS. MORRIS: That does.

5 CO-HEARING OFFICER DODUC: Okay.

6 MS. MORRIS: I'm going to look at your revised  
7 testimony, 323, Page 5.

8 (Exhibit displayed on screen.)

9 MS. MORRIS: Lines 7 to . . . 7 to 11.

10 With that in mind, are you providing an  
11 opinion that DSM-2 does not accurately reflect the  
12 existing channel geometry in the South Delta?

13 WITNESS BURKE: Let me read through that  
14 opinion for a second, please.

15 (Pause in proceedings.)

16 WITNESS BURKE: Yes. I'm saying that the  
17 DSM-2 model does not accurately reflect the existing  
18 conditions in the channel -- in the South Delta  
19 channels.

20 MS. MORRIS: And on Page -- Well, let's see.  
21 This is SDWA-323-Revised-Errata, Figure 9, Page 19.

22 CO-HEARING OFFICER DODUC: Let's wait until we  
23 get there.

24 MS. MORRIS: Sorry.

25 (Exhibit displayed on screen.)

1 MS. MORRIS: Page 19.

2 (Exhibit displayed on screen.)

3 MS. MORRIS: And is this an example of the  
4 point you were trying to make?

5 MR. RUIZ: Objection --

6 CO-HEARING OFFICER DODUC: Can you be --

7 MR. RUIZ: -- vague and ambiguous.

8 CO-HEARING OFFICER DODUC: -- more specific?

9 MS. MORRIS: Yeah, sure.

10 Looking at Figure 9, which is what I was  
11 asking you to take a look at, on Page 19, is this what  
12 you're trying to demonstrate, the -- the discrepancy in  
13 your opinion between DSM-2 and your 2018 channel  
14 geometry?

15 WITNESS BURKE: This is actually not looking  
16 at the errata comparison of cross-sections, but the  
17 concept is the same for either. This is the original  
18 one prior to the change.

19 MS. MORRIS: Well, I asked you -- I asked for  
20 SD -- Revised Errata.

21 CO-HEARING OFFICER DODUC: We're getting mixed  
22 up between Revised and Errata.

23 MS. MORRIS: Revised Errata.

24 CO-HEARING OFFICER DODUC: Which version has  
25 the correct one, Mr. Burke?



1 WITNESS BURKE: The Errata. This isn't the  
2 correct one here.

3 MS. MORRIS: It doesn't -- It's good to pull  
4 it up, but my question is: Isn't -- Isn't that the  
5 point you're trying to demonstrate with Figure 9.

6 WITNESS BURKE: That's correct --

7 MS. MORRIS: Okay.

8 WITNESS BURKE: -- yes.

9 MS. MORRIS: I want to explore with you how  
10 you got the data for what you're calling the DSM-2  
11 channel geometry in your Figures 9 through 11 and 15  
12 through 22 in SDWA-323-Revised-Errata.

13 So Mr. Long and I are going to go on quite an  
14 adventure here, I think.

15 If you could pull up what's marked in the DWR  
16 folder that we looked at right before lunch DWR-1400.

17 And you're going to have to open it in  
18 notepad.

19 CO-HEARING OFFICER DODUC: Oh, this is  
20 something new.

21 MS. MORRIS: I -- Mr. Hunt and I had it all  
22 done a couple Fridays ago, but now I have to walk  
23 through it. I apologize for . . .

24 It's in, I think, 280817 folder. I think  
25 that's it. DWR. And then 1400, the top one, and then

1 notepad.

2 (Exhibit displayed on screen.)

3 MS. MORRIS: Great.

4 And then if you could do me a favor and just  
5 do control find and you'll want to put in XSECT\_LAYER.

6 Oh, it's XSECT.

7 (Exhibit displayed on screen.)

8 MS. MORRIS: Okay. And then if you could  
9 scroll --

10 (Scrolling through document.)

11 MS. MORRIS: Yeah. Perfect. Right there.  
12 Great.

13 So, Mr. Burke, where did you obtain the data  
14 you're calling the DSM-2 channel geometry in your  
15 figures?

16 WITNESS BURKE: This is from a -- I obtained  
17 it from the grid input files for DSM-2.

18 MS. MORRIS: And can you please specify which  
19 version of the DSM-2 model you obtained the DSM-2  
20 channel geometry data from?

21 WITNESS BURKE: Version 8.0.6.

22 MS. MORRIS: And could you specify the DSM-2  
23 input file you relied upon for the DSM-2 channel  
24 geometry data.

25 WITNESS BURKE: I'm sorry. I don't recall the

1 exact name for the file.

2 MS. MORRIS: Do you recall the data you used  
3 from the -- from that -- from the input to pull the  
4 geometry in your figures?

5 WITNESS BURKE: Vaguely, I remember the format  
6 of the input file that I used to develop the  
7 cross-sections.

8 MS. MORRIS: And I'm going to represent to you  
9 that this -- I pulled up from the DSM-2 the different  
10 channel geometry -- the bathymetry data from DSM-2.

11 Does this look familiar to you?

12 WITNESS BURKE: Yes, it does.

13 MS. MORRIS: And so what I'd like to do is use  
14 this file and have you explain to me, using Figure 9 of  
15 the Revised Errata, how you plotted this information  
16 because it's unclear to me.

17 So --

18 (Exhibit displayed on screen.)

19 MS. MORRIS: Whoop.

20 Okay. So if you could explain to us -- Why  
21 don't we just pick a channel section -- We'll just use  
22 the top one, Channel Section 8.

23 And, then, if you could use -- Tell me from  
24 the columns above based on elevation area with and wet  
25 perimeter -- Actually, let's use the second one down.

1           And could you please explain to me, then, how  
2 you plotted, I guess, Figure 10 now, the red data from  
3 DSM-2.

4           THE WITNESS: Sure.

5           I don't know the exact cross-section that we  
6 used for this, but we can use an example of the first  
7 cross-section that you have up there, which is Channel  
8 Number 8.

9           As you can see on the far left column of the  
10 table that you have up, you see several different  
11 entries of date. And each of those different entries  
12 has a -- a different elevation associated with it in  
13 Column 3 and, also, actually Column 2 is the distance.  
14 That's the distance from the end of the node to the  
15 location of where this cross-section is being  
16 represented in the model.

17           And each of these stream Reaches are separated  
18 by nodes. And within that Reach, there may be four or  
19 five different cross-sections representing channel  
20 geometry.

21           This particular channel, Channel 8, is .913  
22 distance downstream from the node, and it has one, two,  
23 three -- it's got four different entries.

24           The first entry is at elevation 9.849. That's  
25 the el -- invert elevation of the channel. It's got an

1 area of zero because --

2 MS. MORRIS: Can we pause there. Thank you.

3 Could you explain to me looking at figure, I  
4 guess, 10 is what we have in front of us, when you take  
5 that elevation, can you explain to me where on the red  
6 you're plotting. Like, what you're plotting.

7 So I want to understand for each of the  
8 columns at the top where the inputs are in terms of  
9 your red line on the DSM-2.

10 So, your -- I Appreciate your explanation, and  
11 I just want to make sure for the record that I can  
12 understand how you're plotting this as well.

13 WITNESS BURKE: I'll try. I don't know that I  
14 can explain it fully because there are some equations  
15 involved where I would balance out the wetter perimeter  
16 area. But, in general, I'll try to explain what we  
17 have.

18 MS. MORRIS: Great.

19 WITNESS BURKE: So, assume this is  
20 Cross-Section 8 and we're plotting the red line that we  
21 see for the DSM-2 channel geometry.

22 You see that lowest point in the channel  
23 geometry? That would be reflected as the first line of  
24 Channel 8 you see in the table. The elevation's going  
25 to be different because it's actually a different

1 cross-section, but it would be the same ele -- it would  
2 be basically the lowest point in the channel.

3 MS. MORRIS: So, just so I'm following: The  
4 elevation of -9.849 would be the lowest point -- or the  
5 bottom of dot -- lowest bottom point on Figure 10, as a  
6 hypothetical, because these are not the right numbers.

7 WITNESS BURKE: I think that's correct.

8 MS. MORRIS: Perfect.

9 WITNESS BURKE: Yeah.

10 MS. MORRIS: Okay. Thanks.

11 WITNESS BURKE: And then you would go to the  
12 next entry for Cross-Section Number 8. You can see  
13 that's at elevation -4.779.

14 And at that elevation, these entries are  
15 saying that between the first point at -9 and the  
16 second point at -4, you have a cross-sectional area of  
17 365.5 square feet, and you have a top width from point  
18 to point of 140 feet.

19 MS. MORRIS: And can you explain to me, then,  
20 when you say "the top point," are you talking about the  
21 next points up from the bottom V, or are you talking  
22 about the very top points on your Figure 10 draft?

23 WITNESS BURKE: This would be the next point  
24 up from the bottom.

25 MS. MORRIS: That's what I remember. Okay.

1           WITNESS BURKE: So, if you go to the chart or  
2 your plot and we look at -- you see the bottom V point.  
3 Then you see two points that are basically at the same  
4 elevation. They represent the elevation of that second  
5 entry for Channel Number 8.

6           That would be, for Channel Number 8, anyway,  
7 it would be a -4.779. And it would have a top width of  
8 140 feet between those two points. And those are the  
9 second two lowest points in the cross-section.

10          MS. MORRIS: Got it.

11          WITNESS BURKE: And then it would also have a  
12 wetted perimeter, which is the surface of the channel  
13 that is touching water of 141 linear feet.

14          And then you would continue on up the channel  
15 to the next el -- entry point for Cross-Section 8 --

16          CO-HEARING OFFICER DODUC: I'm sorry. Could  
17 you go back?

18          And so the area would be the cross-sectional  
19 area?

20          WITNESS BURKE: That's correct, the  
21 cross-sectional area below those two points.

22          MS. MORRIS: So if I were to draw, for  
23 example -- On the second points up, if I were to draw a  
24 straight line across, the cross-sectional area would be  
25 what would fill in from that line across from point to

1 point?

2 WITNESS BURKE: That's correct, yeah.

3 MS. MORRIS: Great.

4 So, is there anything else?

5 WITNESS BURKE: No. You just continue that  
6 same process two points at a time moving up your  
7 channel trying to balance out the width, the wetted  
8 perimeter, and the area. And there's geometric  
9 equations you could use to develop that.

10 MS. MORRIS: And, then, when we look at these  
11 cross -- these figures, all of your figures, when we're  
12 pulling information from these DSM-2 files, the -- the  
13 lines are linear; right? It's drawing a line -- The  
14 DSM-2 is drawing a line from point to point in a linear  
15 fashion; is that correct?

16 WITNESS BURKE: Well, DSM-2 doesn't really  
17 draw point lines between the points the way I have to  
18 visualize this for the way we typically visualize a  
19 cross-section.

20 It creates a table. And it's kind of a lookup  
21 table where it goes in with a specific water surface  
22 elevation. It goes into the lookup table and  
23 determines, for that elevation, interpolating between  
24 boundary points, what the cross-sectional area would be  
25 and what the wetted perimeter would be.



1           That's a much faster algorithm for doing it  
2 that way using lookup tables than it is to actually  
3 calculate those numbers each time.

4           MS. MORRIS: But what I'm looking at -- Let's  
5 take Figure 10, for example.

6           I wouldn't expect to see curves between the  
7 lines; right? It would be a straight line from point  
8 to point.

9           I'm not saying that's how it's drawn, but how  
10 it's represented, it would be a straight line; correct?

11          WITNESS BURKE: That's how DSM-2 sees it.

12          MS. MORRIS: Right. Thank you.

13          And, then, if we could go to . . . This is  
14 the same section.

15          Your testimony, as far as I can tell -- and I  
16 hope if I'm wrong, you correct me -- it doesn't  
17 identify which DSM-2 cross-sections you're using for  
18 each of your locations; does it?

19          WITNESS BURKE: I'm sorry. That's probably an  
20 omission on my part.

21          I didn't put the actual cross-section numbers  
22 that I was using in the analysis.

23          MS. MORRIS: So, how am I able to look at the  
24 data behind it to determine whether or not that's the  
25 appropriate cross-section as compared to the 2018

1 bathymetry data that you're comparing it to?

2 WITNESS BURKE: For this particular Reach,  
3 where we have the seven or eight cross-sections on  
4 Middle River, I believe there is only one cross-section  
5 within DSM-2 that represents that whole Reach.

6 So you would only have to look at the DSM-2  
7 model, lay it out on a map, and determine which  
8 cross-section represents this section of the channel.  
9 And you could pull it off of that.

10 MS. MORRIS: And could you tell me for each of  
11 your figures, starting with Figure 9, which DSM-2  
12 channel segment you used?

13 WITNESS BURKE: No, I couldn't, not from  
14 memory.

15 MS. MORRIS: Do you have that data somewhere?

16 WITNESS BURKE: Yes, I do.

17 MS. MORRIS: Are we able to have that data and  
18 have this witness come back once we have that data and  
19 confirm?

20 I mean, I'm happy to get the data and then  
21 look at it to see if there's additional questions.

22 CO-HEARING OFFICER DODUC: So we -- That's a  
23 request for counsel.

24 MR. RUIZ: I want to make sure I understand  
25 exactly what she's asking for. If I could confer with

1 my witness for a moment before I respond.

2 CO-HEARING OFFICER DODUC: Actually, you know  
3 what? I need to give the court reporter a break,  
4 anyway, so why don't we go ahead and take a break  
5 until, I believe . . .

6 How much long of a break do you think you'd  
7 like? I'll take another break later on, so let's go  
8 until 3:25.

9 (Recess taken at 3:13 p.m.)

10 (Proceedings resumed at 3:24 p.m.):

11 CO-HEARING OFFICER DODUC: Close enough.

12 Everyone's here. Let's go -- Let's go ahead  
13 and start.

14 Before I turn back to Miss Morris, I just want  
15 to do a quick housekeeping item, because we tend to  
16 rush towards the end of the day.

17 Right now, I have approximately two hours of  
18 cross for the first panel tomorrow.

19 And then we get to DWR's remaining witnesses.  
20 And right now, I have a little over eight and a half  
21 hours of cross being requested -- we'll round that up  
22 to nine -- and we have three days left.

23 So, if things go according to the estimates, I  
24 don't think we'll be needing to spend late evening  
25 hours here in the next few days.

1           So I'm cautiously optimistic.

2           Mr. Mizell?

3           MR. MIZELL: Yes.

4           CO-HEARING OFFICER DODUC: Are you going to  
5 question my optimism?

6           MR. MIZELL: I hope not to crush your  
7 optimism, no. I like an optimistic Hearing Officer.

8           We -- We have one Mr. -- one witness,  
9 Dr. Acuqa, and he is not available Friday.

10           And I raise this because, with nine hours, it  
11 wouldn't appear we need to go onto Friday for  
12 cross-examination, but should it appear that we are  
13 going to go on till Friday, in the afternoon of  
14 Thursday, going late would be preferable for us because  
15 that witness, then, is gone Friday.

16           CO-HEARING OFFICER DODUC: All right. So  
17 noted with respect to Dr. Acuqa availability.

18           Right. With that, we'll now turn back to  
19 Miss Morris.

20           Mr. Ruiz, there was a request on the table.

21           MR. RUIZ: Yes. So, what I'm informed of is,  
22 there's simply a -- On the DWR website, there is a node  
23 map. And you just go to the node map and correlate the  
24 cross-sections.

25           And if -- if the Hearing Officers would like

1 us to pull up the node map and circle the simple  
2 cross-sections that correlate, or if DWR experts want  
3 to do that, I'm sure they know exactly what the  
4 cross-sections are because it's a pretty simple  
5 process, according to Mr. Burke.

6 CO-HEARING OFFICER DODUC: So will you two  
7 cooperate and work it out?

8 MS. MORRIS: I --

9 MR. RUIZ: Sure.

10 MS. MORRIS: I would be happy to, but I  
11 just -- I would like to note, then, if I don't have the  
12 cross-sections, it's not that simple.

13 Because he's already testified these  
14 cross-sections are not in the exact locations that the  
15 2018 bathymetry is taken. And so, for all I know, he's  
16 comparing this to Rock Slough or somewhere else in the  
17 Delta.

18 And so I just want to have the opportunity to  
19 look at those, if he can provide them, and I'll  
20 coordinate, but I may want to have Mr. Burke back, if  
21 there's errors in it, to cross-examine him if there are  
22 errors.

23 CO-HEARING OFFICER DODUC: Mr. Ruiz.

24 MR. RUIZ: It's a very simple process, so  
25 Mr. -- what we'll provide, we'll just print out the map

1 and indicate which the cross-sections are from the node  
2 maps and provide that to Miss Morris.

3 We can probably do it this evening.

4 MS. MORRIS: Great.

5 CO-HEARING OFFICER DODUC: All right. If you  
6 would provide Miss Morris with that.

7 If there's additional followup that you would  
8 like to request, Miss Morris, you may do so, either --  
9 Do so in writing and then Mr. Ruiz will have a chance  
10 to respond to that.

11 WITNESS BURKE: We can provide the map. It's  
12 just an overlay onto this map here. It's taken DWR's  
13 node map.

14 And you -- They'll see it's really not that  
15 complicated to complete. There's only one  
16 cross-section even within the Reach that we're looking  
17 at. So it's easy to pick off.

18 CO-HEARING OFFICER DODUC: It's easy for you,  
19 Mr. Burke.

20 (Laughter.)

21 MS. MORRIS: Okay. May I continue?

22 CO-HEARING OFFICER DODUC: (Nodding head.)

23 MS. MORRIS: Thank you.

24 Mr. Burke, do you understand how the tunnel  
25 cross-sections in DSM-2 were developed?

1 WITNESS BURKE: I'm not familiar with the  
2 history of how they were first acquired, no.

3 MS. MORRIS: Have you ever personally  
4 developed cross-sections for use in the DSM-2 model?

5 WITNESS BURKE: Yes, I have.

6 MS. MORRIS: Are you familiar with DWR's  
7 Cross-Section Development Program, or CSDP software?

8 WITNESS BURKE: Yes.

9 MR. RUIZ: I'm going to object because it's  
10 getting outside the scope of his rebuttal testimony.

11 CO-HEARING OFFICER DODUC: Miss Morris.

12 MS. MORRIS: I'm asking about the DSM-2  
13 bathymetry that he's challenging and trying to  
14 ascertain his knowledge of the process, as well as what  
15 is used for plotting these red lines.

16 So I think it's well within the scope of his  
17 rebuttal testimony.

18 CO-HEARING OFFICER DODUC: So you're going,  
19 again, to the basis of his findings and conclusions and  
20 testimony.

21 MS. MORRIS: On a different aspect, yes.

22 CO-HEARING OFFICER DODUC: Mr. Ruiz, your  
23 response.

24 MR. RUIZ: My response is that his testimony  
25 is clear, and this is outside of the scope of it.

1           And we've been pretty clear, especially  
2 recently, with respect to cross-examination that goes  
3 outside of the scope of what is on -- what is written  
4 in the testimony and this, to me, is outside of that.

5           CO-HEARING OFFICER DODUC: So less clear with  
6 respect to basis for one's testimony, Mr. Ruiz.

7           But, Miss Morris, are you -- Do you have much  
8 further along the line? I don't want to get into the  
9 weeds with respect to this issue.

10          MS. MORRIS: I have four or five questions  
11 about -- about this, and I do have a lot more questions  
12 about bathymetry. It's a large part His testimony, and  
13 it's the basis upon which he's challenging the DSM-2  
14 results by the Petitioners.

15          CO-HEARING OFFICER DODUC: Are you asking  
16 questions that leads to -- in other words, that's about  
17 his analysis, or are you trying to bring up issues with  
18 respect to DSM-2 itself?

19          MS. MORRIS: I'm asking about his analysis.

20          CO-HEARING OFFICER DODUC: As long as you're  
21 asking about his analysis, I mean, we can spend the  
22 next five hours here if you're just going to ask him  
23 about various background questions on DSM-2 and whether  
24 he agrees or disagreed with that.

25          So I --



1 MS. MORRIS: No, that's not what I'm doing.

2 CO-HEARING OFFICER DODUC: All right. As long  
3 as it's focused on his analysis, then please proceed.

4 MS. MORRIS: So, do you need me to repeat the  
5 question?

6 WITNESS BURKE: Please do.

7 MS. MORRIS: Are you familiar with DWR's  
8 Cross-Section Development Program or CSDP software?

9 MR. RUIZ: And I'm just going to lodge an  
10 objection for the record: That's nowhere in his  
11 rebuttal testimony.

12 MS. MORRIS: Do you want me to respond again?

13 CO-HEARING OFFICER DODUC: So --

14 MS. MORRIS: The red lines are --

15 CO-HEARING OFFICER DODUC: So noted, Mr. Ruiz.  
16 It will go to weight.

17 WITNESS BURKE: Yes, I am familiar with it.

18 MS. MORRIS: And did you know that the DSM-2  
19 Version 8.0.6 that you testified you used to plot these  
20 red lines, cross-sections were developed using CSDP?

21 WITNESS BURKE: I'm not sure whether the CSDP  
22 was used for those or not.

23 MS. MORRIS: Would it surprise you that DSM-2  
24 cross-sections were fit to match the observed  
25 bathymetry -- bathymetric data rather than the uniform

1 trapezoidal-shape cross-sections you plotted in your  
2 Figures 9 to 11 and 15 through 22?

3 MR. RUIZ: And I'm going to object again:  
4 It's outside the scope of his rebuttal testimony; and  
5 it's also incomplete hypothetical.

6 CO-HEARING OFFICER DODUC: Do you have  
7 something to add, Miss Meserve?

8 MS. MESERVE: Yes. I just want to support  
9 Mr. Ruiz in that, especially with respect to questions  
10 we had of Dr. Paulsen.

11 We were not allowed to ask questions that went  
12 to the basis of her broader knowledge, only the things  
13 that were actually mentioned in the testimony. So I  
14 believe DWR should be held to the same standard.

15 CO-HEARING OFFICER DODUC: Yes, DWR is held to  
16 the same standard.

17 MS. MORRIS: Can I respond?

18 CO-HEARING OFFICER DODUC: And the response, I  
19 can guess now, that he did bring up this issue in his  
20 testimony.

21 But you may state it for the record,  
22 Miss Morris.

23 MS. MORRIS: He did -- He is directly  
24 challenging the DSM-2 bathymetry. And I am trying to  
25 test his understanding of how it was put together

1 compared to what he is now plotting in these figures.

2 CO-HEARING OFFICER DODUC: I understand that,  
3 Miss Morris.

4 But you're trying to get him to -- what is the  
5 word -- to either make admissions or acknowledge the  
6 statements you make and assert with respect to DSM-2,  
7 which, while, yes, is relevant and is within the scope  
8 of his testimony, also has very little probative value.

9 MS. MORRIS: How about I give an example?

10 I'll -- I'll withdraw the question, even  
11 though I think it's completely fair, and I will give an  
12 example.

13 CO-HEARING OFFICER DODUC: I didn't say it was  
14 unfair. I was saying, if we're going to spend two and  
15 a half hours with you trying to get him to agree to  
16 your positional statement, it's going to be of limited  
17 value, but . . .

18 MS. MORRIS: Let's look at DWR-1401.

19 CO-HEARING OFFICER DODUC: All right. Let's  
20 try a different tack.

21 MS. MORRIS: I will go the long version.

22 This is -- Or I'll wait until it gets pulled  
23 up.

24 (Exhibit displayed on screen.)

25 MS. MORRIS: So, this is a DSM-2 Calibration

1 Report that was referenced in DWR Exhibit 1142,  
2 Appendix 5.B.

3 Have you reviewed this document, Mr. Burke?

4 WITNESS BURKE: I believe I actually have  
5 looked at that, although not recently.

6 MS. MORRIS: And if we could go to Page 32 of  
7 what's been marked as DWR-1401.

8 (Exhibit displayed on screen.)

9 MS. MORRIS: Do you see the section marked  
10 "Historical Bathymetry Data and Common Coordinate  
11 System"?

12 WITNESS BURKE: Yes, I do.

13 MS. MORRIS: And do you recall if you reviewed  
14 that section in this report?

15 WITNESS BURKE: I don't recall the names of  
16 the different sections I looked at, but I do recall  
17 looking at that report at some time.

18 MS. MORRIS: And looking at Page 33.

19 (Exhibit displayed on screen.)

20 MS. MORRIS: Figure VII.2.1, which is a  
21 cross-section in Old -- It's a figure -- It's a  
22 demonstrative figure of a DSM-2 cross-section in Old  
23 River comparing the observed bathymetry in Old River.

24 The black line is the DSM-2 cross-section and  
25 the colored squares are observed bathymetry data.

1           Do you see that? We might need to blow it up  
2 so you can read the legend.

3           (Exhibit zoomed in.)

4           WITNESS BURKE: Okay. I see that.

5           MS. MORRIS: Do you agree that the DSM-2  
6 cross-section is similar to the observed bath --  
7 bathymetric data in the figure?

8           WITNESS BURKE: If the --

9           MS. MORRIS: Just asking about this one figure  
10 in front of you.

11           WITNESS BURKE: If the bathymetric data is  
12 accurate, I believe that their representation of the  
13 black lines and squares is a fairly close  
14 representation of the actual channel geometry.

15           MS. MORRIS: Okay. And looking at Page 27 of  
16 SDWA-323-Revised-Errata.

17           (Exhibit displayed on screen.)

18           MS. MORRIS: I'm looking at Figure 19.

19           The red line you plotted . . .

20           This is the Revised Errata.

21           (Exhibit displayed on screen.)

22           MS. MORRIS: And it's Page 27.

23           (Exhibit displayed on screen.)

24           MS. MORRIS: I don't think this is the right  
25 document. This is Revised but not Revised Errata.

1 (Exhibit displayed on screen.)

2 MS. MORRIS: Page 27.

3 It's actually Page 27 marked. I'm not sure  
4 which .pdf page because it's not labeled. You'll have  
5 to scroll.

6 (Scrolling through document.)

7 MS. MORRIS: It's only eight pages.

8 (Scrolling through document.)

9 MS. MORRIS: There we go.

10 (Scrolling through document.)

11 MS. MORRIS: Stop. Right there.

12 So this is Figure 19. The red line is the  
13 DSM-2 channel that you plotted; correct?

14 WITNESS BURKE: That's correct.

15 MS. MORRIS: And do you see, going back to  
16 1401, that the DSM-2 data line plotted on the black  
17 squares is linear from point to point?

18 WITNESS BURKE: It appeared to be linear,  
19 that's correct.

20 MS. MORRIS: Yet, on your Figure 19, the red  
21 line for DSM-2 data has smooth curves rather than  
22 linear.

23 How did you get that information from DSM-2?

24 WITNESS BURKE: I believe that's an artifact  
25 of Excel in plotting the points.

1 MS. MORRIS: So that's not an accurate  
2 representation from the data from DSM-2?

3 WITNESS BURKE: That's --

4 MR. RUIZ: Objection: That misstates his  
5 testimony.

6 WITNESS BURKE: I think it's a very accurate  
7 representation of the data that's presented in DSM-2.  
8 The slight curves you see between the points are  
9 probably not being represented in DSM-2, but the black  
10 dots that connect the points are.

11 MS. MORRIS: So, just to be clear:

12 The red lines are an artifact from Excel, and  
13 they are not an actual representation of the bathymetry  
14 data in the DSM-2 model; correct?

15 WITNESS BURKE: The lines that are drawn  
16 between the points are just something that Excel  
17 connects the dots with. The actual points that we have  
18 there are from DSM-2. They represent the channel  
19 cross-section as DSM-2 sees it.

20 MS. MORRIS: So if you were calculating an  
21 area -- let's just look at this same Figure 19 -- and  
22 on the bottom, there's also the two red lines, there's  
23 like round and not straight.

24 If you were calculating an area, would those  
25 round curves cause your calculation to be off?

1           WITNESS BURKE: Again, the curves that we see  
2 here are just an artifact of Excel plotting. The  
3 actual data and the calculations for area of those were  
4 used -- assumed straight lines were connecting each of  
5 the dots.

6           MS. MORRIS: Okay. And if you could pull up  
7 DWR-1142, please, Mr. Long.

8                   (Pause in proceedings.)

9           MS. MORRIS: All the other charts seem -- not  
10 all of them but there are other smooth curves.

11           Is that --

12           MR. RUIZ: Hold on. It's not up yet.

13           MS. MORRIS: No. I'm talking -- I'm going  
14 back to Figure 19.

15           The artifact in Excel?

16           WITNESS BURKE: I'm going to blame that one on  
17 Microsoft.

18           No, it's just a -- Probably the way that Excel  
19 plotted that one up, it selected a curved line rather  
20 than a straight line when it made the plots.

21           The other ones, as I intended them all to be,  
22 were just connected with straight lines.

23           MS. MORRIS: Okay. And, then, we're going to  
24 look at Appendix 5.B, Attachment 1.

25                   (Exhibit displayed on screen.)



1 MS. MORRIS: And if you could go to .pdf  
2 Page -- I'm sorry. This is the DSM Recalibration for  
3 the Bay-Delta Plan.

4 If you could go to .pdf Page 48.

5 MR. RUIZ: I'm just going to object again:  
6 This is outside of the scope of his testimony.

7 He doesn't speak to these documents or speak  
8 to this particular study or modeling.

9 CO-HEARING OFFICER DODUC: Miss Morris,  
10 response for the record?

11 MS. MORRIS: I'm trying -- I tried to do this  
12 shorter and I'm trying now to use examples of the  
13 calibration and the fit.

14 And he's challenging directly the DSM-2  
15 bathymetry data, and I'm trying to show examples  
16 where -- the calibration to challenge that. So I think  
17 it is well within the scope of his rebuttal testimony.

18 MR. RUIZ: It's -- My response: It's not.  
19 Whether you do it the short way or the long way, it's  
20 still not within the scope of his rebuttal testimony.

21 When you look at his rebuttal testimony, it  
22 has -- as how the rulings had gone with respect to the  
23 scope so far in this proceeding.

24 CO-HEARING OFFICER DODUC: So, Miss Morris, I  
25 understand that you are bringing this up in response to

1 Mr. Burke's testimony, but isn't this argument that you  
2 should be putting in your closing briefs?

3 MS. MORRIS: I think I need to present the  
4 evidence to put it into the record to show this  
5 calibration.

6 This witness is directly attacking the  
7 bathymetry data. And I am using this opportunity to  
8 show other examples of how it has been calibrated and  
9 whether he's looked at that in coming to his opinions.

10 And I think -- You know, I don't think this is  
11 appropriate legal briefing without first putting the  
12 evidence in the record.

13 CO-HEARING OFFICER DODUC: That is a good  
14 point. All right.

15 Other responses?

16 MS. DES JARDINS: Dierdre Des Jardins.

17 And I'd just like to note that Mr. Burke's  
18 testimony extends to bathymetry in the South Delta.

19 And -- And to the extent they're looking at  
20 other areas, this should be identified as the area  
21 whether it's in the South Delta where Mr. Burke is  
22 testifying on bathymetry.

23 MS. MESERVE: Good afternoon.

24 I would just add: It appears that the  
25 questioner is using the exhibits that are already in

1 evidence and have already been relied upon by DWR's  
2 witnesses, so . . .

3 CO-HEARING OFFICER DODUC: Oh?

4 MS. MESERVE: I would agree that they could be  
5 turned into legal briefs, or perhaps surrebuttal, but  
6 they're not within the scope of the testimony as we  
7 understand the rulings in this part.

8 CO-HEARING OFFICER DODUC: If these documents  
9 are already in the record, Ms. Morris, then you do not  
10 need to introduce them again through cross-examination.

11 MS. MORRIS: I might be able to move on, but I  
12 really don't -- I'll -- I'll try to get this the short  
13 way and I will get a nonresponsive answer.

14 CO-HEARING OFFICER DODUC: Hold on. Hold on.

15 I mean, I'm -- I'm looking at the attorneys up  
16 here.

17 My understanding is that if you are asking  
18 questions simply to get something -- get DWR's or State  
19 Water Contractors' opinion or position into the record,  
20 you can do so without soliciting Mr. Burke's opinion on  
21 it which he seemed to disagree.

22 MS. MORRIS: I'm not trying to solicit his  
23 opinion. I'm testing his opinion as an expert and his  
24 knowledge of this calibration.

25 And I can ask the question or I can show the

1 examples. And I found that it's more efficient to show  
2 the examples than to try -- per your earlier direction,  
3 than to try to ask the direct question.

4 CO-HEARING OFFICER DODUC: All right. How  
5 much time do you intend to spend doing this,  
6 Miss Morris?

7 MS. MORRIS: Well, I -- This was the last  
8 question I had on calibration, and then I was going to  
9 move on to some of the other DSM -- bathymetry issues  
10 and DSM-2 issues.

11 CO-HEARING OFFICER DODUC: All right. Well,  
12 let's answer the questions so that we can move on.

13 MS. MORRIS: I did try to strike all his  
14 testimony so I could have skipped this in the first  
15 place.

16 CO-HEARING OFFICER DODUC: Ah, yes. It's my  
17 fault again.

18 (Laughter.)

19 MS. MORRIS: Okay. Looking at the 2009  
20 recalibration shown on Figure 4-2, do you agree that  
21 the DSM-2 cross-section is fit to the observed  
22 bathymic -- bathyme -- bathymetric data?

23 WITNESS BURKE: I'm not familiar with these  
24 two plots.

25 Could you please explain to me what the

1 different colored dots represent and why they're  
2 different color?

3 MS. MORRIS: Sure.

4 The -- The different colored dots are the  
5 different bathymetry data, and the black line is the  
6 DSM-2 bathymetry.

7 WITNESS BURKE: And were they collected at  
8 different time periods, or were they all collected at  
9 the same time?

10 MS. MORRIS: I think I'm the one who's  
11 supposed to be asking the questions.

12 And the question is: Based on what you see in  
13 this comparison from the 2009 recalibration, would you  
14 agree that the data shown is fitting the DSM-2 black  
15 line?

16 MR. RUIZ: And before you -- Before you  
17 answer, just let me note that the clock hasn't  
18 restarted in the last minute or two.

19 (Pause in proceedings.)

20 WITNESS BURKE: I don't know enough about the  
21 datapoints, their origin, their time of collection to  
22 know how to answer that question.

23 MS. MORRIS: I understand your feeling about  
24 not knowing the datapoint, the methods of collection,  
25 when they were collected, or the exact location of the

1 collection, because I also have the same issue with  
2 your testimony so --

3 MR. RUIZ: Objection: That's argumentative.

4 MS. MORRIS: -- if you could answer the  
5 question as to, based on the data with whatever  
6 appropriate caveat you need, I would appreciate it.

7 MR. RUIZ: Objection: It's argumentative.  
8 It's about three questions in one --

9 CO-HEARING OFFICER DODUC: Sustained.

10 MR. RUIZ: -- it's compound; it's vague and  
11 ambiguous.

12 CO-HEARING OFFICER DODUC: Sustained.

13 Keep calm, everyone.

14 MS. MORRIS: If we could go to DWR --

15 CO-HEARING OFFICER DODUC: Did you want an  
16 answer? Did you want to try to break up the question?

17 MS. MORRIS: No. I -- I don't find that this  
18 is productive at this point.

19 CO-HEARING OFFICER DODUC: Thank you. I  
20 agree.

21 MS. MORRIS: If we could go to DWR -- what's  
22 been marked as DWR-1403.

23 And, actually, before we do that, if we could  
24 go to Mr. Burke's -- let's see, SDWA-323-Revised.

25 (Exhibit displayed on screen.)

1 MS. MORRIS: Opinion 7 on Page 5.

2 (Scrolling through document.)

3 MS. MORRIS: And I'd like to -- If you could  
4 just take a look at your Opinion 7.

5 (Pause in proceedings.)

6 MS. MORRIS: And if we could pull up now  
7 DWR-1403.

8 I'm sorry. Actually, on this -- this  
9 Opinion 7, where's the citation for -- for what you're  
10 rebutting to Opinion 7?

11 MR. RUIZ: I'm going to object.

12 We've already gone through this with the  
13 Motion to Strike and the response and the ruling.

14 CO-HEARING OFFICER DODUC: Was this Dr. --  
15 Mr. Reyes.

16 WITNESS BURKE: That's correct. It was  
17 Mr. Reyes' comment about all the previous caveats  
18 developed by Dr. Terani still apply to the modeling  
19 done for California H3+.

20 CO-HEARING OFFICER DODUC: Yeah. I believe  
21 that was the ruling.

22 MS. MORRIS: If you look at -- I'm sorry. If  
23 you could pull up DWR-1403.

24 (Exhibit displayed on screen.)

25 MS. MORRIS: And your opinion at 7 essentially

1 that the DSM-2 model can appropriately be used to  
2 evaluate flow, stage and water quality on a time step  
3 as short as 15 minutes; correct?

4 WITNESS BURKE: That's correct.

5 MS. MORRIS: And, then, have you seen this  
6 document that's marked DWR-1403 titled "DSM-2  
7 Version 8.1 Calibration Status Update"?

8 WITNESS BURKE: I'm not sure if I've seen this  
9 or not.

10 MS. MORRIS: You go to -- Let's see. Slide 3?  
11 Sorry. I think it's actually Page 3.

12 (Exhibit displayed on screen.)

13 MS. MORRIS: You see on that first bullet  
14 where it talks about time step, sensitivity and  
15 testing?

16 Does this --

17 MR. RUIZ: I'm going to object:

18 Again, this document is not something that  
19 he's referred to or utilized in his rebuttal testimony.  
20 He's testified he's not sure he's even seen it.

21 So I think it's outside the scope and it's  
22 unproductive to question him on it.

23 CO-HEARING OFFICER DODUC: Well, let's hear  
24 what her question is. I assume it has to do with time  
25 step in his testimony.



1 MS. MORRIS: It does.

2 CO-HEARING OFFICER DODUC: Then make the  
3 linkage; ask your question.

4 MS. MORRIS: Is this -- Do you recall seeing  
5 this document? And does this support your opinion  
6 about the appropriate time step of 15 minutes?

7 WITNESS BURKE: Let me take a look at this  
8 line for a second to see what exactly it's saying.

9 (Pause in proceedings.)

10 WITNESS BURKE: I'm not sure, not hearing the  
11 presentation that went along with this line, what they  
12 meant by 5/15/5 or 15/30/15.

13 MS. MORRIS: Okay. If you could . . .

14 If you could turn to the second slide of this  
15 exhibit.

16 (Exhibit displayed on screen.)

17 MS. MORRIS: And do you recall that this  
18 document was dated November of 2012?

19 MR. RUIZ: I'm going to object as he's already  
20 testified he's not sure if he's seen this document and  
21 not familiar with it.

22 CO-HEARING OFFICER DODUC: What is your  
23 question, Miss Morris? Because, yes, he did say he  
24 hasn't seen this; he's not familiar with it.

25 MS. MORRIS: I just want to test -- to

1 question him about the NAVD 88 datum and his use versus  
2 the NAV 29. And this document has been public since in  
3 2012, and he made that miscalculation.

4 So I was just wondering if he -- if he had  
5 looked on the DWR website to find this document and  
6 understood about the changes and the datapoints.

7 CO-HEARING OFFICER DODUC: Well, let's ask  
8 him. But I believe he said he's not familiar --

9 Mr. Burke, before I testify for you: Again,  
10 are you familiar with this document?

11 WITNESS BURKE: I don't recall seeing the  
12 document before, no.

13 MS. MORRIS: When's the first time that you  
14 found -- that you discovered that the NAVD 88 datum was  
15 being used in the DSM model?

16 WITNESS BURKE: When I was looking at the  
17 comparison between the older version of DSM-2 that's  
18 presently being used for this hearing process and the  
19 later versions that are -- have been available since  
20 then.

21 MS. MORRIS: What -- And what date was that?  
22 Was that just last week or --

23 WITNESS BURKE: That's correct, it was --

24 MS. MORRIS: Okay.

25 WITNESS BURKE: -- just last week.

1 MS. MORRIS: And your testimony 323-Revised.

2 (Exhibit displayed on screen.)

3 MS. MORRIS: On Page 36, Lines 10 to 11.

4 (Exhibit displayed on screen.)

5 MS. MORRIS: You state that the (reading):

6 ". . . Inaccurate representation of

7 channel geometry will force an inaccurate

8 distribution of flows . . . and that the

9 error . . . is so bad in . . . Middle

10 River as to render any modeling results

11 completely inaccurate."

12 That statement was based on the previous

13 bathymetry data that was 2.3 feet off; correct?

14 WITNESS BURKE: I originally made that

15 statement with the bathymetry data that had the datum

16 shift of 2.3 feet, that's correct.

17 MS. MORRIS: And you say that it will result

18 in -- Well, if we look at Page 17 of your testimony,

19 Lines 21 to 24.

20 (Exhibit displayed on screen.)

21 MS. MORRIS: So -- I mean, your opinion is

22 that the DSM-2 model results will create errors in

23 flows but -- flows but water quality results -- and

24 water quality results; correct?

25 WITNESS BURKE: My testimony is that the error

1 in geometry or the difference in geometry between  
2 reality, what's being presented in the DSM-2 model,  
3 will result in flow errors, stage errors, and the  
4 distribution of salts within the South Delta.

5 MS. MORRIS: Looking at Page 17, Line -- of  
6 your testimony, Lines 21 to 24.

7 You use mean water line data from DSM -- from  
8 the DSM-2 model to estimate the differences in flow  
9 area under the measured and modeled cross-sections;  
10 correct?

11 WITNESS BURKE: As a common reference point to  
12 the two cross-sections, that's correct.

13 MS. MORRIS: Which DSM-2 model did you use for  
14 the mean water line?

15 WITNESS BURKE: I used the Petitioners' DSM-2  
16 model that was before the hearing.

17 MS. MORRIS: What version?

18 WITNESS BURKE: The version that's presently  
19 been used, 8.06.

20 MS. MORRIS: But based on your opinion, the  
21 model levels -- water levels are incorrect; right?

22 WITNESS BURKE: Based on my evaluation of the  
23 effects of the Head of Old River Barrier, the water  
24 levels downstream of the Head of Old River Barrier will  
25 change significantly.

1 MS. MORRIS: So, if the DSM-2 water levels are  
2 incorrect and you used those to estimate the  
3 differences in your opinion in flow under the measured  
4 and modeled cross-sections, those would also be  
5 incorrect; wouldn't they?

6 WITNESS BURKE: No. I used the mean water  
7 level just as a common reference point. I could have  
8 selected any level. I could have just arbitrarily  
9 chosen Elevation 5, or I could chosen (sic) low-tide  
10 level or I could chosen (sic) high-tide level. It's  
11 just a common reference point for comparing two  
12 cross-sections to each other.

13 MS. MORRIS: But you also used it to calculate  
14 your -- to make your calculations shown on Page 17;  
15 correct?

16 WITNESS BURKE: Which calculations are you  
17 referring to?

18 MS. MORRIS: On Page 17 of your testimony.

19 WITNESS BURKE: Okay.

20 MR. RUIZ: There's numerous calculations, so  
21 it's vague and ambiguous. What calculations are you  
22 specifically referring to?

23 MS. MORRIS: I'm questioning him on Line 21  
24 through 24.

25 WITNESS BURKE: So, based on my observation of

1 the difference between the two cross-sections, the area  
2 below the mean water line is roughly two to three times  
3 larger for the DSM-2 cross-section than it is for the  
4 actual cross-section.

5 MS. MORRIS: So if we look at Figure 8 on  
6 Page 19 of your testimony --

7 (Exhibit displayed on screen.)

8 MS. MORRIS: Right there.

9 -- do you agree that the total -- Let's see.

10 Do you agree that the length of the Middle  
11 River area you surveyed is approximately a thousand  
12 feet?

13 I'm not -- I'm not very good at measuring, but  
14 there's the scale 300 feet and it looks like maybe a  
15 little bit more than 900.

16 Would you agree with that, about a thousand?

17 WITNESS BURKE: Thereabouts, yes.

18 MS. MORRIS: Would you agree that the total  
19 length of Middle River from Old River to Victoria Canal  
20 is approximately 10 miles?

21 And I can pull up another one of your maps if  
22 you'd like to measure it.

23 WITNESS BURKE: I believe it's significantly  
24 longer than the Reach that we evaluated with our  
25 cross-sections.

1 MS. MORRIS: My question was: Isn't it  
2 approximately 10 miles?

3 Do you want me to pull the map up?

4 Let's do that.

5 WITNESS BURKE: I couldn't guess or --

6 MS. MORRIS: Let's look at --

7 MR. RUIZ: Hold on. Let him have a chance to  
8 answer the question before you talk over it.

9 CO-HEARING OFFICER DODUC: I believe he  
10 answered it, so let's go to the next one.

11 MS. MORRIS: Isn't it true that the measured  
12 bathymetry you're relying on is only about 2 percent of  
13 the Middle River between Old River and Victoria Canal?

14 WITNESS BURKE: I don't have a percentage  
15 available for that.

16 But it actually -- Because of the nature of  
17 the tidal flow, even if this were the only location  
18 within the whole South Delta that was different for the  
19 DSM-2 model, it would act as a plug within Middle  
20 River, and you wouldn't need to extend through the  
21 whole Reach of the river.

22 But just creating this one plug in the middle  
23 of the river would be sufficient to block the tidal  
24 flows through the whole length as if you plugged in a  
25 hose to stop the water from moving through the system.

1 CO-HEARING OFFICER DODUC: Mr. Burke, while I  
2 appreciate your desire to be helpful, I think things  
3 will move a little bit faster if you just focus on  
4 answering Miss Morris' question. And your attorney can  
5 redirect you for any clarification.

6 WITNESS BURKE: Okay. Sorry.

7 MS. MORRIS: Mr. Burke, in your testimony on  
8 Pages 23 to 24, you essentially state that a model  
9 cannot be used in predictive or comparative mode, even  
10 if it is calibrated, if the channel geometry in the  
11 model is not accurate; correct?

12 WITNESS BURKE: That's correct.

13 MS. MORRIS: So, if the channel geometry is  
14 correctly represented in the model, and the model was  
15 calibrated to match observed data, would you agree that  
16 it can be used in predictive or comparative mode?

17 WITNESS BURKE: If the channel geometry was  
18 adequately -- or accurately reflected in the model, and  
19 the model was calibrated to data at a sufficient  
20 density through the model to be able to verify that  
21 it's working correctly, I believe the model can be used  
22 as a predictive or comparative model.

23 MS. MORRIS: Looking at Page 18 of your  
24 testimony, Lines 13 to 22, you state that the  
25 Petitioners should have used Version -- DSM



1 Version 8.1.2 instead of 8.0.6; correct?

2 WITNESS BURKE: That's correct.

3 MS. MORRIS: And if we could pull up again  
4 DWR-1142.

5 (Pause in proceedings.)

6 (Exhibit displayed on screen.)

7 MS. MORRIS: Appendix 5.B.

8 (Pause in proceedings.)

9 MS. MORRIS: It's .pdf Page 4.

10 This is not 1142. This is 1042.

11 MR. RUIZ: I'm going to object: It's another  
12 document that's outside of the scope and it's something  
13 that's already in the record.

14 CO-HEARING OFFICER DODUC: Miss Morris.

15 MS. MORRIS: I'm -- The witness has testified  
16 that a different version should be used. I haven't  
17 even pulled up what I'm going to show the witness.

18 But I'm going to ask him to read something  
19 about the different versions of the model and ask him  
20 if he's looked at it.

21 And I think it's an explanation and challenges  
22 his opinion about what version of the model is correct.

23 CO-HEARING OFFICER DODUC: All right. Let's  
24 see it.

25 MS. MORRIS: So it's Appendix 5.B.

1 MR. LONG: Attachment 1?

2 MS. MORRIS: No. Go up. 5.B, "DSM-2 Modeling  
3 and Results."

4 (Exhibit displayed on screen.)

5 MS. MORRIS: And if you could go to .pdf  
6 Page 4.

7 (Exhibit displayed on screen.)

8 MS. MORRIS: There.

9 If you could look at the third paragraph. If  
10 you could just read that to yourself (reading):

11 "Since 2009 DWR has released . . ."

12 (Pause in proceedings.)

13 MS. MORRIS: And my question is: Have you  
14 reviewed this section of the Biological Assessment  
15 prior to drafting your testimony?

16 WITNESS BURKE: No, I haven't.

17 MS. MORRIS: Let's look at SDWA-323-Revised,  
18 Page 6.

19 CO-HEARING OFFICER DODUC: And as that is  
20 being pulled up, we have now come toward the end of  
21 your first hour, Miss Morris.

22 How is it looking?

23 (Pause in proceedings.)

24 MS. MORRIS: I think I need the full hour.

25 I'll go as -- I'm scratching things off and

1 moving through, but I have a lot of questions about his  
2 water quality analysis.

3 CO-HEARING OFFICER DODUC: All right.

4 (Exhibit displayed on screen.)

5 MS. MORRIS: Page 6.

6 And in this testimony, you're providing  
7 testimony about changes in water quality in the South  
8 Delta under CWF H3+ compared to the No-Action  
9 Alternative based on DSM-2 EC results; is that correct?

10 WITNESS BURKE: That's correct.

11 MS. MORRIS: Your testimony doesn't identify  
12 which DSM-2 EC outputs you used for each of the  
13 locations you evaluated; correct?

14 WITNESS BURKE: I need to think about that for  
15 a second.

16 (Pause in proceedings.)

17 WITNESS BURKE: No. Actually, I do provide  
18 that information.

19 MS. MORRIS: And where can I find that?

20 WITNESS BURKE: In Table Number 1.

21 MS. MORRIS: On what page?

22 WITNESS BURKE: Page 10.

23 MS. MORRIS: And so those -- The ID, those are  
24 the DSM-2 channel segments?

25 WITNESS BURKE: No. The last column in that

1 segment is the DSM channel number.

2 MS. MORRIS: Oh, thank you.

3 Looking at Page 36 of your testimony, on  
4 Lines 12 to 15 -- 12 and a half to 15 and a half.

5 (Exhibit displayed on screen.)

6 MS. MORRIS: Where's the water level analysis  
7 for CWF H3+ to support this statement?

8 WITNESS BURKE: This is in a previous exhibit  
9 that we submitted for this hearing.

10 MS. MORRIS: And where can I find the cite to  
11 that exhibit in this testimony?

12 WITNESS BURKE: I believe I didn't cite the  
13 exhibit specifically but referenced the previous  
14 analyses and the exhibits that we provided at the  
15 beginning of the testimony.

16 MS. MORRIS: So it's fair to say that this  
17 opinion is limited to the data in your previous water  
18 level analysis. There's no new data.

19 WITNESS BURKE: We didn't redo the analysis  
20 for every different aspect of impact, no.

21 MS. MORRIS: And looking at those same lines,  
22 where in your testimony did you analyze impacts to  
23 habitat, ability to irrigate, and water quality?

24 WITNESS BURKE: I didn't produce any analysis  
25 of impacts to those. I leave those up to people that

1 are better versed into how salinity and water level  
2 changes will affect habitat.

3 But what I did do was try to document from a  
4 hydrologic perspective what those changes in salinity  
5 in water level would be.

6 MS. MORRIS: Looking at Page 37 of your  
7 testimony on Lines 3 to 4.

8 (Exhibit displayed on screen.)

9 MS. MORRIS: Where in your testimony did you  
10 analyze impacts on habitat and algal growth?

11 WITNESS BURKE: I'm sorry. Repeat that,  
12 please.

13 MS. MORRIS: Where in your testimony did you  
14 analyze impacts on habitat and algal growth?

15 WITNESS BURKE: This is with regards to the  
16 cool water diversions from the North Delta diversions  
17 that could affect the water quality and water  
18 temperature in the North Delta.

19 MS. MORRIS: So it's fair to say your analysis  
20 is limited to the water temperatures, and coldwater  
21 pool maybe, but you don't have any analysis on how that  
22 impacts habitat or algal growth.

23 WITNESS BURKE: No. I didn't evaluate the  
24 impact on algal growth, just the fact that cool water  
25 could be entering the Delta and is mischaracterized by

1 the -- DWR's testimony in terms of whether or not  
2 equilibrium could be reached.

3 MS. MORRIS: I want to look at Table 2 on  
4 Page 12 of SDWA-323-Revised.

5 (Exhibit displayed on screen.)

6 MS. MORRIS: You list 65 -- that in 65 percent  
7 of the time at Site SDN-1, there's an increase in the  
8 daily average salinity under CWF H3+ compared to  
9 No-Action Alternative; is that correct?

10 WITNESS BURKE: I show that there's a  
11 percentage of time that is higher than the No-Action  
12 Alternative.

13 MS. MORRIS: Yeah. That was my question. You  
14 list 65 percent of the time there's an increase in  
15 daily average salinity at SDN-1 under CWF H3+ compared  
16 to No-Action Alternative; correct?

17 WITNESS BURKE: That's correct.

18 MS. MORRIS: This table by itself doesn't  
19 specify the magnitude of change in EC under CWF  
20 compared to the No-Action Alternative; correct?

21 WITNESS BURKE: This table itself doesn't, no.

22 MS. MORRIS: It just shows the difference in  
23 time?

24 WITNESS BURKE: The percentage of time, that's  
25 correct.

1 MS. MORRIS: The data for Table 2 is the  
2 summary . . .

3 The data in Table 2 is a summary of the data  
4 shown in Table 3 of your testimony on Page 16; correct?

5 WITNESS BURKE: No, I wouldn't call that a  
6 summary of the data that's presented in Table 3.

7 MS. MORRIS: Okay. Well, let's take a step  
8 back, then.

9 Looking at Table 3, it's labeled (reading):

10 "Percent of Time That Salinity  
11 Increase From CWF H3+ is Greater Than or  
12 Equal to The Specified Value."  
13 Correct?

14 WITNESS BURKE: That's correct.

15 MS. MORRIS: But Table 3 doesn't provide  
16 information about the time of the change; for example,  
17 like what month.

18 WITNESS BURKE: No, it's not providing the --  
19 at the time of increase, just the percentage of time  
20 above a certain value.

21 MS. MORRIS: And Table 3 shows the summary  
22 data for the full 82-year period; is that correct?

23 WITNESS BURKE: That's correct.

24 MS. MORRIS: Going back to Table 2, Page 12.

25 (Exhibit displayed on screen.)

1 MS. MORRIS: Looking at SDN-4, Head of Middle  
2 River, you report that 70 percent -- 76 percent of the  
3 time, the daily average EC at this location is higher  
4 under CWF H3+ compared to the No-Action Alternative;  
5 correct?

6 WITNESS BURKE: That's correct.

7 MS. MORRIS: And then going back to Page 16,  
8 Table 3 --

9 (Exhibit displayed on screen.)

10 MS. MORRIS: -- you report the percent of time  
11 that salinity increased under CWF is greater to or  
12 equal to the specified value; correct?

13 WITNESS BURKE: That's correct.

14 MS. MORRIS: And if I go to SDN-4, Head of Old  
15 Mid -- Head of Old Middle River, and look across the  
16 column -- the row 40 percent, you report that  
17 40 percent of the time the daily average EC for CWF H3+  
18 is higher than or equal to the No-Action Alternative by  
19 one EC; correct?

20 WITNESS BURKE: That's correct.

21 THE REPORTER: Could I have one minute?

22 CO-HEARING OFFICER DODUC: Hold on, please.

23 Stand up and stretch.

24 (Pause in proceedings.)

25 THE REPORTER: Okay. Thank you.



1 CO-HEARING OFFICER DODUC: People are showing  
2 off that they can move their shoulders.

3 (Laughter.)

4 CO-HEARING OFFICER DODUC: Tell us when you're  
5 ready, Candace.

6 THE REPORTER: I'm ready.

7 CO-HEARING OFFICER DODUC: Okay. Break over.

8 MS. MORRIS: Okay. So, looking at --  
9 Comparing Table 1 and 2, or looking at them in  
10 conjunction, for SDN-4, you said at 70 percent --  
11 76 percent of the time, the daily average EC under  
12 CWF H3 is higher than or equal to the No-Action  
13 Alternative, but 40 percent of the time, the difference  
14 is higher than or equal to one EC; correct?

15 WITNESS BURKE: The data included in Table 3  
16 is based on a frequency distribution analysis.

17 I don't think that those two tables are  
18 directly comparable because what you're doing in  
19 Table 3 is, you're looking at the percent of time when  
20 it's greater than a specific value, whereas in Table 2,  
21 you're looking at the whole data record, and what  
22 percentage of the time is it high, irregardless of what  
23 that value may be.

24 MS. MORRIS: But, either way, looking at  
25 Table 2 and Table 3, I'm really unable to see what --

1 the baseline changes. I only know what the difference  
2 is. I'm not able to understand what it's -- if it's  
3 300, or 400, or two, or five; correct? These are just  
4 differences.

5 MR. RUIZ: I'm going to object to that  
6 question as vague and ambiguous in that it's asking him  
7 to speculate on what she can understand.

8 CO-HEARING OFFICER DODUC: Hold on, Mr. Ruiz,  
9 because I'm trying to understand it, too.

10 So, I believe I understand Miss Morris'  
11 question.

12 Do you need clarification?

13 WITNESS BURKE: If you could ask that question  
14 again, it might help me.

15 MS. MORRIS: Looking at Table 2 and Table 3,  
16 I'm not able to see what the baseline is. I'm only  
17 able to see the changes; correct?

18 (Pause in proceedings.)

19 WITNESS BURKE: Um . . . I'm not sure how to  
20 answer that question.

21 MS. MORRIS: Can -- If I looked at your  
22 Tables 2 or 3, am I able to see what the actual EC is  
23 at those timeframes?

24 WITNESS BURKE: You can't see that with  
25 Table 2. That's just a broad comparison over the full

1 period of record, how often was the EC higher under the  
2 WaterFix 3 than the No-Action Alternative.

3 But, to a certain extent, you can see that in  
4 Table 3 because this tells you the percent of time that  
5 it exceeds a specific value.

6 So let's go back to your example that you  
7 wanted to look at for SDN-4. This is the Head of  
8 Middle River.

9 So, if you look at this table, you look at  
10 your frequency column, which is the first column of the  
11 table, and you've got 40 percent.

12 So then you go across to Head of Middle River,  
13 SDN-4, and you can see that 40 percent of the time, the  
14 difference in EC between the WaterFix scenario and the  
15 No-Action Alternative will be one or greater.

16 CO-HEARING OFFICER DODUC: But, Mr. Burke, I  
17 think what she's getting at -- which I'm struggling  
18 with, too -- is, what's reflected here is the  
19 difference. It's actually not the value themselves.

20 WITNESS BURKE: Yeah. The value themselves,  
21 you'd have to look at the actual plots on a  
22 year-to-year basis.

23 CO-HEARING OFFICER DODUC: And that was her  
24 question.

25 MS. MORRIS: Thank you.

1 WITNESS BURKE: Okay.

2 MS. MORRIS: Even though you don't show the  
3 frequency -- the -- looking again at Table 3 -- the  
4 frequency at 50 percent, judging from how the numbers  
5 change in Table 3, can we conclude, for the most -- for  
6 most locations, that the expected values corresponding  
7 to 50 percent would be lower than the 40 percent?

8 WITNESS BURKE: I couldn't speculate as to  
9 what that new value would be for that percent  
10 frequency.

11 MS. MORRIS: Okay. Well, let's just venture  
12 on an example.

13 If we look at SDN-1 at Old River at Tracy, at  
14 5 percent, the number is much higher, and then as we  
15 move towards 40 percent, the number becomes lower;  
16 correct?

17 WITNESS BURKE: That's correct.

18 MS. MORRIS: So, is it fair to say that if we  
19 were to put a 50 percent of the time, that the number  
20 would be lower than eight?

21 WITNESS BURKE: The number would be lower than  
22 eight, but you have to realize what that 50 percent  
23 represents. That represents --

24 MS. MORRIS: That's not my question. It was a  
25 very simple question and Mr. Ruiz can ask you your

1 followup question on redirect.

2 WITNESS BURKE: Okay.

3 MS. MORRIS: I want to turn now to Opinion 5  
4 about increases in OMR reverse flows.

5 And let's look at Page 36.

6 Sorry for making us flip all -- all around  
7 here.

8 (Exhibit displayed on screen.)

9 MS. MORRIS: So, on Lines 3 to 5 on Page 36,  
10 you mention a 22 percent increase in reverse flows on  
11 Old River at Tracy for H3+ compared to No-Action  
12 Alternative.

13 With where is the analysis in your testimony  
14 to support that statement?

15 WITNESS BURKE: I believe that was in our  
16 initial Part 2 case in chief.

17 MS. MORRIS: And do you . . .

18 I'm assuming you don't have a cite to what  
19 portion of your Part 2 testimony that analysis was in?

20 WITNESS BURKE: Not directly accessible, no.

21 MS. MORRIS: Okay. And is it fair, then, to  
22 assume that this opinion that you already provided in  
23 Part 2 testimony is not based on any new evidence or  
24 analysis?

25 WITNESS BURKE: No, it's not.

1 CO-HEARING OFFICER DODUC: I'm sorry. No,  
2 it's not based on new evidence or, no, it's not a fair  
3 statement?

4 WITNESS BURKE: No, it's not based on any new  
5 analysis for --

6 MS. MORRIS: Thank you.

7 WITNESS BURKE: -- this.

8 MS. MORRIS: When you say "reverse flows," are  
9 you speaking about daily or tidal events?

10 WITNESS BURKE: I'm talking about a net flow  
11 either upstream or downstream that could be tidally or  
12 daily.

13 MS. MORRIS: Okay. But I need to understand,  
14 if you make a statement about 22 percent increase, are  
15 you talking about daily average or something -- or  
16 something else? I can't -- I need to understand the  
17 basis of the opinion.

18 So is it one or the other?

19 WITNESS BURKE: Actually, I don't recall.

20 MS. MORRIS: Okay. Do you know where on Old  
21 River and Middle River the compliance with the 2008  
22 BiOp OMR requirement is assessed?

23 WITNESS BURKE: No. I'm not familiar with  
24 that location.

25 MS. MORRIS: Looking at Page 32.

1 (Exhibit displayed on screen.)

2 MS. MORRIS: I'm sorry. If we could just go  
3 back to Page 3.

4 (Exhibit displayed on screen.)

5 MS. MORRIS: Looking at Page 3, Lines 20 to  
6 22, you seem to be disagreeing with Mr. Reyes'  
7 testimony that CWF H3+ complies with the 2008 and 2009  
8 BiOps; correct?

9 WITNESS BURKE: That's correct.

10 MS. MORRIS: But you don't know where the  
11 compliance point is for the BiOps?

12 WITNESS BURKE: I'm not sure where the  
13 adaptimized (sic) point is. But I do know the flow  
14 direction on old River and Middle River is more  
15 negative under the Preferred Alternative than it is  
16 under No-Action Alternative.

17 MS. MORRIS: Okay. Looking at Page 32,  
18 Lines 8 through 15.

19 (Exhibit displayed on screen.)

20 MS. MORRIS: Your providing testimony that you  
21 expect there will be an increase in reverse flows on  
22 Old and Middle River; correct?

23 WITNESS BURKE: Would you repeat those line  
24 numbers, please.

25 MS. MORRIS: Sure. Eight through 15.

1 WITNESS BURKE: (Examining document.)

2 Okay. Could you repeat the question now?

3 MS. MORRIS: Sure.

4 You're providing testimony that you expect  
5 there will be an increase in reverse flows on Old and  
6 Middle Rivers; correct?

7 WITNESS BURKE: That's correct.

8 MS. MORRIS: And you're relying on testimony  
9 you previously presented in SDWA-257 to arrive at this  
10 conclusion?

11 WITNESS BURKE: That's correct.

12 MS. MORRIS: And if we could pull up SDWA-257.

13 (Exhibit displayed on screen.)

14 MS. MORRIS: And Page 20, Table 5.

15 (Exhibit displayed on screen.)

16 MS. MORRIS: Is this the table you're  
17 referring to in your testimony that -- where you say  
18 that you expect there will be an increase in reverse  
19 flows in Old and Middle River?

20 WITNESS BURKE: This is part of the analysis  
21 that was conducted for that.

22 I'm not sure that I'm quoting something  
23 specifically from this table.

24 MS. MORRIS: Well, looking at the analysis, it  
25 says -- you say (reading):



1                    "In that analysis, the net  
2                    downstream flow decreased from between 26  
3                    to 51 percent."

4                    Do you see that?

5                    WITNESS BURKE: I do.

6                    MS. MORRIS: And if we look at this table, is  
7                    that where these numbers come from?

8                    WITNESS BURKE: It looks like it's quite  
9                    possible.

10                   I had not reviewed this particular section of  
11                   the exhibit for a little while, but this -- those  
12                   numbers seem to match what we're seeing here.

13                   MS. MORRIS: And looking at Page -- 257,  
14                   Page 5, Figure 1.

15                   (Exhibit displayed on screen.)

16                   MS. MORRIS: This shows the map of the 16  
17                   locations that you tabulated for Table 5; correct?

18                   WITNESS BURKE: I'd have to go back and take a  
19                   look at that report to see whether this is the location  
20                   that we used for that analysis or whether this was used  
21                   for something else.

22                   MS. MORRIS: Can you tell me which of the  
23                   locations shown on this map you used to arrive at your  
24                   conclusion about compliance with the applicable Old and  
25                   Middle River flow regulations related to the 2008 and

1 2009 Biological Opinions?

2 WITNESS BURKE: These are the locations that  
3 are reflected in the table that we just looked at.

4 I looked at the net effect of positive and  
5 negative flows on all of these locations, or downstream  
6 and upstream flows, and those -- the analysis at each  
7 of these locations is reflected in that table.

8 MS. MORRIS: I mean, I -- I asked you a very  
9 specific question.

10 So, are you telling me you can't tell me which  
11 location because you're saying it's all of them?

12 WITNESS BURKE: If you look back at the table,  
13 you'll see the range that I expressed in my testimony  
14 here. 26 to 51 percent is the range that we see in all  
15 of those points that are presented in that table.

16 MS. MORRIS: The results in 257 -- SDWA-257,  
17 Table 5, were based on differences in daily flow  
18 outputs from DSM-2 only in times when the Head of  
19 Old -- the Head of Old River Barrier is in place in  
20 either the BA H3 or the NAA; correct?

21 WITNESS BURKE: I'm not sure. I'd have to go  
22 back and review that to see.

23 MS. MORRIS: Okay.

24 (Pause in proceedings.)

25 MS. MORRIS: Is this something that you can --

1 I've asked you several questions about your analysis  
2 that you're relying on, and it seems like you need some  
3 time to go back and look at your analysis.

4 Is that something we should take a break for,  
5 or it would require much more time than 10 minutes?

6 WITNESS BURKE: I'm not sure. I guess it  
7 would all depend on your question.

8 I'd have to take your question into  
9 consideration and go back to look at the exhibit to see  
10 where I may have expressed that opinion or where I may  
11 have developed the data that you're looking for.

12 MS. MORRIS: I'm not quite sure what to do  
13 because . . . there's an analysis provided and I'm  
14 trying to test that, but there's not an ability to  
15 provide the explanation for the analysis conducted.

16 So, you know, I can move on, but it seems like  
17 the witness should be able to answer the questions  
18 about his own analysis.

19 WITNESS BURKE: Well, these --

20 CO-HEARING OFFICER DODUC: But to what extent,  
21 though, is . . . Or, no.

22 Let me try and understand, Mr. Burke.

23 The conclusions that Miss Morris directed you  
24 to, you said those conclusions were based on analysis  
25 that you conducted and provided as part of your case in

1 chief testimony for Part 2.

2 Did I understand that correctly?

3 WITNESS BURKE: That's correct.

4 CO-HEARING OFFICER DODUC: And you did not do  
5 any new analysis for those conclusions.

6 WITNESS BURKE: No. I was just reiterating  
7 the results that we found from that analysis as to --  
8 as rebuttal to the statements made that there are no  
9 changes or effects on water levels in --

10 CO-HEARING OFFICER DODUC: But those analysis  
11 (sic), that data, was part of your Part 2 case in chief  
12 testimony to which every party had opportunity to  
13 conduct cross-examination.

14 WITNESS BURKE: That's correct.

15 MS. MORRIS: But -- But I'm going to just  
16 point you to Page 32 of his testimony where he's  
17 rebutting, specifically Lines 12 through 13.

18 And this is what I'm testing. This is not --

19 CO-HEARING OFFICER DODUC: I understand that,  
20 Miss Morris.

21 But I'm -- What I'm trying to -- I'm trying to  
22 be as fair as possible to everybody.

23 What I'm trying to get at here is, he has said  
24 he did not conduct any new analysis. He did not  
25 provide any new data for that conclusion. It's all

1 based on testimony he previously submitted as part of  
2 his case in chief for Part 2, which meant everyone had  
3 opportunity then to cross him on it and now we're  
4 trying to go back.

5 I understand that it's because he included --  
6 he referred to it again in his rebuttal testimony.

7 MS. MORRIS: It's not the reference. I -- I  
8 understand what you're saying and -- but -- but it --  
9 Like, for example, he's using this analysis to say,  
10 specifically -- I'm reading:

11 "The claim by Mr. Reyes that the CWF  
12 complies with the 2008 and 2009 BiOps is  
13 not borne out by the modeling results."  
14 Which is a new opinion.

15 But he's using his old analysis, and I'm  
16 trying to test that but he's not able to answer the  
17 question.

18 So I'm -- I would also make a Motion to Strike  
19 it as duplicative because it was already provided in  
20 Part 2. And I'm happy to go through and pull these  
21 sections and opinions where he hasn't provided any new  
22 analysis or is relying on old analysis and cannot now  
23 answer the questions.

24 CO-HEARING OFFICER DODUC: I think  
25 Mr. Deeringer has a question.

1           MR. DEERINGER: Mr. Burke, would it be fair to  
2 say you're using the same analysis from your Part 2  
3 case in chief to form slightly different conclusions  
4 now during the rebuttal phase?

5           WITNESS BURKE: No, it's not really a  
6 different conclusion. It's more of just rebutting,  
7 again, their statement that they're having net decrease  
8 in negative flows in Old and Middle River. They stated  
9 that previously, and I opposed that with my previous  
10 testimony.

11           They again stated that, so now I'm rebutting  
12 that again.

13           CO-HEARING OFFICER DODUC: So you're saying  
14 that your -- those conclusions in your rebuttal  
15 testimony is the same as the conclusions submitted in  
16 your Part 2 case in chief testimony.

17           WITNESS BURKE: They are the same opinions,  
18 that's correct.

19           MS. MORRIS: So I --

20           MR. RUIZ: Well, yeah, but he's responding  
21 to -- He's responding to the Part 2 rebuttal testimony.  
22 He's not going to rerun an analysis that's already been  
23 done.

24           And the analysis pertains to the -- to -- to  
25 the current situation. He's rebutting Part 2.

1 CO-HEARING OFFICER DODUC: I understand that.

2 So, again, I'm -- I'm -- I'm looking at  
3 Miss Morris.

4 If it is indeed the same conclusion and the  
5 same data and the same analysis that he submitted for  
6 his Part 2 case in chief, you're only providing it  
7 again in order to rebut testimony you heard.

8 WITNESS BURKE: That's correct.

9 MS. MORRIS: (Shaking head.)

10 He is providing it as an -- and making new  
11 opinions. And I'm trying to --

12 CO-HEARING OFFICER DODUC: Okay. He's  
13 claiming that it's the same opinion.

14 MS. MORRIS: So, then, can -- Then I would  
15 move to strike it as duplicative. It's not necessary  
16 in this instance, then.

17 MR. RUIZ: This is a perfect example, I think,  
18 of something that she can argue in her brief. Again,  
19 this is not --

20 MS. MORRIS: No, I cannot. The record has to  
21 reflect Motions to Strike. I cannot argue for a Motion  
22 to Strike in a closing legal brief.

23 CO-HEARING OFFICER DODUC: All right.

24 MR. RUIZ: That argument is --

25 CO-HEARING OFFICER DODUC: Hold on. One at a

1 time.

2 And I think we're going to hear from  
3 Miss Des Jardins.

4 MS. DES JARDINS: Am I recognized?

5 I -- Dierdre Des Jardins, California Water  
6 Research.

7 And there's just been a precedent, and my  
8 cross-examination of Miss Daly was very limited to just  
9 what she had expressed in that exact testimony.

10 And there was -- And there have been numerous  
11 showings that you're limited in the scope of rebuttal  
12 and you don't necessarily need to dwell into all the  
13 details.

14 CO-HEARING OFFICER DODUC: Let just the record  
15 be noted that Miss Daly's testimony was very general  
16 and in no way reflected the level of analysis that  
17 Mr. Burke included in his quite extensive testimony.

18 MR. DEERINGER: Could I just suggest that we  
19 take about five minutes.

20 CO-HEARING OFFICER DODUC: I was about so.

21 But before we do so, anything else to add,  
22 Mr. Ruiz?

23 (Pause in proceedings.)

24 MR. RUIZ: No, there's nothing else to add.  
25 It's been said, and it's in response to rebuttal. We



1 can't control what's in their rebuttal and we respond  
2 accordingly.

3 CO-HEARING OFFICER DODUC: All right. We're  
4 going to take a break to discuss this.

5 We may or may not be back.

6 (Laughter.)

7 MR. RUIZ: How long should we wait?

8 MS. MORRIS: I'm sorry.

9 (Recess taken at 4:29 p.m.)

10 (Proceedings resumed at 4:33 p.m.):

11 CO-HEARING OFFICER DODUC: All right. Let's  
12 go back on the record.

13 Thank you, everyone.

14 There was an objection and a motion. Both are  
15 denied.

16 We find that while this is based on  
17 Mr. Burke's prior analysis, testimony, data and  
18 conclusion, Miss Morris -- Because it's being used  
19 differently in rebuttal, Miss Morris has ground to now  
20 test and ask questions about that analysis.

21 To the extent that Mr. Burke is unable to  
22 answer Miss Morris' question right now, that will go  
23 towards weight.

24 MS. MORRIS: Okay. So, I had a question about  
25 whether or not -- and let's just be specific, SDWA

1 Exhibit 257, Table 5 -- whether the flow data was a  
2 daily average or a tidally average?

3 MR. RUIZ: We should probably have that up on  
4 the screen.

5 (Exhibit displayed on screen.)

6 MS. MORRIS: Could you go up?

7 (Exhibit displayed on screen.)

8 MS. MORRIS: It's Table -- I'm sorry.

9 Table 5.

10 (Exhibit displayed on screen.)

11 WITNESS BURKE: I believe that was based on a  
12 cumulative 15-minute time step.

13 MS. MORRIS: 15-minute time step.

14 Do you know that the OMR requirements are  
15 either a five- or 14-day average?

16 WITNESS BURKE: I'm not familiar with the  
17 exact OMR requirements. I was just looking at whether  
18 or not there was going to be an increase or a decrease  
19 in the --

20 MS. MORRIS: So you don't know.

21 WITNESS BURKE: No.

22 MR. RUIZ: Please let him answer the question  
23 before you interrupt him.

24 MS. MORRIS: Would you --

25 CO-HEARING OFFICER DODUC: Hold on. Hold on.

1 Are you okay now? Let's take a deep breath.

2 Okay, Miss Morris, continue.

3 MS. MORRIS: On Page 32, Lines 12 to 13, when  
4 you say Mr. Reyes' statement "is not borne out by the  
5 modeling results," did you review Mr. Reyes' testimony  
6 in Part 2 where he presented compliance with OMR flow  
7 requirements based on CalSim II modeling results?

8 WITNESS BURKE: Yes, I did.

9 (Pause in proceedings.)

10 MS. MORRIS: Okay. So, if we could go back to  
11 your -- I don't think we got an answer on this.

12 If we could go -- Same exhibit, Figure 1,  
13 which is the map of the points analyzed in Table 5.

14 (Exhibit displayed on screen.)

15 WITNESS BURKE: Is this back in 257?

16 MS. MORRIS: Yeah, 257.

17 By the way, 257 is actually your Part 1  
18 rebuttal case; isn't it?

19 WITNESS BURKE: It might be. I'm sorry. It  
20 could be.

21 MS. MORRIS: Yeah. It doesn't actually say  
22 anything about OMR; correct?

23 WITNESS BURKE: It talks about reverse flows  
24 in Old and Middle River.

25 MS. MORRIS: But not in terms of the

1 Biological Opinion and the OMR compliance as specified  
2 in the '08/'09 Biological Opinions.

3 WITNESS BURKE: We don't use the acronym "OMR"  
4 but we look at reverse flows within Old and Middle  
5 River.

6 MS. MORRIS: So, looking in this map, can you  
7 show me which location -- or just tell me what number  
8 you used for your statement about Mr. Reyes' opinion  
9 not bearing -- being borne out by the modeling results.

10 So, on this map, which location did you use as  
11 the OMR compliance point?

12 WITNESS BURKE: I'm going to take a look at  
13 the text that goes with that for a second.

14 (Pause in proceedings.)

15 CO-HEARING OFFICER DODUC: Mr. Burke?

16 WITNESS BURKE: I'm sorry. I'm sorry it's  
17 taking me so long.

18 There's several different maps. I don't think  
19 that this map is actually applicable to Old and Middle  
20 River reverse flows.

21 That map that's up right now, I was looking at  
22 the change in stage through the Head of Old River  
23 Barrier. So I'm trying to find -- to see if that map  
24 was used or if there's another map that was used for  
25 defining the points that were used to calculate the

1 reverse flows in Old and Middle River.

2 CO-HEARING OFFICER DODUC: So you're saying  
3 you're unable to answer Miss Morris' question using  
4 this map.

5 MS. MORRIS: I'd just like to point out: If  
6 we go back to Table 5, there are 16 sites, and those 16  
7 sites have flow analysis. And, then, this map has 16  
8 sites and it's the same Technical Report. There's no  
9 other map.

10 So, if he can't answer the question, he can't  
11 answer the question, but it is the correct map.

12 WITNESS BURKE: No. I believe I can answer  
13 the question.

14 I just wanted to double-check to make sure  
15 that is the correct map that's being used since it's  
16 located in a different part of the report than the  
17 table that's used to evaluate reverse flows.

18 CO-HEARING OFFICER DODUC: And do we need to  
19 have definite confirmation for you to continue your  
20 line of questioning, Miss Morris?

21 MS. MORRIS: I'm -- I'm happy to end. I'm  
22 done. I'm good.

23 We're all done. I have no further questions.

24 WITNESS BURKE: Just to wrap things up, I  
25 think you are correct, that is the map that was used.

1 There are 16 points and it was listed in Table 5.

2 MS. MORRIS: That was not the question, but --

3 MR. RUIZ: She didn't have -- She didn't have  
4 a question pending.

5 CO-HEARING OFFICER DODUC: Hold on.

6 MS. MORRIS: Well, I did.

7 MR. RUIZ: She didn't have a question pending.

8 CO-HEARING OFFICER DODUC: No. Let's not  
9 argue.

10 All right. I believe I also have a request  
11 from Mr. Jackson who's not here, Miss Meserve, and  
12 Miss Des Jardins.

13 (Pause in proceedings.)

14 CO-HEARING OFFICER DODUC: Miss Meserve had  
15 requested 25, and Miss Des Jardins 20 minutes.

16 MS. DES JARDINS: Dierdre Des Jardins.

17 I thought I had requested half an hour for  
18 Mr. Burke, and I'm not sure if we're going to have  
19 time.

20 Are we going to delay or . . .

21 CO-HEARING OFFICER DODUC: I have you down as  
22 20 minutes.

23 MS. DES JARDINS: Oh. My intention had been  
24 to request half an hour for Mr. Burke because of the  
25 complexity of his testimony. And I don't know that I

1 would need all of it, but that was my intention.

2 CO-HEARING OFFICER DODUC: All right. Let's  
3 get through Miss Meserve first.

4 MS. MESERVE: Good afternoon. I just have  
5 questions about the error temperature portion of  
6 Mr. Burke's testimony.

7 CROSS-EXAMINATION BY

8 MS. MESERVE: And so starting, Mr. Burke,  
9 with -- on Page 33, where you begin that section.

10 (Exhibit displayed on screen.)

11 MS. MESERVE: On Line 8, you discuss that you  
12 selected water temperature at Freeport data and then  
13 air temperature at Sacramento State, and I was just  
14 wondering why a different location for the air  
15 temperature.

16 WITNESS BURKE: I chose the closest air  
17 temperature gage to the Freeport Gaging Station.

18 The Sacramento State University gage is not  
19 located directly at the station, but it's close enough  
20 to be applicable to the air temperature that would be  
21 over the gaging site.

22 MS. MESERVE: And then on Page 35, on -- in  
23 the first paragraph --

24 (Exhibit displayed on screen.)

25 MS. MESERVE: -- you talk about equilibrium.

1           And I wonder: What -- What do you consider to  
2 be the definition of thermal equilibrium.

3           WITNESS BURKE: Thermal equilibrium is  
4 generally when the heat loss and gain to a river system  
5 is identical.

6           So, for the number of calories per hour per  
7 unit discharge, leaving the river is the same as the  
8 calories per unit discharge entering the river either  
9 from air temperature or solar radiation.

10          MS. MESERVE: And if the two, air and water,  
11 were truly at equilibrium, they would be ultimately the  
12 same temperature?

13          WITNESS BURKE: They wouldn't be the same.  
14 There's always going to be a little difference because  
15 you've got evaporation and you've got an ongoing flux  
16 of heat into and out of the river, but there will be a  
17 slight difference in air and water temperature.

18          But at equilibrium, if the system is always  
19 acting at equilibrium, that difference would be  
20 relative constant over a variety of flows.

21          And what we see here is that different  
22 increases with the change in flow, as the river  
23 discharge increases, the difference between air  
24 temperature and water temperature increases, which  
25 indicates to me that this section of the river may not



1 be in tech -- in equilibrium with the air temperature.

2 MS. MESERVE: And you discuss Dr. Bryan's  
3 testimony about how he determined not -- that it  
4 wouldn't be helpful to look at actual data.

5 Do you disagree with that statement by  
6 Dr. Bryan?

7 WITNESS BURKE: I definitely disagree with  
8 that statement.

9 I think any model can be useful, but it has to  
10 be validated by actual data, either collected at a site  
11 or at least reviewed at a project site, to determine  
12 whether the model results are telling you something  
13 realistic.

14 MS. MESERVE: And on Page 35, still Line 23,  
15 you opine that the temperature difference typically  
16 increases as flow in the river increases.

17 Can you explain how the figures that you  
18 provide, number 24 through 26, show an increasing  
19 difference found as flows increase?

20 WITNESS BURKE: Yes. If we could pull up  
21 Figure 24 on Page 33 of SDWA-323-Revised.

22 (Exhibit displayed on screen.)

23 MS. MESERVE: So this is going to be back a  
24 page or two, I think.

25 (Exhibit displayed on screen.)

1 MS. MESERVE: One more.

2 (Exhibit displayed on screen.)

3 MS. MESERVE: There.

4 WITNESS BURKE: Yeah.

5 This Figure 24 shows the difference between  
6 air temperature and water temperature as the function  
7 of flow on the Sacramento River in June.

8 Again, on our Y-Axis, we have the difference  
9 in temperature in air temperature minus water  
10 temperature in degrees Fahrenheit. And on the X-Axis,  
11 we've got the gradually increasing Sacramento River  
12 flow in cfs. And we've got clouds of datapoints along  
13 that whole spectrum of flows.

14 But, as you can see, in the general trend of  
15 matching up that number to a regression analysis, that  
16 it's a gradual increase in the difference between air  
17 temperature and water temperature as the flow  
18 increases.

19 Now, that is indicative to me that the river  
20 may not be in thermal equilibrium with the air  
21 temperature and solar radiation at that point.

22 If it were at equilibrium at that point, you  
23 would generally see a flat line, but there wouldn't be  
24 a general increase in temperature -- or an increase in  
25 the difference of temperature between the air and water

1 as you have an increase and discharge.

2 MS. MESERVE: And then on Line 5 of Page 35,  
3 you mention that the difference is less than 5 degrees  
4 when the Sacramento River flow is low.

5 And I wondered: What do you consider to be  
6 low flow in the Sacramento River, at Freeport perhaps,  
7 with reference to your figures?

8 WITNESS BURKE: Yeah. Looking back again to  
9 Figure 24, I look at a low-flow condition on the  
10 Sacramento River as being generally the 10,000 cfs  
11 range.

12 MS. MESERVE: And are you -- Are you aware of  
13 what the lowest minimum bypass flows would be at  
14 Freeport if the North Delta diversions were permitted  
15 and operated?

16 WITNESS BURKE: I don't recall what the -- the  
17 lowest permitted bypass is.

18 MS. MESERVE: Would it be fair to say: If the  
19 flows were less than what you considered to be low,  
20 around 10,000 cfs, that you would expect the difference  
21 between air temperature and water temperature to be  
22 less?

23 WITNESS BURKE: No, it doesn't really work  
24 that way.

25 The relationship that we see here between air

1 and water temperature is a cumulative effect of the  
2 path of the Sacramento River over its full length of,  
3 flow from Shasta all the way down to the Freeport  
4 Gaging Station, and the different tributaries that are  
5 contributing to that.

6           So, if you were to pull water out of the North  
7 Delta diversion just downstream of Freeport, you  
8 wouldn't really be changing this relationship.

9           But what you would be doing is lowering the  
10 discharge and pulling off some of the cooler flow that  
11 could be going into the Delta if the river is not at  
12 equilibrium with the air temperature at this location.

13           MS. MESERVE: And so, in your opinion, those  
14 lower flows could lead to the water temperature being  
15 in closer or more toward equilibrium than the water  
16 temperature?

17           WITNESS BURKE: If you pull those flows out,  
18 the net flow in Sacramento River will be lower. The  
19 lower the flow, typically the lower your velocity, the  
20 longer the residence time the river has for Reach and  
21 more opportunity it has to come into equilibrium with  
22 the air temperature.

23           So the difference between the air and water  
24 temperature would decrease as you remove flow from the  
25 river.

1 MS. MORRIS: And, so, would you agree that  
2 both air temperature and flow are important factors  
3 contributing to the water temperature?

4 WITNESS BURKE: That's correct.

5 MS. MORRIS: And are you aware of other  
6 factors that contribute to water temperature in the  
7 river?

8 WITNESS BURKE: Solar radiation, which air  
9 temperature is kind of used as a proxy for solar  
10 radiation.

11 But tree cover, shading along the banks of the  
12 river, can have a large effect on the temperature  
13 equilibrium within the channel.

14 MS. MESERVE: Would other factors be things  
15 such as topography and hyporheic exchange?

16 WITNESS BURKE: Will you repeat that, please.

17 MS. MESERVE: Would topography and hyporheic  
18 exchange also be factors in -- to consider in addition  
19 to flow and air temperature and the other factors you  
20 mentioned?

21 WITNESS BURKE: Topography can, because the  
22 topography of the channel allowing sudden light to hit  
23 the river more directly can change the way the heat  
24 exchange is occurring within the channel.

25 Hyporheic exchange. I'm not familiar with

1 that term.

2 (Pause in proceedings.)

3 MS. MESERVE: So, would you disagree with the  
4 statement that air temperature's the dominant factor in  
5 determining water temperature in the Sacramento River?

6 WITNESS BURKE: I would generally say that  
7 there hasn't been enough analysis for us to make that  
8 distinction, because the data that we've evaluated here  
9 shows that air temperature may not be dominating the  
10 water temperature, it may not be in equilibrium, that  
11 there may be other factors that are still controlling  
12 the water temperature given the volume of water moving  
13 through the system.

14 MS. MESERVE: Thank you.

15 No further questions.

16 CO-HEARING OFFICER DODUC: Thank you,  
17 Miss Meserve.

18 Miss Des Jardins.

19 (Pause in proceedings.)

20 CO-HEARING OFFICER DODUC: Miss Des Jardins  
21 requested 30 minutes. Let's hope they're a productive  
22 30 minutes.

23 MS. DES JARDINS: I am very aware that I'm  
24 standing between people and leaving.

25 CO-HEARING OFFICER DODUC: It's not that,

1 Miss Des Jardins. It's always the fact that we want  
2 cross-examination time to be used effectively and  
3 productively.

4 MS. DES JARDINS: I hope that I will be given  
5 the same latitude that Miss Morris was.

6 CO-HEARING OFFICER DODUC: To the extent that  
7 it is appropriate.

8 MS. DES JARDINS: And that the decisions will  
9 be the same.

10 CROSS-EXAMINATION BY

11 MS. DES JARDINS: So I'd like to go to Page 23  
12 of your testimony at Line 22.

13 (Exhibit displayed on screen.)

14 MS. DES JARDINS: And you expect the concern  
15 that major Delta channels are incorrectly represented  
16 here, Mr. Burke; is that correct?

17 WITNESS BURKE: We didn't perform a survey on  
18 all Delta channels, but for the ones that we saw -- did  
19 survey, we saw some items that gave us real concern of  
20 the ability of the model to accurately represent the  
21 channel system in the Delta itself.

22 MS. DES JARDINS: And I'd like to ask you a  
23 question about the -- You've been questioned on the  
24 2009 -- There was a 2009 DSM-2 limited recalibration;  
25 correct?

1 WITNESS BURKE: That's correct.

2 MS. DES JARDINS: I'd like to pull that up.

3 That's Exhibit Brentwood-105.

4 MR. LONG: Can you repeat that number?

5 MS. DES JARDINS: Brentwood-105.

6 (Pause in proceedings.)

7 (Exhibit displayed on screen.)

8 MS. DES JARDINS: And can we zoom out, please.

9 (Exhibit displayed on screen.)

10 MS. DES JARDINS: So, this is the 2009 DSM-2  
11 recalibration?

12 WITNESS BURKE: That's correct.

13 MS. DES JARDINS: Okay. And I'd like to go to  
14 Page 19, please.

15 (Exhibit displayed on screen.)

16 CO-HEARING OFFICER DODUC: I'm sorry. Did you  
17 consider this in your analysis of your -- for your  
18 rebuttal testimony?

19 WITNESS BURKE: Yes, I have.

20 CO-HEARING OFFICER DODUC: Okay.

21 MS. DES JARDINS: And so --

22 CO-HEARING OFFICER DODUC: Hold on.

23 MS. DES JARDINS: -- Mr. Burke --

24 CO-HEARING OFFICER DODUC: Hold on. Hold on.

25 MS. DES JARDINS: Okay.



1 MS. MORRIS: I showed -- I showed this witness  
2 the exact same thing and he said he wasn't familiar  
3 with it, and there were objections to me asking  
4 questions about it.

5 So I object that this --

6 CO-HEARING OFFICER DODUC: Hold on. I don't  
7 recall this, Miss Morris.

8 MS. MORRIS: It's the same 2009 recalibration.  
9 It's just marked as a different exhibit.

10 So I'm confused how the witness didn't know it  
11 when I was asking about it and, all of a sudden, he's  
12 now familiar with this document.

13 CO-HEARING OFFICER DODUC: Now I'm confused.

14 Mr. Burke, please help us.

15 WITNESS BURKE: When the document was brought  
16 up previously, I don't think it had that cover because  
17 I do recognize that cover as one of the calibration  
18 documents, and what was presented before I didn't  
19 recognize.

20 MR. RUIZ: And I would -- I would note, I  
21 don't think Miss Morris brought this particular exhibit  
22 up. I don't remember a Brentwood exhibit.

23 CO-HEARING OFFICER DODUC: If it is indeed the  
24 same document, Miss Morris, I will allow you the  
25 opportunity to ask your questions.

1 Proceed.

2 MS. DES JARDINS: So, Mr. Burke, does this  
3 show the updated bathymetry as part of the 2009  
4 calibration?

5 (Pause in proceedings.)

6 MS. DES JARDINS: There was a -- There was a  
7 few -- The yellow -- The yellow lines.

8 WITNESS BURKE: Yeah. I believe it's showing  
9 some updated bathymetry in the north area of the Delta.

10 MS. DES JARDINS: But only in that area; is  
11 that correct?

12 WITNESS BURKE: That's correct.

13 MS. DES JARDINS: I'd like to go to Page 8 of  
14 this document.

15 (Scrolling through document.)

16 MS. DES JARDINS: You just passed it.

17 (Exhibit displayed on screen.)

18 MS. DES JARDINS: There we go.

19 And this is the scope of the recalibration.

20 And does it indicate that one of the goals was  
21 accurate simulation of tidal flows at Rio Vista, Jersey  
22 Point and Three Mile Slough?

23 WITNESS BURKE: That's correct.

24 MS. DES JARDINS: And you see -- And is -- are  
25 those in the Western Delta?

1 WITNESS BURKE: Yes, they are.

2 MS. DES JARDINS: Okay. And it include  
3 Simulation of EC at Collinsville, Emmaton, Jersey Point  
4 and Rio Vista.

5 And are those in the Western Delta as well?

6 WITNESS BURKE: I believe they're generally  
7 considered that area.

8 MS. DES JARDINS: Okay. So, I'd like to go to  
9 Page 67 in this document.

10 (Exhibit displayed on screen.)

11 MS. DES JARDINS: And I -- I'm not sure if  
12 you're familiar with this. This was a list of the  
13 points at which flow and stage were calibrated.

14 And I wanted to ask if it shows that -- For  
15 example, Old River at Tracy, is -- is that only  
16 calibrated for stage?

17 WITNESS BURKE: It appears that it has been  
18 calibrated for stage.

19 And there are multiple things you can do to  
20 calibrate a model for stage. And one of them is to  
21 adjust different parameters within the model, of  
22 friction or channel length, in order to get the  
23 calibration to work.

24 MS. DES JARDINS: But if they were calibrated  
25 at those points just for stage and not for stage and

1 flow, would it be fairly limited?

2 WITNESS BURKE: It depends on what they're  
3 trying to achieve at those different locations. But  
4 the fact that they didn't calibrate it for stage and  
5 flow at each calibration point is disconcerting.

6 MS. DES JARDINS: Let's go to the map on  
7 Page 69, please.

8 (Scrolling through document.)

9 MS. DES JARDINS: So this is just a map of  
10 locations that were calibrated for stage, and for stage  
11 and flow.

12 Would that be -- Would that be accurate?

13 WITNESS BURKE: It seems reasonable to have  
14 distribution points across the Delta that you want to  
15 calibrate to.

16 MS. DES JARDINS: And are . . . Are . . .  
17 Are most -- Are there points in the south -- I mean,  
18 does it seem like most of the points in the South Delta  
19 were calibrated for stage only?

20 WITNESS BURKE: It looks like most of those  
21 points were calibrated to stage only. And we evaluated  
22 some of that data that was used.

23 One of the parameters that you can use to  
24 calibrate stage is changing the channel length. And as  
25 we looked through the data within the DSM-2 model, we

1 saw that the channel length for each of these channels  
2 in the South Delta was dramatically different from the  
3 actual length of channel itself in the map, sometimes  
4 differing by three or four or 5,000 feet.

5           And I think that might have been one of the  
6 calibration parameters that was used to force the model  
7 to calibrate to this stage. It was collected at some  
8 of these calibration points.

9           MS. DES JARDINS: Thank you.

10           And I'd like to go to Page 7 of this document.

11           (Exhibit displayed on screen.)

12           MS. DES JARDINS: And scroll down, please.

13           (Scrolling through document.)

14           MS. DES JARDINS: And doesn't it say in the  
15 sentence at the end that (reading):

16                     "A limited recalibration of DSM-2  
17 was undertaken to ensure adequacy . . .  
18 for BDCP analyses and other  
19 applications."

20           WITNESS BURKE: That's correct.

21           MS. DES JARDINS: And -- And -- And is it your  
22 understanding that the scope of this recalibration was  
23 limited?

24           WITNESS BURKE: It's a -- It appears that  
25 that's what they did in their calibration analysis,

1 that's correct.

2 MS. DES JARDINS: And is it your  
3 understanding, based on this new bathymetry data, that  
4 maybe the cal -- recalibration wasn't -- wasn't enough  
5 to ensure adequacy for these analyses?

6 WITNESS BURKE: Typically with these models,  
7 there's enough dials that you can adjust in the model  
8 to force a model to calibrate.

9 And that may be one of the things that they  
10 did in this analysis to force the model to calibrate in  
11 the South Delta by adjusting the channel lengths, and  
12 that's why we see some of these channel lengths so  
13 different in the model from what it actually exists on  
14 land.

15 MS. DES JARDINS: Thank you.

16 And I also wanted to ask:

17 Were you aware that the Delta modeling  
18 community requested investment in a formal program in  
19 2009 to update and maintain the bathymetry dataset?

20 WITNESS BURKE: I know there's been a lot of  
21 push in that direction.

22 CO-HEARING OFFICER DODUC: Hold on, please.

23 MS. SHEEHAN: Hi. Becky Sheehan from State  
24 Water Contractors.

25 I'd like to object as vague. Who is the Delta

1 modeling community? Could you please be more specific?

2 Was it your clients --

3 MS. DES JARDINS: Can --

4 MS. SHEEHAN: -- or somebody else?

5 MS. DES JARDINS: Can I bring up -- This is  
6 direct with respect to Mr. Burke's comment about the  
7 model.

8 Exhibit DDJ-104, Page 13, is the exact letter.

9 (Exhibit displayed on screen.)

10 MS. DES JARDINS: Please go to Page 13 of this  
11 exhibit.

12 CO-HEARING OFFICER DODUC: And, I'm sorry, are  
13 you responding to Miss Sheehan's --

14 MS. DES JARDINS: Yes.

15 CO-HEARING OFFICER DODUC: -- question?

16 MS. DES JARDINS: Yes. Page 13 is a copy of  
17 the letter.

18 If we could . . .

19 CO-HEARING OFFICER DODUC: And are those --

20 MS. DES JARDINS: Scroll -- Scroll -- Scroll  
21 out, please. Scroll out.

22 (Scrolling out exhibit.)

23 MS. DES JARDINS: Yes, thank you.

24 And go up to the top of the page.

25 (Exhibit displayed on screen.)

1 MS. DES JARDINS: This is the letter. It's  
2 from CALFED Hydrodynamics Modeling Community members to  
3 the CALFED Director and Lead Scientist.

4 And the specific -- It's about, "Improved  
5 modeling capabilities needed . . ."

6 And I'd like to scroll down to the second  
7 page, please.

8 (Exhibit displayed on screen.)

9 MS. DES JARDINS: And scroll in where it says  
10 (reading):

11 "Immediate investment in a formal  
12 program to update, evaluate, and maintain  
13 a widely-available bathymetry (sic)  
14 and . . . digital elevation dataset for  
15 use" --

16 CO-HEARING OFFICER DODUC: Okay. Let me stop  
17 you.

18 Miss Sheehan.

19 MS. DES JARDINS: Yeah.

20 MS. SHEEHAN: So, she appears to be just  
21 reading the head of the letter that's already in  
22 evidence.

23 Is she just asking to confirm what the  
24 paper -- or the letter already states? Or is there a  
25 question --



1 CO-HEARING OFFICER DODUC: I believe her  
2 question was whether he was aware of this.

3 MS. DES JARDINS: Were you aware of this -- I  
4 was trying to make it specific.

5 This is a specific request by the Bay Delta  
6 Modeling Community that they initiate a formal program  
7 to update and maintain a bathymetry dataset.

8 WITNESS BURKE: I'm not familiar with this  
9 specific letter, but I know the desire of a lot of the  
10 DSM-2 Modelers to be able to get more accurate data for  
11 the system.

12 MS. DES JARDINS: And is this because the --  
13 The letter states (reading):

14 "All Delta models . . . require the  
15 most accurate and most recently  
16 updated" --

17 CO-HEARING OFFICER DODUC: Hold on. Hold on,  
18 Miss Des Jardins.

19 MS. DES JARDINS: Yeah.

20 CO-HEARING OFFICER DODUC: Rather than reading  
21 the letter, let's ask Mr. Burke what his understanding  
22 is.

23 MS. DES JARDINS: Do you concur with the  
24 opinion in this letter that all Delta models, including  
25 DSM-2, require the most accurate and most recently

1 updated bathymetry?

2           WITNESS BURKE: I definitely agree that they  
3 need to have the most accurate and updated bathymetry  
4 you can possible get, especially when used towards a  
5 project like this where there's so much infrastructure  
6 and money involved and effort being exerted towards  
7 this whole process.

8           You want to have a tool that will give you the  
9 best-available information that you can use to make  
10 decisions.

11           MS. DES JARDINS: And, finally, Mr. Burke, do  
12 you believe that the problems with the calibration of  
13 the DSM-2 model bathymetry that you found can be  
14 resolved by simply comparing results for different  
15 DSM-2 model runs?

16           WITNESS BURKE: I'm not sure if I fully  
17 understand your question.

18           MS. DES JARDINS: Do you -- The Petitioners  
19 have asserted that, although the models might not be --  
20 have a reliable absolute prediction, that they could be  
21 used in relative mode -- in comparative mode.

22           Do -- Do you agree that the models can be used  
23 in comparative mode without resolving these kind of  
24 errors?

25           WITNESS BURKE: I don't believe that the

1 models can accurately be used in a comparative mode  
2 without resolving some of these geometry errors,  
3 because the fundamental basis of using a comparative  
4 node to evaluate different scenarios is the  
5 understanding that you're actually representing the  
6 starting condition, whether that be the No-Action  
7 Alternative or existing condition, so that the changes  
8 you make will have the proper response.

9           If you don't have the correct geometry in your  
10 channel and you change a structure, operation, or you  
11 change exports or some other flow value, you don't know  
12 if the response of the system to that change will be  
13 correct because you're not properly evaluating the  
14 existing geometry and channel flow network.

15           MS. DES JARDINS: And, so, also -- There were  
16 some questions earlier.

17           Is the bathymetry of the model, is that common  
18 to both use of the model for current time period and  
19 for any future predictions -- predictive runs?

20           WITNESS BURKE: That's an important question.

21           It requires some analysis to determine why do  
22 we have different bathymetry today than was collected  
23 10, 15 years ago?

24           Are the channels gradually changing? And if  
25 they are, is that same morphology that's caused them to

1 change today going to continue to change into the  
2 future?

3           So do we have a gradually evolving channel  
4 system that in 10 years may not even represent what we  
5 have today?

6           And if that's the case, how these channels are  
7 evolving, we may have to somehow find a way of  
8 incorporating that into the hydrodynamic models that  
9 we're using, or finding a way of -- through dredging or  
10 something like that and maintain a constant channel  
11 geometry or elevation set that will be something that  
12 we can rely upon into the future.

13           MS. DES JARDINS: I'd like to go to  
14 SDWA-324-Errata, please.

15           (Exhibit displayed on screen.)

16           MS. DES JARDINS: Page 4.

17           (Exhibit displayed on screen.)

18           MS. DES JARDINS: Oh, and can we zoom out so  
19 we can see more of it.

20           (Exhibit displayed on screen.)

21           MS. DES JARDINS: Thank you.

22           So, Mr. Burke, is this consistent with  
23 sedimentation or some other ongoing process,  
24 potentially?

25           WITNESS BURKE: The change that we're seeing

1 her is, the original DSM-2 channel did represent the  
2 geometry of the river 10 to 15 years ago.

3 The change like this would be consistent with  
4 a gradual sedimentation and filling in of the channel.

5 MS. DES JARDINS: And can we go to Page 5.

6 (Exhibit displayed on screen.)

7 MS. DES JARDINS: And is -- Would that also be  
8 consistent with sedimentation and filling of the  
9 channel?

10 WITNESS BURKE: That's correct, it would be.

11 MS. DES JARDINS: And Page 6, please.

12 (Exhibit displayed on screen.)

13 MS. DES JARDINS: Same question.

14 WITNESS BURKE: Yes, that would be as well.

15 MS. DES JARDINS: Thank you.

16 And Page -- Page 8, please.

17 (Exhibit displayed on screen.)

18 MR. RUIZ: I think it would be helpful if you  
19 identify the slide number.

20 MS. DES JARDINS: Slide -- Where is the slide  
21 number?

22 MR. RUIZ: It's on the bottom right.

23 MS. DES JARDINS: Oh. Slide 23, please.

24 It's the same question: Is that consistent  
25 with sedimentation?

1           WITNESS BURKE: Yes, it would still be  
2 consistent with sedimentation even though we're showing  
3 not only a filling of the channel bottom but we were  
4 showing a widening of the channel sides.

5           So that could be sedimentations filling in the  
6 bottom of the channel but, due to lack of vegetation  
7 along the channel banks, there could be some erosion  
8 occurring so the channel itself is widening.

9           MS. DES JARDINS: And Slide 24 as well, the  
10 following slide.

11           (Exhibit displayed on screen.)

12           MS. DES JARDINS: Is this also consistent with  
13 sedimentation?

14           WITNESS BURKE: No. This would be just the  
15 opposite. This would be more an area experiencing  
16 erosion where you've got a fairly defined pilot channel  
17 now formed within the center of the system.

18           We would want to take a look around that  
19 particular cross-section to see what might be causing  
20 that since it seems to be out of sync with the other  
21 cross-sections that we've been reviewing.

22           MS. DES JARDINS: So, you have one channel  
23 that's getting deeper.

24           Now, just a question: Is this a channel where  
25 the diversions are occurring from?

1           WITNESS BURKE: No. All these are down in the  
2 South Delta.

3           MS. DES JARDINS: Okay. No. I mean the South  
4 Delta diversions or . . .

5           WITNESS BURKE: Oh, no. The exports are  
6 occurring further west from these locations.

7           MS. DES JARDINS: In the Old River.

8           Okay. So, based on this, you think that the  
9 processes that led to these changes could be ongoing.  
10 And if you were projecting into the future, you -- you  
11 might expect to see further changes along these lines?

12           WITNESS BURKE: It's quite possible. This is  
13 an ongoing process of sedimentation due to sediment  
14 loading into the Delta, and the lack of flushing flows  
15 that could move the sediment out.

16           MS. DES JARDINS: So, the -- the lack of  
17 recognition of the la -- of the impacts of flushing  
18 flows in this ongoing process, the future conditions  
19 could be even -- even more dramatically different than  
20 are assumed in the bathymetry, in the model; correct?

21           WITNESS BURKE: Yes. If this -- If this is a  
22 result of sedimentation, the sedimentation is likely to  
23 continue occurring.

24           And so it would make a gradually evolving  
25 channel that would be quite worse in the future in

1 terms of its capacity to move water through the Delta.

2 MS. DES JARDINS: Oh. And -- And . . . And  
3 do you think the Modelers were unable to make this --  
4 this -- to even make this observation because they  
5 didn't have -- they weren't -- they weren't com -- they  
6 weren't comparing the model with any more bathymetry  
7 data?

8 WITNESS BURKE: I couldn't say what the --

9 MS. DES JARDINS: Yeah.

10 WITNESS BURKE: -- reasons were behind what  
11 their decisions were.

12 MS. DES JARDINS: And, finally, I just had one  
13 question for you with respect to CalSim I think you  
14 were asked.

15 Are you aware that, in 2003, the CalSim II  
16 peer reviewer expressed some skepticism about use of  
17 the CalSim model in relative mode?

18 WITNESS BURKE: Are you talking --

19 CO-HEARING OFFICER DODUC: Hold on, please,  
20 Mr. Burke.

21 Miss Morris.

22 MS. MORRIS: I would just object as outside  
23 the scope of the question -- of the -- of his  
24 testimony.

25 He's talking about predictive mode of DSM-2.



1           My questions were related to inputs in DSM-2  
2 from CalSim, not cost.

3           MS. DES JARDINS: That is why I raised the  
4 scope issue, and I know it's not popular for me to get  
5 up, but I wanted a ruling that's clear.

6           I can put this in context of the inputs.

7           But -- But there was a question about using  
8 CalSim in relative mode.

9           CO-HEARING OFFICER DODUC: You cannot conduct  
10 your cross based on her cross.

11          MS. DES JARDINS: Yes. But there was a scope  
12 ruling, and I would ask that the same scope be applied  
13 to both cross-examinations.

14          CO-HEARING OFFICER DODUC: I don't understand.

15          No, I don't understand Miss Des Jardins'  
16 request.

17          MS. DES JARDINS: I -- I -- Well, Mr. Burke,  
18 so it's your understanding that the CalSim inputs --  
19 CalSim model outputs are inputs to the DSM-2 model;  
20 correct?

21          WITNESS BURKE: That's correct.

22          MS. DES JARDINS: And is -- If the DS -- If  
23 the CalSim model has errors, are those errors addressed  
24 by simply comparing the model outputs between two runs?

25          There's errors in --

1 CO-HEARING OFFICER DODUC: Which --

2 MS. DES JARDINS: -- the DSM-2 inputs.

3 WITNESS BURKE: No. There's -- The CalSim II  
4 model is producing errors as their input to the DSM-2  
5 boundary conditions, you wouldn't be able to  
6 necessarily discern what those errors are or even if he  
7 they exist just by comparing two different CalSim runs.

8 MS. DES JARDINS: And -- And so it could  
9 introduce other different kind of errors that were --  
10 that -- that could cause issues with use -- trying to  
11 use the model results?

12 CO-HEARING OFFICER DODUC: Ms. Morris.

13 MS. MORRIS: Objection: Outside the scope;  
14 incomplete hypothetical; calls for speculation.

15 CO-HEARING OFFICER DODUC: I think you pushed  
16 us as far as you could, Miss Des Jardins. Good job.

17 MS. DES JARDINS: Okay. Well, thank you.

18 CO-HEARING OFFICER DODUC: No, thank you.  
19 That was -- That was focused and helpful.

20 MS. DES JARDINS: I try to be.

21 CO-HEARING OFFICER DODUC: Well, you succeeded  
22 this time.

23 Miss Morris, you may now ask your question  
24 with respect to Brentwood-105; otherwise, known as some  
25 other document.

1 MS. MORRIS: I just want to -- Yeah, just two  
2 questions.

3 CROSS-EXAMINATION RESUMED BY

4 MS. MORRIS: So if we could pull up  
5 Brentwood-105 and look at the cover page, please.

6 (Exhibit displayed on screen.)

7 MS. MORRIS: Great.

8 And then if we could also pull up DWR-1142,  
9 Appendix 5 --

10 CO-HEARING OFFICER DODUC: Hold on. Hold on.

11 (Exhibit displayed on screen.)

12 MS. MORRIS: Appendix 5.B, Attachment 1, DSM-2  
13 Recalibration.

14 (Exhibit displayed on screen.)

15 MS. MORRIS: And scroll to the next page.

16 (Scrolling through document.)

17 MS. MORRIS: Great.

18 Mr. Burke, what I'm showing on the screen as  
19 DWR-1142, and cross-examined you on earlier, is that  
20 the same document as Brentwood-105?

21 WITNESS BURKE: It might be. I'm familiar  
22 with the CH2M Hill Report on Recalibration in 2009.

23 MS. MORRIS: Well, can you put --

24 CO-HEARING OFFICER DODUC: Can we put them  
25 both up?

1 MS. MORRIS: -- them both and you can compare  
2 side-to-side so we can get a definite answer.

3 Sorry, Mr. Long, we're testing your  
4 technical . . .

5 (Exhibit displayed on screen.)

6 MS. MORRIS: So I'm reading that they both say  
7 "DSM-2 Recalibration Prepared for California Department  
8 of Water Resources October 2009, CH2M HILL."

9 Are these the same document, Mr. Burke?

10 WITNESS BURKE: They appear to be.

11 MS. MORRIS: I have no further questions.

12 CO-HEARING OFFICER DODUC: Mr. Ruiz, do you  
13 wish to request redirect?

14 MR. RUIZ: I do wish to request just a couple  
15 of questions on redirect.

16 CO-HEARING OFFICER DODUC: On what particular  
17 issues?

18 MR. RUIZ: Specifically with regard to  
19 Mr. Burke's summary of Opinion Number 2 pertaining to  
20 whether or not his opinion with regard to the DSM model  
21 change -- the changes being so great, their effect  
22 versus the two charts, the errata versus the other.

23 CO-HEARING OFFICER DODUC: Good.

24 MR. RUIZ: And then one other question -- or  
25 one other subject with respect to his concerns about

1 the channel geometry and if that concern goes beyond  
2 the actual specific Reach of the survey area.

3 CO-HEARING OFFICER DODUC: All right. That  
4 one sounds interesting.

5 Ms. Morris.

6 MS. MORRIS: Well, I'll wait till --

7 CO-HEARING OFFICER DODUC: Yes. Let's wait  
8 until he asks the question.

9 Go ahead, Mr. Ruiz.

10 REDIRECT EXAMINATION BY

11 MR. RUIZ: Mr. Burke, drawing your attention  
12 to Page 5 of SDWA-323-Revised.

13 CO-HEARING OFFICER DODUC: Can we wait until  
14 we get there, please.

15 MR. RUIZ: Yes.

16 (Exhibit displayed on screen.)

17 MR. RUIZ: Looking at Opinion 2 beginning on  
18 Line 7.

19 (Exhibit displayed on screen.)

20 MR. RUIZ: Miss Morris asked you with regard  
21 to your testimony specifically where you say (reading):

22 "The difference between the existing  
23 geometry and the geometry in the DSM-2  
24 model is so great that the flow, stage,  
25 and movement of salts through the South

1 Delta will be inaccurate when the model  
2 is used in a predictive or comparative  
3 mode."

4 She asked you if that opinion was based on the  
5 original 323 -- your original analysis prior to the  
6 errata, which included the six revised charts.

7 Do you recall that testimony?

8 CO-HEARING OFFICER DODUC: Hold on, please.

9 MS. MORRIS: I would actually object.

10 I did not ask about Opinion 2. I asked about  
11 a statement that -- in the tail end of his testimony  
12 where he said that they were so bad, not the flows were  
13 so great, that it wouldn't be accurate.

14 So I think this is outside the scope of my  
15 cross-examination.

16 MR. RUIZ: I think she specifically asked him  
17 about his statement that the difference between  
18 existing geometry and the geometry in the DSM-2 model  
19 was so great.

20 I recall her asking him about that and if that  
21 related to -- if that was based on his initial  
22 bathymetry analysis or the errata-based bathymetry  
23 analysis.

24 MS. MORRIS: It's actually Page 36, where it's  
25 different. It's not Opinion 2.

1 CO-HEARING OFFICER DODUC: Can we go see  
2 Page 36, please.

3 MS. MORRIS: And I asked him about the  
4 statements on Lines 10 and a half to 11 where it says  
5 (reading):

6 "The error in geometry is so bad in  
7 the Middle River as to render any  
8 modeling . . ."

9 It was not as to all of Opinion 2.

10 CO-HEARING OFFICER DODUC: Hmm.

11 Mr. Ruiz, would you like to revise your  
12 question?

13 MR. RUIZ: I would.

14 My thought was -- was accurate. I guess it  
15 might have been a different -- It could have been a  
16 different page in the testimony.

17 But with respect to -- Drawing your attention  
18 to Page 36.

19 (Exhibit displayed on screen.)

20 MR. RUIZ: And looking at Line 10 or 11.

21 Do you see that, Mr. Burke, where you say  
22 (reading):

23 "The error in the (sic) geometry is  
24 so bad in the Middle River as to render  
25 any modeling results completely

1           inaccurate."

2           WITNESS BURKE: Yes, I see that.

3           MR. RUIZ: Based on your revised bathymetry  
4 analysis that's reflected in the six errata charts,  
5 based on that revised analysis, do you stand by this  
6 testimony that the error in geometry is still so bad,  
7 in your view -- in your opinion, to render the analysis  
8 completely inaccurate?

9           WITNESS BURKE: I believe that the error in  
10 geometry renders the results inaccurate -- represent a  
11 comparison as being inaccurate, because you can't be  
12 able to tell what the effect of any changes to a  
13 scenario would be since you don't know how that water's  
14 going to flow through the Delta.

15           Now, my original geometry showed that the  
16 change between the existing geometry and the DSM-2  
17 model geometry to be fairly extreme.

18           Even with the correction we made to that  
19 geometry, we're still seeing changes in cross-sectional  
20 area that will give us approximately 50 percent of the  
21 flow that the DSM-2 model is predicting.

22           To me, that, as a Modeler, that's an extreme  
23 change and it's very bad to see in the modeling system  
24 you're using to try to predict what flow and water  
25 levels you can see.



1 MR. RUIZ: And, actually, that concludes my  
2 redirect.

3 CO-HEARING OFFICER DODUC: Any recross?

4 All right. Thank you, Mr. Burke.

5 Mr. Ruiz, I am not going to ask you to move  
6 your exhibits, because they're such a mess in terms of  
7 errors and revisions and what not.

8 So please make the consolidation that  
9 Miss Morris requested earlier and resubmit a revised  
10 Index of Exhibits with the identification of the  
11 correct final version that you would like to move into  
12 the record.

13 MR. RUIZ: Okay.

14 CO-HEARING OFFICER DODUC: Please do so by  
15 5 p.m. tomorrow, and anyone else can have until 5 p.m.  
16 Thursday to file any objections.

17 MR. RUIZ: Thank you.

18 CO-HEARING OFFICER DODUC: All right. With  
19 that, then, we will adjourn.

20 We are -- We'll be back in this room, I  
21 believe, 9:30 tomorrow, and we will begin with  
22 Mr. Stroshane and Mr. Nakagawa.

23 MR. RUIZ: Thank you.

24 (Proceedings adjourned at 5:23 p.m.)

25

1 State of California    )  
                                  )  
2 County of Sacramento    )

3

4       I, Candace L. Yount, Certified Shorthand Reporter  
5 for the State of California, County of Sacramento, do  
6 hereby certify:

7       That I was present at the time of the above  
8 proceedings;

9       That I took down in machine shorthand notes all  
10 proceedings had and testimony given;

11       That I thereafter transcribed said shorthand notes  
12 with the aid of a computer;

13       That the above and foregoing is a full, true, and  
14 correct transcription of said shorthand notes, and a  
15 full, true and correct transcript of Pages 131 - 290;

16       That I am not a party to the action or related to  
17 a party or counsel;

18       That I have no financial or other interest in the  
19 outcome of the action.

20

21 Dated: September 4, 2018

22

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24

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Candace L. Yount, CSR No. 2737

25

1 STATE OF CALIFORNIA        )  
   )    ss.  
 2 COUNTY OF MARIN            )

3                I, DEBORAH FUQUA, a Certified Shorthand  
 4 Reporter of the State of California, do hereby  
 5 certify that the foregoing proceedings (Pages 1  
 6 through 130) were reported by me, a disinterested  
 7 person, and thereafter transcribed under my  
 8 direction into typewriting and which typewriting is  
 9 a true and correct transcription of said  
 10 proceedings.

11               I further certify that I am not of counsel  
 12 or attorney for either or any of the parties in the  
 13 foregoing proceeding and caption named, nor in any  
 14 way interested in the outcome of the cause named in  
 15 said caption.

16               Dated the 4th day of September, 2018.

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DEBORAH FUQUA  
 CSR NO. 12948