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WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS

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APPEARANCES

BOARD MEMBERS

Ms. Tam Doduc, Chairperson

STAFF

Ms. Barbara Leidigh, Staff Counsel

Ms. Jean McCue, Water Resources Control Engineer

Ms. Diane Riddle, Environmental Scientist

ALSO PRESENT

Ms. Amy Aufdemberge, Bureau of Reclamation

Ms. Cathy Crothers, Department of Water Resources

Mr. Arthur Godwin, Merced Irrigation District

Mr. John Herrick, South Delta Water Agency

Mr. Michael B. Jackson, California Sportfishing Protection Alliance

Ms. Erin Mahaney, State Water Resources Control Board, Staff Counsel

Mr. Michael McGrew, San Joaquin County

Mr. Paul Ryan Minasian, San Joaquin River Exchange Contractors

Mr. Dante John Nomellini, Central Delta Water Agency

Mr. Ken Petruzzelli, San Joaquin River Group Authority

Mr. Jon Rubin, San Luis and Delta Mendota Water Authority

Mr. Clifford Schulz, State Water Contractors

Ms. Jeanne Zolezzi, Stockton Eastern Water District

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1 PROCEEDINGS

2 CHAIRPERSON DODUC: Good morning, everyone. It's
3 Friday, November 18th, and here we are again. Hearing on
4 the draft cease and desist order and the water quality
5 response plan.

6 I'm Tam Doduc of the State Water board. With me
7 are Barbara Leidigh, Jean McCue and Diane Riddle.

8 We will resume from where we left off yesterday,
9 with the cross examination of witnesses of the Department
10 of Water Resources by the South Delta Water Agency.

11 Mr. Herrick.

12 CROSS EXAMINATION

13 OF THE DEPARTMENT OF WATER RESOURCES PANEL

14 BY MR. JOHN HERRICK, ESQ., representing the South Delta
15 Water Agency:

16 MR. HERRICK: Thank you, Madam Chairman. For the
17 record, John Herrick, South Delta Water Agency.

18 Good morning to the panel. I know most of you.
19 So if I'm too familiar, I apologize.

20 I'd like to start with a couple of questions for
21 Mr. Johns please.

22 MR. JOHNS: There you are.

23 MR. HERRICK: Over here. I don't think there's a
24 better place to sit.

25 Mr. Johns, I understand your testimony to make a

1 number of points in opposition to the proposed cease and
2 desist order. And those being that DWR has limited
3 methods of addressing the water quality objectives in the
4 South Delta and that it should only -- DWR should only be
5 responsible for compliance to the extent those methods are
6 available, and that you're asking that the application of
7 the 0.7 standard be delayed until the permanent barriers
8 are installed; is that correct

9 MR. JOHNS: Well, almost. I think my testimony
10 went to the fact not to just methods, but what the
11 Department as a permittee has a responsibility to do.

12 Q Okay. But you are asking that the effective date --
13 and I'm reading from your testimony on page 2. You asked
14 the SWRCB to revise the time schedule for implementing the
15 objective. And by that you mean the South Delta
16 objectives, I believe; is that correct?

17 A Yeah, we're looking at trying to make the objectives
18 consistent with what they've been for the last five years
19 with the temporary barriers in place, because that will be
20 what we have in place for the next several years until we
21 can get the permanent operable gates in place.

22 Q Yes. And I just want to -- I don't mean to beat the
23 dead horse here. I just want to make clear, you're asking
24 that the Board not enforce the 0.7 at the three southern
25 stations as set forth in D-1641 as of April of this year,

1 rather they start being enforced as of the time that the
2 permanent barriers are installed?

3 A I think what our petition asks for specifically is
4 just the delay of the implementation of the .7 until the
5 permanent gates are installed. What the Board does, once
6 the gates are installed -- I think we may want to sit and
7 talk about when we get the gates installed in terms of
8 what's likely to happen. Things -- conditions I think
9 will change -- our understanding of how well the gates
10 operate I think should be informed with the gates
11 operating. I mean we have some models that indicate what
12 we think is going to happen. I think it might be helpful
13 to have a couple years of experience to decide what we can
14 achieve at those locations. And that should inform the
15 Board's development of water quality -- achievable water
16 quality objectives at that time.

17 Q I appreciate that, and I'll try to get to those other
18 topics. But through this cease and desist order hearing
19 is DWR asking that the 0.7 at the three southern Delta
20 interior -- interior southern Delta stations not be
21 enforced or activated, or whatever term you want, until
22 the permanent barriers go in?

23 A I know where you're going with this, John, but I want
24 to make sure it's clear.

25 I think what we're really asking for is that in

1 the interim period before the gates are in place that the
2 operable standard be 1.0. Once the gates are in place, I
3 think it would be helpful to be informed about what's
4 achievable before the Department makes a recommendation of
5 what the objective ought to be at that time.

6 Q Okay. And you would admit that not enforcing the 0.7
7 at the three interior stations is contrary to the language
8 in D-1641 at this time? In other words D-1641 made those
9 effective as of April of 2005?

10 A Yes, as basically a hammer clause, I think, to try to
11 get the Department to be serious about putting the gates
12 in. But what we try to indicate is I think we've been
13 diligent -- very diligent on trying to get the gates in
14 place, and I don't think we need to have the .7 be in
15 place now. I think a more achievable objective in this
16 interim period while we have the temporary barriers would
17 be the 1.0 standard that we've been having for the last
18 five years.

19 Q Okay. And I also read your testimony to conclude that
20 D-1641 was meant to link enforcement of the 0.7 standard
21 with the permanent barriers; is that correct?

22 A You know, that's not clear in my mind at least. When
23 I read that part of the decision, it's pretty confusing.
24 Because if we had gotten the gates in place, it looks to
25 me as if -- if we'd met the 2005 date and the gates were

1 in place, it looks to me as if the standard would be 1.0.

2 The only way -- the way you get to the .7 is if
3 the gates are not built. Then it looks like a punishment.
4 But then, okay, the standards get 30 percent more
5 restrictive.

6 Q Well, that -- let me go back to it. That's why I
7 asked the question. It's my understanding from your
8 testimony that you went to great lengths to connect
9 operations of the permanent barriers to the improved water
10 quality standard, and that was the basis for saying,
11 "Please don't enforce the standard until the permanent
12 barriers are in."

13 Was that a fair summation?

14 A Almost. I think what we're looking for is we could
15 get improved water quality with the gates in place. And I
16 think what the objective is at that time may be the
17 purview of the Board at that time and should be informed
18 by what's achievable.

19 Q And the reason I asked that question is that -- and
20 maybe I've misstated your testimony. But it's to the
21 contrary in D-1641. D-1641 activates or makes the 0.7
22 effective in April unless the barriers are in. And so it
23 would be incorrect then to say that the barriers are
24 linked to meeting the 0.7, right?

25 A Yeah, because if we had put the barriers in place, the

1 way I read that part of the order, you would then have
2 1.0, not the .7.

3 Q Right.

4 A So I'm having a hard time linking the .7 to the
5 barriers. Because you only get the .7, the way I read the
6 decision, if you failed to put the barriers in place.

7 Q Right.

8 A So if -- so the linkage part I'm having troubles with,
9 John.

10 Q Okay. And so now you're proposing to the Board that
11 rather than the effective date of April 2005, that the
12 Board should wait until the permanent barriers are in and
13 then decide whether 0.7 can be achieved, is that what
14 you're saying?

15 A I think that's pretty close, yes.

16 Q And you would agree that that would be a specific
17 change to D-1641?

18 A Yes.

19 Q Thank you?

20 Now, the other part of your testimony we
21 mentioned earlier deals with the ability of DWR, as you
22 call, a permittee to accomplish certain things; is that
23 correct?

24 A The ability and the obligation, yes.

25 Q Okay. Now, I want to go through that a little bit,

1 because as was touched on yesterday, the permits that are
2 burdened with the responsibility of meeting the three
3 interior South Delta objectives include not only
4 facilities on the Sacramento River but they include San
5 Luis Reservoir; is that correct?

6 A DWR's permits, you mean?

7 Q Yes.

8 A Yes.

9 Q Does it include the export pumps at the Banks Tracing
10 Plant?

11 A Yes.

12 Q Does it include the California Aqueduct?

13 A I don't think there are any permits related to the
14 aqueduct, but -- because there's really a point of
15 diversion issue. But it incorporates that in the permit,
16 yes.

17 Q Is it your testimony -- is it your belief on behalf of
18 DWR that having San Luis Reservoir permits and the export
19 pump permits are not therefore -- having that condition on
20 those permits does not require DWR to operate those in a
21 manner that might meet the South Delta interior water
22 quality objectives?

23 A To the extent that we have control, I think it does.

24 Q Okay. I don't mean to cut you off.

25 Could you explain then how you might operate San

1 Luis, in other words use your word, "control" San Luis
2 Reservoir, such that you could affect water quality at
3 Brandt Bridge?

4 A Well, the only part that San Luis plays in our
5 operation in this particular case is that it becomes an
6 off-stream storage reservoir once you pump the water at
7 Banks. So from an impact standpoint, all those impacts in
8 the Delta accrue from the pumping plant at Banks. San
9 Luis Reservoir has basically no impact on the Delta
10 besides what we do at Banks Pumping Plant.

11 Q So is it your opinion that the condition put on the
12 San Luis Reservoir permits would only require some action
13 at San Luis if you determined that the DWR pumps cause an
14 effect at Brandt Bridge?

15 A I think that would make more sense. And not just us.
16 I think the Board would have to make that finding also.

17 Q And you think that that finding needs to be made after
18 D-1641 rather than at the time of D-1641 which you put the
19 permit condition on San Luis?

20 A I'm confused.

21 Q So you think that it's only an after-the-fact showing
22 that the DWR Banks pumps affect, say, water quality at
23 Brandt Bridge; it's only after that showing that San Luis
24 Reservoir might be operated in order to put water down the
25 San Joaquin River?

1 A The way I read Condition 6, it says that if the
2 standards are exceeded, then there's a report that's
3 prepared where we provide to the Board whether or not it's
4 under our control. And then we discuss that with the
5 Board before enforcement action is taken. I just don't
6 see how -- and at some point in time if the Department had
7 an obligation to mitigate impacts in the South Delta that
8 we caused due to pumping at the State Water Project, we
9 might choose to use facilities besides just Banks to help
10 mitigate that. But I think in the first instance you've
11 got to be able to show did that pumping help contribute to
12 this problem.

13 Q So has DWR undertaken any proposed project which would
14 enable them to use their export pumps and San Luis
15 reservoir in order to help meet water quality standards at
16 Brandt Bridge?

17 A I don't think so.

18 Q So you've already concluded that there is no what,
19 possible scenario under which you will be required to use
20 San Luis and the export pumps in order to help meet water
21 quality at Brandt Bridge?

22 A Well, I think Tara's testimony indicates that we don't
23 see -- if we just shut our pumping plants off entirely, we
24 don't have much effect here, if any effect, on water
25 quality in the South Delta. And that's really about the

1 only thing that we can do to help -- that we are causing
2 that would help fix this.

3 Q And so it's your belief that those permit conditions
4 are now superfluous with regard to San Luis Reservoir and
5 the export pumps?

6 A I'm not sure I'd use the word "superfluous".

7 Q Well, you can use your own word. I'm not trying to be
8 argumentative. I just mean those permit conditions
9 actually don't place any burden on those operations, in
10 your opinion?

11 A If those operations could be shown to be having
12 impacts on the water quality in South Delta, that would --
13 you know, I think we should consider that. Just looking
14 at the data that we've looked at, we don't see that
15 information forthcoming.

16 Q Okay. We'll get to that.

17 Mr. Johns, it is true that DWR contributes money
18 to purchase flows on the San Joaquin River in order to
19 meet the fishery objectives at Vernalis; is that correct?

20 A Just part -- well, let me think.

21 Kathy will answer this one.

22 MS. KELLY: DWR does help fund the water
23 acquisition for the pulse flow in the spring. It's not
24 funded with State Water Project funds though. It's bond
25 funds.

1 MR. HERRICK: Has DWR undertaken any
2 investigation for possible purchases of water for release
3 on the San Joaquin River which would help meet the Brandt
4 Bridge water quality objective?

5 MR. JOHNS: I can't think of any. The only thing
6 that I can think of related to this is that we -- is that
7 the environmental water count, which the Department also
8 is involved in, has purchased in the past some water in
9 the San Joaquin I think in 2000 and -- or 2001 I think.
10 And that water did come down during the fall. And that
11 might have had some benefits for water quality. But I
12 don't think we ever looked at that in any kind of detail
13 Q Okay. But the fall would be a time period outside the
14 effective date of the 0.7 at the three South Delta
15 interior stations, would it not?

16 A Good point, yes.

17 Q So DWR has used whatever funding source, but it
18 purchases water to meet the fishery objectives on the San
19 Joaquin and it purchases water to provide extra water to
20 exporters due to fishery actions; but it has not
21 investigated any purchases in order to meet the water
22 quality standards in the South Delta?

23 A It's important to note that those are done by bond
24 funds, not State Water Project funds. And it's part of
25 our role of water management and planning to improve

1 conditions in the state for either fishery or for both --
2 in both cases -- in this case for fisheries issues.

3 Q Okay. And improving water quality in the state, you
4 just said that doesn't include meeting the South Delta
5 standards?

6 A Well, like I mentioned before, we've done a fair
7 amount of work upstream, like \$70 million worth of
8 investment, in the last five years to help improve water
9 quality. That improvement of water quality benefits South
10 Delta.

11 Q I understand that. But I'm -- that's not the
12 question.

13 The question was: You don't make those inquiries
14 to improve water quality towards meeting the South Delta
15 interior standards? But referring to purchases.

16 A We do it to improve water quality generally in the San
17 Joaquin River. And that then accrues to Brandt Bridge.
18 So I don't -- I don't agree. No, I think -- we may not go
19 out there and specifically do something specifically for
20 Brandt Bridge. But certainly we're in the business of
21 trying, as Jose talked about yesterday, to try to improve
22 water quality in the San Joaquin River system with the
23 other mechanisms that we have available to us under our
24 water management and planning responsibilities.

25 Q I understand. I'll get to those other methods. But

1 my questions are dealing with purchases right now. I want
2 to take one at a time.

3 And I just want to clarify. DWR has undertaken
4 no efforts to locate potential purchase water for release
5 down the San Joaquin to assist in meeting any of the three
6 interior South Delta objectives; is that correct?

7 A Specifically, no.

8 Q Okay. Now, I also understand your -- I think I
9 understand your point about not having an effect on the
10 water quality in the South Delta and therefore not being
11 obligated as a permittee to take actions to address it, I
12 think. But let me explore that a little bit.

13 A But that's good then. We've made some progress here.

14 Q I understand lots of looney things.

15 Let me explore that a little bit.

16 Just assume the rest of my questions deal with
17 years other than this year when there's a large amount of
18 flow coming down almost all summer and we don't have any
19 problems. But you would agree that the Bureau operates
20 New Melones to meet the Vernalis water quality standard
21 for salinity; is that correct?

22 A Yes.

23 Q And at this time their interim operations plan, which
24 is their blueprint for operating New Melones, is only
25 geared towards meeting Vernalis and not towards meeting

1 Brandt Bridge; is that correct?

2 A I'm not sure I know that for sure.

3 Q Okay. Is anybody else on the panel familiar with
4 that?

5 John, would you know that?

6 MR. LEAHIGH: I'm not familiar enough with that
7 agreement to answer that.

8 MR. HERRICK: In your discussions with the Bureau
9 on how you two might jointly meet the on obligations that
10 began in April of this year, did any discussions occur
11 with regard to whether or not releases from San Luis --
12 or, excuse me -- releases from New Melones would be made
13 in order to help meet Brandt Bridge

14 MR. JOHNS: One of the things that we're doing
15 with the Bureau currently is preparing reports -- we're
16 preparing one for the State of California, the Bureau's
17 preparing one for Congress -- dealing with how we're going
18 to meet water quality standards. So we have been
19 discussing with the Bureau opportunities to meet water
20 quality standards throughout the Delta, and the issue of
21 South Delta standards has come up.

22 Q Okay. And that's interesting. You're discussing with
23 the Bureau right now how to meet the 0.7 at the three
24 interior stations?

25 A How --

1 Q How to meet the 0.7 standard at the three interior
2 stations?

3 A Yes.

4 Q So are you then planning to meet those?

5 A Well, we're talking to the Bureau about how the Bureau
6 plans to meet those.

7 Q Well, let's go back to the operations then.

8 If the Bureau -- let's just take as a given for
9 this line of questioning: If the Bureau operates New
10 Melones to meet Vernalis but not Brandt Bridge, then in
11 the operative months here, April through August, we would
12 have a 0.7 standard being met at Vernalis; is that
13 correct?

14 A That's --

15 Q That's sort of the given.

16 A Right. Okay.

17 Q Now, we've heard from all the other testimony that
18 once the water passes Vernalis, transpiration from
19 riparian habitat, evaporation, discharges from municipal
20 areas, discharges from ag would all result in a
21 concentration of the salts that are in the river at that
22 point; is that correct?

23 A Yes.

24 Q So when the water moves from Vernalis down to, say,
25 Brandt Bridge, under almost any scenario it will degrade

1 slowly to some extent depending on the amount of those
2 other activities; is that correct?

3 A Yes. And Tara's testimony went into that.

4 Q Now, is it your testimony that in order to meet Brandt
5 Bridge no other beneficial use can occur in the river
6 below Vernalis so that those salts aren't further
7 concentrated?

8 A Try that again.

9 Q Is it your testimony that no other beneficial use can
10 occur downstream of Vernalis in order that the 0.7 reaches
11 the Brandt Bridge?

12 A No, I wouldn't say that.

13 Q So --

14 A If those uses occur, you can expect water quality to
15 degrade.

16 Q Okay. And of course if you meet .7 and that's a
17 standard, then you've used up all the assimilative
18 capacity of the river at that point; is that correct? In
19 other words you can't assimilate any more salt without
20 violating the standard?

21 A You don't -- if what you're getting to is you'd need
22 more flow to dilute the salts that come into the system
23 downstream of Vernalis, the answer to that question's yes.

24 Q Well, I don't think that was the question. But --

25 A Okay.

1 Q -- you would agree that if you meet .7 at Vernalis,
2 the only way that you will meet .7 at Brandt Bridge is if
3 no other beneficial use of the water occurs between
4 Vernalis and Brandt Bridge?

5 A I think beneficial use can occur at discharges, might
6 be included. I mean you get to the point where from a
7 water quality standpoint, if you get into a similar
8 capacity issue, if there isn't similar capacity there in
9 the system, then those people would need to find
10 alternative places to dispose of their drainage.

11 Q Would you say that a farmer who has to divert
12 downstream of Vernalis should then be precluded from
13 discharging back into the river if he's concentrating the
14 salt?

15 A Well, that's basically what's going on upstream on the
16 San Joaquin, is that folks are either taking land out of
17 production or becoming much more efficient with their
18 water use to decrease the amount of agricultural drainage
19 that enters the river.

20 Q Okay. That's very interesting. You know, I don't be
21 tacky here, but could you answer the question though?

22 A Okay. Try it one more time, John.

23 Q So is it your opinion that a farmer who diverts
24 downstream of Vernalis should not be able to discharge
25 back into the river because that would cause the .7 to

1 increase?

2 A In my opinion, no, I don't think that would be -- I
3 don't think it would be in the public interest.

4 Q Okay. And as we also said, of course there's riparian
5 habitat that consumes water; is that correct?

6 A That's correct.

7 Q And that further concentrates the salt to some degree
8 in that stretch of the river, is that right?

9 A That's possible. I don't know if we've ever
10 quantified that to any extent.

11 Q Yeah, I don't know what the quantification would be.
12 But the plants consume water and not the salt, right?

13 A Yeah, we'd have to look at where that water came from.
14 It may be coming from adjacent lands. It may not be
15 coming from the river directly.

16 Q The D-1641 recognized and discussed these other
17 beneficial uses, didn't it?

18 A As I recall, yes.

19 Q And it's still assigned the obligation to meet Brandt
20 Bridge and the other two interior stations to DWR and the
21 USBR; is that correct?

22 A Brandt Bridge and the interior stations, yes.

23 Q So is it your testimony that the Bureau and DWR are
24 only required to meet the Brandt Bridge station if no
25 other use downstream of Vernalis affects salinity?

1 A I think what it talks about is our ability to
2 control -- I mean we recondition 6 in its entirety. It
3 looks at if the standards are not met, then in terms of
4 the Department's obligation, the Board's to evaluate
5 whether it was in our control to have those standards met.

6 Q That's what I'm getting to.

7 So if a farmer diverts water and discharges
8 water, and trees along the channel evapotranspire water
9 and that causes the .7 to rise, it's your position that
10 DWR and USBR then are not responsible for meeting Brandt
11 Bridge?

12 A If we didn't cause the -- or if the Department --
13 forget the Bureau for a minute. I'm only talking here
14 about the Department. But in terms of what the Department
15 can control, we're not going to be able to control
16 evapotranspiration of the plants and discharge of
17 agricultural drainage into the San Joaquin River below
18 Vernalis.

19 Q So when --

20 A So I would think in that case the Board would not
21 logically take enforcement action against the Department
22 for things that happened to water quality that were
23 outside of our control.

24 Q I appreciate that. But I asked you two specific
25 things.

1 So if farmers divert water and riverine habitat
2 consume water, it's your position that DWR has no
3 responsibility to meet Brandt Bridge? In other words your
4 responsibility is satisfied by the Bureau meeting .7 at
5 Vernalis?

6 A I'm hung up on the term "no responsibility".

7 Q Well, I'm not trying to put words in your mouth, Mr.
8 Johns.

9 A Yeah, I know that.

10 Q Because you said that "since we didn't do it, then the
11 Board shouldn't have an enforcement action against us."
12 Now, if you want to use those terms, that's fine. But I'm
13 just using the word -- you're not responsible --

14 A I'd be more comfortable with that characterization
15 than no responsibility. I don't think -- yeah.

16 Q Does the Bureau have any additional responsibility in
17 your opinion in that scenario?

18 A I think you should ask the Bureau that question.

19 Q I know, but I'm asking you. I would love to have the
20 Bureau here with witnesses?

21 CHAIRPERSON DODUC: Ms. Crothers, you don't want
22 to object?

23 MS. CROTHERS: Excuse me. I was kind of looking
24 to see if there was anybody in the audience from the
25 Bureau.

1 You know, I think Mr. Johns' answered the
2 question. He answered the question that he'd rather have
3 the Bureau make that response. And that's his response.

4 CHAIRPERSON DODUC: I agree.

5 Mr. Herrick, please go to your next line of
6 questioning. I think we've beaten this one.

7 MR. HERRICK: Okay. Mr. Johns, your testimony
8 talks about undertaking all reasonable steps to meet -- to
9 comply with the condition as your permits. Do you see
10 that at the bottom of page 1?

11 MR. JOHNS: Hold on a second. I need to pull
12 that out.

13 Yes, I see that.

14 Q And in the interests of time, would you agree that
15 those reasonable steps according to the testimony of your
16 panel are the ongoing efforts in the San Joaquin Valley
17 aimed at drainage control or issues, the temporary
18 barriers project, and the Bureau making releases from New
19 Melones to meet Vernalis? Would that be correct?

20 A Well, no, I think in this particular case I was
21 talking about DWR as a permittee taking reasonable steps,
22 because that's the aspect of this hearing. And I
23 certainly believe that the Department is taking all
24 reasonable steps to comply with the standards. In
25 addition to that, we are engaged in a pretty aggressive

1 program, as you're very familiar with, to help improve
2 water quality through the gates program and also water
3 quality upstream.

4 So I think it goes beyond what I talked about
5 here.

6 Q Okay. I want to get into what steps DWR -- specific
7 steps DWR is taking in its attempts to meet the three
8 South Delta interior standards. And by doing that I want
9 to break the time frame into pre-0.7 effective date of
10 April 2005 and post that. And if you'll use that as a
11 starting position.

12 When the standard was 1.0 all year at those
13 stations, DWR had various funding going south to do
14 actions towards drainage control, DWR installs and
15 operates the temporary barriers -- there may be other
16 things, but those are the ones that come to mind for me --
17 is that correct?

18 A Yes. And I'd like to clarify that this sentence
19 refers, in this paragraph, to all of our standards. And
20 the standards of course we comply with are much more
21 expansive than the three in South Delta. So when I'm
22 talking about all reasonable steps, I'm talking about what
23 we do to release water from reservoirs and control pumping
24 to help meet water quality I mean in the western Delta and
25 all the other things that we do.

1 Q I understand that. But it does apply to meeting these
2 standards, doesn't it? That's why we're here.

3 A Yeah, right. And it talked about all the standards
4 that we've had to meet. So yes.

5 Q So before the 0.7 became effective DWR operated the
6 barriers and had these other activities?

7 A So we're talking prior to -- prior to 2000 we're
8 talking about?

9 Q Yes.

10 A Yes.

11 Q Because in your opinion, based on modeling and
12 predictions, those activities would result in compliance
13 at those stations; is that correct?

14 A Well, before 2000, I don't think there were any
15 required standards in our permits.

16 Q No, no, no. If I said 2000, I'm sorry. We're talking
17 about the April 2005 date when it became effective.

18 A Okay. So we're talking the time period between 2000
19 and 2005 when 1.0 applied at these stations, correct?

20 Q Yes.

21 A Okay. I'm sorry. I was -- okay. Keep going.

22 Q What additional actions has DWR undertaken in
23 anticipation of the 0.7 becoming effective in April 2005?

24 A We can't think of any -- the panel -- Mark, have you
25 got anything you can think of?

1 MR. HOLDERMAN: That we've done outside the
2 barriers --

3 MR. JOHNS: Yeah. I think we've gathered
4 knowledge -- okay. Go ahead, Mark.

5 MR. HOLDERMAN: Well, about the only thing --
6 well, the thing that comes to mind most recently is just
7 this fall when we were operating the temporary barriers we
8 also had the fall head of Old River barrier in place with
9 the culverts closed. And O&M noticed that the water
10 quality at Old River at Tracy Road was going up. I mean
11 the water quality was getting worse, numbers were going
12 up. So they asked me to see if we can open some culverts
13 at the head to see if we can bring in some water --
14 additional water to help reduce that -- help dilute some
15 of that salt and stabilize those numbers at the monitoring
16 stations. So that's what we did. So there was some
17 operation that we could do at the head to try to help
18 maintain that water quality in the South Delta.

19 MR. JOHNS: The other thing, John, is that we've
20 been actively pursuing SDIP all this time frame to help
21 improve water quality. And that's been a fairly
22 aggressive and time consuming effort on the part of the
23 Department.

24 MR. HERRICK: I appreciate that.

25 Mr. Holderman, I understand that action to

1 release more water was an activity -- undertaking in a
2 sort of a realtime basis in order to improve water
3 quality; is that correct?

4 MR. HOLDERMAN: Yes.

5 MR. HERRICK: My question was though, Mr. Johns:
6 When DWR saw that the April 2005 standards were going to
7 become effective, what additional actions did DWR take in
8 order to improve their ability to meet those standards, if
9 any?

10 MR. JOHNS: We continued to aggressively pursue
11 the best course of action to us, which was implementation
12 of the gates program and getting the permitting together
13 and our reports out to make that program a reality

14 Q Okay. But we heard from the testimony earlier and you
15 earlier today that you don't anticipate that the South
16 Delta barrier project will meet 0.7 at all the stations;
17 is that correct?

18 A Well, we don't know that for sure. And it really
19 depends what happens upstream and how effective these
20 gates are at pushing water around.

21 Q And in the interim between the time the standards
22 became effective and the permit barrier program was
23 operating, what additional actions did you anticipate
24 taking in order to try to meet the standards?

25 A There are very few options available to us as a

1 permittee.

2 Q Mr. Johns, I want to move on to your -- or DWR'S
3 position that a report has to be filed before any
4 enforcement action would be proper. And I don't want to
5 use the wrong terms, because you did say yesterday that
6 the Board can do what it wants, but you felt that the
7 proper thing to do under the permit terms was to first
8 have a report issued by DWR and/or the Bureau and then
9 have the Executive Director make a ruling on that; is that
10 correct?

11 A Yes.

12 Q Now, I don't want to test your legal knowledge, but I
13 just want to clarify how you think that would work.

14 Are you suggesting that the Executive Director on
15 behalf of the Board is making a decision with regard to
16 enforcement for an issue that come before the Board and
17 they sit as judge?

18 A I think the way the wording says here is it -- is that
19 we would prepare the plan and that would go to the
20 Executive Director. So we'd know who to mail it to. And
21 then the State Board would review the salinity objectives
22 for southern Delta and -- oops, time out. I've got the
23 wrong one.

24 Let me grab the right language here.

25 Strike all that. I was reading the wrong permit

1 term.

2 Yeah, it looks like -- okay, again, the report
3 would go to the Executive Director, who would evaluate the
4 report and make a recommendation to the Board about
5 whether enforcement action was appropriate.

6 Q Okay. I guess I'm trying to find out -- is it your
7 understanding -- or what is your understanding as to which
8 side of the wall that divides the prosecution team from
9 the State Board, in other words the prosecutor from the
10 judge, what side of the wall is the Executive Director on?

11 A Well, I don't know. You'll have to ask Board staff
12 about that. That wall stuff is kind of new and happened
13 after I left the Board.

14 Q But, again, I'm just trying to clarify. It's not your
15 position that the judge side should make a determination
16 prior to any enforcement action when the judge side might
17 be judged? Would you agree with that?

18 A The Board will have to figure out how it does this,
19 but it looks like the Executive Director would evaluate
20 the report, and it might be that he or she delegates that
21 to the Division of Water Rights, who makes recommendations
22 to the Board and they set up the teams in that fashion.
23 The Executive Director can delegate responsibility. At
24 that time they can figure out who's going to be acting on
25 what part of the enforcement team if that's what they

1 decide to do.

2 I don't want to get into how exactly the Board is
3 going to administratively handle this section. I'm not
4 sure I can tell you that.

5 Q Because you would agree that if some other party
6 brought a complaint for that exceedance, then whether or
7 not the report was issued or the Executive Director made a
8 recommendation, that would then come before the State
9 Board and they would be acting as judge on that complaint,
10 right?

11 A Well, what would happen classically on the complaint
12 is that the complaint would then be -- would go to the
13 Division of Water Rights staff, and that they would send
14 the complaint out to the permittee; the permittee would
15 then respond to the complaint; and then the Board would --
16 the staff would then make a determination about how to
17 move it forward, whether or not the permittee was able to
18 respond adequately to the complaint or whether or not
19 further action was necessary.

20 Q And that decision is made by the Division of Water
21 Rights as the prosecutor, correct?

22 A Well, it's classically made by the Division Chief of
23 the Division of Water Rights.

24 Q And we saw at this hearing, in fact the hearing notice
25 tries to make clear that we have to keep a division -- a

1 wall between that prosecution team's decisions so it
2 doesn't taint the State Board as judge in that proceeding,
3 right?

4 A If that's the Board's procedures, yes.

5 Q Mr. Johns, you noted in your testimony that an example
6 of someone else contributing salts to the river included
7 Manteca's -- the city of Manteca's discharge; is that
8 correct?

9 A That's correct.

10 Q Did DWR file any protest against the ruling that
11 allows Manteca to discharge at levels above 1.0?

12 A No, we think that's -- no, we didn't.

13 Q Okay. And absent the existence of the projects, do
14 you have any opinion as to whether or not Manteca's
15 discharge would raise salinities in the San Joaquin River
16 above 0.7?

17 A I don't think I have an opinion on that.

18 Q You guys haven't looked into that?

19 A Not that I know of, unless staff -- no, no, I don't
20 think so.

21 MR. HERRICK: Let me move to Ms. Smith for a
22 minute, please.

23 Ms. Smith, just for clarification. On page 2 of
24 your testimony -- do you have that

25 MS. SMITH: Yes.

1 Q And you've got the map there with the three locations
2 on it?

3 A Yes.

4 Q Union Point should be at the other end of Middle
5 River, isn't that correct? That's the wrong spot, isn't
6 it?

7 A That's the name of the data location and that was
8 where the -- where it was on the map. So I think that's
9 the correct location.

10 MR. HERRICK: Mr. Holderman, do you know that
11 isn't Union Point at the other end of Middle River; that's
12 the test station, the spot there, but Union Point's at the
13 other end; is that correct?

14 MR. HOLDERMAN: I'd have to take a look.

15 Is your question whether that location is labeled
16 properly?

17 MR. HERRICK: Yeah, isn't Union Point at the --
18 down -- more downstream on Middle River? That's your
19 testing station there, isn't it?

20 MR. HOLDERMAN: Well, that location is the label
21 that they have on the compliance station. It's in CDEC.
22 It doesn't have the same name that's in D-1641, but it is
23 the same monitoring -- physical monitoring station.

24 MR. HERRICK: And, Ms. Smith, the reason I'm
25 asking that is the particle tracking you used, I believe

1 your testimony was that here it shows the particle tracks
2 not passing Union Point to any significant degree, but
3 that was the point farther down on middle river

4 MS. SMITH: That's correct.

5 Q Okay. Ms. Smith, your analysis looked at decreases in
6 state pumping as that might affect water quality at
7 different locations in the South Delta; is that correct?

8 A Yes.

9 Q Is there some reason why you didn't look at a decrease
10 in CVP pumping in combination with any other actions?

11 A I guess I probably should describe the process. When
12 we did this, we were asked to -- the modeling group was
13 asked to help out. And I read the order. What we did was
14 look at -- and also working with operations, we looked at
15 what the State Water Project could do. And so that's what
16 we focused on in the time period.

17 Q Okay. And would you agree that one of the things the
18 State Project could do is to perhaps pump for the CVP if
19 the CVP would decrease pumping?

20 A I suppose so.

21 Q In fact, you have a JPOD authorization that would
22 allow that under certain conditions; is that correct?

23 A That's my understanding.

24 Q Do you have any opinion as to whether or not a
25 decrease in CVP pumping might improve water quality at any

1 of those South Delta stations in question here?

2 A Whether it might improve water quality? I'm actually
3 trying to see if there would be that much difference. I
4 mean CVP does have an effect. It's a little bit further
5 south.

6 Q Let me see if I can help, because -- I don't want to
7 suggest testimony here. But if the CVP interrupted or
8 intercepted less flow coming through the Tracy Old River
9 barrier, couldn't that possibly improve the Tracy Old
10 River station water quality?

11 A It probably would do both, either improve or decrease.
12 And I'm thinking that there would be a similar effect.
13 But I'm speculating, because we didn't do that study.

14 Q Okay. I noticed in your testimony on page 10 that the
15 modeling you used uses the consumptive use from the Delta
16 Island Consumptive Use Model; is that correct?

17 A That's correct.

18 Q And I believe that's an attachment to one of your
19 exhibits?

20 A Yes, it is.

21 Q Now, does that model use -- that model uses averages,
22 correct?

23 A Yes.

24 Q And so do you have the data that would indicate what
25 happens when you have peak diversions in the South Delta?

1 A I don't believe so.

2 Q Okay. Would that affect the results of water quality
3 at those various stations if the diversion rates were
4 higher than the -- that the peak diversion rates were
5 higher than the average diversion rates?

6 A Yes, I think it would affect it a little bit.

7 Q And in that report on pages -- excuse me.

8 Let me find the map here. Excuse me.

9 On page 46.

10 A Yes.

11 Q It indicates that the water quality -- excuse me --
12 the water quality returns used for the South Delta
13 modeling are from that southeast area; is that correct?

14 A I think so, yes.

15 Q And that area includes significant portions in
16 addition to the South Delta; is that correct?

17 A Yes.

18 Q And do you have any knowledge that the agricultural
19 return flows from the central Delta islands are much
20 higher quality than the South Delta ones?

21 A I wouldn't know.

22 Q Okay. If that were the case, then using the average
23 of that area would taint the results, I'll say; is that
24 correct?

25 MS. RIDDLE: Mr. Herrick, can you please tell us

1 which exhibit you're referring to.

2 MR. HERRICK: I'm sorry. It's DWR-20b. It's
3 titled "The Estimation of Delta Island Diversions and
4 Return Flows." I'm on page 46, which is figure 5-6.

5 I apologize for that.

6 Ms. Smith, could you assist me in
7 understanding -- your various charts and graphs and
8 figures in your testimony include a wide variety of dates.
9 You have some from 2001 and 2002, 2004. I believe some of
10 the other modeling is '98 through '05. I believe the
11 16-year history used was '79 through 2001.

12 Can you explain how you decided to choose certain
13 limited time frames in your calculations rather than one
14 set consistent time frame?

15 MS. SMITH: Can you specifically say which ones
16 you're looking at?

17 Q I'm just flipping through your charts and figures on
18 your -- your exhibit is DWR-20. And figure 2 has a time
19 frame. Figure 3 has a different time frame. Figure 4, 5,
20 6. And then figure 6 is a different time frame. It's
21 2000 through 2002.

22 A Well, we can go through them.

23 So figure 2 is just historical EC. And I think
24 that's probably due to what was easily available.

25 Q Maybe it wasn't your testimony. But isn't one of the

1 calculations you did using the 16-year history from '79 to
2 '91?

3 A No, we just -- for this particular testimony we used
4 just the historical from '90 to 2004.

5 Q Okay. And again I'm just asking -- it seems like
6 there are different groups of time frames used. And I was
7 just wondering why they weren't all the same group.

8 A Well, some of it is the data -- I'm thinking that what
9 you're looking at is some of it is just field data. And
10 what was available we plotted out. And then the other
11 part of the simulations we did focus on pretty much the
12 same time period when we were actually doing simulations,
13 except for when we did the total elimination of State
14 Water Project pumping. And we chose two specific time
15 periods where, if there was no actions taken by either the
16 Bureau or the State Water Project, we would have not met
17 the standard. And so that's why we chose those two
18 periods.

19 Q And part of your calculations or investigations
20 included the fingerprinting of the water at the State
21 Water Pumping Plant; is that correct?

22 A Yes.

23 And I believe your figure -- it was 6 or
24 something -- sorry -- I believe that shows that some of
25 the water comes from the San Joaquin River, some of it

1 comes from the Sacramento River, some of it comes from
2 other sources, and some of it comes from ag returns; is
3 that correct?

4 A Which one? Are you looking at figure 6?

5 Q Figure 6.

6 A Yes, that's correct.

7 Q Okay. And are those other sources, does that include
8 water from the -- I'll say the western part of the Delta
9 and the Bay?

10 A Yes.

11 Q So your figure 6 shows then that salts from the Bay
12 end up at Clifton Court Forebay; is that correct?

13 A Yes. Although that will include other sources besides
14 that.

15 Q But then the operation of the state pumps draws more
16 bay salts towards the export pumps than what happened if
17 the state pumps weren't operating; is that correct?

18 A If the state -- can you restate that again.

19 Q The fact that the state pumps are pumping in addition
20 to the fed pumps -- federal pumps --

21 A Yes.

22 Q -- that means that there's a higher amount or load of
23 salt originating in the Bay being drawn towards those
24 pumps?

25 A Well, I think -- my understanding of operations is

1 that it's -- there would be additional water that would be
2 released so that it's not necessarily drawing anymore. So
3 it's -- I guess I'm not quite understanding. If you said
4 everything was the same and you didn't increase flows,
5 yes, maybe there would be more salt being drawn.

6 Q Well, I don't want to -- you know, I'm not trying to
7 confuse the issue. But we're investing Frank's tract
8 salts and trying to figure out how to cure that. But the
9 operation of the state pumps is a contributing factor in
10 drawing ocean salts down to the pumps, right?

11 Well let me ask it this way. And I'm sorry. Do
12 you know whether or not the operation of the state pumps
13 increases the load of bay salt reaching the federal pumps?

14 A No.

15 MR. HERRICK: Okay. Ms. Kelly, I'd like to
16 briefly ask you a couple questions on the testimony --
17 specifically the charts that deal with the effects of the
18 barrier -- the permanent barriers on water quality.

19 MS. KELLY: Okay.

20 MR. HERRICK: And attached to your testimony,
21 which is DWR-23, is the PowerPoint presentation that you
22 used yesterday; is that correct?

23 MS. KELLY: That's correct.

24 Q And one of those PowerPoint pages has the chart with
25 the effects the permanent barriers have on water quality;

1 is that correct?

2 Could you provide me with that number. I
3 don't -- I can't find it real quickly.

4 A Figure 6.

5 Q Figure 6?

6 A The one that shows Middle River and Old River and
7 existing conditions and permanent gates?

8 Q Yes. And it shows improvements in water quality of up
9 to and above 700 EC; is that correct?

10 A Whoops, wrong figure. I'm sorry. You'll have to tell
11 me what figure you're looking at.

12 Q I apologize. My printing here is not the best.

13 I'm looking at figure 9.

14 A Okay.

15 Q And I apologize.

16 A Okay. This is EC improvement on Old River at Tracy?

17 Q Yes. And then figure 8 is Middle River?

18 A Yes.

19 Q And do I read this chart correctly to suggest that the
20 operation of the permanent barriers improves water quality
21 at Middle River by over 700 EC at sometimes?

22 A Yes.

23 Q So the modeling -- the base case modeling must show an
24 EC of what, 1400 or something?

25 A I don't have the specifics of that. I don't have the

1 numbers in front of me. So -- and also if you want -- if
2 we're going to get into a lot of detail with this, I would
3 probably call up either Paul Marshall or Parviz
4 Nader-Tehrani.

5 Q Okay. I was just trying to understand how you could
6 have that large of an improvement.

7 I think I can answer that question.

8 MR. HERRICK: He needs to take the oath probably.

9 MR. NADER-TEHRANI: Yeah, my name is Parviz
10 Nader-Tehrani. I'm a senior engineer --

11 MS. RIDDLE: Have you taken the oath yet, sir?

12 MR. NADER-TEHRANI: Yes, I have.

13 I guess to answer your question, yeah, plots
14 you're looking at, these are daily average values. And
15 the spikes that sometimes show as high as 700, these are
16 during the transition periods. When you look at monthly
17 averages, which are not shown in this exhibit, the
18 differences are smaller. But yet they are still
19 significant.

20 So the 700 improvement doesn't mean you're going
21 to get an improvement in a 30-day average of 700.

22 MR. HERRICK: But you're suggesting that the EC
23 has a swing of 700 at some -- 700 EC at some point?

24 MR. NADER-TEHRANI: On a daily average basis it
25 could have, yes.

1 MR. HERRICK: And when you say the swing, what do
2 you mean by that? Is that --

3 MR. NADER-TEHRANI: The swings can come in
4 several different --

5 MR. HERRICK: Pardon me. Excuse me.

6 MR. NADER-TEHRANI: I'm sorry.

7 MR. HERRICK: Let me finish the question, because
8 I don't want to get the record confused here.

9 MR. NADER-TEHRANI: Yes.

10 MR. HERRICK: Is the swing you're referring to
11 when barriers start operating or tidal shifts or what --
12 what's that swing caused by?

13 MR. NADER-TEHRANI: Yeah, in 16 -- when we do
14 16-year modeling, things change on a monthly scale. And
15 so in the model world you -- when the head of Old River,
16 for example, is removed, you may get, you know, a very
17 sudden change which could be different between the base
18 case and this -- which involves temporary barriers versus
19 the permanent barriers. And these differences may cause
20 daily differences which are significant.

21 MR. HERRICK: Are these just modeling predictions
22 or do you think that the conditions in the river will
23 somehow closely resemble these large swings?

24 MR. NADER-TEHRANI: I cannot speculate that.
25 But, again, we have to make things simplified in the model

1 world to do the analysis. And there's certain assumptions
2 we had to make to make this modeling possible.

3 But, again, the numbers that are shown in the
4 plot, I repeat, these are daily average values. When you
5 use -- I've looked at the monthly average values. They're
6 not going as high as 700.

7 MR. HERRICK: So do you think there would or
8 would not be the situation based on this modeling that
9 farmers are faced with a 700 EC swing in the short-term?

10 MR. NADER-TEHRANI: I cannot speculate that. I
11 can only guess that it would not be that way, because in
12 the real world things don't change on a monthly scale.

13 MR. HERRICK: Okay. Thank you, Parviz.

14 Mr. Leahigh, without beating up on you, I believe
15 in your testimony you say specifically that based upon the
16 rest of the panel's testimony it's clear that there --
17 it's a likelihood that there will be violations of the
18 South Delta standard; is that right?

19 MR. LEAHIGH: Based on some of the historic data
20 that -- for example, that Tara showed, that under probably
21 average to dry conditions the objectives would be
22 exceeded.

23 Q And your testimony also concludes that 1.0 EC is good
24 enough for ag. They don't need .7. You see that
25 reference in your testimony?

1 A Yes. And I was referring to some of the Department's
2 previous testimony with regards to that.

3 Q So you have no knowledge of agriculture or the water
4 quality needs of crops; is that correct?

5 A That's correct, personally I do not.

6 Q And it's also your testimony that the Water Quality
7 Response Plan for joint point pumping should allow
8 exceedances of the 0.7 standard; is that correct?

9 A I support the Division of Water Rights' approval
10 letter, which one of the conditions, condition 1, extended
11 the period of time to which 1.0 would be the objective.

12 Q And so you support the waiver of the D-1641 permit
13 condition through the Water Quality Response Plan?

14 A Yes, if I understand the question correctly.

15 Q Thank you.

16 A I support the approval of the Water Quality Response
17 Plan.

18 Q That's a change in D-1641, correct?

19 MR. JOHNS: Yeah, let me take a shot at that.

20 I don't think it changes 1641. It just says the
21 Water Quality Response Plan is a Water Quality Response
22 Plan.

23 MR. HERRICK: Well, D-16 -- Mr. Johns, D-1641
24 specifically says that in order to operate under joint
25 point, DWR has to comply with its permit conditions. And

1 then it goes on to put the permit condition at the 0.7,
2 does it not?

3 MR. JOHNS: And I think that the Board's going to
4 have to sort through that. But the Water Quality Response
5 Plan was put in place principally to address concerns in
6 this area. I mean that's an issue in front of the Board
7 currently.

8 Q Changing D-1641?

9 A Well, I think sorting out the appropriateness of
10 having the Water Quality Response Plan allow us -- that
11 would allow us to use it for joint point even if the
12 existing water quality standards or the older water
13 quality standards of 1.0 were being achieved. And the
14 logic of that is that those increased exports are not
15 contributing to the water quality problems in the South
16 Delta. So why would you preclude people from taking
17 advantage of export capacity if it didn't cause any harm?

18 Q I think that was addressed in the D-1641 hearings when
19 they required compliance with your permits to do joint
20 point. But I guess we can argue that later.

21 Mr. Johns, I understand that DWR-21, which is not
22 attributed to anybody, is being adopted as part of your
23 testimony?

24 A Yes, that was prepared under my direction by staff
25 that works for me, yes.

1 Q Okay. And without cutting things too short, it's my
2 understanding that the thrust of that testimony is that
3 since acres of beans have increased since 1978, that means
4 that bean farmers can live with .7 EC?

5 A I was simply making the observation that the acreage
6 had increased even though we have seen years that were
7 above .7 in that time frame.

8 Q Did you investigate any other conditions that might
9 affect why farmers would grow some more acres of beans in
10 the Delta?

11 A I did not, but Jean McFee might have.

12 Jean, are you here?

13 Not Jean McFee. Jean Woods. I'm sorry.

14 MS. RIDDLE: And before you begin, can you let us
15 know whether you've taken the oath yet or not.

16 MS. WOODS: I didn't hear what she said.

17 MR. JOHNS: Have you taken the oath yet?

18 MS. WOODS: No.

19 MR. JOHNS: Okay. You need to stand up.

20 CHAIRPERSON DODUC: Please stand and raise your
21 right hand.

22 Do you promise to tell the truth in this
23 proceeding?

24 MS. WOODS: I do.

25 CHAIRPERSON DODUC: Thank you.

1 And please identify yourself for the court
2 reporter.

3 MS. WOODS: Jean Woods.

4 And could you repeat the question.

5 MR. HERRICK: I just asked Mr. Johns if there
6 were any -- did anybody look into any other reasons why
7 somebody might plant more acres of beans in the Delta
8 rather than it being an indication that 0.7 was
9 satisfactory.

10 MS. WOODS: No, I didn't look at that.

11 MR. HERRICK: Okay. Mr. Johns --

12 MR. JOHNS: Good job.

13 MR. HERRICK: -- you stated --

14 MR. JOHNS: Way to go, Jean.

15 MR. HERRICK: I wouldn't call it a good job.

16 Mr. Johns, you stated in response to a question
17 yesterday that the only study you knew of that indicated
18 the effects on San Joaquin River water resulting from
19 discharges from a wasteway was that it decreased the water
20 quality. Do you remember that?

21 MR. JOHNS: That's when I was involved in the
22 1980s, yes.

23 Q Okay. Are you unfamiliar with last year's
24 recirculation pilot project by the Bureau that released
25 water from the Newman wasteway into the river?

1 A I know that it occurred. But I have not read that
2 report.

3 Q You haven't read the study to see how it improved
4 water quality or not?

5 A Not personally, no.

6 Q Okay. Do you anticipate that adding EC water of, say,
7 400 or 500 to the river -- do you anticipate that that
8 would improve the river when the river's water quality is
9 something like 1500 EC?

10 A My general understanding of that is that it did show
11 some improvement in water quality. But it would be good
12 to get that report or get somebody who actually did that
13 to testify on that point.

14 Q Okay. And you also said yesterday that you don't
15 track where the Bureau's use of your pumps delivers water.
16 Do you remember that?

17 A Yes.

18 Q That's incorrect, isn't it? Doesn't JPOD transfer --
19 transfers JPOD, EWA, doesn't DWR keep a really good record
20 of where the water goes each time? In fact, they notify
21 South Delta every time they're undertaking one of those
22 projects?

23 A Yes. But in those cases we're doing it under -- where
24 the Department's actually involved in that, and we have
25 not to my knowledge used EWA on the federal side of the

1 system. Almost all that repaid State Water Project
2 pumping, if I'm not mistaken. The state repaid State
3 Water Project reductions in pumping.

4 Were there some CVP?

5 Q Yes.

6 A Maybe early on, yeah.

7 Q So the answer's yes? You do track where the water
8 goes that's pumped for the Bureau through your facilities?

9 A Well, we want to make sure that we're complying with
10 our water right permits. So if we're pumping at -- oh,
11 pardon me. If we're pumping it under our water right
12 permits, we want to make sure that it goes to the
13 appropriate place of use.

14 Q So you do track it?

15 A Well, to the extent that we're involved in actively
16 pumping the water for EWA, we very much track that, yes.

17 Q And, Mr. --

18 CHAIRPERSON DODUC: Mr. Herrick, let me interrupt
19 and ask: How much more time do you think you need?

20 MR. HERRICK: If I can just have ten minutes,
21 I'll wrap it right up now. I don't know how the responses
22 will go, but --

23 CHAIRPERSON DODUC: And the line of -- and what
24 points will you be trying to address during the next ten
25 minutes?

1 MR. HERRICK: In those minutes I want to address
2 the water quality that the project has -- excuse me -- the
3 water quality the project seeks to deliver to its own
4 customers. And I want to ask Mr. Johns with regard to
5 whether or not the State Board has already found the SWP
6 to be a contributor towards the water quality problems in
7 the South Delta.

8 CHAIRPERSON DODUC: All right. You may proceed.

9 MR. HERRICK: I will be fast, Madam Chair. But
10 thank you very much.

11 Mr. Johns, are you familiar with the State Water
12 Project contracts for the delivery of water to their
13 customers?

14 MR. JOHNS: Only generally.

15 Q Do you know if there's a goal or an objective or a
16 limit on the water quality that you can deliver to those
17 contractors?

18 A I'm not familiar with that, no.

19 Q You're not?

20 A No.

21 MR. HERRICK: Is anybody on the panel familiar
22 with that?

23 Mr. Leahigh.

24 MR. LEAHIGH: No, I'm not aware of anything in
25 our contracts with regards to water quality delivered to

1 our contractors.

2 MR. JOHNS: If this is important, John, we do
3 have some folks here that might be able to help you with
4 that.

5 MR. HERRICK: Well, I'm running out of time. But
6 I just -- maybe I'll just confirm that you're not aware
7 that you have a water quality goal for delivering water to
8 your own contractors

9 MR. JOHNS: Like I said, I don't do that side of
10 the Department.

11 Q Okay. Mr. Johns, you state in your testimony that the
12 Board mistakenly ascribed responsibility of South Delta
13 water quality problems to DWR in the '95 plan but that
14 that was a mistake. Do you remember saying that?

15 A I'm not sure I used the word "mistake". Did I?

16 Q But you would agree that both the '95 plan and D-1641
17 conclude that the SWP is a contributing factor towards the
18 salt problem -- salinity problems in the southern Delta;
19 is that correct?

20 A I'm not sure about that. I'd have to go back and look
21 at those documents just to see --

22 Q Okay. Let me direct you to page 88 of D-1641. And
23 I'll just read it to you for time here.

24 The last paragraph on page 88 states: "The DWR
25 and the USBR are partially responsible for salinity

1 problems in the southern Delta because of hydrologic
2 changes that are caused by export pumping." Is that
3 correct?

4 A That may have been the Board's finding at the time
5 based on the facts they had before it. But I'm not sure
6 the Board -- matter of fact I know the Board did not have
7 in front of it the extensive information that we've been
8 able to present here today.

9 Q And did DWR object or appeal the Decision 1641 because
10 of that incorrect ascribing of responsibility to DWR?

11 A No, we didn't do that, because as our petition for
12 reconsideration points out, that I talk on page 3 and 5 of
13 my testimony, we relied heavily on condition 6 in the fact
14 that that was going to -- that the ability for us to
15 control these issues was going to be taken into
16 consideration before any sort of enforcement action would
17 be considered.

18 Q Mr. Johns, how much water does the SWP export from the
19 Banks Pumping Plant each year? And I'll just say on
20 average.

21 A It varies. This year was a pretty good year for us.
22 We delivered about 90 percent of our Table A entitlements.
23 Table A's about 4.1; 90 percent's whatever 90 percent of
24 that is. And --

25 Q When you say 4.1, you mean 4.1 million acre/feet?

1 A Yeah, 4.1 million acre/feet.

2 Q Okay. And have you --

3 A In other years we've -- since I've been with the
4 Department it's been, you know, 70 percent. And a couple
5 years it's been lower than that. I think our delivery
6 reliability part -- Kathy can talk to this.

7 Q Well, I was just asking for a range.

8 And have you determined how much water it would
9 take to be added to the San Joaquin River system to meet
10 Brandt Bridge?

11 A I have not, no. I don't think we have either. Have
12 we?

13 No, I think the Bureau might have, but I don't
14 think we have.

15 Q Let me just pose a hypothetical. And I may be totally
16 wrong with the numbers I'm suggesting. But let's just say
17 if it took 50,000 acre/feet or 100,000 acre/feet of
18 additional water in the San Joaquin River, that it's DWR's
19 position that they should not be responsible for providing
20 that 100,000 or 50,000 acre/feet, but that they should
21 still be able to export 4.1 million acre/feet?

22 A If our exports don't affect water quality at these
23 locations, why wouldn't we do that?

24 Q I get to ask the questions. Sorry.

25 A Okay. So ask your question again.

1 Q The answer's no?

2 A No, that's our testimony, is that -- we're not -- our
3 exports are not affecting water quality at this location.
4 Either increasing it or decreasing it is not going to make
5 a big difference. So why would we be penalized for
6 something that we didn't cause?

7 Q Does the installation of the temporary barriers create
8 null zones upstream of the Middle River and Tracy Old
9 River barrier?

10 A Mark, that's you.

11 MR. HOLDERMAN: Okay. What were those locations?

12 Mr. HERRICK: Does the temporary barrier project
13 create null zones upstream of the Tracy Old River and
14 Middle River barriers?

15 MR. HOLDERMAN: The null zones occur in those
16 areas in the South Delta regardless of whether there's
17 barriers there or not. Barriers actually reduce the
18 number of null zones that would occur absent the barriers.
19 But under certain hydrologic conditions, yes, there are
20 null zones that occur upstream of the DMC barrier and
21 upstream of Middle River.

22 MR. HERRICK: When you say null zones occur
23 anyway, they occur anyway if the barriers aren't there and
24 the state and federal projects are still pumping, is that
25 what you mean?

1 MR. HOLDERMAN: Yes.

2 MR. HERRICK: Okay. So the projects cause null
3 zones to be in one place with barriers and in a different
4 place with barriers?

5 MR. HOLDERMAN: I would not say that the projects
6 do. I know that they would exist. I don't know if it's
7 caused by the projects or not.

8 MR. HERRICK: And so --

9 MR. HOLDERMAN: If you could turn off the
10 projects, I don't know if they'd disappear.

11 MR. HERRICK: You would agree that, say, Tracy
12 Old River Bridge water would be transported or sucked down
13 to the federal pumps without that Old River barrier in the
14 summer; is that correct?

15 MR. HOLDERMAN: Well, I mean normal flow in the
16 channel and Old River is downstream toward the pumps if
17 you've got flow at San Joaquin going down Old River, yeah,
18 you're going to get downstream flow toward the pumps.

19 MR. HERRICK: And the point I'm trying to make is
20 that the barriers are -- in addressing water levels, they
21 also contribute towards the accumulation of salts in
22 certain areas behind those barriers; is that correct?

23 MR. HOLDERMAN: Actually the barriers -- from our
24 monitoring reports that we've done, when the barriers are
25 operating we've noticed that water quality is better above

1 the barriers than what's coming in from the San Joaquin
2 during the summertime. However, that doesn't mean that
3 there's not hot spots in those null zones where, because
4 of the tidal flows and -- the combination of tidal flows
5 and in-flows and depletions in the river from ag
6 operations can cause a stagnant area where water quality
7 can get worse.

8 MR. HERRICK: Okay. Absent the temporary
9 barriers, would agricultural drainage along Old River near
10 the Tracy Old River Bridge, which is one of the
11 monitoring -- or compliance stations -- absent the
12 barriers would that agricultural drainage collect there or
13 would it be flushed down river either through tidal action
14 or through the operation of these federal pumps

15 MR. HOLDERMAN: I --

16 MR. HERRICK: I've only got two and a half
17 minutes left.

18 MR. HOLDERMAN: Right.

19 I couldn't answer that with any kind of
20 confidence. I do know that because it's of the tidal area
21 and there's depletions in the river from ag operations, I
22 believe that you can still get null zones occasionally
23 depending on the hydrologic conditions.

24 MR. HERRICK: And just hypothetically then if the
25 SWP either exacerbates, contributes or shifts null zones,

1 one might conclude that then they are affecting the water
2 quality in the South Delta; would that be a fair
3 statement?

4 MR. HOLDERMAN: You're going to have to say that
5 one more time.

6 Oh, you're out of time? No, just kidding.

7 (Laughter.)

8 MR. HOLDERMAN: Say it one more time. I want to
9 make sure I got that.

10 MR. HERRICK: If the operations of the SWP
11 create, exacerbate or shift null zones, then one can
12 reasonably conclude that the operations of the SWP affect
13 water quality in the south Delta?

14 MS. CROTHERS: Excuse me, but I think --

15 MR. HOLDERMAN: That's not the --

16 MS. CROTHERS: I would like to object, because
17 Mr. Holderman did respond to that question. You are just
18 rephrasing it in another way. I think earlier you said --
19 you asked those same questions and he explained how the --

20 CHAIRPERSON DODUC: Ms. Crothers --

21 MS. CROTHERS: -- operations work.

22 CHAIRPERSON DODUC: -- objections this way.

23 MS. CROTHERS: Oh, excuse me. I'm sorry.

24 So, Madam Doduc, I -- well, Mr. Herrick has
25 rephrased his question in a way that I think that was

1 already asked and answered. So I object to his rephrasing
2 of that question.

3 MR. HERRICK: Madam Chair, I'm out of time. I
4 think the point's made. And I thank you very much for the
5 extra minutes.

6 CHAIRPERSON DODUC: Thank you, Mr. Herrick.

7 Ms. Crothers, do your witnesses maybe need a
8 break?

9 MS. CROTHERS: Yes, we would love to have a break
10 at this time.

11 CHAIRPERSON DODUC: Okay. Let's --

12 MR. HERRICK: From the grueling cross
13 examination?

14 CHAIRPERSON DODUC: Let's take a ten-minute break
15 and resume at 10:25.

16 (Thereupon a recess was taken.)

17 CHAIRPERSON DODUC: I believe we're ready to
18 resume.

19 County of San Joaquin.

20 MR. MCGREW: Mike McGrew representing the County
21 of San Joaquin. We have no questions.

22 CHAIRPERSON DODUC: Thank you.

23 California Sportfishing Protection Alliance.

24 MR. JENNINGS: Good morning, Madam Chair. Mike
25 Jackson sends his regrets. He was called away to southern

1 California. I understand he was looking forward to having
2 discussion with Mr. Johns and his friends.

3 I do have a few questions. Following up on --

4 CHAIRPERSON DODUC: Would you please identify
5 yourself for the court reporter.

6 MR. JENNINGS: Yes. Bill Jennings, Executive
7 Director, California Sportfishing Protection Alliance.

8 CROSS EXAMINATION

9 OF THE DEPARTMENT OF WATER RESOURCES PANEL
10 BY MR. BILL JENNINGS, representing the California
11 Sportfishing Protection Alliance:

12 MR. JENNINGS: Following up on Mr. Herrick's
13 question regarding the water quality objective for TDS and
14 in the Bureau's contracts. I don't recall an answer
15 forthcoming.

16 What is the water quality objective in the State
17 Water Project contracts?

18 MR. JOHNS: The objective in the contracts?

19 Q The water quality objectives, yeah, in your standard
20 contracts for the quality of water you deliver to your
21 customers.

22 A Well, as I understand it, we don't -- there are some
23 objectives in the contracts, and we can have a witness
24 come up and talk about what those objectives are. But as
25 far as I know, I don't think we actually operate -- and

1 John will know this -- to those objectives. It's an
2 incidental issue more than anything else. But if you want
3 to know what they are, I can have someone come up and
4 discuss that if you'd like.

5 Q Well, isn't it true that your contract with
6 Metropolitan calls for a hardness of 440 parts per
7 million --

8 A I don't know --

9 Q -- as an objective?

10 A Again, I don't know that. But we could have a witness
11 come up, if you'd like, to talk about that. I'm not sure
12 what that pertains to this proceeding, but --

13 Q And that, indeed, in your -- you know, your standards
14 contracts that you do put an objective in there. And I
15 guess my question is: Is your objective for water quality
16 delivered to your customers better than what you're
17 proposing for the South Delta or delivery to the farmers
18 in the South Delta?

19 MS. CROTHERS: Madam Doduc, I object to his
20 statement there. I think he's trying to put facts in that
21 have not been stated by DWR. Those are his facts. I
22 think Mr. Johns has offered to have one of our DWR staff
23 who works on our State Water Project contracts available.
24 But I don't also see the relevance of Mr. Jennings'
25 questions at this point.

1 CHAIRPERSON DODUC: Mr. Jennings, unless you can
2 explain the relevance to me, I'm inclined to agree with
3 Ms. Crothers.

4 MR. JENNINGS: Well, I just -- it was a question
5 Mr. Herrick had explored. And he ran out of time before
6 he had the opportunity to get an answer to that question.
7 And I was just following up on it.

8 CHAIRPERSON DODUC: All right. Mr. Johns has
9 already answered that he does not have that information
10 readily.

11 MR. JENNINGS: Fine.

12 CHAIRPERSON DODUC: So please move on.

13 Thank you.

14 MR. JENNINGS: Ms. Smith, turning to page 36 of
15 DWR 20?

16 MS. SMITH: Okay.

17 Q Am I correct that these are DSM-II validations for
18 simulation of EC?

19 A Yes, that's correct.

20 Q And that these validations were conducted in 2000?

21 A Actually I think for these particular ones they were
22 rerun for this study.

23 Q Okay. And are these daily averages, 24.75 hour
24 averages?

25 A I believe they're daily average.

1 Q Okay. And in looking at that first -- that top chart,
2 it looks like there are differences between field data and
3 model simulation of, you know, 4 to 600 microSiemens at
4 times.

5 A Yes, we had trouble with '91 and '92 meeting.

6 Q And, again, in even '01 and '02, I mean it looks like
7 there's similar problems.

8 A Some, yes.

9 Q And I guess what I'm curious about is, if you can
10 explain the differences between the field data and model
11 simulations in these graphs, while they are much less than
12 the much, much larger, up to a thousand microSiemen
13 difference between the field data and the DSM simulations
14 displayed on your website, you know, of the validations of
15 DSM-II.

16 A I'm sorry. Do you just want me to explain the
17 differences on this graph, or is there something on the
18 left side that's different?

19 Q Well, I mean I looked on your website last night on
20 the calibration of your validation page at Old River and
21 Tracy Boulevard. And I noticed that there was routinely a
22 thousand microSiemen difference between the actual field
23 data, the actual observations and what is represented in
24 the model. And that's a huge difference. It's a hundred
25 percent difference. And so I'm just trying to seek

1 clarification here.

2 A I guess I would like to know how much "routinely" is
3 on that. But I wouldn't mind explaining what we believe
4 or at least what we theorize are the problems, especially
5 in '91 and '92. I think there was some discussion,
6 although we don't know for sure, that it was probably
7 underestimating the agricultural drainage during that time
8 period, that that was the main culprit. There may be
9 other things, but that's what we thought it might have
10 been.

11 Q Well, I noticed that that huge discrepancy continues
12 through '93, '94, even '97, '98. I mean would you like me
13 to provide you the sheets off your website?

14 CHAIRPERSON DODUC: I do have a question.

15 Mr. Jennings, the sheets to which you're
16 referring, is that in our record? Is that something that
17 is available to all the parties

18 MR. JENNINGS: No, it hasn't. I just pulled it
19 down off of the Department's website.

20 MS. CROTHERS: Madam Doduc, I would object to him
21 bringing in additional evidence not in the record.

22 MR. JENNINGS: That's fine. I'm assuming staff
23 can go to the website on their own.

24 CHAIRPERSON DODUC: Mr. Jennings, if you would
25 like to introduce it, please provide copies -- you will

1 need to provide copies to all the parties, especially to
2 DWR.

3 MR. JENNINGS: Should I do that today or Monday,
4 would that be?

5 CHAIRPERSON DODUC: Right now -- if you are
6 pursuing this line of questioning, right now.

7 MR. JENNINGS: No, I think this is the end of
8 that line of questioning. But I've got some copies I can
9 certainly distribute.

10 CHAIRPERSON DODUC: Then please go on to your
11 next line of questioning then.

12 MR. JENNINGS: Is there any reason that the
13 confidence intervals are not revealed in the graphs
14 throughout this Exhibit DSM-20 -- DWR-20 rather

15 MS. SMITH: Well, it's probably -- I mean if we
16 had a lot of time we could probably have done the
17 confidence intervals. The validation was to show how well
18 the model -- the plots that you have there was to show how
19 well the model was doing, to give an idea of how well the
20 model was doing. And it was -- the historical period was
21 over the same time period.

22 Q Right. But in most of them, whether it's figure 2,
23 figure 3, I mean -- I mean figure 4 -- I mean there's no
24 pluses or minus. I mean models are projections, I mean,
25 and with a degree of error. And you're not providing the

1 confidence, I mean, you know, the pluses and minuses
2 within your projections.

3 A Right. And I think that's probably more of a time
4 issue than anything.

5 MR. JOHNS: Bill, one of the things we were
6 trying to do is to give -- show people how well this
7 information validates with real data. And I think the
8 charts that Tara's presented show that. But I think it's
9 important to know is there is -- we're still learning this
10 stuff in South Delta. I mean this is all pretty new stuff
11 to us, getting data in and try to make the stuff work. We
12 have a saying kind of in the Department that "no model is
13 perfect. Some models are useful." We think this is a
14 pretty useful model, but it's certainly not perfect.

15 MR. JENNINGS: I understand that, and no models
16 are. I mean I guess that in dealing generally in water
17 quality modeling -- and the only reason I went down this
18 line was that people are pretty upfront -- like in Cormax,
19 they're upfront that it's plus or minus 50 percent, I
20 mean, you know, and it's a high peer review, you know,
21 water quality model. I mean the question is, you need to
22 know the error rate of a model if you're going to discuss
23 it.

24 MR. JENNINGS: Now, Ms. Kelly, turning to DWR-23.

25 Again, I mean, you know, looking at the design

1 and operation of the permanent barriers, is there any
2 reason the confidence intervals were not displayed in
3 figures 8, 9 and 10?

4 MS. KELLY: It didn't cross our minds to display
5 confidence intervals on those figures.

6 Q Well, I guess --

7 A Wait. Let me -- I think I'm thinking of the map
8 figures. You're talking -- ah, you're talking about the
9 plots for EC improvement, Middle River at Mowery Bridge
10 or --

11 Q Right. I mean you're projecting that we'll have these
12 kind of improvements or those. But I mean there's a plus
13 or a minus factor in there.

14 A Yes, there is. But as far as including the error
15 bars, I think for simplicity of showing the information,
16 for one thing. But I can't tell you what the estimated
17 error would be, plus or minus, but we know that it is
18 there. This is just our best representation of what we
19 believe will happen under the operation of the gates.

20 Q Well, if you're validation of Tracy Boulevard at Old
21 River Tracy Boulevard may be as much as a hundred percent
22 off, that would certainly have a dramatic effect in the
23 validation, that would certainly have a dramatic effect in
24 the representation on these charts, wouldn't it -- these
25 graphs?

1 A That's a supposition that I can't -- any kind of
2 error, if it incorporated the condition that you've just
3 mentioned, then of course it's going to affect the
4 results.

5 Q Thank you.

6 And, again, you know, on page 2 where it
7 represents -- at the bottom of that page it shows that Old
8 River, Grant Line and Middle River could expect 17 1/2, 6
9 percent and 26 percent decrease in EC concentrations
10 respectively, that isn't offered, again, with the
11 confidence intervals, I mean the pluses and minus in which
12 that is suggesting?

13 A That's correct.

14 Q Now, DWR-23 discusses the SDIP EIR and the benefits
15 that will accrue from the project. But I -- can you
16 explain why Exhibit 23 discusses the alleged, you know,
17 advantages to EC from permanent barriers, but ignores the
18 myriad redirected -- potential redirected impacts and the
19 adverse consequences, the effects on other chemical
20 constituents within the South Delta?

21 A We've analyzed salinity and we've analyzed dissolved
22 oxygen for the components that are evaluated for the
23 impacts, positive or negative, of the gate operation and
24 the proposed export operations.

25 Q Then you did not analyze the effects of barrier

1 installation or operation with respect to pesticides,
2 PCBs, mercury, nutrients, the myriad of problems affecting
3 the South Delta?

4 A With respect to nutrients and its relationship to
5 dissolved oxygen, we did. But for the other components
6 that you have listed, I don't believe we have for any of
7 those.

8 Q Okay. Now, I believe you testified that figure 4 --
9 if I can find figure 4 -- yeah, figure 4 one of the --

10 MR. JOHNS: Bill, before you go on, I think it
11 might be important here -- I think it would be good to
12 look at the environmental document, because the
13 environmental document that we just produced does discuss
14 possible impacts in those areas. And I would point you to
15 there to look at.

16 MR. JENNINGS: Having looked at the environmental
17 document, I was particularly unable to find the evaluation
18 and assessment of impacts in those areas.

19 MR. JOHNS: It might not be quantified --

20 CHAIRPERSON DODUC: All right. Gentlemen, let's
21 move on please.

22 MR. JENNINGS: Let's see. And I believe you
23 testified then figure 4 shows how circulation would occur
24 during operation of the permanent barriers

25 MS. KELLY: Yes.

1 Q And isn't it true that in order to establish
2 circulation, that water will be drawn at times down Middle
3 and Old Rivers and then flow down -- the reverse down
4 Grant Line Canal over the lower elevated barriers at Grant
5 Line Canal?

6 A That's correct. That's the standard operation that we
7 modeled in the EIR.

8 Q Right. And won't that circulation pattern induce fish
9 in the South Delta to follow the flow and exit Grant Line
10 Canal in to Old River in the vicinity of the project pumps
11 where they will likely be entrained?

12 CHAIRPERSON DODUC: Before you answer that, I
13 think Mr. Rubin has something to say.

14 MR. RUBIN: Madam Chair, I object to the
15 question. I understand the presentation of information or
16 evidence on the South Delta improvements project as it
17 relates to the ability to achieve the EC objective. But I
18 don't understand the relevance of the question raising
19 issue of the effect that the operations might have on
20 other beneficial uses. As I understand, those other
21 beneficial uses are not intended to be protected by the
22 objective at issue in this hearing.

23 CHAIRPERSON DODUC: Mr. Jennings.

24 MR. JENNINGS: That's certainly true. But it
25 goes to the heart of whether this is -- whether they will

1 be able to implement this as a -- the permanent barriers
2 as an operation, certainly within the time frame they're
3 projecting.

4 MR. RUBIN: Madam Chair -- Excuse me. I
5 apologize.

6 CHAIRPERSON DODUC: That is outside of the scope
7 of this hearing. So I'm going to agree with the objection
8 and ask that you move on to your next line of questioning.

9 MR. JENNINGS: Then I'm to understand that their
10 representation of the benefits of the SDIP is also
11 inappropriate?

12 CHAIRPERSON DODUC: We are interested in the
13 benefits with respect to salt because salinity is at issue
14 for this hearing.

15 MR. JENNINGS: Okay. Well, we'll -- that
16 simplifies my task here, except that turning to page 4 of
17 DWR-23 it states at the bottom of the page that the EIR
18 will be finalized in early summer, and the construction of
19 the gates would take until early -- you know, to '09.

20 What leads you to believe that this timetable is
21 within the realm of possibility?

22 MS. KELLY: Who's he directing that question to?

23 MR. JOHNS: I'll take a shot at that.

24 Kind of our best estimate of what we think we can
25 achieve. We've done some early consultation with the

1 fishing agencies on this. We think that will help
2 expedite this process. And so that's our best estimate
3 today.

4 MR. JENNINGS: And I guess I'm -- can you explain
5 why you believe that the fate of this EIR, since it didn't
6 look -- well, will be any different than your EIR for the
7 Monterey agreement or the CALFED ROD? I mean the same
8 flaws here.

9 MR. JOHNS: This is a good environmental
10 document.

11 MR. JENNINGS: Thank you.

12 CHAIRPERSON DODUC: Thank you, Mr. Jennings.
13 San Joaquin River Group Authority.

14 CROSS EXAMINATION

15 OF THE DEPARTMENT OF WATER RESOURCES PANEL

16 BY MR. KEN PETRUZZELLI, ESQ., representing the San Joaquin
17 River Group Authority:

18 MR. PETRUZZELLI: Ken Petruzzelli for the River
19 Group. We have -- we have -- actually, I have a question
20 regarding DWR-23, I believe figure 5.

21 Would it be possible to put that on the overhead?

22 Or if everybody has it handy, maybe that's
23 unnecessary.

24 MR. JOHNS: You said figure 5?

25 CHAIRPERSON DODUC: What's the title of that

1 figure? We had a challenge with the numbering.

2 MR. PETRUZZELLI: Right. I don't have that
3 handy. It's the figure that shows the 382 violations.

4 MS. KELLY: That's figure 6.

5 MR. PETRUZZELLI: It's figure 6?

6 MS. KELLY: Yes.

7 MR. JOHNS: Actually it says exceedances is what
8 it says.

9 MR. PETRUZZELLI: Then exceedances. And just so
10 we're clear in the record, was that a planning document or
11 a historical document?

12 MS. KELLY: That's planning and assessment.

13 Q And what is the difference?

14 A What is the difference between real life and the
15 assessment? These are modeled results of over, I
16 believe -- well, it's a 16-year period. And I believe for
17 us it was -- it's 1976 through 1991.

18 Q And how would you characterize that period? Would you
19 characterize it as a dry period, wet period?

20 A It's a mixed -- it's a period that covers dry times.
21 It has '76 and '77, which was extremely dry. And also the
22 latter part of '90 -- excuse me -- '89 and early '91,
23 which was also dry. And then it has wet periods and -- it
24 has the whole gamut.

25 Q Okay. But would you characterize this as a --

1 compared to the historical record, would you characterize
2 this as a relatively dry period?

3 A No, I wouldn't.

4 Q Okay. And on this chart, do these exceedances -- are
5 they exceedances of the 30-day running average as
6 described in the permit conditions?

7 A Oh, how many days we exceeded the 30-day running
8 average? I'll tell you what, I can call in Parviz and
9 also Paul Marshall, who's here today. And this was his
10 testimony. So get some clarification on that.

11 MR. MARSHALL: My name is Paul Marshall with the
12 Department of Water Resources. I was sworn in on the
13 first day.

14 CHAIRPERSON DODUC: Okay.

15 MR. MARSHALL: Would you repeat the question.

16 MR. PETRUZZELLI: Okay. Mr. Marshall, on figure
17 5 --

18 MR. MARSHALL: -- 6, is what we were talking
19 about.

20 Q Yes. It shows 386 exceedances on Middle River under
21 existing conditions and 181 exceedances on Old River.

22 Now, are those exceedances based on the 30-day
23 running average as described in the permit conditions or
24 some other measure?

25 A No, they're not. These are just model results.

1 They're -- it's a planning study. It's not really a study
2 that predicts anything in the future. What it does is it
3 goes back in time and says if we had the same kind of
4 hydrology through that 16-year period and we didn't change
5 anything else about other, you know, assumptions that
6 we've made in the system, how many exceedances might we
7 expect for that same time period? And these are the
8 results of that.

9 It's really just a comparative thing. It does
10 include some extremely dry periods, which a lot of these
11 exceedances would be a part of. And it would not be
12 considered anything that you could depend on in the
13 future.

14 MS. KELLY: So these are just days --

15 MR. MARSHALL: These are just days.

16 MS. KELLY: -- that exceeded the thousand EC?

17 MR. PETRUZZELLI: Okay. So that's 386 days and
18 181 days?

19 MS. KELLY: Yes.

20 MR. MARSHALL: Yes.

21 MR. PETRUZZELLI: That's what I wanted to know.

22 And no further questions.

23 CHAIRPERSON DODUC: Thank you very much.

24 The Bay Institute is not here.

25 California Department of Fish and Game?

1 Not here.

2 Contra Costa Water District?

3 Not here.

4 Merced Irrigation District and San Luis Canal
5 Company.

6 CROSS EXAMINATION

7 OF THE DEPARTMENT OF WATER RESOURCES PANEL

8 BY MR. ARTHUR GODWIN, ESQ., representing the Merced

9 Irrigation District:

10 MR. GODWIN: Good morning. Arthur Godwin from
11 Merced Irrigation District.

12 Let's see. My first question will be to Ms.
13 Smith. You did some fingerprinting analysis. And one of
14 the constituents, I guess that's what you would call it,
15 was labeled Agricultural Return Flow.

16 MS. SMITH: Yes, that's correct.

17 Q What was that referring to? Was that referring to
18 agricultural return flow within the South Delta area or
19 agricultural return flows in general or what?

20 A It's just in general.

21 Q Okay. So it's not limited to agricultural return
22 flows from the Delta then?

23 A That's correct.

24 Q Okay. You had a chart also that showed -- I've
25 forgotten the figure number -- it was either 4 or 5 I

1 think that showed the water quality you would need at

2 Vernalis to achieve a .7 at Brandt Bridge?

3 A Yes. Let's see if I can find that here.

4 Are you talking about figure 9?

5 Q It may be. I don't have it in front of me.

6 A Okay.

7 Q And I forgot to write it down yesterday when you were

8 going over that.

9 But as I read that, that shows about a 10 percent
10 degradation in the river between Vernalis and Brandt

11 Bridge; is that correct?

12 A I think we calculated to be on average about 8
13 percent.

14 Q Oh, about 8 percent?

15 A Yes.

16 Q And how far is that between Vernalis and Brandt
17 Bridge, do you know?

18 A Not offhand, no. I could ask someone if you really
19 wanted to know.

20 MR. GODWIN: Okay. Does anyone know on the
21 panel?

22 CHAIRPERSON DODUC: Please come up if you have an
23 answer.

24 Please identify yourself for the court reporter,
25 and then provide the answer.

1 MR. FARIA: Jose Faria, Department of Water
2 Resources.

3 And I did a calculation. It was 26 miles on the
4 map, the difference between those two stations.
5 Twenty-six miles.

6 MR. GODWIN: Okay. Are you aware that the State
7 Board recently adopted a TMDL for salt for the San Joaquin
8 River between Mendota Dam and Vernalis

9 MR. FARIA: I had heard something, but I'm not
10 really aware of the details.

11 MR. GODWIN: Okay. Anyone else on the panel
12 who's aware of that?

13 MR. JOHNS: No, I'm not. Again, we've heard
14 about it, but haven't been tracking that real closely.

15 MR. GODWIN: Okay. This next question's for Ms.
16 Kelly.

17 You had a chart showing the improvement at Tracy
18 Pumping Plant with the gates in -- the permanent gates in
19 operation

20 MS. KELLY: Yes.

21 Q And that showed about a 10 percent improvement in
22 water quality at Tracy, is that right?

23 A At Tracy, yes. That was figure 16.

24 Q Figure 16. Of Exhibit 23, I believe?

25 A Yes.

1 Q Okay. DWR 23.

2 A 10 percent reduction in -- or I should say a 10
3 percent improvement in the water quality, would that then
4 have a corresponding reduction in the importation of salt
5 into the San Joaquin Valley?

6 A Well, you would be importing less salt into the San
7 Joaquin Valley.

8 Q Okay. So there would be a reduction in the salt
9 importation into the valley then?

10 A Via the water, yes.

11 Q Okay. And would that then have a corresponding effect
12 on salinity at Vernalis?

13 A I had this discussion with Paul Marshall. And I think
14 that's too speculative for us to say, not knowing where
15 the water is delivered and knowing that some of the areas
16 that the water is delivered to have requirements to not
17 have their flow return to the San Joaquin. So it's
18 difficult. It requires more analysis than we've
19 undergone. So I would not feel qualified to respond to
20 that.

21 Q Do you know if that was analyzed in EIS/EIR?

22 A I don't know that. I don't know that part of it. I
23 can ask Paul Marshall, if you'd like.

24 MR. JOHNS: Again, we were looking at --

25 MS. KELLY: Or we can refer to the document.

1 MR. JOHNS: In the EIR we typically look at
2 significant effects. And this is a positive -- if there
3 was anything here, it would be a positive effect. And we
4 probably didn't go into a whole lot of detail about that.
5 But I think -- I'd have you look at the EIR to see.

6 MR. GODWIN: Okay. Thank you.

7 CHAIRPERSON DODUC: Thank you.

8 Northern California Water Association is not
9 here.

10 San Joaquin River Exchange Contractors Water
11 Authority?

12 MR. MINASIAN: My name is Paul Minasian for the
13 San Joaquin River Exchange Contractors.

14 CROSS EXAMINATION

15 OF THE DEPARTMENT OF WATER RESOURCES PANEL
16 BY MR. PAUL R. MINASIAN, ESQ., representing the San
17 Joaquin River Exchange Contractors:

18 MR. MINASIAN: Mr. Johns, on the first page of
19 your testimony you say as follows: Quote, right at the
20 bottom, last four lines, "As will be seen in our testimony
21 today, DWR has limited methods to control water quality in
22 the southern Delta. However, DWR and Reclamation are
23 taking all reasonable steps to comply with the conditions
24 of their permits, and to propose cease and desist order is
25 simply unwarranted and inappropriate."

1 Do you see that testimony?

2 MR. JOHNS: Yes, I do.

3 Q Mr. Johns, would it be fair to say that DWR views
4 drainage in the San Joaquin Valley as a tar baby, that it
5 doesn't want any tar to get on it?

6 A No, I don't think that's fair, no.

7 Q So if there was a limited method or a method that
8 would allow for improvement of salinity conditions under
9 certain hydrologic conditions in the Delta, would the
10 Department be willing to undertake that as part of its
11 plan that it's proposing to the Board?

12 A I think I testified to the fact that the Department
13 with our water management and planning hat on is actively
14 engaged in improving water quality conditions in the San
15 Joaquin River.

16 Q Now, how about with its State Water Project hat and
17 its operational hat with facilities? If there was
18 something that could be done that would rather immediately
19 improve salinity, would the Department be willing to
20 consider that as part of its plan?

21 A If we could show a tie between that plan and effects
22 that the water projects was causing, I think we could be
23 successful in getting state water contractor money to help
24 alleviate that.

25 Q Let's look at the California aqueduct south of San

1 Luis Reservoir. That is a State Water Project facility,
2 is it not?

3 A I think it's a joint use facility for parts of that
4 area.

5 Q And the Department and the state have contractual
6 relationships to use that facility to deliver water to the
7 Westlands Water District, as an example; is that correct?

8 A I think the Bureau uses that facility as part of their
9 operations. That's not part of our -- we don't operate
10 jointly in terms of water delivery to Westlands.

11 Q Okay. But do you agree that there's both state and
12 Bureau water in that canal as it proceeds south from San
13 Luis Reservoir?

14 A Yes.

15 Q And do you -- are you aware that that canal leaks?

16 A Actually I'm not a good witness for that.

17 I don't -- John, do you have information on that?
18 That's kind of an O&M issue. But most canals do have some
19 leakage. I wouldn't be surprised about that.

20 Q And are you aware that a mound of groundwater has
21 basically been created under that canal within the
22 Westlands Water District as a result of the leaks that has
23 risen almost 200 feet since 1968?

24 A I'm not aware of that, no.

25 Q And are you aware that that mound is so localized

1 under the canal that most experts have concluded that it's
2 a result of canal leaks?

3 A I'm not aware of that either.

4 MR. MINASIAN: Is there anybody on the panel that
5 is aware of the groundwater conditions caused by the
6 escape from the California Aqueduct?

7 CHAIRPERSON DODUC: Mr. Minasian, would you
8 please explain to me the relevance of your line of
9 questioning.

10 MR. MINASIAN: I'd be glad to.

11 Basically the offer of proof would be as follows:
12 In the Bay Delta hearings we went to great extent to point
13 out the hydrologic effects of this leakage in mound. We
14 also pointed out that if groundwater pumping occurred to
15 relieve the pressures, that the amounts of saline drainage
16 water appearing as a result of the pressures of that mound
17 alone could reduce the amount of salinity passing through
18 the Panoche Water District, the Camp 13 and Firebaugh
19 Canal Water District areas so that there would be actual
20 control on the amounts of saline drainage water escaping
21 to the San Joaquin River.

22 Now, the position of the Department -- and I
23 don't -- I want to make an offer of proof, not an
24 argument. The position of the Department is that it
25 doesn't have anything to do with this. And you're dealing

1 with a response plan. And I'm suggesting to you that this
2 line of questioning would eventually evidence to the Board
3 that it should include in the response plan specific
4 measures by the Department of Water Resources that would
5 in fact provide relief of saline conditions in the San
6 Joaquin River.

7 CHAIRPERSON DODUC: Mr. Johns.

8 MR. JOHNS: If I may add. This is a highly
9 technical area that is going to require a whole lot of
10 testimony on if we're going to get into this. Because
11 we're talking groundwater interactions with surface water
12 and leakage and how much of that gets to the river. If
13 the Board wants to get into this in terms of our
14 obligations here, we're talking about a whole big hearing
15 on that issue alone. It's got a whole lot of water
16 right -- I mean right-of-way issues. And this gets very
17 complicated. I'm not aware of this concern that was
18 brought up. But if we're going to get into this, we
19 better think about a whole different proceeding to start.

20 CHAIRPERSON DODUC: Mr. Nomellini.

21 One proceeding at a time, Mr. Johns.

22 MR. JOHNS: Thank you.

23 MR. NOME LLINI: Dante John Nomellini for Central
24 Delta Water Agency.

25 I think this line of questioning is particularly

1 relevant in that the Department of Water Resources has
2 taken the position with regard to this cease and desist
3 order that it shouldn't be obligated to respond to the
4 violations of the standards in the South Delta to the
5 extent that it has not caused the problem in the San
6 Joaquin River. Now, this evidence that would be deduced
7 by this questioning would reveal that Department of Water
8 Resources water, which is shipped from the Delta and
9 includes salts, is getting back or contributing to the
10 salinity in the San Joaquin River which would be the cause
11 of the violation of the standard at Brandt Bridge and
12 those other standards in the South Delta.

13 So It's particularly relevant given the position
14 taken by DWR with regard to the cease and desist order
15 that it shouldn't be responsible for anything that it did
16 not cause or could not control.

17 MS. CROTHERS: Madam Doduc.

18 The Department would take objection to this at
19 this time. As Mr. Nomellini says, if these are facts that
20 would have been in evidence during this hearing, we could
21 have addressed them in our -- made some -- you know, some
22 response to this intelligently. At this point, as Mr.
23 Johns says, we're really not aware of this issue. We
24 don't have anybody here to technically make a comment on
25 it even at this point. As you said, groundwater issues

1 are highly complicated. We don't know the impacts of, you
2 know, removing groundwater and subsidence issues related
3 to the local land use. I think at this point bringing in
4 this subject, it should have been a point made in direct
5 testimony, which we then could have addressed now.

6 CHAIRPERSON DODUC: Let me ask all the witnesses
7 of DWR that are available here today, does anyone have
8 information with respect to the issue Mr. Minasian raised.

9 Not hearing any answer --

10 MR. FARIA: I have some limited information.

11 CHAIRPERSON DODUC: Then please come up, sir.

12 MR. MINASIAN: And I don't want to consume all my
13 time on this, Ms. Doduc. So let's let Jose have a try at
14 it. And then I'll bring in some rebuttal testimony for --

15 CHAIRPERSON DODUC: All right.

16 MS. CROTHERS: Yeah. And I would also note
17 that -- you know, Jose should respond to your request,
18 Madam Doduc. But DWR still objects to the introduction of
19 new evidence at this time that wasn't prefaced with some
20 direct testimony, as it's outside the scope of the
21 testimony that's been presented at this point.

22 CHAIRPERSON DODUC: All right. Let's do this: I
23 believe this line of questioning is relevant. But I do
24 share Ms. Crothers' concern. So if Mr. Minasian would
25 please bring this up as part of your rebuttal --

1 MR. MINASIAN: I'll certainly try. May we hear
2 from Jose just so we bracket what the Department does know
3 today about this.

4 CHAIRPERSON DODUC: If you could make it short
5 and brief.

6 MR. FARIA: Yes, it's short and brief.

7 I know that there's a report that was prepared by
8 Summers Engineering, which is a consultant of the exchange
9 contractors. And we believe that -- I looked at the
10 report and I don't think the extent of the leak is as
11 great as has been described.

12 And also the -- we need to evaluate the influence
13 of this groundwater mound as it moves towards the San
14 Joaquin River. It takes a relatively long period of time
15 for groundwater to move over distances, especially the
16 distance between the San Joaquin River and then the source
17 of the leak. So there is a lot of issues involved in
18 this. And we can certainly look at the technical part of
19 this argument and -- but we have not made a determination
20 from the Department in terms of studying the -- the study
21 was done by Summers Engineering -- and verify in fact that
22 those leaks are occurring and the volume of the leak
23 that's been happening.

24 MS. CROTHERS: Excuse me. Could I have Mr. Faria
25 kind of restate that. I'm not sure I quite understood his

1 last sentence there.

2 CHAIRPERSON DODUC: Sir, repeat your last
3 sentence only.

4 MR. FARIA: We haven't had time to evaluate the
5 report prepared by Mr. Summers or haven't been able to
6 address the issues of the movement of the groundwater on
7 the west side of the San Joaquin Valley.

8 CHAIRPERSON DODUC: Thank you.

9 MR. FARIA: So I'm aware, and that's why I raised
10 my hand, that that report exists and there is a concern
11 about that. And that's what I'm trying to point out. But
12 we haven't done any type of evaluation of the merits of
13 the report.

14 CHAIRPERSON DODUC: Thank you.

15 MR. MINASIAN: Just one follow-up to the witness.

16 Jose, you talked about the time it takes the
17 water to migrate particle by particle towards the river.
18 Do you agree that the mound in fact creates pressures
19 which raise the groundwater in downslope locations and
20 cause uncontrolled releases of saline water into tile
21 drainage and surface drainage systems?

22 MR. FARIA: It would certainly cause pressures.
23 But the effect would be reducing salinity. If you have
24 concentrated salt water and you're diluting with fresh
25 water coming off the aqueduct, you have a dilution effect.

1 MR. MINASIAN: And so, first of all, the travel
2 time may be decades for the mound to travel to the area
3 that the dilution would do any good though, isn't that
4 correct?

5 MR. FARIA: Right, yes.

6 MR. MINASIAN: Let me just then move into the
7 policy issues relating to this.

8 Mr. Johns, we talked about a tar baby. In your
9 next sentence --

10 MR. JOHNS: You talked about a tar baby.

11 Q Yeah. You said DWR and Reclamation are taking all
12 reasonable steps to comply with the conditions of their
13 permits.

14 Now, are you basically vouching for the Bureau of
15 reclamation complying with its permits in regard to the
16 saline problem? Are you saying to the best of your
17 knowledge they're complying?

18 A In the last -- for example, Vernalis, which is
19 probably the most problematic standard for the Bureau to
20 comply with, my understanding is they've complied with
21 that standard for the last ten years.

22 Q This may sound a little piddly. But are you aware
23 that the Bureau has not filed the report required by the
24 Board in Decision 1641 in regard to drainage?

25 A No, I'm not aware of that.

1 Q Okay. So do you find yourself as a policy maker in
2 DWR aligning yourself and making it appear that DWR and
3 Bureau are working in coordination in some respects but in
4 other respects the relationship lacks coordination?

5 A From an operational standpoint we work very closely
6 with the Bureau and we work closely on compliance reports
7 and those kind of issues on a daily basis. We all have --
8 there are parts -- there are a whole lot of reports that
9 are required in 1641. And we track the ones that jointly
10 prepare. The ones that the Bureau is required to prepare,
11 we probably aren't tracking that very carefully, and so I
12 can't really discuss that with any intelligence here.

13 Q And in regard to drainage issues and the source of the
14 saline water which is creating the conditions that are
15 taking this hearing so long to be completed, your view of
16 it is that's a Bureau problem, isn't it?

17 A I think it's a State of California issue. I mean
18 we've done a lot of things in the State of California to
19 alter the flow patterns and irrigation issues in the San
20 Joaquin River system. It was part of the State Water
21 Project, voted on by the people of the State of
22 California, adopted in the Water Code. Then we've
23 implemented those actions. And parsing it out between
24 what's the Bureau's problem and what are other people's
25 problems, I probably can't answer that very carefully.

1 Q Do you --

2 A But it certainly -- let me continue. But it certainly
3 is something that we've been striving to try to address
4 with other parties that are contributing to this issue and
5 other parties that have an interest in it in trying to
6 dedicate resources that are available to the bonds. And
7 then also we've redirected some of our own money to do
8 water quality monitoring in the San Joaquin, that I
9 testified to, to help address this very longstanding water
10 quality problem in the State of California.

11 Q Do you think it contributes or detracts from a
12 resolution of the problem for the DWR to say, "Don't get
13 any of that tar on me"?

14 A Well, there's a difference here between DWR as a
15 permittee and DWR as an institute in the State of
16 California. We want to address this problem as a water
17 management and planning agency for the State of
18 California. This has been around for as long as I can
19 remember, and longer than my experience here. When I was
20 at the Board we looked at water quality drainage as a
21 regulatory issue that tried to develop issues to do it
22 from a regulatory standpoint. A lot of the issues and
23 ideas we came up with in that process have been
24 implemented by a lot of folks.

25 There's been dramatic improvement in water

1 quality in the San Joaquin River, like I testified to. I
2 think it's a big success. There's a long way to go. I
3 think the best way to accomplish that personally is for us
4 to all work together to try to accomplish, you know,
5 reductions in salinity load and to continue the good work
6 that's been going on today.

7 Q What is there in the response plan? And I understand
8 the response plan was submitted by you to the staff. What
9 is there in the response plan that would give us any hope
10 that the Department of Water Resources, that launched this
11 ship by refusing to participate in the San Luis drain in
12 1963, is ready to turn its battleship around?

13 A The response plan deals with the Department's
14 responsibilities as a permittee. What I'm talking about
15 is the Department's role as an agent of the State of
16 California to help improve this, and we're actively
17 involved in that.

18 Q Do you agree that the Department acting as the
19 operator of the State Water Project took a position in
20 regard to drainage in the 1960s that basically threw the
21 Bureau into the tar pot?

22 A I'm not aware of that.

23 CHAIRPERSON DODUC: All right. All right.

24 MR. MINASIAN: Thank you, Madam.

25 CHAIRPERSON DODUC: Thank you, Mr. Minasian.

1 San Luis and Delta-Mendota Water Authority.

2 Mr. Rubin.

3 MR. RUBIN: Good morning. John Rubin for the San
4 Luis and Delta-Mendota Water Authority, Westlands Water
5 District.

6 I'll begin my cross examination with some
7 questions to you, Mr. Johns.

8 CROSS EXAMINATION

9 OF THE DEPARTMENT OF WATER RESOURCES PANEL

10 BY MR. JON RUBIN, ESQ., representing the San Luis and
11 Delta-Mendota Water Authority:

12 MR. RUBIN: Are you familiar with the 1995 Water
13 Quality Control Plan?

14 MR. JOHNS: Yes.

15 Q And is it your understanding that that plan is the
16 document that establishes the water quality objectives for
17 the South Delta that are at issue in this hearing?

18 A Yes.

19 Q And are you familiar, Mr. Johns, with Decision 1641
20 issued by the State Water Resources Control Board in 2000?

21 A Yes.

22 Q And is it your understanding that Decision 1641 is a
23 document that affects water rights?

24 A Yes.

25 Q And the intent of the effect is to help implement the

1 water quality objectives that are in the 1995 Water

2 Quality Control Plan?

3 A Yes, and -- yes.

4 Q And is it your understanding that the hearing today

5 deals with a cease and desist -- a draft cease and desist

6 order that the enforcement team has drafted, the intent

7 should be to enforce the permit terms and conditions

8 within the permits held by the United States Bureau of

9 Reclamation and the Department of Water Resources?

10 A You use the term "enforce the permit terms". I think

11 it's an action related to enforcement of those permit

12 terms.

13 Q Mr. Johns, is your understanding that the purpose of a

14 cease and desist order is to ensure that permit terms and

15 conditions are enforced or -- excuse me -- are either

16 enforced or are achieved?

17 A Well, you use the word "ensure". I don't think you

18 can ensure anything. I think it's maybe to help obtain

19 compliance, yes.

20 Q And just to be clear, the idea here is to deal with

21 permit terms and conditions, correct?

22 A That's correct.

23 Q And in the case of the hearing before the Board, the

24 issue before the Board, a threshold issue, is whether

25 there's a threatened violation of the permit terms and

1 conditions of the permits that are held by the United
2 States Bureau of Reclamation and the Department of Water
3 Resources?

4 A Yes.

5 Q Mr. Johns, I ask you to look at, I believe it's your
6 testimony, DWR Exhibit 20.

7 A Mine is actually 18.

8 Q I'm sorry. Please turn to Exhibit 18 -- DWR Exhibit
9 18, specifically page 11.

10 I'm sorry, Mr. Johns. The specific provision
11 begins on page 10. It's the last two sentences on page 10
12 and continues to page 11.

13 Mr. Johns, in that paragraph that appears in DWR
14 Exhibit 18, page 10 to page 11, you reference a letter,
15 and the date that you reference is February 18th, 2005.

16 Do you see that reference?

17 A Yes.

18 Q Is that letter attached to your Exhibit -- DWR Exhibit
19 18?

20 A Yes, I think it is. I think it's Exhibit 18b.

21 Q Mr. Johns, can you please turn to DWR Exhibit 18b,
22 marked as Attachment 2.

23 A Okay.

24 Q Is that a letter that is dated February 14, 2005?

25 A Oh, we got the date wrong?

1 That letter is dated February 14th, that's
2 correct.

3 Q And your reference on DWR 18, page 10, that references
4 a letter dated February 18th, 2005, is a mistake? The
5 reference is to Attachment 2, DWR Exhibit 18b; is that
6 correct?

7 A I think that's correct, yes. We must have gotten that
8 wrong. I apologize.

9 Q I don't think there's a need to apologize. I wanted
10 to make sure that there wasn't another letter out there.

11 Mr. Johns, are you familiar with the exhibits
12 that were entered into evidence by the enforcement team in
13 this proceeding?

14 A Just generally.

15 Q Are you aware if this letter, Attachment 2 to DWR
16 Exhibit 18b, was one of the exhibits that was admitted
17 into evidence by the enforcement team?

18 A I don't know that.

19 Was it?

20 Staff might know. But I don't know that for
21 sure. I mean State Board might know.

22 Q Mr. Johns, it might refresh your recollection to take
23 a look at page 10 of your testimony. Page 10, the last
24 two sentences of that page, read, quote, "In the draft
25 CDO, the WR" -- excuse me -- "SWR CB cites the basis for

1 their threatened violation" --

2 A Oh, that's right.

3 Okay, I'm assuming that's part of this hearing
4 then, yes.

5 Q Is it your understanding, Mr. Johns, that the --
6 excuse me. Strike that.

7 Mr. Johns, in that paragraph that appears on page
8 10, continues to page 11 of DWR Exhibit 18, you reference
9 a second letter; is that correct?

10 A Yes, I think it's at our attachment -- Attachment 3.

11 Q Is it your understanding that those two documents are
12 the documents that were relied upon by the enforcement
13 team in part to conclude that there was a threatened
14 violation?

15 A I think that's what they used, yes.

16 Q Thank you.

17 Mr. Johns, I now ask that you turn to Exhibit 21.

18 On page 2 of Exhibit 21 there are some figures
19 dealing with acreage. I believe those appear in the
20 second paragraph, the first complete paragraph.

21 A Yes.

22 Q Do you see those?

23 A Yes.

24 Q It's my understanding that there are figures that
25 exist that differ from those.

1 Are those accurate?

2 A There is -- in the very first line there on page 2 in
3 that paragraph, we quoted some numbers out of the 1978
4 Water Quality Control Plan in terms of acreage in beans.
5 And we went back -- I had asked staff to go back and check
6 that to see if that was accurate. And they went through
7 and hand calculated that again. And what they came up
8 with was not the 2,400 acres that was quoted in the 1978
9 Water Quality Control Plan. But in 19 -- probably 1976
10 the actual acreage was about 7,000 acres, a little less
11 than that, but about 7,000 acres from the calculations
12 that our staff at Central District did just recently.

13 Q Thank you.

14 Mr. Johns, you've been asked a number of
15 questions about the operable gates. Is it your feeling
16 that the Department of Water Resources and the Bureau of
17 Reclamation had been diligent in pursuing the
18 environmental documentation for the operable gates?

19 A Yes.

20 Q And do you -- excuse me.

21 Can you explain to me why you have that belief?

22 A Yeah. This has taken longer than we had anticipated
23 in the late nineties. And even what we talked about in
24 the CALFED ROD in 2000. We had to retool kind of our
25 interim self Delta program that was in play prior to the

1 time that the CALFED ROD was signed. That took a good
2 part of the year. We then developed a very elaborate
3 alternatives development process in -- that took almost
4 all of 2002. And then from that we came to a -- kind of
5 an impasse with us and the Bureau in terms of how to
6 jointly use this additional capacity.

7 And we spent a lot of time with the Bureau, had
8 some very in-depth meetings with them during the summer of
9 2003. Finally came to a conclusion on how we might be
10 able to operate jointly and share capacity and integrate
11 our two projects more effectively. That was in -- the
12 subject of a consultation process with the fishery
13 agencies. Came out to be an early consultation process
14 regarding our operational aspects of the SDIP program.
15 That concluded in early 2004.

16 Then we became aware of other issues regarding
17 CALFED. Again, this is a CALFED program. We worked
18 within the CALFED program for, oh, the better part of
19 2004. In August finally came up with what we call a Delta
20 improvement package, which integrated the water quality
21 aspects of what CALFED was trying to accomplish with what
22 we were trying to accomplish in terms of conveyance and
23 other activities in the Delta to make sure we were moving
24 together in a very coordinated fashion.

25 And then in 2005 we had the pelagic fish thing

1 came up, which was another big issue. We had to figure
2 our way through that. So we've rescheduled and redone our
3 decision-making process to account for the uncertainties
4 regarding pelagic fish.

5 All that has contributed to delays here that are
6 really beyond our control. But I think both the Bureau
7 and us and the other agencies that are involved have been
8 very diligent in pushing this forward just as fast as we
9 possibly can and producing the volume of documents that I
10 showed yesterday.

11 Q Mr. Johns, I believe it was yesterday you were asked a
12 series of questions related to DWR's discretion or non --
13 lack of discretion to allow others to use the State Water
14 Project export facilities to facilitate water transfers or
15 pumping at the Banks Pumping Plant. Do you recall those
16 questions?

17 A Yes.

18 Q What discretion do you believe DWR has as a water
19 right holder related to allowing others access to the
20 State Water Project facilities?

21 A Actually not a whole lot here, because of Water Code
22 1810. That Water Code section says that provided three
23 things are met, that there is no injury to a legal user of
24 water, there's no unreasonable effects to fish and
25 wildlife, and if there's no unreasonable effects to the

1 overall economy of the county from which the water is
2 transferred, we have to make our capacity available to
3 folks, with appropriate compensation of course. But we
4 don't have a lot of discretion in this area. Those tests
5 minus the economic issue are the same tests that the Water
6 Board uses when it evaluates water transfers.

7 Q Mr. Johns, yesterday -- I believe it was again
8 yesterday -- you mentioned that you had advice for the
9 State Water Resources Control Board related to how it
10 should use its new authority related to threatened
11 violations. Do you recall that?

12 A Yes, I do.

13 Q In your answer I believe you -- or could you please
14 comment on the line of questioning, I believe that was
15 again by the enforcement team, related to guarantees?

16 A Are you asking me to kind of give you my thoughts in
17 this area what the Board should be doing in terms of
18 threatened violations?

19 Q I believe that you testified to that effect yesterday.
20 And, yes, I am asking you to please expand on that.

21 A Okay. Just for your edification or help maybe, is if
22 it was me, I would reserve it for bad actors. I would
23 find it -- I'd use it in the areas where the Board was
24 having real problems getting folks to comply with permits
25 and they couldn't quite catch them at it. I would use the

1 a threatened violation as a tool to get their attention.

2 Also, I would use it in cases where it posed high
3 risk to public trust resources or if fishery issues were
4 at play and people were concerned about that and we're
5 trying to protect public trust resources.

6 I'd make sure that the violation was highly
7 probable, that it was something that was going to happen
8 in the next several coming months. And actions could be
9 taken by permittee early to avoid that from occurring.
10 And a shot across the bow with a threatened violation CD
11 might get folks to get -- pay attention.

12 And also the other thing I'd be doing, I'd be --
13 I would ask the Board to keep in mind its mission in this
14 area; not simply enforce permit terms, but to follow its
15 mission. And I always carry the Board's mission with me.

16 (Laughter.)

17 MR. JOHNS: And the Board's mission states --
18 talks about --

19 CHAIRPERSON DODUC: Mr. Johns, do you have a hat
20 for us too?

21 (Laughter.)

22 MR. JOHNS: No, no.

23 I always carry this. It says -- I have this in
24 an old suit. But it's "preserve, enhance and restore the
25 quality of California's water resources and enhance their

1 proper allocation and efficient use for the benefit of
2 present and future generations." And that should guide
3 this area, not simply enforcing permits but actually
4 improving water quality and improving these -- and
5 achieving its mission.

6 Also, one thing I think would be helpful is -- I
7 know the Board's struggling with this new authority it
8 has. And it might be helpful to adopt some regulations
9 here and have us provide guidance to the Board on how it
10 might do this. And DWR would offer our help in this area
11 if the Board chose to do that.

12 The other thing that concerns me a bit is --
13 you've mentioned the guarantee part. The enforcement team
14 staff asked me several questions about, can you guaranty
15 this, can you guaranty that? And if that's the standard
16 for what we're going to be using here for threatened
17 violations, and that's going to drive cease and desist
18 orders, the Board ought to start now to issue C&Ds for
19 every water right permitted issues, because you can't
20 guaranty anything. I mean that cannot be the standard for
21 threatened violations. It just doesn't make any sense to
22 me.

23 So it's got to be something else. It's got to
24 be -- because you can't -- you just -- I mean when levee
25 failures happen in the Delta, we can't guaranty that these

1 standards won't be complied with just because of things
2 that happen. It's got to be something that's imminent,
3 under the control of the permittee, and that by doing the
4 cease and desist order you get the permittee to comply
5 with the terms of its permits. And it provides value
6 added.

7 Q Mr. Johns, went a little bit beyond I think where I
8 was expecting your answer to go there.

9 A Sorry.

10 Q The last part of your answer was where I was focused.
11 And I will direct my next question to that.

12 If you presume that the line of questioning was
13 properly directed, the line of questioning by the
14 enforcement team dealing with guarantees, the guarantee
15 would be that the permit terms and conditions would be
16 met; is that correct?

17 A I thought that was what they were getting at in their
18 questioning, yes.

19 Q And the guarantee would not be that the objective
20 itself would be met; is that correct?

21 A Well, I don't know that. I mean it could be that they
22 were seeking that -- a guarantee that the objectives would
23 be met regardless of the permittee's ability to control
24 the situation.

25 Q Mr. Johns, the purpose of an enforcement action is to

1 ensure that -- excuse me. The purpose of an enforcement
2 action is to address an either threatened or actual
3 violation of a permit term or condition; is that correct?

4 A Yes.

5 Q And therefore if the Board is to take action, it would
6 be to address the threatened or actual violation of a
7 permit term or condition, is that correct?

8 A Yes.

9 Q Mr. Johns, are you -- again, you're familiar with
10 D-1641?

11 A Generally, yes.

12 Q Are you aware of the conclusion in D-1641 that the
13 main benefit of the barriers as they were contemplated in
14 the hearings that led to Decision 1641 was to improve
15 water levels in the South Delta?

16 A The temporary barriers or the permanent -- what they
17 called permanent barriers at that time?

18 I think -- the temporary barriers were
19 specifically to try to address water levels. The
20 permanent operable gates, as we call them now, are more
21 effective at helping with water quality.

22 Q Mr. Johns, as originally contemplated I believe the
23 decision addressed the permanent barriers as a tool that
24 had a main benefit, again at that time, to improve water
25 levels; is that correct?

1 A I thought it was both water levels and water quality.

2 But I'd have to go back and look.

3 Q Mr. Johns, I ask you, if you have a copy of Decision

4 1641, to look at page 88.

5 Do you have a copy of D-1641?

6 A Yes.

7 Q Ask you to turn your attention to page 88, the first

8 sentence -- first complete sentence on the page.

9 Does that -- is your memory --

10 A Okay. It talks about the main benefits of the

11 barriers. And I'd have to read that in context with -- if

12 they're talking about the temporary barriers or the

13 permanent operable barriers.

14 Q Mr. Johns, if you could take a moment and read section

15 10.3.2 to refresh your recollection, and I could ask you

16 some questions, because I have several questions regarding

17 that section.

18 A Yeah, the first sentence there says, "The main benefit

19 of the barriers is to improve water levels in South Delta.

20 The barriers also benefit water quality by improving

21 circulation in the southern Delta."

22 So I was right. It talks about both.

23 Q Mr. Johns, is it your recollection that in D-1641 the

24 State Board concluded that construction of permanent

25 barriers alone were not expected to result in the

1 attainment of the water quality objectives? And, again,
2 referencing the South Delta water quality objectives.

3 A That's my recollection, yes.

4 Q Is it also your recollection that in D-1641 the State
5 Water Resources Control Board found that modeling showed
6 that construction and operation of the temporary barriers
7 should achieve a water quality of 1.0 milliSiemens per
8 centimeter at the interior stations under most hydrologic
9 conditions?

10 A I think -- yeah, the last part is very important, yes.

11 Q And the last part that you're referencing is the fact
12 that the temporary barriers were intended to achieve the
13 1.0 only under -- or, excuse me -- under most but not all
14 hydrologic conditions?

15 A Yes. I think the Board recognized at the time looking
16 at the documents that the 1.0 would likely not be met at
17 all times, yes.

18 Q And is it your understanding that in D-1641, the State
19 Board amended the permits of the Department of Water
20 Resources and the State Water -- excuse me -- the
21 Department of Water Resources and the Bureau of
22 Reclamation to require the projects -- the State Water
23 Project and the Central Valley Project to take actions
24 that will achieve the benefits of the permanent barriers
25 to help meet the 1995 Water Quality Control Plan

1 requirements for interior Delta salinity objectives?

2 A I think -- it identified the barriers as a mechanism
3 that would help achieve those objectives, yes. But I
4 don't think it prescribed a specific -- I don't think it
5 prescribed that the Board implement the barrier program,
6 because I think they were concerned at the time about the
7 fact they didn't have a CEQA document that would help them
8 in making that decision.

9 So I don't think it actually prescribes that the
10 permanent barriers go in place, but certainly suggested
11 that as a means of helping to achieve objectives.

12 Q But, again, according to the State Board, in D-1641 it
13 wasn't contemplated that the operations of the Central
14 Valley Project or the State Water Project would absolutely
15 achieve the 1995 Water Quality Control Plan requirements
16 for the South Delta, but that they would help meet those
17 objectives, is that correct?

18 A Yes.

19 CHAIRPERSON DODUC: Before you continue, Mr.
20 Rubin, I want to make it clear for the record that Mr.
21 Johns is expressing his opinion or his perspective from
22 Department of Water Resources opinion on the plan and on
23 the water rights decision. While he might have, and he
24 did, worked at the Board during the development of the '95
25 Water Quality Control Plan, I don't believe he was at the

1 Board on the Water Rights Decision 1641. So his testimony
2 or his responses to Mr. Rubin's question is again based on
3 his perspective as a DWR representative in this hearing.

4 MR. JOHNS: That's very good. Actually, Ms.
5 Doduc, I was at the Board at the time. But all my answers
6 are not going to what the Board thought at the time, but
7 what I've been able to surmise out of the documents that
8 the Board has produced, not in terms of what was in the
9 Board's decision-making minds at the time. That's not --
10 That's not what I'm testifying to. What I'm testifying to
11 is my review of the documents that the board has produced.

12 MR. RUBIN: A few more questions, Mr. Johns.
13 Did you review the report prepared for DWR by
14 Professor John Letey?

15 MS. CROTHERS: Excuse me. Mr. Rubin, if you're
16 going to pursue some questions about that report, could we
17 have a break for some review of -- by our witnesses on
18 that? We'd like to have a short break at that time before
19 such questions are asked.

20 MR. RUBIN: Madam Chair, I could defer my
21 questions, rather than take a break, and we could address
22 this --

23 CHAIRPERSON DODUC: Thank you.

24 MR. RUBIN: Thank you, Mr. Johns. I don't
25 believe I have any more questions for you.

1 I do have some questions for Ms. Smith.

2 I believe the testimony that you presented is
3 contained in DWR Exhibit 20; is that correct?

4 MS. SMITH: Yes, that's correct

5 Q Ms. Smith, I ask that you turn to figure 18, and I ask
6 you to turn there just for reference purposes.

7 Do you have Exhibit 18 -- excuse me -- figure 18
8 before you?

9 A Yes I do.

10 Q And that figure appears on page 30 of your testimony,
11 DWR Exhibit 20; is that correct?

12 A That's correct.

13 Q You were asked a question, and I wasn't sure if I
14 understood your answer correctly.

15 The figure on page 30, figure 18, provides a
16 fingerprint, is that correct?

17 A Yes.

18 Q One of those fingerprints, if I understand this
19 correctly, involves agricultural discharges; is that
20 correct?

21 A Yes, there's an EC fingerprint on the bottom.

22 Q And I believe you were asked the question of the
23 source of water that creates that fingerprint. Do you
24 recall that question?

25 A I'm not sure. I mean I probably was asked that. I

1 just don't remember exactly what the question was.

2 Q The question was whether that source of agricultural
3 water was in-Delta water or was it water from outside of
4 the Delta and inside of the Delta.

5 Do you recall that question?

6 A Oh, I thought the question was, was it specific to the
7 South Delta or the whole Delta. That's how I took the
8 question.

9 So the ag that's shown in these fingerprints is
10 from all Delta consumptive use.

11 Q And so it's within the legally defined Delta where ag
12 is discharged and reflected in figure 18 as a footprint --

13 A Yes.

14 Q -- or, excuse me -- fingerprint?

15 A Fingerprint, yeah.

16 Q And that applies to all of the fingerprint information
17 that's presented; when you see a reference to ag, it's for
18 ag discharges within the legally defined Delta?

19 A Yes.

20 Q Thank you.

21 A I should qualify that. After you said that, I'm not
22 sure if it's legally defined, but it's within the Delta.

23 Q Ms. Smith, I ask you now to turn to figure 6, which is
24 on page 18 of DWR Exhibit 20.

25 Do you see that exhibit?

1 A I'm sorry. What figure again?

2 Q I'm asking you to turn please to figure 6, page 18,
3 DWR Exhibit 20.

4 Do you see that figure?

5 A Yes.

6 Q You were asked some questions regarding the quantity
7 of water that appears at Clifton Court Forebay. I believe
8 that you were asked those questions yesterday. Do you
9 recall that?

10 A Yes.

11 Q And is it correct that the large quantities of San
12 Joaquin River water that appear at Clifton Court Forebay
13 generally occur when there's high flows in the San
14 Joaquin?

15 A Yes.

16 Q And during those high flow times, the quality of water
17 that flows past Vernalis, is it good quality?

18 A Yes, when we looked at the -- when we evaluated this,
19 it was that the -- when you have a higher percentage of
20 this dark area, the water quality is better in the San
21 Joaquin.

22 Q And if I understand this figure, on the Y axis you're
23 dealing with volumes of water -- excuse me -- percent of
24 volumes of water; is that correct?

25 A That's correct.

1 Q Is it correct to assume that the figure would look
2 very different in you're dealing with specific quantities
3 rather than percentages?

4 A I'm not sure. I'd have to think about that.

5 Q Ms. Smith, I ask now for you to turn to figures 15 --
6 excuse me -- ask you to turn to figure 15, which I believe
7 is on page 26 of DWR Exhibit 20.

8 Do you see that figure?

9 A Yes, I'm there.

10 Q If I understand the figure correctly, it's intended to
11 depict the effects of reducing exports at the Banks
12 Pumping Plant; is that correct?

13 A That's correct.

14 Q I ask you generally, if you were to model the effects
15 of cutting or curtailing pumping at the Tracy Pumping
16 Plant, would you expect a similar result?

17 A You know, I guess it's my thought, but I'd be
18 speculating, that I would get that result also.

19 MR. RUBIN: Thank you, Ms. Smith.

20 Ms. Kelly, I have some questions for you.

21 Your testimony is DWR Exhibit 23; is that
22 correct?

23 MS. KELLY: That's correct.

24 Q You were asked several questions this morning
25 regarding figure 6. I have just one more question for

1 you --

2 A All right.

3 Q -- in order to make sure I understand this figure
4 correctly.

5 The figure depicts under "existing conditions"
6 386 days of exceedance at Middle River; is that correct?

7 A That's correct.

8 Q And is it correct for me to state that the 386 days of
9 exceedance represent any day in which the water quality
10 exceeded 1,000 -- is it milliSiemens per centimeter?

11 A Yes.

12 Q So if the modeling showed that at Middle River under
13 existing conditions the water quality was 1,001
14 milliSiemens per centimeter, it was tallied and included
15 within that number of 386?

16 A Yes.

17 Q And that does not represent a violation of the --
18 excuse me. That doesn't represent an exceedance of the
19 objective as it's calculated or counted under the Decision
20 1641; is that correct?

21 A Well, as I have -- I believe the criteria for D-1641
22 is a 30-day running average. And so this wouldn't
23 represent how well the current -- the simulation of
24 current conditions met that particular criteria, because
25 this is just each day that goes above 1,000 microSiemens

1 per centimeter.

2 Q Thank you.

3 I have a question regarding the next figure,
4 figure 7, in your testimony, DWR Exhibit 23.

5 A Yes.

6 Q If I understand this figure correctly, it's showing
7 changes in water quality with the permanent operable gates
8 in place; is that correct?

9 A That's correct.

10 Q What assumptions, if any, were made in the modeling
11 with regard to the operation of the Delta cross channel
12 gate?

13 Ms. Kelly, I gather from your hesitation --

14 A Yeah, I --

15 Q -- you might not be the person to answer the question.
16 If there's somebody else from DWR who might be able to
17 answer --

18 A Yes, thank you. Well, my hesitation was not only
19 that, but thinking if there was someone in the room that
20 could respond.

21 MR. NADER-TEHRANI: This is Parviz Nader-Tehrani
22 from DWR.

23 These model runs are, you know, what we call the
24 planning model run, 16-year scenario. All the hydrology
25 is supplied to DSM-II by another model, a team well known

1 as Cal sim. And Cal sim -- imbedded in Cal sim are the
2 assumptions in terms of how many days, you know, and
3 different times of the year that the cross channel is
4 operating. And so those are all dictated by that.

5 MR. RUBIN: And is it correct to assume that the
6 modeling assumptions for the Delta cross channel gate are
7 consistent with the parameters that are set forth for its
8 operation in Decision 1641 or the Water Quality Control
9 Plan?

10 MR. NADER-TEHRANI: Okay. I'm going to be
11 speculating on that, because I'm not the person who
12 does --

13 MR. RUBIN: If you were going to speculate, I'd
14 rather you not answer.

15 MR. NADER-TEHRANI: Yeah, I would rather not
16 answer that question.

17 MR. RUBIN: This is back maybe to the panel.

18 But the Delta cross channel gate, is that a State
19 Water Project facility?

20 MR. JOHNS: No.

21 MR. RUBIN: Does anybody on the panel know whose
22 facility the Delta cross channel gate is?

23 MR. JOHNS: Yeah, I think we all do.

24 Bureau of Reclamation operates that.

25 MR. RUBIN: The Bureau of -- excuse me. The

1 Central Valley -- it's a -- excuse me. Strike that.

2 The Delta cross channel gate is a facility of the
3 CVP operated by the Bureau of Reclamation; is that
4 correct.

5 MR. JOHNS: That's correct.

6 MR. RUBIN: If the Bureau of Reclamation did not
7 have the Delta cross channel gate or decided to modify its
8 operation of the gate to have the gates closed more
9 frequently than assumed in your model, do you project the
10 water quality in the South Delta to be improved or
11 degraded?

12 MR. JOHNS: It would depend -- probably depend
13 when they did it. That would be very time specific, I
14 would think.

15 Kathy, you got any thoughts?

16 MS. KELLY: Well, if you close the cross channel
17 gate, then you're preventing flow from coming into the
18 Central Delta. At the same time the flow would --

19 MR. RUBIN: I'm sorry. To make the record clear,
20 the flow from where?

21 MS. KELLY: The cross channel gate.

22 Q You said that --

23 A The Sacramento River.

24 And so we wouldn't have that water available. It
25 would be in the Central Delta to move into the South

1 Delta. And other water would come from the Sacramento
2 River after it's gone further downstream and come back
3 around. But it's complicated. You can't draw a real
4 clear distinction, unless you've worked with these models
5 a real long time, to predict what would happen.

6 MR. JOHNS: This is kind of why we have the
7 models, to tell us this kind of stuff.

8 MR. RUBIN: Mr. Leahigh, I have a question for
9 you.

10 Are you aware of an event in 1999 in which the
11 Delta cross channel gates were closed for the protection
12 of fish?

13 MR. LEAHIGH: Yes.

14 Q As a result of that closure what happened to water
15 quality within the South Delta?

16 A It degraded -- well, as far as like the interior Delta
17 degraded rapidly as a result of that. And that's -- and
18 generally that's what you would expect to see.

19 Q And by that, you mean by closing the Delta cross
20 channel gates, generally it's your opinion that water
21 quality would degrade within the South and Central Delta?

22 A That's correct.

23 Q Thank you.

24 MR. JOHNS: John, I think it's also important to
25 remember that you got to adjust pumping as well. And so

1 if you close the cross channel gates, you my also then
2 back off on pumping a bit. That may not have any effect
3 then on water quality in the Delta, or it might certainly
4 lessen the effect. So it would be a combination of things
5 that you might do.

6 MR. LEAHIGH: Well, I mean if the question is
7 absent any other changes to the system, if you were to
8 just close the cross channel gates alone and export rates
9 would remain constant, then water quality should degrade.

10 MR. RUBIN: And, Mr. Leahigh, do you know the
11 purpose of the -- the original purpose of the Delta cross
12 channel gate?

13 MR. LEAHIGH: Well, the original purpose of the
14 cross channel I believe was to bring fresher water into
15 the interior Delta

16 MR. RUBIN: Thank you.

17 I have one question for you, Mr. Holderman.

18 You were asked several questions regarding the
19 temporary barriers and null zones earlier today.

20 Do you recall that testimony?

21 MR. HOLDERMAN: Yes, I do.

22 Q Is it correct to characterize your testimony -- well,
23 strike that.

24 The temporary barriers, are they intended to
25 benefit agriculture within the South Delta?

1 A Yes.

2 Q And the benefit is to improve water levels and water
3 quality?

4 A It's to improve water levels and improve circulation
5 in the South Delta.

6 Q And by improving circulation, do you avoid the extent
7 of null zones that occur within the South Delta?

8 A By improving the circulation, you reduce the number of
9 null zones.

10 Q Is it your opinion that with the barriers, again the
11 null zones are reduced?

12 A With the barriers?

13 Q Yes.

14 A Yes.

15 Q Without the barriers, thus you would have more null
16 zones?

17 A Yes, in general.

18 Q If the barriers were not in place, would you also have
19 problems with water levels?

20 A Most definitely.

21 MR. RUBIN: Thank you.

22 The next few questions I have deal with DWR
23 Exhibit 18a. And I believe that was Mr. Faria who has
24 that testimony. I don't know if he should be available or
25 if somebody at the panel could.

1 Mr. Faria, I have a question regarding data that
2 appears on page 6 of DWR Exhibit 18a, Attachment 1.

3 Do you have that page before you?

4 MR. FARIA: Yes.

5 Q Mr. Faria, the data that was used to develop this
6 information is from what source?

7 A Is from Central Valley Regional Water Quality Control
8 Board.

9 Q And do you know the date upon which the data was
10 collected or the period during which the data was
11 collected?

12 A It was around 2000 -- 2000, 2001.

13 Q If I understand your testimony correctly, you provide
14 a detailed summary of actions that have been taken within
15 the San Joaquin Valley to improve drainage as well as
16 water quality within the San Joaquin River; is that
17 correct?

18 A That's correct.

19 Q And the actions that you describe, during what period
20 were they taken?

21 A They go back to way before the -- I would say from the
22 mid-eighties all the way to 2000 -- 2003, 2004.

23 Q If I were to ask you today to develop a similar table
24 based on today's data and information, would the
25 percentages change from what they appear in tables 2 and 3

1 on page 6 of DWR-18?

2 A Yes.

3 Yes they would have changed. I believe that the
4 grasslands area contributions have decreased. And there
5 has been an increase in the discharges from the managed
6 wetlands, as they've received more water from the CVPIA
7 project.

8 Q Mr. Faria, a point of clarification. On page 6, at
9 the bottom of the page in Table 4, you reference
10 grasslands.

11 By that reference do you mean the area that's
12 depicted on page 7 figure 4?

13 A That's correct.

14 Q Does that area differ from the grasslands drainage
15 area, as that term is used?

16 A Yes. There is a distinction between the grasslands
17 area. What is called the grassland area farmers are about
18 97,000 acres of water districts that receive their water
19 supplies from the CVP.

20 Q And in your testimony, DWR Exhibit 18a, Attachment 1,
21 you again list a number of actions that have been taken.
22 That's correct?

23 A That's correct.

24 Q And is it your opinion -- or can you provide an
25 opinion as to the general area in which those actions have

1 been taken?

2 A It's been going in general in the grassland area
3 farmers. That's where most of the farms have been
4 directed to. But also they have gone outside the
5 grassland area farmers in the -- some of the water
6 districts in the north -- the northwest portions of it.
7 You see on my exhibit on Table 6 has been occurrence that
8 I have been going to districts like west Stanislaus for
9 management of tail water out of Prop 13.

10 Q And the areas that you just described in response to
11 my last question are located on the west side of the San
12 Joaquin Valley; is that correct?

13 A That's correct.

14 Q And so I could understand from your testimony today
15 that the majority of actions that have been taken to
16 improve drainage management and water quality in the San
17 Joaquin River are on the west side of the San Joaquin
18 Valley?

19 A That's correct. The staff that we have found, yes.

20 MR. RUBIN: Thank you.

21 I have no further questions.

22 CHAIRPERSON DODUC: Thank you.

23 The next cross-examiner would be Mr. Schulz from
24 the State Water Contractors. And he had asked to conduct
25 his cross examination after lunch. So I think the timing

1 is perfect for us to take a lunch break.

2 Let's resume at 1 o'clock. And those of you who
3 can contact Mr. Schulz by cell phone, let him know I
4 expect him at 1 or we will proceed without him.

5 Thank you.

6 (Thereupon a lunch break was taken.)

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1 AFTERNOON SESSION

2 CHAIRPERSON DODUC: Good afternoon. And we are
3 back with the cross examination of witnesses from the
4 Department of Water Resources by the State Water
5 Contractors.

6 Mr. Schulz.

7 CROSS EXAMINATION

8 OF THE DEPARTMENT OF WATER RESOURCES PANEL
9 BY MR. CLIFF SCHULZ, ESQ., representing the State Water
10 Contractors:

11 MR. SCHULZ: New room. I was getting my
12 bearings.

13 Good afternoon. I appreciate your allowing me to
14 do this this afternoon.

15 Cliff Schulz for the State Water Contractors.

16 Let me move one more seat over so I'm not looking
17 at your backs.

18 Okay. That's better.

19 A lot of these questions I don't know who the
20 right person to answer are. But what I'm going to try to
21 do is -- from reading your testimony and from listening to
22 your testimony yesterday, I thought that there was quite a
23 bit of mashing of the issues with respect to ability to
24 meet the standards between each of the various monitoring
25 points. So I'd like to try to go through the

1 monitoring -- individual monitoring points.

2 Mr. Johns, I think I'll address these questions
3 to you and let you answer those that you can. And if
4 other people in the panel are appropriate, you could let
5 me know that.

6 MR. JOHNS: Okay. That'd be fine.

7 MR. SCHULZ: Now, I understand that there was
8 testimony this morning that clarified the fact that the
9 Vernalis .7 requirement is not in the Department the of
10 Resources permits; is that correct?

11 MR. JOHNS: That's correct. None of the Vernalis
12 objectives are in the Department's permits.

13 Q Okay. And are they in the Bureau permits?

14 A Yes, their New Melones permit.

15 Q Are they in the Trinity or Shasta or Folsom permits?

16 A No.

17 Q Are they only in the New Melones permits?

18 A Yes.

19 Q Okay. And that is .7?

20 A Correct.

21 Q Point 7 from April through --

22 A -- August 15th, I think.

23 Q August 15th. Okay.

24 Okay. And the new Brandt Bridge standards is
25 also .7, correct?

1 A During that same time period that you just talked
2 about?

3 Q Yes.

4 A They came into effect in 2005.

5 Q Yes.

6 A That's correct.

7 Q Okay. And can you meet with any kind of operation
8 other than pumping like crazy and reversing the flows in
9 the San Joaquin River all the way up to Brandt Bridge? Is
10 there any other way to meet the .7 at Brandt Bridge if you
11 have a .7 at Vernalis?

12 A Through what the Department can do, probably not as a
13 permittee. And I don't see any other way to do that. If
14 you're meeting .7 at Vernalis, we know there's going to be
15 degradation as you move from Vernalis down to Brandt
16 Bridge. Tara's testimony discussed that pretty well. So
17 if you were just meeting Vernalis, then you probably
18 wouldn't be meeting Brandt Bridge water quality.

19 Q Then is it your opinion or others on the panel that
20 you would have to have maybe at least a .6 at Vernalis in
21 order to meet a .7 at Brandt Bridge?

22 A Well, my guess is that -- I mean we have a lot of
23 standards in the Delta that conflict from time to time.
24 We have western Delta stations that bounce in and out in
25 terms of what's controlling. In this case what would

1 probably happen is the Brandt Bridge water quality --
2 Brandt Bridge Station would be controlling since Brandt
3 Bridge is also in the New Melones permits. And they
4 would -- that would then -- you would be meeting the
5 Brandt Bridge water quality and probably more than
6 complying with the Vernalis water quality stations.

7 Q Okay. And the source of the degradation between
8 Brandt Bridge and Vernalis is what?

9 A The source -- pardon me. The source of --

10 Q The source of the degradation.

11 A Well, Tara talked about this. But it's agricultural
12 return flows, discharges coming downstream, consumptive
13 use of water leaving the salts behind.

14 Q Okay. Will the construction of the barriers in any
15 way change the answers that you just gave as to ability to
16 meet Brandt Bridge?

17 A I don't think so.

18 Anybody?

19 MR. SCHULZ: The barriers by -- in other words --
20 okay, go ahead and answer with respect to the head of Old
21 River barrier.

22 MS. KELLY: I'm sorry. I was thinking about
23 dissolved oxygen. But for salinity it's minimal.

24 MR. SCHULZ: Okay. If you had the barrier closed
25 you would put more water down the main stem of the San

1 Joaquin, isn't that correct?

2 MS. KELLY: That's true.

3 MR. SCHULZ: Okay. And where does the -- does
4 the degradation happen above or below the mouth of Old
5 River?

6 MS. KELLY: The studies that Tara's group has
7 done show that the degradation primarily happens above Old
8 River. And then there's a small amount of degradation
9 between Mossdale and Brandt Bridge. Mossdale is upstream
10 of Old River. And so there's -- because there's a small
11 amount of degradation between -- just on average between
12 those two stations' locations, we could reduce the amount
13 of water that's coming into Old River. And that could
14 provide a slight benefit because we're adding water into
15 an area that's going to have additional degradation.

16 MR. SCHULZ: But the vast majority of the
17 degradation occurs above the mouth of Old River, correct?

18 MS. KELLY: Yes.

19 MR. SCHULZ: So would you be able to meet it
20 simply by operation of the barrier if the degradation is
21 occurring above the mouth of Old River?

22 MS. KELLY: No, not at?

23 MR. SCHULZ: Okay.

24 MR. JOHNS: And that, I can tell you, would only
25 present itself with the permanent operable barriers where

1 we can actually move things around. It's very difficult
2 to with --

3 MS. KELLY: The mike.

4 Is this on?

5 MR. JOHNS: Okay. What I was saying was it would
6 be -- that kind of opportunity presents itself if we had
7 the permanent operable gates in place. With the temporary
8 barriers, our abilities there are much more limited.

9 MR. SCHULZ: All right. But is it a fair
10 statement then to say that the only true way to meet the
11 Brandt Bridge standard is to have better quality than
12 required under the Water Quality Control Plan at Vernalis

13 MR. JOHNS: It's probably the only practical way
14 to do it, yes.

15 MR. SCHULZ: Then let's move on to a couple of
16 the other stations.

17 Let's talk about Old River at Tracy Road Bridge.
18 And I need somebody to tell me what happens if you have
19 increased San Joaquin River flows and what impact that has
20 on the ability to meet Old River at Tracy Road Bridge.
21 And I'm trying to ask you to be a little bit specific on
22 this. In other words, how does the water move and how
23 does it get to Old River at Tracy Road Bridge from the San
24 Joaquin River and what happens in respect to the
25 hydraulics and the bathymetry and other things that are in

1 that system if you do increase San Joaquin River flows.

2 MS. KELLY: We'll have Parviz Nader-Tehrani come
3 up.

4 MR. NADER-TEHRANI: This is Parviz Nader-Tehrani
5 from DWR.

6 I guess I'd like you to be a bit more specific.

7 Are you talking with respect to the permanent barriers

8 or --

9 MR. SCHULZ: No, I'm talking about right now.

10 MR. NADER-TEHRANI: Right now?

11 MR. SCHULZ: Right now, yes.

12 MR. NADER-TEHRANI: When the water enters head of
13 Old River, I mean the portion of San Joaquin that enters
14 the head of Old River, then it would have a three -- it
15 would split into three ways, the Middle River and Grant
16 Line and Old River. Basically of those three reaches,
17 Grant Line is just the bigger of the three and therefore
18 it would carry more of the flow.

19 Now, at that part of those three reaches they're
20 also influenced a lot by the tide and also those ag
21 barriers.

22 So basically -- typically what tends to happen is
23 the flow on a net basis would be from east to west, that
24 means toward the pumps, on a net basis. And I underline
25 the word "on a net basis" because tidal water can go back

1 and forth. But at certain conditions with those temporary
2 barriers in place, you could have water moving upstream on
3 Old River, but that again happens -- doesn't happen all
4 the time and, you know, it just happens at certain
5 hydrologic conditions.

6 MR. SCHULZ: I think this map is actually a DWR
7 exhibit, is it not? Does anybody know what the -- I want
8 to refer to the exhibit.

9 MS. RIDDLE: We could -- actually it doesn't have
10 an exhibit number.

11 MR. SCHULZ: I believe there's a small version of
12 it in their exhibit package, which is Exhibit 19.

13 Is it a figure in 19?

14 MR. JOHNS: Cliff, are you looking for the
15 location of the barriers or just --

16 MR. SCHULZ: I'm trying to give a -- I'm going to
17 point to this map. And I want it for the transcript -- I
18 need to --

19 MR. JOHNS: I have it as figure 3 of that -- it's
20 titled "South Delta Barrier Locations." And it has the
21 same channels on it that the map that you're pointing to
22 has.

23 MR. SCHULZ: Okay. So this is figure 3 of
24 Exhibit 19 -- there we go -- figure 3 of Exhibit 19.

25 CHAIRPERSON DODUC: Actually if you go to figure

1 12, there's a more accurate...

2 MR. JOHNS: Yeah, that's a -- yes, that's a
3 better representation of what's on there.

4 MR. SCHULZ: All right. Figure 12 of Exhibit 19.

5 Now, when you said that it splits at Old River --
6 as I'm looking at this map, which I've just designated as
7 figure 12 of Exhibit 19, there's a yellow dot in the
8 bottom right-hand corner with the Vernalis measuring
9 point; is that correct?

10 MR. NADER-TEHRANI: Yes.

11 MR. SCHULZ: Okay. And then when you said it
12 split at Old River, you were talking about the location --

13 MR. NADER-TEHRANI: Right there.

14 Q -- at Steward Tract just downstream of Mossdale?

15 A That is correct.

16 Q And at that point it splits into Old River to the
17 west -- moving west; is that correct?

18 A Yes.

19 Q And some of it continues up the main stem of the San
20 Joaquin River towards Brandt Bridge; is that correct?

21 A That is correct, yes.

22 Q Okay. And then it continues down Old River and then
23 there's a yellow dot that's called Old River/Middle River.
24 And that's the junction of Old and Middle River?

25 A That is correct.

1 Q And then some of it flows north into Middle River?

2 A That is correct.

3 Q And some of it continues in Old River to the west

4 and --

5 A Split right there.

6 Q And then there's Grant Line Canal, which is sort of a
7 straight line with a brown barrier shown?

8 A That is correct. That's where the temporary barrier
9 is --

10 Q And there's another split there. And then water
11 continues down Old River towards the Clifton Court
12 Forebay; that is correct?

13 A That is correct.

14 Q Okay. So by the time you get to Old River downstream
15 of the split with Grant Line Canal, what percentage of the
16 water that got into it at the split of San Joaquin River
17 and Old River is still in Old River?

18 A Could you rephrase -- I guess re-ask the question?

19 Q Well, you have a -- water's flowing downstream in the
20 San Joaquin, and then some stays in the San Joaquin and
21 then it gets split off into --

22 A -- head of Old River.

23 Q -- Old River. Some of that then goes into Middle
24 River, some more of that goes into -- into Grant Line
25 Canal.

1 A Yes.

2 Q And then you've got a residual that's left in Old
3 River.

4 A That is correct.

5 Q Just sort of, Can you tell me --

6 A It varies a lot, because it is heavily also influenced
7 by the tidal conditions. So I hate to give you some
8 kind -- you know, any kind of, you know, percentage. But,
9 again, of the three, Grant Line carries a much bigger
10 percentage on a net basis compared to the other two
11 reaches.

12 Q So have you lost two-thirds of it or -- I mean just
13 roughly or --

14 A You know, if I was to guess, that would be the -- but,
15 again, I'm speculating at this point.

16 Q Okay. And so when you -- and then what happens
17 hydraulically in terms of, you know, trying to meet the
18 Old River at Tracy Road Bridge? Tell me how that -- what
19 the problems are for DWR.

20 A The water that shows up at Old River/Tracy with -- you
21 know, with the barriers as they are, you know, operating
22 today, the majority of the water that shows up at Old
23 River/Tracy is composed of either San Joaquin water,
24 blended with agricultural drainage flow. Very little of
25 the Sacramento River water gets there. However, and as

1 one of the PTM animations yesterday was shown, that there
2 are times when, in under certain conditions, that, you
3 know, if you have a very high energy tide, that you might
4 get reverse flows in Old River and, in fact, you might get
5 some of the Sacramento River water there that would help
6 dilute. But that doesn't happen very frequently.

7 Q And when you say reverse flow, what you're saying is
8 that on Exhibit 19, 12 -- is it Table 12 or -- figure 12,
9 okay, the water would come from the Sacramento River, you
10 know, past Clifton Court and then down the opposite
11 direction in Old River, is that what you're saying?

12 A That is correct. My understanding is the crest
13 elevation at the Old River barrier site is two feet above
14 mean sea level. That's the temporary barriers. Whereas
15 the Middle River and Grant Line, they're one foot above
16 mean sea level. So that would push -- I mean if there
17 is -- of those three reaches, if one of them would have a
18 tendency to -- or the ability to carry water upstream, of
19 those three it would be Old River.

20 Q So --

21 A And, again, it doesn't happen very frequently.

22 Q Okay. The reverse flow doesn't happen very
23 frequently?

24 A Yeah. And if it did, that would have solved the
25 problems most likely at Old River/Tracy.

1 Q All right. So what's the degree of degradation
2 between Vernalis and Old River at Tracy Road Bridge that
3 you've observed?

4 A I can't say. We've not done an analysis on that.
5 Again, it's heavily influenced by several factors. Part
6 of the problem is, you know, we try to do this analysis
7 based on measured field data. And there's not a -- you
8 know, and to do that you really need a very continuous
9 vector of data. And we just didn't -- I guess -- again,
10 I'm going to spec -- I mean I don't recall. But I vaguely
11 recall that at the Old River/Tracy location we don't have
12 as continuous data as possible. And I've heard this
13 before, that part of the problem, I think there were some
14 issues with that data being correct, I vaguely recall, at
15 Old River/Tracy.

16 Q Okay. In your experience is that the most difficult
17 station to meet on a predictable basis?

18 A Of those three?

19 Q Yes.

20 A That would, you know, again -- I guess -- now, again,
21 we're not talking about the permanent barrier?

22 Q No, we're talking about trying to meet the standards
23 today.

24 A It would be one of the harder ones. But, again, that
25 would be a speculation.

1 MS. KELLY: I'm sorry.

2 MR. NADER-TEHRANI: Go ahead.

3 MS. KELLY: Cliff, would you clarify what three
4 stations you're referring to?

5 MR. SCHULZ: Well, yeah. San Joaquin River at
6 Brandt Bridge, Old River near Middle River, and Old River
7 at Tracy Bridge. In other words, the ones that are the
8 subject of this hearing.

9 MR. NADER-TEHRANI: That would be my guess.

10 MS. SMITH: And I'll jump in. It's just the
11 validation kind of implicates that it's been a little bit
12 harder to match it also.

13 MR. SCHULZ: A little harder.

14 And what's the next most difficult one to meet?
15 Is it Old River at Middle River?

16 MS. SMITH: Yes, I think so.

17 MR. SCHULZ: Okay. And when you -- you had an
18 exhibit that showed --

19 MS. SMITH: Actually it's a tossup between Middle
20 River and the Brandt Bridge.

21 MR. SCHULZ: Okay. So in spite of the fact that
22 you've still got more water and you're closer to the
23 bifurcation of San Joaquin River and Old River, you
24 still -- that's still a difficult spot to...

25 Now, when you make your runs and your

1 validations, did you assume that you were -- that .7 is
2 what was being met at Vernalis?

3 MR. NADER-TEHRANI: Is this a question for me or
4 Tara?

5 MR. SCHULZ: For Tara. I'm sorry.

6 MR. SMITH: The runs were just pure historical
7 runs, pure -- I mean historical data.

8 MR. SCHULZ: Okay.

9 MS. SMITH: So there's no assumption of trying to
10 meet any --

11 MR. SCHULZ: So you haven't run, say, a study
12 with DSM-II that says if Vernalis is at .7, here's what
13 the resulting salinity would be at Old River, at Middle
14 River, or Old River at Tracy Bridge?

15 MS. SMITH: I don't think we have.

16 MR. NADER-TEHRANI: No, not to my knowledge.

17 MR. SCHULZ: Okay. Is that something that could
18 be done?

19 MS. SMITH: Yes.

20 MR. SCHULZ: I guess what I'm trying to figure
21 out is how much flow or how much -- what water quality you
22 would need at Vernalis in order to meet those -- the
23 standards at those locations.

24 MS. SMITH: Well, I think -- and in fact I think
25 the data analysis, which actually Parviz said had led with

1 the confidence intervals, was actually set up for that
2 purpose.

3 MR. JOHNS: Why don't you just show him the
4 chart.

5 MR. SCHULZ: Is this one an exhibit?

6 MS. SMITH: Yeah, that's the -- I'm trying to
7 find the exact --

8 MR. SCHULZ: I have to admit, some of the
9 exhibits went over my head.

10 MS. SMITH: Okay. For example, figure 9 and then
11 the --

12 MR. SCHULZ: This is of what exhibit?

13 MS. SMITH: I'm sorry. DWR-20 and Table 2.

14 MR. JOHNS: What page number is that?

15 MS. SCHULZ: It's on --

16 MS. SMITH: Page 20.

17 MR. SCHULZ: -- page 20. Thank you. I just
18 found it at the same time.

19 So tell me what figure 9 represents.

20 MS. SMITH: It's -- actually I'll let you handle
21 it, Parviz, if you want to.

22 MR. NADER-TEHRANI: Okay. This study was done
23 based on historical measurements at Vernalis, Mossdale and
24 Brandt Bridge. We tried to see if we could quantify the
25 degradation that takes place between, you know, those

1 stations. And, you know, basically we did a statistical
2 analysis. And then based on that, the figure -- you see
3 figure 9. What that illustrates is to meet an EC
4 objective of 700 -- that's the one shown in black line.
5 And given a certain confidence level that -- you know,
6 let's say, you know, you want to have a 95 percent
7 confidence that you're going to meet the 700 objective at
8 Brandt Bridge. Then you need Vernalis EC to be, according
9 to what I see there, about 570. And those values are
10 actually in the table. I think you have -- I see number
11 565 in the table. So to have a 95 percent confidence that
12 you're meeting the Vernalis -- the Brandt Bridge 700
13 objective, you need -- what the table suggests, you need a
14 565 EC at Vernalis.

15 MR. SCHULZ: Do you have similar tables for Old
16 River at Tracy Road Bridge

17 MR. NADER-TEHRANI: No, we do not.

18 Q Okay. Is it possible to produce such?

19 A To do an accurate analysis one needs to have very
20 accurate, you know, data measurements at those locations.
21 And from what I recall -- and I could be incorrect. But
22 from what I recall, we did not have that length of a good
23 accurate data at that location to work with. Basically
24 this information you see here is based on, from what I
25 recall, about six to eight years of continuous data.

1 Q Okay.

2 A But if one has the information, we could certainly do
3 that.

4 MR. LEAHIGH: Just a little bit -- I can maybe
5 add a little bit to this.

6 MR. SCHULZ: Would you say who you are for the
7 record.

8 MR. LEAHIGH: Oh, I'm sorry. This is John
9 Leahigh.

10 MR. SCHULZ: I know who you are. But the
11 reporter might not.

12 MR. LEAHIGH: As far as looking at some of the
13 historical data, we talked about higher EC values in
14 general at the Old River near Tracy station as compared to
15 Vernalis, that often times you could see EC -- .2 to .3
16 higher EC at the Old River station than at Vernalis. How
17 that equates to, you know, what kind of flows would be
18 required, I don't know that.

19 MR. SCHULZ: Okay. Which Vernalis station -- I
20 mean which Old River station are you talking about?

21 MR. LEAHIGH: Oh, Old River near Tracy --

22 MR. SCHULZ: -- The Tracy Bridge.

23 Point 2 to .3 EC difference?

24 MR. LEAHIGH: That's correct.

25 MR. SCHULZ: Okay. So if you had a .7 at

1 Vernalis, you might have as much as a 1.0 to a -- .9 to a
2 1.0?

3 MR. LEAHIGH: And that's just rough. I mean it
4 varies quite a bit.

5 MR. SCHULZ: Yeah, I understand.

6 The testimony earlier in this proceeding talked
7 about whether or not in the current situation with
8 barriers whether a low-lift fish-friendly pumps could
9 improve the situation. I asked a witness at some point in
10 these proceedings what the cost of those -- I think I
11 asked Alex what the cost of low-lift pumps are.

12 Does the Department have any information on what
13 the cost of low-lift pumps are?

14 MS. KELLY: Yes. This is Kathy Kelly.

15 I went back and got some -- the information that
16 we used in our investigation the potential of using
17 low-head pumps. And we developed two estimates.

18 One estimate was based upon what is proposed for
19 the in-Delta storage facility, pumping in and out of that
20 reservoir. And we estimated that to use that design, to
21 have a 500 CFS low-lift pump would probably cost about \$23
22 million.

23 The other estimate that we got -- because that's
24 a very high estimate, we did additional research and came
25 up with an estimate, after talking with the Bureau on --

1 they have Hidrostal fish pumps at Tracy -- and talking
2 with also a pump vendor, brought that estimate to 10 to 15
3 million for 300 CFS capacity.

4 MR. SCHULZ: Okay. Could one of you describe --
5 it was suggested by Mr. Hildebrand that low-lift pumps in
6 conjunction with the existing barriers is something that
7 could feasibly help the water quality conditions.

8 Is there someone who could tell me -- Parviz
9 again.

10 MR. NADER-TEHRANI: Again, this is Parviz
11 Nader-Tehrani from DWR.

12 I've worked on -- you know, on several studies
13 involving low-lift pumps. And these were originally
14 proposed by Mr. Alex Hildebrand, which, by the way, I have
15 a great deal of respect. But in the context of the
16 low-lift pumps, we've always assumed that this would be in
17 conjunction with permanent barriers. For low-lift pumps
18 to -- and the way it's supposed to work is you're going to
19 be pumping water from the downstream of the barriers to
20 upstream. And for this to work you really need a fairly
21 sealed structure. The temporary barriers, the way they
22 are designed -- these are all rock barriers, and they
23 are -- by nature they're leaky. And the low-lift pumps,
24 by their nature, they will reduce the water level
25 downstream of the barrier and increase the water level

1 upstream of the barrier. In essence, it would increase
2 their leakiness, so to speak.

3 But, in essence, the objective behind using the
4 low-lift pumps would be ideally you would want to pump
5 water from downstream to upstream, and you're hoping
6 that -- say, if you use it at Middle River barrier site,
7 then you would induce a net flow in the reverse direction,
8 which means from west to east, that would help dilute --
9 in essence, would help dilute the water. And, you know,
10 so it would improve the conditions in the Middle River
11 reach. And if there is any water left over at the most
12 upstream and the Middle River, that would blend in with
13 any water that comes through the head of Old River.

14 And, you know, that's the theory that should help
15 water quality in Grant Line and Old River. But, again, it
16 has always been my understanding that, you know, for this
17 to work you really need a fairly sealed structure, which
18 means the permanent barriers or the gates.

19 MR. SCHULZ: Let me ask it in a way that I would
20 sort of understand it, being a hobby engineer. What you'd
21 be doing is you'd be increasing the head differential on
22 either side of barrier, and so some of what you pumped
23 would run right back through?

24 A That's exactly what I was telling you, yes.

25 Q Okay.

1 MS. KELLY: I'd like to correct my statement on
2 the costs.

3 MR. SCHULZ: Oh, okay.

4 MS. KELLY: I misread one of the numbers.

5 MR. SCHULZ: Okay.

6 MS. KELLY: The estimate of the 10 to 15 million
7 would apply to 500 CFS capacity.

8 MR. SCHULZ: Okay. Does any --

9 MR. NADER-TEHRANI: Can I expand something more
10 on the low-lift pumps?

11 MR. SCHULZ: Certainly.

12 MR. NADER-TEHRANI: Again, I've heard different
13 ideas of low-lift pumps. And ones that are designed to
14 just help the inner south Delta, which means anything west
15 of head of Old River and -- but in theory, if you pump
16 hard enough with those low-lift pumps, you could create a
17 reverse flow at the head of Old River. Thus you're
18 bringing actually this -- you know, that water from the
19 Sacramento River site to help even Brandt Bridge. But
20 that would take much bigger pumps than those 500 CFS pumps
21 to do that.

22 MR. SCHULZ: What would it take, in your opinion?

23 MR. NADER-TEHRANI: With the -- and assuming --
24 you know, typically when there is a water quality problem
25 in San Joaquin, you're talking about low flow. So I'm

1 going to make an assumption here that if you take -- if
2 you -- the San Joaquin flow is about a thousand CFS per
3 se. And so, you know, if -- and if you assume a 500, you
4 know, 50/50 split at the head, that leaves only 500 at
5 Brandt Bridge. You know, you would need to augment that
6 with at least another 500 CFS of water coming, you know,
7 in reverse. So technically you would need in the
8 neighborhood of a thousand to fifteen hundred CFS --

9 MR. SCHULZ: -- of pumping capacity?

10 MR. NADER-TEHRANI: -- of low-lift pumping to
11 help Brandt Bridge.

12 MR. SCHULZ: Okay. Thank you.

13 Mr. Johns, you were asked some questions about
14 recirculation as a way to augment the flows of the San
15 Joaquin. And my question to you is more in your role as a
16 planner for DWR.

17 Do you have any opinion on whether a
18 recirculation program would require a CEQA review before
19 it could be implemented or other permits of any kind?

20 MR. JOHNS: I would think so, yes.

21 Q Do you -- what do you think --

22 A Well, it would need -- I think it would need CEQA
23 review for sure. In addition, we probably would have to
24 get a change in place of use if we're using State Water
25 Project water. I don't think the San Joaquin River's in

1 our place of use. So we would have to go to the Board and
2 accomplish that, I would think.

3 There would be a -- probably a concern -- but we
4 would probably have to talk to the regional board about
5 whether or not we needed a discharge permit to actually
6 discharge the water into the San Joaquin River even though
7 it improved water quality. Which we'd have to talk to
8 them about that and see what their thoughts were in that
9 area.

10 Anybody got any other ideas?

11 I don't think we need a Corps permit, I wouldn't
12 think.

13 It would not be a trivial task, I don't think.

14 MR. SCHULZ: Okay. This is for almost anybody in
15 the panel or in the audience that is part of DWR's team.
16 And, that is, there was quite a bit of discussion
17 yesterday about chloride toxicity in the leaves of walnut
18 trees. And I was just wondering if anybody in the
19 Department had looked at that issue in terms of the
20 sources of chlorine -- the chloride-based problem with
21 respect to agricultural production in the area of the
22 South Delta.

23 MR. JOHNS: I'm going to ask Jose to come up, and
24 also Rich Brewer. Rich has got some background in this
25 area that may be helpful. And have them maybe try to

1 answer this.

2 And I think Rich needs to be sworn in.

3 CHAIRPERSON DODUC: Do you promise to tell the
4 truth in this hearing?

5 MR. BREWER: Yes, I do.

6 CHAIRPERSON DODUC: Thank you.

7 And please identify yourself for the court
8 reporter.

9 MR. FARIA: Jose Faria, the Department of Water
10 Resources.

11 MR. BREWER: Rich Brewer, Department of Water
12 Resources.

13 MR. SCHULZ: Have you guys examined the issue of
14 the source of chloride toxicity in terms of the question
15 that I just asked to the panel?

16 MR. FARIA: I've looked at Dr. Letey's report and
17 I have a general knowledge from my farming background
18 about toxicity of different chemical constituents in
19 plants.

20 MR. SCHULZ: Okay. Could you tell me what you --
21 what your opinion is in this area?

22 A Based on the -- again, I'm going and focus on the
23 statement of the report, the exhibit prepared by Dr.
24 Letey, page 8. And that one is specifically -- and now
25 I'm going to make a -- I'm going to quote what it says.

1 And this refers to Mr. Salmon's statement.

2 And it says specifically in Exhibit H: "To
3 address this problem over the years I have attempted
4 applying salt amendments such as gypsum." And by the way,
5 gypsum is salt, calcium sulfate.

6 MR. HERRICK: Madam Chairman?

7 CHAIRPERSON DODUC: Mr. Herrick.

8 MR. HERRICK: Excuse me for interrupting.

9 I'm just checking. Is the witness being cross
10 examined on John Letey's testimony?

11 MR. SCHULZ: No.

12 MR. HERRICK: I don't think that would be
13 appropriate.

14 MR. SCHULZ: No, I think I'm -- the question
15 that's being asked is whether or not he has information
16 with respect to chloride toxicity. And he is relying on
17 testimony -- or the work of Dr. Letey in that answer,
18 just --

19 MR. HERRICK: Well, I would assume then his
20 answers are reading John Letey's testimony.

21 MR. SCHULZ: Well, He's --

22 MR. FARIA: No, it's -- I'm reading a quotation
23 from Mr. William Salmon, Exhibit H.

24 MS. CROTHERS: Well, actually I want to correct
25 you.

1 Mr. Salmon in his testimony has this same
2 statement that was also in Professor Letey's written
3 testimony. So these are the same statements in both Mr.
4 Salmon's testimony -- written testimony. And so it
5 does -- it's the same.

6 CHAIRPERSON DODUC: So are you offering your --

7 MS. CROTHERS: It's Salmon's testimony that
8 brought it up yesterday. And he is reading what Mr.
9 Salmon had in his testimony also.

10 MR. HERRICK: That's not my objection, Madam
11 Chairman. Mr. Salmon's testimony doesn't quote anything
12 John Letey said. I'm just trying to make sure that we're
13 not cross-examining a witness on somebody else's
14 testimony, when we already had the opportunity to
15 cross-examine John Letey.

16 CHAIRPERSON DODUC: Well, no --

17 MR. HERRICK: Maybe he has --

18 CHAIRPERSON DODUC: Hold on.

19 MR. HERRICK: -- some independent knowledge
20 that --

21 CHAIRPERSON DODUC: All right. I hear your
22 objection.

23 I'll asks Mr. Schulz to proceed with care.

24 MR. SCHULZ: I understand.

25 MR. FARIA: Well, in my opinion based on that

1 they say that pH in combination with salt binds chlorides
2 and prevent leaching, you know, from my background in
3 chemistry that's not possible. That is an incorrect
4 statement. That is not a cause of -- if you have
5 chlorides in the soil, you can leach that by applying
6 common irrigation. The salt water or the saline water
7 does not combine the chlorides in the soil and in the
8 plants. You know, chlorides can be leached out of the
9 soil with normal irrigation practices. So this is not
10 possible.

11 MR. SCHULZ: Are chlorides quite soluble?

12 MR. FARIA: They're quite soluble, yes.

13 MR. SCHULZ: And so do you have an opinion as to
14 what might be the source of chloride toxicity under those
15 circumstances?

16 MR. FARIA: I don't have a general opinion. I
17 will go and do an analysis, a more true analysis of what
18 might be the causes of this. Could be a disease. Could
19 be a specific condition of the soil. Could be a special
20 waterlogging situation. It's a -- I will go in depth and
21 do a different analysis and consult a third party. But
22 based on the evidence in that statement, it's not
23 possible. It just doesn't make sense chemically, from my
24 background in chemistry. I'm an engineer and I took
25 chemistry classes.

1 MR. BREWER: This is Rich Brewer. I'd like to
2 offer my opinion also. I have a background in agronomy
3 and a Masters in Pest Management, Plant Protection.

4 As far as the walnut goes in the Delta, there's a
5 long history of degradation of walnut groves through a
6 disease called Black Line; and whenever you have a
7 pathogen that can affect the plant-water interactions,
8 including uptake of water and retention of ions such as
9 chlorides. So I would caution to say this is strictly an
10 irrigation water source water. It could be a complex
11 interaction due to disease problems or soil and plant
12 problems.

13 MR. SCHULZ: Okay. Thank you.

14 This is for Tara Smith.

15 Tara, you were asked earlier today about a
16 discrepancy between DSM-II and field data. Were you able
17 to do some work this afternoon and -- over lunch on this?

18 MS. SMITH: Is this the --

19 MR. SCHULZ: -- Mr. Jennings' question.

20 MS. SMITH: Yes, I had talked to Bob Suits, and
21 he had mentioned that the data I believe for Old River on
22 the website was incorrect.

23 MR. JOHNS: Mr. Suits had been sworn already.

24 MR. SCHULZ: Could you state your name for the
25 record.

1 MR. SUITS: I'm Bob Suits with DWR.

2 MR. SCHULZ: And the question was whether the
3 data was correct on the website.

4 MR. SUITS: Yeah. In the process of preparing
5 for the hearing is we looked at the website, IEP website,
6 and we found that the field data reported there was
7 incorrect in the early nineties.

8 MR. SCHULZ: Okay. So is that being corrected
9 now?

10 MR. SUITS: Yeah, the data we presented for the
11 hearings is correct.

12 MR. SCHULZ: Okay. Thank you. I think that's
13 all I have.

14 CHAIRPERSON DODUC: Thank you, Mr. Schulz.

15 MR. NOMELLINI: Dante Nomellini with Central
16 Delta Water Agency.

17 What exhibit are you talking about that was
18 corrected?

19 CHAIRPERSON DODUC: No, the exhibit is correct.
20 I believe it's the information on the website that is
21 incorrect.

22 MR. NOMELLINI: Oh, okay.

23 MR. SCHULZ: That's right, yes.

24 MR. NOMELLINI: Is the website information in the
25 record or are we dealing with --

1 MR. SCHULZ: No, the information in the record is
2 correct. The website that is -- where the discrepancy
3 exists, the problem is with the website data. But the
4 material that is in the record in this hearing is correct.

5 MR. NOMELLINI: It's a point of information, I --

6 MR. SCHULZ: Yeah, that was all it was for me
7 too.

8 Thank you.

9 CHAIRPERSON DODUC: Thank you, Mr. Schulz.
10 Stockton East Water District.

11 MS. ZOLEZZI: Thank you. Jeanne Zolezzi,
12 Stockton East Water District.

13 CROSS EXAMINATION

14 OF THE DEPARTMENT OF WATER RESOURCES PANEL

15 BY MS. JEANNE ZOLEZZI, ESQ., representing the Stockton
16 East Water District:

17 I just have a couple of questions of Mr. Johns to
18 clear up some errors in his testimony.

19 You indicated, Mr. Johns, that you were familiar
20 with the D-1641 issued by the State Board?

21 MR. JOHNS: Yes, generally, yes.

22 Q And you testified in response to a question by Mr.
23 Schulz that the DWR water right permits were not
24 conditioned with the Vernalis salinity standard?

25 A That's my understanding, yes.

1 Q You also testified that the Vernalis salinity standard
2 was a condition only of the New Melones permits and no
3 other CVP permits?

4 A Yeah. And I may have misspoke about that, because now
5 that I think about it, I think it might also be in the
6 Bureau's other permits along with our other permits too.
7 I should go back and look at 1641 again.

8 Q Well, I would ask you to do that now so we can clarify
9 that incorrect statement in the record.

10 In fact, on page 159 of D-1641.

11 A This does get confusing in 1641.

12 Q I think it's pretty clear. We can review it.

13 A Well, I mean that there are several different sets of
14 permits that are referenced. In the New Melones permit,
15 which starts on page 160 -- yeah, there's one for storage
16 and one for direct diversion.

17 Q Let's focus on the other CVP permits on page 159.

18 A Okay. The other ones -- that's licenses.

19 Okay. Yeah, these here are the CVPs --
20 Sacramento side permits. And it does list the three
21 stations we've been talking about here: Sacramento River,
22 Airport Way; Brandt Bridge; and Middle River and Tracy
23 Road Bridge on page 159 and 160. So I misspoke --

24 Q Including Vernalis?

25 A Let's see here. Yes, the Vernalis one -- yeah, I

1 guess it is in their permits. Okay.

2 Q So that would include all of the CVP permits including
3 Shasta, Trinity, Contra Costa Canal, Tracy Pumping Plant,
4 San Luis Reservoir and Whiskey Town?

5 A I'd have to go back and check all the numbers. But

6 I --

7 Q They're on page 4.

8 A Page 4.

9 Yeah, maybe I should ask the Board about this
10 one. They've been dealing with it more lately.

11 Yeah, that would take some time to do this now.

12 But --

13 Q Well, I would like to clarify your testimony in the
14 record that the Vernalis standard is not included in the
15 Trinity permits. So perhaps we could do that right now.

16 Trinity permits on page 4 are listed as 11967.
17 Is that included in the list on page 159?

18 A It does appear that the Trinity permits are listed
19 here on page 159.

20 Q You also testified that the Shasta permits were not so
21 conditioned.

22 Could you confirm that those are in fact
23 conditioned?

24 A Yes, it appears those are also listed as well.

25 Q Thank you.

1 And also, when referring back to the New Melones
2 permit condition for storage on page 160, isn't it true
3 that in footnote 87 this condition does not mandate that
4 the permittee use water under these permits if it uses
5 other sources?

6 Footnote 87 is on page 160.

7 A Give me a second.

8 Q Um-hmm.

9 A That looks correct, yes.

10 MS. ZOLEZZI: Thank you. That's all the
11 questions I have.

12 CHAIRPERSON DODUC: Thank you.

13 The Bureau of Reclamation.

14 CROSS EXAMINATION

15 OF THE DEPARTMENT OF WATER RESOURCES PANEL

16 BY MS. AMY AUFDEMBERGE, representing The Bureau of
17 Reclamation:

18 MS. AUFDEMBERGE: Amy Aufdemberge with the Bureau
19 of Reclamation. I just have a couple questions for
20 clarification.

21 Mr. Johns, was it your testimony that Reclamation
22 operates New Melones to meet water quality standards only
23 at Vernalis?

24 MR. JOHNS: I don't think I meant to say that,
25 no.

1 Q Can you clarify what you meant to say?

2 A Well, the Bureau's got a whole lot of other permits
3 and a whole lot of other conditions in their permits, you
4 know, western Delta issue, a whole lot of other places.
5 So they tend to operate to meet those standards as well.

6 MS. AUFDEMBERGE: Ms. Kelly. You testified about
7 the South Delta Improvement -- excuse me.

8 Is there a lead federal agency in the preparation
9 of the EIS for the South Delta Improvement Program?

10 MS. KELLY: Yes, there is.

11 Q And who would that be?

12 A The U.S. Bureau of Reclamation.

13 Q Does DWR have a cost-sharing partner identified for
14 the construction of the permanent operable barriers?

15 A Not at this time.

16 MS. AUFDEMBERGE: Okay. Thank you.

17 CHAIRPERSON DODUC: Does staff have any
18 questions?

19 MS. RIDDLE: This question is for anyone on the
20 panel.

21 Do you have any idea of the neighborhood of the
22 amount of water that may be needed to meet the interior
23 southern Delta salinity objectives assuming no other
24 changes in operations?

25 MR. JOHNS: I don't think we've done those

1 studies. You can take a shot at it in terms of Brandt
2 Bridge, I think, based on the stuff we've done now. But
3 the hydrodynamic issues in the interior Delta get pretty
4 complicated. It would be tough. We haven't done that, as
5 far as I know, unless Parviz or somebody's done it. But I
6 don't think we've done that.

7 MS. RIDDLE: I have heard some estimates, I mean
8 in the tens of thousands, the hundreds of thousands of
9 acre/feet, somewhere in that neighborhood.

10 MR. LEAHIGH: No, I would just agree with Mr.
11 Johns that, you know, possibly something could be come up
12 with for Brandt Bridge. But the Old River stations
13 because of the lack of circulation in there, it would be
14 very difficult. There'd have to be some kind of study
15 completed with the existing facilities. It -- yeah, that
16 has not been --

17 MR. JOHNS: Our best way of addressing that would
18 be improving circulation. And, as you know, our proposal
19 there is the permanent operable gates.

20 MS. RIDDLE: Okay. Thank you.

21 MR. RUBIN: I'll raise this as a concern with the
22 question. I wouldn't object. But I think that the
23 testimony has shown under certain circumstances the
24 objectives in the South Delta will be met under existing
25 operational processes. And I'm not exact -- I frankly

1 didn't understand the question. This year the South Delta
2 objectives were met as I understand it.

3 MS. RIDDLE: The question --

4 CHAIRPERSON DODUC: Thank you, Mr. Rubin.

5 MS. RIDDLE: The question is relevant to the
6 statement made in the changed petition that it could
7 require a large amount of water. And we just wanted some
8 kind of idea of what a large amount of water is, that it
9 could take a large amount of water to meet the objectives.
10 And that's what my questions went to.

11 MR. JOHNS: I think that statement's probably
12 correct. We just probably can't figure out exactly how
13 much that would be.

14 MS. RIDDLE: So we were looking for some kind of
15 an estimate maybe if you had it.

16 MR. LEAHIGH: I would just say, because of the
17 poor circulation problems, I mean there's -- it would be
18 such a huge amount of water that it -- it would just be an
19 extremely large -- probably have to, you know, empty the
20 reservoirs basically. I mean it's -- with that lack of
21 circulation is really the problem there. And this is the
22 Old River stations that I'm referring to.

23 CHAIRPERSON DODUC: Any other questions?

24 Ms. Crothers.

25 MS. CROTHERS: Well, this will conclude cross

1 examination and our direct testimony for the Department of
2 Water Resources.

3 So at this time, if it's acceptable to Chairman
4 Doduc, we would like to enter our exhibits into the
5 record. Would this be the correct time to do that?

6 CHAIRPERSON DODUC: Yes. And I believe you have
7 some additional requests you wanted to make with respect
8 to your exhibits.

9 MS. CROTHERS: Yes. First of all though I'd like
10 to go through the list of exhibits. And if it's all
11 right, I'm going to do them somewhat in groups.

12 The statement of qualifications, DWR's 1 through
13 18, and the one submitted recently for Kathy Kelly as DWR
14 25. I would request that those exhibits be accepted into
15 the record.

16 CHAIRPERSON DODUC: Any objections to those
17 exhibits?

18 All right. Proceed.

19 MS. CROTHERS: Okay. Then as to DWR Exhibits 18
20 with the attachments 18 A, B, C, D, E; Exhibit 19; DWR
21 Exhibit 20 with attachments 20 A, B, C; DWR-23 and DWR-24,
22 I would like to enter those into the record.

23 CHAIRPERSON DODUC: Any objections?

24 MR. HERRICK: Yes, thank you, Madam Chairman.
25 John Herrick for the South Delta Water Agency.

1 I would renew the objections I made before DWR
2 began to put on its case. Significant portions of Jerry
3 Johns' testimony and the attachments and the work done by
4 Ms. Smith and Mr. Leahigh deal specifically with two
5 things that aren't part of this hearing: Changing
6 D-1641's conditions -- well, excuse me, they're same.
7 Changing D-1641's conditions and specifically changing the
8 standards in the South Delta. As you know, the cross
9 examination touched upon that. But that was because your
10 earlier ruling was let's proceed and we'll decide whether
11 or not everything will be let in.

12 But I think it's clear that a lot of the
13 testimony specifically says we should change D-1641's
14 requirement that the standards become effective April
15 2005. And the recommendation is change that until the
16 permanent barriers are put in. That's directly contrary
17 to D-1641. And I don't think that should be let in just
18 because it's not the topic of discussion.

19 And, anyway, that's my position. There are
20 numerous references in that testimony. And I would be
21 hard-pressed to give you those lines, but we could go
22 through and easily determine which those are.

23 I'm not sure if John Letey's corrected testimony
24 is in that group that you just mentioned. But I don't
25 think it's appropriate to have one party edit a written

1 testimony that was submitted. Mr. Letey testified
2 verbally. He was crossed on a limited basis. And I would
3 say that his verbal testimony should be used as his
4 testimony, not an edited version that one party has done
5 and nobody's -- we don't have the time to go through it
6 and say, "Well, that's not quite correct." There are
7 added statements in the written testimony. You know, I
8 don't have time to go back and find the transcript and
9 say, "Well, that is what he said" or "that's not what he
10 said." That's just not appropriate I think procedurally.
11 So I think his verbal testimony should substitute.

12 Thank you very much.

13 STAFF COUNSEL MAHANEY: Erin Mahaney, prosecution
14 team. I'd just like to support Mr. Herrick's objection
15 with respect to relevance.

16 I'd also like to point out that, Chair Doduc, you
17 may rule now; or because some of these issues do turn on
18 legal issues that the Board will need to determine in any
19 decision, that the Chair and the Board may also rule on
20 those when it makes those decisions. And I say this in
21 part to point out the need for legal briefs on some of
22 these issues that are relevant -- that issues of relevance
23 will depend upon.

24 CHAIRPERSON DODUC: Ms. Crothers.

25 MS. CROTHERS: Yes, thank you.

1 I'd like to respond -- first I'll respond to the
2 testimony by DWR-18, Jerry Johns' testimony. That
3 testimony is relevant to this matter into the issues of
4 whether DWR has ability to control factors of water
5 quality within the South Delta.

6 I disagree strongly with the characterization by
7 Mr. Herrick as to this testimony making references to
8 requesting a change in the standards. We are specifically
9 not requesting any changes to the standards during the
10 cease and desist order hearing. I think we made that
11 clear in prior comments. And I think he's misreading the
12 testimony submitted by Mr. Johns. If any references were
13 made as to our petitions now that were submitted, I mean
14 we have made references to those petitions for the matter
15 of supporting why the cease and desist order shouldn't be
16 accepted. But that is just part of the background
17 information to explain why cease and desist isn't
18 necessary here. So I don't think his testimony is
19 characterized the way Mr. Herrick said.

20 CHAIRPERSON DODUC: Okay. No, Mr. Herrick, we're
21 not going to get into a back and forth debate on this.

22 I'm going to accept all the exhibits. I will
23 weigh the objections -- I will consider the objections in
24 weighing the evidence that is included. And we will be
25 very careful in limiting the use of information that is

1 directly tied to the cease and desist order to the issue
2 of harm, to the bureau -- to the Department's ability to
3 meet the standards, the things that you outlined, Ms.
4 Crothers, in your opening statement.

5 MS. CROTHERS: I also -- when I gave that list to
6 you -- and I deliberately did not mention two exhibits
7 because I wanted to speak more specifically to exhibits
8 number -- so I hadn't really kind of finished my list of
9 exhibits to admit. But --

10 CHAIRPERSON DODUC: Too late.

11 (Laughter.)

12 MS. CROTHERS: No, you can --

13 CHAIRPERSON DODUC: Just kidding.

14 MS. CROTHERS: Thank you.

15 So I wanted to make -- I tried to go through the
16 easy ones first. And so those that I listed now I would
17 like to get clarified. I did not list Exhibit 21 as to
18 the South Delta ag, because DWR Exhibit 21 we had in
19 questions during cross-exam a clarification of a value
20 within that exhibit. And my question is -- DWR could
21 submit a revised DWR-21 as to that first line. I prepared
22 a revision that would just insert that we also did surveys
23 recently in response to this cease and desist order
24 hearing that provided updated data as to acres of beans in
25 the South Delta in 1976. I could present a revised

1 exhibit, or we could just go on the record with what was
2 stated today, that there are -- you know, there were about
3 7,000 acres in 1976 of beans in the South Delta Water
4 Agency.

5 CHAIRPERSON DODUC: Yeah, the oral testimony's in
6 the record, so we'll go with that.

7 MS. CROTHERS: Okay. Then I would request that
8 DWR-21 as submitted be also entered into our evidence.

9 And then the final one is the one that Mr.
10 Herrick has touched on. And that is Professor Letey's
11 testimony, DWR Exhibit 22. And I would like to request
12 that, Chairman Doduc, you reconsider your objections that
13 were made October 25th regarding Professor Letey's
14 testimony. Since that time we have had testimony, for
15 example, in particular by the CalSPA, Dr. Lee's testimony
16 and Mr. Odenweller's testimony, that when you read the
17 testimony that they have presented, it references Dr.
18 Orlob's work. They included that as an exhibit. You
19 accepted those written testimonies as they were and you
20 said you would take -- accept them and consider them as to
21 the weight of the evidence.

22 Their testimony by CalSPA was decided to be going
23 to the weight of harm or other issues, like the Water
24 Quality Response Plan approval. And you said, "Okay,
25 we'll take them into consideration."

1 I think we've come a long way since October 25th.
2 This has been a long ordeal for many of us. And I'm
3 almost -- I feel somewhat that it was --

4 CHAIRPERSON DODUC: Haven't you been having fun?

5 MS. CROTHERS: I've been trying to work hard at
6 this and make it work. It hasn't been easy.

7 So I would like to know if you could reconsider
8 that October 25th ruling regarding Professor Letey's
9 testimony, and that we had to exclude much of it during
10 the oral testimony.

11 CHAIRPERSON DODUC: And as I recall, Ms.
12 Crothers, his testimony -- his written testimony
13 specifically mentioned changing standards, specifically
14 included information that related to changing or proposed
15 changing standards.

16 MS. CROTHERS: I think you should review the
17 written testimony, because I think that's how it was
18 characterized by Mr. Herrick. And as you can see --

19 CHAIRPERSON DODUC: And I have, Ms. Crothers.
20 We're not going to debate this issue.

21 MS. CROTHERS: Well, because it was specifically
22 requested of him to analyze it --

23 CHAIRPERSON DODUC: We're not going to debate
24 this issue.

25 MS. CROTHERS: Well, no. But --

1 CHAIRPERSON DODUC: Are you going to introduce
2 anything into the record from Mr. Letey or not?

3 MS. CROTHERS: Yes, I would like to. And so I'm
4 making kind of a request of -- if you would consider --

5 CHAIRPERSON DODUC: You made the request. I
6 denied it. Let's move on.

7 MS. CROTHERS: This is a request today. The
8 request is, could you either accept the -- and this would
9 kind of address Mr. Herrick's concern -- accept the
10 written testimony as originally submitted, and then we
11 don't have the problem of, well, Mr. Letey did edit his
12 after our oral testimony. He sat down with me and he
13 edited it to reflect what the oral testimony was. So we
14 have two written testimonies now. One was the original
15 testimony. And now we have also a testimony that Mr.
16 Letey edited.

17 And I would request that one of those be
18 submitted into evidence. My preference would be is the
19 original testimony.

20 CHAIRPERSON DODUC: All right. Ms. Crothers, we
21 are going to accept into evidence DWR-22 revised. That's
22 submitted to us on October -- or it's dated October 14th,
23 2005. That is the version with strikeouts -- yes, that
24 has been redacted -- and the version that you submitted by
25 letter to me on November 16th. That is the version that

1 will be accepted into the record.

2 MS. CROTHERS: Okay. Thank you.

3 CHAIRPERSON DODUC: And does that conclude DWR's
4 case in chief?

5 MS. CROTHERS: Yes, I believe so.

6 Then as to following this up, we're going to be
7 doing -- beginning rebuttals. I have a scheduling problem
8 with one of our witnesses that we propose would be
9 providing rebuttal on Monday. He wouldn't be available
10 Monday afternoon. So I would just like to request that we
11 get to have our -- present our rebuttal sometime before
12 Monday afternoon if that's possible.

13 CHAIRPERSON DODUC: All right.

14 MS. CROTHERS: Thank you.

15 CHAIRPERSON DODUC: Thank you very much.

16 At this time I'd like to ask -- who's not here.

17 I believe the U.S. Bureau of Reclamation wanted
18 to make an opening statement.

19 Let's take a short break while we find out where
20 the Bureau's representative is, and resume at 2:25.

21 Thank you.

22 (Thereupon a recess was taken.)

23 CHAIRPERSON DODUC: We are ready to resume.

24 Would you please identify yourself for the court
25 reporter and begin your opening statement.

1 MS. AUFDEMBERGE: Madam Chair, my name is Amy
2 Aufdemberge with the Bureau of Reclamation.

3 Whether or not we have an opening statement sort
4 of depends on your ruling on the closing brief question.

5 CHAIRPERSON DODUC: Ah, okay.

6 Yes, we will be accepting closing briefs. They
7 will be due 15 days after the last day of hearing. And I
8 expect the last day of hearing to be Monday.

9 MS. AUFDEMBERGE: I think we would reserve our
10 argument for closing brief then.

11 CHAIRPERSON DODUC: Thank you.

12 MR. RUBIN: Madam Chair, I was wondering if we
13 might be able to tie the date on which closing briefs are
14 due to the date upon which we have access to the
15 transcript for the last day of the hearing.

16 CHAIRPERSON DODUC: I'm told transcripts are
17 available within two or three days. So I believe it's
18 reasonable to tie it to the last day of hearing.

19 MR. RUBIN: Thank you.

20 CHAIRPERSON DODUC: Thank you.

21 And with that, we'll move to the San Joaquin
22 River Group Authority.

23 MR. PETRUZZELLI: Ken Petruzzelli for River
24 Group. We will not be putting on a direct case.

25 CHAIRPERSON DODUC: All right. Thank you very

1 much. Thank you very much.

2 (Laughter.)

3 CHAIRPERSON DODUC: That means we're ready for
4 rebuttals. Is the prosecution team ready for rebuttals?

5 STAFF COUNSEL MAHANEY: Erin Mahaney, prosecution
6 team. To make your day further, we have no rebuttal.

7 CHAIRPERSON DODUC: Oh, thank you very much.

8 Okay. This is very good.

9 The Central Delta Water Agency.

10 MR. NOMESELLINI: Central Delta Water Agency.

11 Dante John Nomellini. We have no rebuttal.

12 CHAIRPERSON DODUC: South Delta Water Agency.

13 MR. HERRICK: Yes, Madam Chair.

14 CHAIRPERSON DODUC: Now, Mr. Herrick, please
15 don't let me down.

16 MR. HERRICK: I won't. Well, I may let you down,
17 but it won't be because I'm not giving a case.

18 CHAIRPERSON DODUC: Actually, Mr. Herrick, if I
19 could ask you to hold on for a second.

20 We have negotiated a compromise.

21 The closing briefs are due -- oh, here comes our
22 counsel. She'll be very interested in this. The closing
23 briefs are due ten days from when the transcripts are.
24 Available. And I am told transcripts will be available,
25 given the fact that next week is a holiday week, within

1 seven days or so of the last day of hearing.

2 Mr. Herrick, thank you for your patience.

3 MR. HERRICK: Thank you, Madam Chairman. John
4 Herrick for the South Delta Water Agency.

5 Before I start I would just like to note that I
6 also planned on having Mr. Prichard here, who was a direct
7 witness. If we're still going and it's possible, I would
8 like to put him on Monday too just because it was a --
9 didn't know it would come up this quickly. I thought San
10 Joaquin River Group would do theirs.

11 But, anyway, if that doesn't work, we won't. If
12 we can, I'll try to put him on.

13 And I'll proceed with Alex Hildebrand as the
14 witness for my rebuttal case. Mr. Hildebrand was
15 introduced on the direct and his statement of
16 qualifications has already been introduced into evidence.

17 Thank you.

18 DIRECT EXAMINATION

19 OF THE SOUTH DELTA WATER AGENCY PANEL

20 (Mr. Alex Hildebrand)

21 BY MR. JOHN HERRICK, ESQ., representing the South Delta
22 Water Agency:

23 MR. HERRICK: Mr. Hildebrand, we heard testimony
24 from the Department of Water Resources that the operation
25 of their export project, specifically the Banks Pumping

1 Plant and San Reservoir and the California Aqueduct, does
2 not significantly affect the salinity loads entering the
3 San Joaquin River.

4 Do you recall that testimony?

5 MR. HILDEBRAND: I recall it, yes.

6 Q Do you have a contrary view to that position?

7 A Yes, I do.

8 Q And would you please briefly explain the basis for
9 that opinion?

10 A There's been a lot of modeling done by DWR in the
11 recent times to demonstrate that a lot of bay salt is
12 drawn into the area of French, for example, in the western
13 Delta, and that then that salt load is drawn on down
14 toward the export pumps by the export pumping, which
15 causes a flow then from that area down for export.

16 I think it's fairly obvious that the more you
17 pump, the more you draw down. So that if you compare a
18 situation, say, where the federal pumps are pumping 4,000
19 CFS and the state pumps aren't pumping anything, to a
20 situation where the federal pumps are pumping 4,000 and
21 the state pumps are pumping 7,000, you're going to draw
22 quite a bit more of that bay salt down into that region of
23 the South Delta.

24 Now, then let's assume a typical summer situation
25 where you have 2,000 CFS or less at Vernalis coming in

1 from the San Joaquin River, then the federal pumps are
2 pumping something over 2,000 of this water that's being
3 drawn down from the north. Now, if the state pumps are
4 operating, more salt load is drawn down and, therefore,
5 the 2,000 CFS or more that the federal pumps are pumping
6 has more salt in it because of this bay salt that's been
7 drawn from north to south.

8 So the amount of non-indigenous salt, that's
9 imported salt, that's taken on down the valley by the
10 federal pumps has more -- there's a bigger salt load in
11 it; it's higher salinity as well.

12 Now, when the water's delivered down there --

13 Q Let me get to that next, Mr. Hildebrand.

14 Does the operation of the state pumps have any
15 effect on the percentage of the San Joaquin River flow
16 reaching the federal pumps?

17 A Under this kind of conditions I mentioned, the San
18 Joaquin River is almost all drawn over and re-exported.

19 Q And at least a portion of that federal water is
20 delivered to areas in the west side of San Joaquin Valley
21 which drain into the San Joaquin River, is that --

22 A That's correct.

23 Q And that has been identified by not only numerous
24 parties but by the State Board as a principal cause of the
25 elevated salinities in the San Joaquin River; is that

1 correct?

2 A That's correct.

3 Q So would you conclude then that for what you just
4 described that is one way in which the operation of the
5 State Water Project adversely affects the salinity in the
6 San Joaquin River?

7 A Yes. But we have to take it one more step. As you
8 say, you're delivering more salt load into the watershed
9 of the San Joaquin River system on the west side of the
10 valley. Now, that delivery has several components. Some
11 of it goes to the wetlands, some of it goes to the
12 exchange contractors, and some of it goes to the other ag
13 water users.

14 Let's take the part that goes to the wildlife
15 refuges. They're delivering then more salt to the
16 wildlife refuges. And the growth of vegetation in those
17 refuges uses up some of the water, but doesn't use any
18 salt. So the drainage from the refuge that's into the
19 river then contains more salt load than it would have had
20 the state pumps not been operating. And that salt load
21 then comes back down the river and contributes to the salt
22 load in the South Delta.

23 Now, the portion that goes to the exchange
24 contractors -- they have an entitlement to more water than
25 they need. So they then sell that excess water to other

1 parties, both wetlands and ag lands, who then consume the
2 water but not the salt. And so again there's an increase
3 in salt load that enters the river.

4 Now, the portion that's delivered to the other ag
5 water users, not the exchange contractors, they are taking
6 some steps to reduce the salt load that they put in the
7 river. But when they reduce the salt load that goes into
8 the river, they increase the salt load they're retaining
9 in the soils and groundwaters of their area, which is an
10 unsustainable thing to do on a long term.

11 And the things they're doing to keep it out of
12 the river decrease the salt load in the river, but they
13 also decrease the flow in the river. So that the amount
14 of dilution water that's required is not necessarily
15 reduced.

16 Q Mr. Hildebrand, let me back up in that testimony just
17 a little bit.

18 You do understand that the federal pump's limit
19 on export pumping is somewhere between 4200 and 4400 CFS;
20 is that generally a correct statement?

21 A Yes. Yeah, they're planning to put us in inter-ties
22 so they can average with the help of the state.

23 Q And then their exports are at times limited by fishery
24 concerns; is that correct?

25 A Yes.

1 Q And does that cause a result that the Bureau is unable
2 to make deliveries of a hundred percent of their contract
3 amounts to their contractors including wetlands areas in
4 the San Joaquin Valley?

5 A Say that again. I'm not quite sure I got that
6 straight.

7 Q The limited pumping capacity in combination with
8 decreases required by fishery actions results in the
9 Bureau not being able to deliver all of the water it's
10 contracted to for both its contractors and wetlands areas?

11 A Well, that's correct, yes.

12 Q And so therefore the point you were making is that the
13 State Water Project by wheeling water or joint point
14 efforts or other such increased deliveries assists in
15 increasing the deliveries of water and therefore salt to
16 areas that drain into the San Joaquin River?

17 A That's correct.

18 Q Is there anybody that you know of in either DWR or the
19 U.S. Bureau that would disagree with that statement?

20 A Is there any --

21 Q Is there any person at DWR or the U.S. Bureau that
22 would disagree with that last statement?

23 A After listening to the testimony in this procedure, I
24 can't tell what they might say.

25 (Laughter.)

1 MR. HERRICK: All right. Sorry.

2 Mr. Hildebrand, I also want to touch on --
3 Central Delta Water Agency Exhibit 12a was presented
4 earlier in the hearings. And I put a copy of that before
5 you. And it includes some volumetric and constituent
6 fingerprints, which I believe was introduced through Tom
7 Zuckerman's testimony.

8 Do you have that in front of you?

9 MR. HILDEBRAND: I have that, yes.

10 Q And the middle chart on that page shows a source of
11 water at I believe Clifton Court Forebay arising from, as
12 they label it, Martinez.

13 Do you see that?

14 A Yes.

15 Q And is that a confirmation of your earlier statement
16 that the operation of the state pumps helps bring
17 additional salt load for export to the southern part of
18 the San Joaquin Valley?

19 A Yes. Although I think it understates it, because the
20 particular situation that was fingerprinted here is I
21 don't think a typical one. And I think the proportion of
22 the water that is pumped at Clifton Court Forebay, which
23 comes from the bay salt -- inflow from the bay, is
24 typically more than is shown on this chart.

25 Q Thank you Mr. Hildebrand.

1 You heard the testimony briefly referenced by the
2 DWR witnesses that they're undertaking various efforts in
3 the San Joaquin Valley to address salinity drainage
4 issues; is that correct?

5 A Yes. Although they only referred to doing it when
6 they could get grant money. And I don't know that they've
7 done anything except help provide that grant money.

8 Q And let me use an example. One of the referenced
9 cases in the written testimony referred to the activities
10 of the Grassland Bypass Project. Are you familiar with
11 that?

12 A Yes.

13 Q And would it be correct to say that the Grassland
14 Bypass Project was constituted to decrease the discharges
15 of selenium into the San Joaquin River?

16 A That's right. And it only addresses a portion of the
17 westside service area.

18 Q And part of that program is to reuse the water in the
19 area in order to decrease the amount of water that gets
20 back into the river; is that correct?

21 A That's right.

22 Q And does that reuse of that water concentrate the
23 salts in that water?

24 A Yes.

25 Q And is it your understanding that the current status

1 of that project is to have concentrated the previous
2 amounts of drainage such that they now have approximately
3 50,000 acre/feet of drainage of a much higher elevated
4 salinity level?

5 A I don't -- I can't attest to the exact amount of
6 50,000. But that's the right order of magnitude.

7 Q Thank you.

8 Mr. Hildebrand, we also heard testimony from DWR
9 witnesses regarding the barriers' effect or lack thereof
10 on water quality in the South Delta. Do you recall that
11 testimony?

12 A Yes.

13 Q And I believe to summarize -- and you can disagree --
14 but I believe the testimony stated that to some degree the
15 barriers improved water quality and may have switched the
16 areas of null zones but didn't create null zones. Do you
17 remember that testimony?

18 A Yes. But I believe their comparison doesn't go back
19 to the base case, you might say. In the absence of the --
20 or prior to the projects, if you go back to 1950 or
21 earlier, we didn't have this export of salt into the San
22 Joaquin River watershed. And, consequently, we had very
23 high quality water at all times. Even when the flow was
24 very low, the quality was quite good. And the water
25 levels were not reduced, as they are now by the pumping.

1 So that we had enough water level that we could draw on
2 the Delta pool and pump water of good quality at any time.
3 Even when the river flow was less than our local
4 diversions, we still had available to us water of high
5 quality. The only exception to that was in one month, it
6 was in September in 1931, when the bay salt actually
7 encroached in a portion of the South Delta. Now it's to
8 about the South Delta generally. And the salt load then
9 that caused the problem was bay salt, not salt coming down
10 the river.

11 Now, when you started up the CVP, they reduced --
12 you know, a large reduction, in the order of a half a
13 million acre/feet a year. It reduced the flow at Vernalis
14 in most years. Not in extreme dry years, but in most
15 years. And at the same time they were reducing the
16 available dilution from that flow, they were commencing
17 this import of water into the west side of the valley,
18 which then drained into the river and created the salt
19 problem, which we wouldn't have in the absence of the CVP.

20 Q Mr. Hildebrand, is it your testimony that prior to the
21 projects -- and by that I mean the CVP and the SWP -- the
22 net flow in the San Joaquin River, Middle River, Grant
23 Line Canal, and Old River was downstream?

24 A It was downstream except on the rare situations where
25 the inflow at Vernalis was less than the local diversions

1 in the South Delta. And at those times, as I said, we
2 still had an adequate water level of water of an adequate
3 quality because we didn't have this salt load.

4 Q And except in those, as you've called them, rare
5 occasions, there were no null zones except for maybe some
6 dead-end channels in the South Delta; is that correct?

7 A That's right.

8 Q And --

9 A And when there were null zones, they weren't a quick
10 problem because we weren't bringing in the salt load and
11 other contaminants that now come down the river.

12 Q And when the projects became operational in South
13 Delta before the barriers, did the operation of the
14 projects change the flows in the South Delta such as it
15 created more prevalent and long-lasting null zones?

16 A That's correct.

17 Q And those null zones allowed the accumulation of salts
18 to the detriment of water quality; is that correct?

19 A That's right.

20 Q And subsequently the projects, specifically DWR, began
21 implementing the temporary barrier program; is that
22 correct?

23 A That's right.

24 Q And the temporary barrier program itself creates null
25 zones where salts accumulate, does it not?

1 A Yes. They maintain the water level, but they shift
2 around the location of the null zones. But we still have
3 null zones.

4 Q And those null zones generally -- excuse me. Let me
5 start over.

6 Mr. Hildebrand, is it typical for those null
7 zones to exist somewhere around the Tracy Old River Bridge
8 on Old River and upstream of the Middle River Bridge on
9 Middle River?

10 A That's correct.

11 Q And that's a direct result of the temporary barrier
12 project; is that correct?

13 A Yeah. Well, a combination of the temporary barrier
14 project and on this importation of salt that I mentioned.

15 Q Thank you, Mr. Hildebrand.

16 We also heard testimony that DWR's operation of
17 the temporary barrier project is doing what it does for
18 water quality and it cannot be -- and nothing else can be
19 done which would improve water quality further. Do you
20 recall that?

21 A Yes.

22 Q And by nothing else, I meant nothing else with regard
23 to the temporary barriers.

24 A Yes.

25 Q Mr. Hildebrand, would it be possible to alter the

1 height of the temporary barriers such to increase the
2 amount of net unidirectional flow in some of those
3 channels?

4 A Yes. As I think I mentioned in my direct testimony,
5 you could redesign the temporary barrier in Middle River
6 to make it somewhat higher, increase the number of
7 culverts so that you could bring in more water and spill
8 less water back. You could then install a low-lift pump
9 there and pump enough water in through Middle River so
10 that it went all the way up through Middle River and into
11 Old River, and thereby provided the circulation that you
12 need and the water quality you need in those other
13 channels.

14 Q To your knowledge, has DWR investigated doing that as
15 a method of meeting the 0.7 standard at the three interior
16 South Delta stations?

17 A It's the best of my understanding they have not.

18 Q Okay. Thank you.

19 Mr. Hildebrand, are you familiar with -- are you
20 familiar with Bulletin No. 141, which is the California
21 State Water Project Water Supply Contracts?

22 A Not in detail.

23 Q But you've reviewed it for this hearing?

24 A I have reviewed it. But I wouldn't be able to quote
25 from it from my memory.

1 Q Okay. On page 19/2 -- and we'll read it -- I'm sorry.
2 I wasn't prepared to have multiple copies. We can provide
3 them and I can provide the couple copies I have when I'm
4 done with the questions. But it's a very brief point.

5 Is it correct that according to that -- excuse
6 me -- the water supply contracts for the State Project
7 that they have a goal regarding water quality for delivery
8 to their customers?

9 A Yes. And the numbers here comport to my recollection.
10 In other words, they have a goal of having a monthly
11 average delivery of 440 parts per million, which is better
12 than .7, and a ten-year period average of 220, which is
13 less than half the .7 standard for us, to which they still
14 want to raise.

15 Q Thank you, Mr. Hildebrand.

16 Mr. Hildebrand, we heard testimony from two
17 non-expert witnesses of DWR with regards to whether or not
18 chlorides can build up in the soils in the South Delta.
19 Do you recall that testimony?

20 A Yes.

21 Q Do you have an opinion on that testimony?

22 A Yes, I do. They -- well, to back up a little bit in
23 background. When we were working on this back in '95 and
24 I worked with Dr. Orlob, and he put together an analyses
25 of the different salt ions and the relative composition of

1 the salt load in the Delta-Mendota Canal, and then made a
2 similar analysis of the salt load in the river, which
3 demonstrated that during the low-flow periods in the
4 summer the patterns almost exactly matched, which
5 indicated that the salt load in the river at those times
6 was almost entirely derived from the salt load imported
7 through the DMC and then drained through the river.

8 And so the chlorides that are in the water that's
9 pumped down the Delta-Mendota Canal then end up coming
10 back down the river and provide the chlorides that are
11 then necessarily pumped by the diverters in the South
12 Delta.

13 Now, somebody said earlier today I think that all
14 you had to do was to over-irrigate and flush the chlorides
15 out because they're very soluble. But that assumes you're
16 able to over-irrigate. And as I'll explain later, you
17 can't do that. Particularly on a deep-rooted crop like
18 walnuts, you may have a long period when you have no
19 leach. And so this chloride that's coming in with your
20 irrigation water is accumulating in your root zone, and
21 the susceptibility to Black Line, I think they call it, in
22 the walnuts is almost surely increased by the weakening of
23 the plant due to the high salinity in it's root zone. So
24 you can't divorce the virus problem from the salinity
25 problem. They affect each other, or at least the salt

1 problem affects the susceptibility to the virus.

2 Q Mr. Hildebrand, you're familiar with the soils in the
3 South Delta area?

4 A Oh, yes.

5 Q Are you familiar with the normal agricultural
6 practices in the South Delta area?

7 A Yes.

8 Q Is there any other possible source of high chlorides
9 in the soils and in the walnuts of Mr. Salmon other than
10 the water applied during the irrigation periods?

11 A No. They -- these lands have been irrigated so long
12 that any original chloride content of the soil's long
13 since been leached out. So that the salts that are
14 applied to your crop are entirely what's in your
15 irrigation water.

16 Q Mr. Hildebrand, you're familiar with the 1980 report
17 authored by the Bureau and by South Delta Water Agency
18 which examines the effects of the CVP on the
19 Sacramento/San Joaquin Delta and Bay?

20 A I helped author that.

21 MR. HERRICK: Madam Chairman, my secretary at
22 this moment is mailing the electronic copy to everybody.
23 It's been submitted to the Board in other hearings. It's
24 on the web page for a couple of different things. I'm
25 going to be asking him questions about that. I don't have

1 a copy of it. But I think I can clear up the information,
2 and so we don't -- there's no need to be looking at the
3 pages. Again, it's in the mail right at this moment.

4 CHAIRPERSON DODUC: Mr. Rubin.

5 MR. RUBIN: Madam Chair, I have reviewed that
6 report, not recently though. If Mr. Herrick's going to be
7 asking questions, I think it's only appropriate that he
8 asks it at a time where we have the report available to
9 us.

10 One of the important things I do recall about the
11 report is it contains statements -- excuse me -- it
12 contains a caution upfront that there are statements in
13 the report that aren't agreed upon by the parties. And if
14 Mr. Herrick is particularly going to be talking about the
15 report, I think it's important to have the report in front
16 of us so that we could be ensured that the representations
17 are accurate.

18 MR. HERRICK: I can appreciate that objection.
19 I'm not trying to, you know, sneak anything by. The
20 reason I was mentioning the report and it's being sent to
21 everybody is that it's a confirmation of Mr. Hildebrand's
22 views and opinions that he'll be giving for this next line
23 of questioning. And I thought that might assist the
24 parties if they could look and say, "Oh, the report says
25 what he's saying." It is information within his personal

1 knowledge.

2 We can certainly make Mr. Hildebrand available
3 Monday if somebody wants to cross-examine him with the
4 document.

5 CHAIRPERSON DODUC: All right. Let's do that.
6 Let's make sure that he's available on Monday for any
7 additional follow-up cross examination.

8 MR. HERRICK: Okay. And I'll make the questions
9 very brief.

10 CHAIRPERSON DODUC: Thank you.

11 MR. HERRICK: Mr. Hildebrand, are you aware of
12 any investigation that traces the origin of chlorides
13 which end up in the South Delta via the San Joaquin River?

14 MR. HILDEBRAND: Yes.

15 Q And do those investigations perform some sort of
16 fingerprinting in order to identify the source of those
17 chlorides?

18 A That's right.

19 Q And what was the source of those chlorides?

20 A The source of the chlorides was the water that was
21 imported into the San Joaquin Valley, the west side, by
22 the Delta-Mendota Canal.

23 Q Thank you, Mr. Hildebrand.

24 Before we --

25 CHAIRPERSON DODUC: Mr. Herrick, a point of

1 clarification here. It sounded like your witness was
2 responding to your question based on his own knowledge.

3 MR. HILDEBRAND: Yes.

4 MR. HERRICK: I believe that's correct.

5 CHAIRPERSON DODUC: Okay. So then now I'm
6 slightly confused as to the purpose of the document which
7 we don't have in front of us.

8 MR. HERRICK: Yes. And, again, it's just an
9 offer of proof. The document is a joint South
10 Delta/Bureau study in which they did those investigations.
11 Mr. Hildebrand was involved in not only that, but other
12 investigations. I was just using that as a method that
13 people could say here's a number that -- it's put on it or
14 something. But Mr. Hildebrand does have this within his
15 personal knowledge. And if they don't want to question
16 him on document, that's fine too.

17 CHAIRPERSON DODUC: Thank you.

18 MR. SCHULZ: He is going to though be available
19 for cross --

20 CHAIRPERSON DODUC: Be available Monday, yes.

21 MR. SCHULZ: Okay. Because my understanding is
22 is that his personal knowledge is based on that report.

23 MR. HERRICK: In part.

24 MR. SCHULZ: Yeah. So -- okay.

25 MR. HILDEBRAND: Well, also what's in the report

1 was derived in part by me. I was one of the authors of
2 the report.

3 CHAIRPERSON DODUC: Mr. Hildebrand will be
4 available on Monday.

5 MR. HERRICK: He will.

6 Thank you. Sorry.

7 Mr. Hildebrand, before we get to your rebuttal
8 testimony regarding Mr. Letey's testimony, I would just
9 like to refer you to Attachment I to your own testimony.
10 Are you familiar with that?

11 MR. HILDEBRAND: Yes.

12 Q And that's the report authored by Dr. Orlob regarding
13 the impacts to the San Joaquin River?

14 A Yes, I worked with Dr. Orlob in preparing this.

15 Q And I just want to briefly say, I would note -- would
16 you please note in there that the South Delta includes
17 soils which have permeabilities of -- excuse me. Let me
18 back up. That report notes that are soils in the South
19 Delta that have permeabilities of .2 inches per hour; is
20 that correct?

21 A Oh, some of them were worse than that. They're --
22 about 40 percent of the soils in the South Delta have
23 permeabilities that range from less than .06 to .2. And
24 there are another 35 percent that are in the range of .2
25 to .6. And this is very relevant to this question of the

1 feasibility in commercial practice of having any leach
2 ratio to control the salt in the root salt.

3 Q And, Mr. Hildebrand, when we say a permeability of .2
4 or you said .06 to .2, can you translate into that to a
5 leaching fraction, which has been referenced in some of
6 the expert testimony that's been adopted?

7 A Well, what permeability is or the units that you use
8 is the inches of water per hour that can percolate into
9 the soil. And so if you've got a .2 permeability, and you
10 don't have surface soil compaction, as we do have in
11 alfalfa, for example, then you would be able to percolate
12 about 2/10 of an inch depth of water into the soil per
13 hour. Because, as I will show, these aren't enough hours
14 available to percolate the amount that the crop needs
15 during summer months.

16 Q And in the expert testimony that's already been
17 accepted by the Board into evidence, leaching fractions of
18 15, 20, 30 or 50 percent were mentioned; is that correct?

19 A Yes.

20 Q And the leaching fraction that's associated with a .2
21 permeability would be approximately 7 percent, is that
22 right?

23 Or what would it be? I'm sorry.

24 A Well, if you had a -- if you applied an inch of water
25 and it was all percolated, .85 inches of water would be

1 applied to the consumptive use by the crop and the other
2 15 percent -- .15 would constitute the leach fraction.

3 Q Okay. And when you have a lower permeability, a
4 slower rate of water passage into the soil, you're unable
5 to obtain -- you're unable to gain leaching fractions of
6 15 percent, is that right?

7 A That's correct.

8 Q Okay. Thank you.

9 Mr. Hildebrand, you've reviewed Mr. Letey's
10 testimony presented by DWR?

11 A Yes.

12 Q And have you identified any conclusions or assumptions
13 he makes which you believe are incorrect?

14 A Yes. A lot of it's what he omits.

15 Q Okay. Could you touch on some of those? And then
16 we'll ask the specific questions.

17 A Yeah. His testimony was largely academic. He didn't
18 have field data to back it up in South Delta climates and
19 soils. And he purported to show that the --

20 CHAIRPERSON DODUC: Mr. Hildebrand, let me
21 interrupt you for a minute and make sure that your
22 comments are in reference to the version that we have
23 accepted into the record, which is the revised DWR-22?

24 MR. HILDEBRAND: Well, I think so. My
25 recollection may not be precise, but I'll do my best to --

1 MR. HERRICK: Let me just say, if it helps, Mr.
2 Hildebrand was here when Mr. Letey's oral testimony was
3 given and the cross examination was done. And I believe
4 he developed his comments based upon what was discussed at
5 the hearing on the -- was that the first day or second
6 day?

7 MR. HILDEBRAND: That's correct.

8 CHAIRPERSON DODUC: Okay. Please proceed.
9 Thanks.

10 MR. HILDEBRAND: His testimony is flawed and
11 doesn't support his conclusions in a number of respects.
12 He assumes without verification a leach fraction of at
13 least 15 percent can be obtained in commercial practice
14 for all crops in South Delta soils. All of these
15 academics seems to make that assumption. He apparently
16 made no calculations and no field tests to verify that
17 this assumption is valid for such as a crop as alfalfa in
18 the South Delta soils. And I remind you that alfalfa is a
19 major crop in the South Delta in support of the very large
20 dairy industry in San Joaquin County. It's not a crop
21 that we can just abandon without putting -- causing major
22 problems for the dairies.

23 In previous proceedings there was extensive
24 testimony regarding the low permeability of many South
25 Delta soils. And in order to achieve full yield alfalfa

1 must consume a lot of water by evapotranspiration between
2 each monthly cutting of hay. As the hay's harvested --
3 well, actually about every 28, 29 days. It's even a
4 little less than a month. And they get six or seven
5 cuttings in a year. But the crop has to use up -- in any
6 given 29-day period, it has to consume enough water to
7 produce about 1.3 tons of hay in the summer months.

8 And in order to do that, you have to look at the
9 operation of growing alfalfa. If you start -- say that
10 the first day of a sequence, a cycle, of operation is the
11 day after you've harvested. On that day, ideally you
12 irrigate. And you can only hold the water on the land
13 about six hours. If you hold it on too long, it
14 de-aerates the surface, root zones and crowns, and it
15 causes problems and damage to the crop.

16 MR. HERRICK: Mr. Hildebrand, when you say hold
17 it on the ground, you mean the water on the surface?

18 MR. HILDEBRAND: On the surface, yeah.

19 Q Thank you?

20 A At any one point in the field. Typically if you're
21 irrigating -- or flood irrigating, for example, you flood
22 down the complying portion of field and you flood the next
23 portion. But any one portion of the field will only have
24 water on it for roughly six hours.

25 And so if you're -- and then you have to wait for

1 that to dry up enough so the roots are re-aerated. So
2 maybe about ten days from the time you started the first
3 irrigation you can give it a second irrigation.

4 Then you have to wait maybe 12 days for the
5 surface and the shallow soil to dry up enough so you can
6 mow it, let it cure, rake it, bale it, and haul it off the
7 field. And that process typically will take you about
8 seven days. It may take a little longer if you get a few
9 days when you have no dew, because you need some dew when
10 you bale. Or it may take you a little longer because you
11 can't schedule your labor and your pump capacity to that
12 field because you're busy using it on some other field
13 just then.

14 So there are likely to be delays that force you
15 to reduce these periods between irrigation somewhat, and
16 that then causes a problem. Because these operations
17 result, with the heavy equipment you have to run over
18 them, in compacting the near-surface soil down a foot or
19 so. And when it gets compacted, you're percolative
20 capability is further reduced.

21 So, if you need -- in a 29-day harvest cycle, if
22 you have to have enough water consumed -- is applied to
23 the crop so it can grow about one and a third tons of
24 biomass, then it figures out that you're going to have to
25 have -- even without any leaching you're going to have to

1 have about 7.2 inches of water. And if you can only
2 infiltrate at the rate of 2/10 of an inch an hour for 12
3 hours, you can't do it. And after you've had this surface
4 compaction, it's more impossible to do it.

5 The result is that in an alfalfa crop -- and this
6 would apply in some degree to things like these walnut
7 trees -- that you may go for several months without any
8 leach. In my own fields I put in tensiometers to verify
9 that it was or wasn't getting a leach. And I couldn't get
10 any leach in the summertime. That means for each
11 successive irrigation you're putting more water into that
12 root zone -- more salt into that root zone and you're not
13 getting any of it flushed out.

14 So that the higher the salinity of your
15 irrigation water, the more salt you're accumulating. And
16 the -- what the plant sees is not the irrigation water
17 quality; it's the quality in the root zone, the moisture
18 in the root zone. The roots don't know what happened
19 before it got down there. And, consequently, as the
20 salinity rises in the root zone, it makes it less possible
21 for the plant to take up the water through it's osmotic
22 root system. And it therefore -- you begin -- in the case
23 of alfalfa, unless it gets pretty salty, it doesn't kill
24 it; it just stops growing. You're no longer able then to
25 produce a ton and a third or so in this 29-day period.

1 You get some lesser amount. You lose yield.

2 Q And, Mr. Hildebrand, you gave the example of alfalfa
3 and the ability to get any leaching at some times. There
4 are various conditions of the soils in the South Delta; is
5 that correct?

6 A Yes, they -- in a previous hearing, '95 I think it
7 was, we presented a lot of testimony that was derived by
8 the Soil Conservation Service people that showed that we
9 have about 80 different soil types in South Delta and that
10 about 40 percent of those aerially, as I say, have this
11 very low permeability and another 35 percent have a
12 restricted permeability to the extent that you still can't
13 get this 15 percent leach fraction that Mr. Letey and
14 others are assuming you should be able to get.

15 Q Mr. Hildebrand, in the South Delta we also have soils
16 that are below sea level; is that correct -- below high
17 tide level?

18 A Below high tide level, yes.

19 Q And we have some soils that have shallow groundwater,
20 up to two or three feet from the surface?

21 A Some. Although typically in the South Delta we
22 have -- the ground is sufficiently above mean sea level,
23 so that the water table's way down.

24 Q And as you just said, some places have a water table
25 very, very deep; is that correct?

1 A That's right.

2 Q And we have these varying soil types from
3 permeabilities of .2 up to whatever the upper limit is --
4 or, excuse me -- .2 and below to some upper limit; is that
5 correct?

6 A Yes.

7 Q And given those variabilities and the agricultural
8 practices that you just mentioned for one crop, is it your
9 opinion then that, contrary to Mr. Letey's conclusions,
10 that application of water above .7 EC will cause crop
11 impacts -- adverse crop impacts in the South Delta?

12 A Well, let me go into a little more detail on that. I
13 started out just to discuss this business of his
14 assumption that you can get a 15 percent leach. And
15 that's not feasible on a lot of our lands, or crops such
16 as alfalfa.

17 But another flaw is that he only addresses the
18 needs of established plants. This occurs because he only
19 in his analysis uses the figures on tables that were
20 produced by the U.S. Salinity Lab under the direction of
21 Dr. Glenn Hoffman; of which in order to limit the number
22 of variables, what they did was they had big containers
23 and in those containers they only measured the salinity in
24 the root zone that existed when you had no compaction and
25 you had -- you applied water whenever the plant needed it,

1 and you applied about 50 percent leach fraction, which is
2 totally impossible in a typical commercial situation.

3 Dr Hoffman was -- Dr. Hoffman was a major
4 testifier in those early proceedings, and was invited I
5 think by the Board rather than by any participant in the
6 hearings. And he made a statement that the -- he
7 explained the conditions in these lysimeters, as they
8 called them, where they looked at the salinity tolerance
9 of established plants. And then he said there was no
10 pretense of coping with such factors as variation in
11 salinity tolerance at different stages of growth, cultural
12 soil compaction, commercially necessary departures from
13 as-needed irrigation, variations in leach fraction with
14 time during the crop season, root aeration problems which
15 occur when soaking for high leach, soil aerations within
16 fields, or soil damage by precipitation.

17 So he indicated that the basic root zone salinity
18 tolerance data which was in the table are very difficult
19 to relate to field conditions. Now, Mr. Letey ignored all
20 that problem.

21 There was also a lot of testimony that the
22 seedlings of most crops are considerably more salt
23 sensitive than the crops themselves. And Mr. Letey didn't
24 address that at all.

25 Furthermore when you plant seeds, whether it be

1 beans or something else, you typically don't plant them
2 until the season of the year when the soil moisture is
3 enough so they'll germinate. If you plant beans in
4 December, they just don't germinate. They sit there and
5 rot.

6 And when you -- by the time you're able to plant
7 them, say, in May, more often than not it hasn't rained
8 for quite awhile. So the rain water that's landed on
9 the -- in the root zone -- shallow root zone has all
10 evaporated from surface evaporation. And when you -- and
11 when that happens, you get -- measurements have shown that
12 the increase in salinity in the seedling root zone is of
13 the order of two to four times the salinity that you had
14 in the irrigation of water you applied. So this is a
15 serious problem.

16 Mr. Letey also refers to the -- that relates to
17 his testimony about use of rainfall water. But his method
18 of analyses seemed to assume that when you do apply water,
19 it percolates rather uniformly down through the various
20 layers of soil in the root zone. Well, I know from my
21 experience as the director of a research laboratory that
22 that's not the case. The water preferentially flows
23 through the pores, between the particles that are larger
24 and better connected, and tends to bypass those pores that
25 are smaller, less well-connected. And there are even

1 pores that are in effect blind alleys where the -- and the
2 salt can only get out by diffusion, which takes a longer
3 period of time.

4 So he apparently assumes that after you've
5 irrigated, you've flushed all the salt in the upper root
6 zone. Well, that's not the case. It doesn't all flush
7 out that readily.

8 He sites information of alleged results from
9 other states and nations, without any evidence that the
10 soils and other conditions in those cases were similar to
11 those in the Delta. And we have reason to believe they're
12 not.

13 In relation to Mr. Salmon's walnut production, as
14 I mentioned earlier, he apparently did not consider the
15 possibility that salt stress could create a susceptibility
16 to virus infection; and, therefore, stated that the damage
17 to Salmon's walnut production were, quote, "likely due to
18 virus infection rather than the salinity." That's a
19 questionable thing.

20 So Mr. Letey did not address any of these
21 complications. And so his conclusion that you can provide
22 a 15 percent leach is not a valid conclusion. And he
23 failed to show that by -- there would be no damage by not
24 enforcing the .7 EC standard.

25 There are other testimony, that I guess in the

1 end was not submitted by other parties, which were very
2 similar.

3 MR. HERRICK: Thank you, Mr. Hildebrand.

4 That's all I have Madam Chairman. I would like
5 to use the page -- the excerpts from the water supply
6 contracts, just assign it a South Delta exhibit. I think
7 7 is the next in order; is that correct?

8 CHAIRPERSON DODUC: I don't know. Is that
9 correct?

10 MR. HERRICK: Sorry.

11 I'm just going by what's on the screen. I
12 apologize. I didn't bring my list up.

13 MS. RIDDLE: That's correct. Exhibit 7.

14 MR. HERRICK: Thank you.

15 And with that, Mr. Hildebrand is available for
16 cross examination.

17 CHAIRPERSON DODUC: All right. We'll start with
18 the prosecutorial team.

19 STAFF COUNSEL MAHANEY: Prosecution team has no
20 questions.

21 CHAIRPERSON DODUC: Central Delta Water Agency.

22 MR. NOMELLINI: Dante John Nomellini for Central
23 Delta Water Agency.

24 No questions.

25 CHAIRPERSON DODUC: San Joaquin County.

1 MR. MCGREW: Mike McGrew for the County of San
2 Joaquin.

3 No questions.

4 CHAIRPERSON DODUC: California Sportfishing
5 Protection Alliance.

6 No one's here.

7 Department of Water Resources.

8 MS. CROTHERS: This is Cathy Crothers. I have
9 just a few questions.

10 CHAIRPERSON DODUC: Please.

11 CROSS EXAMINATION

12 OF THE SOUTH DELTA WATER AGENCY PANEL

13 MS. CROTHERS: Mr. Hildebrand, I have a question
14 on irrigation. You were explaining how the soils in the
15 South Delta -- in your experience, there's a problem with
16 leaching because of the low permeability of the soils; is
17 that correct?

18 MR. HILDEBRAND: That, combined with the cultural
19 complications which reduce the frequency and duration of
20 feasible irrigation.

21 Q You're speaking of flood irrigation?

22 A Well, the same would to be true whether it's flood
23 irrigation or -- you want to propose some other kind of
24 irrigation?

25 Q By sprinklers?

1 A Well, you can't use sprinkler irrigation on alfalfa,
2 for example. That doesn't work.

3 Q Okay. So, for example, in your alfalfa example, you
4 said if you had a low permeability soil and the water
5 moved at 2/10 of an inch per hour through the soil -- did
6 you say you would leave the water on the soil in that
7 field six hours?

8 A Not more than six hours at a time or you'll cause an
9 aeration problem.

10 Q So if you left the maximum amount of time that was
11 possible, six hours, at 2/10 of an inch per hour, would
12 that water then permeate through that soil approximately
13 1.2 inches?

14 A If you haven't had any surface compaction it would,
15 yeah. But you could have that basic soil permeability of
16 2/10 and not be able to achieve that because of the
17 inevitable surface compaction that's associated with the
18 mowing, harvesting of the crop.

19 Q Do farmers practice alfalfa growing in that manner,
20 the way you've described, on these soils?

21 A What do you mean by "in that manner"?

22 Q Well, do you know if farmers who are growing alfalfa
23 on soils of that nature and then they apply the water for
24 six hours?

25 A Yes, I know.

1 Q So that -- is that sufficient, a 1.2-inch irrigation,
2 to grow alfalfa?

3 A Well, as I explained, in order to grow a full yield of
4 alfalfa, which is of the order of one and a third tons in
5 every 29 days, you have to percolate something of the
6 order of 7.2 feet of water during that period of time even
7 if you don't have any leach.

8 Q I must be missing something here. I don't understand.
9 How can you get 7.2 feet of water if you only can get 1.2
10 inches of water into the soil every time you irrigate?

11 A That's what I was explaining. You can't.

12 Q How do these farm --

13 A That's why you don't get any leach.

14 Q How do the farmers get water to the alfalfa crop?

15 A They're usually flood irrigated. And your field has
16 divided usually with ridges, so that you can irrigate one
17 or more ridges depending on the size of your irrigation
18 supply or the volume of it. In my case, I can irrigate
19 about a 400 to 500 foot strip at a time across the field.
20 And so that may take six hours. And then it move to the
21 next series of strips and irrigate those.

22 So at any one point in the field it has water
23 flooded on its surface for roughly six hours.

24 Q Does that water then percolate down seven feet over
25 the --

1 A That's my point. You can't percolate that much in
2 this kind of soil, and that's why you don't get the leach
3 fraction that Mr. Letey and others have been assuming that
4 we can get.

5 Q Well, excuse me, but I just don't understand. I
6 thought you just said you needed 7.2 feet of water into
7 those roots to grow your alfalfa. And I don't understand.
8 How does that water get down seven feet?

9 A That's the problem. You can't get that yield unless
10 you can get that water down.

11 Q Well isn't it a factor of your soil density
12 permeability, not so much as the type of quality of the
13 irrigation water?

14 A If you have a situation where you can't get enough
15 water into the root zone, which is a deep root zone in
16 this case -- if you can't enough water into it to get any
17 leach, then whatever salt was in that irrigation sits
18 there. And then the next irrigation comes along and you
19 add some more salt. And pretty soon you've got salinity
20 that's so high in the soil salinity, which is all the
21 plant cares about, rather than the irrigation salinity,
22 pretty soon you have an amount of salt such that the
23 osmotic root system can't take up the water because
24 there's too big a salinity difference between the soil
25 salinity and what the plant is trying to take up. And so

1 what happens is, in the case of alfalfa, it just sort of
2 stops growing.

3 Q Well, Mr. Hildebrand, wouldn't that be the case if you
4 had a salinity of your irrigation water of .7 or 1.0,
5 wouldn't you have that same problem?

6 A You'd have the same.

7 MR. SCHULZ: Madam Chairman?

8 CHAIRPERSON DODUC: Mr. Schulz.

9 MR. SCHULZ: Just to try to maybe speed things up
10 a little bit. I got a hunch there's something going on
11 here in miscommunication. I think Ms. Crothers is asking
12 about 2/10 of an inch per hour. And I'm wondering whether
13 Mr. Hildebrand was talking about 2/10 of a foot per hour.
14 And that's why -- is it --

15 MR. HILDEBRAND: No, I'm talking about inches.

16 MR. SCHULZ: You're talking about the
17 permeability is 2/10 of an inch per hour?

18 MR. HILDEBRAND: Yes.

19 MR. SCHULZ: Okay.

20 CHAIRPERSON DODUC: Thank you, Mr. Schulz.

21 MS. CROTHERS: Could I repeat the --

22 MR. HILDEBRAND: On any one irrigation the amount
23 of penetration you're going to get will be the same
24 whether it's a .7 or 1.0. But if you can't get a leach
25 fraction, then the 1.0 has brought in more salt into the

1 root zone than if it was .7. And subsequent irrigations
2 continue to build that up more rapidly.

3 MS. CROTHERS: Well, that was my question, is:
4 Wouldn't it just be a question of degree; that if you
5 apply a .7, eventually though wouldn't you have a salt
6 buildup -- if you're only able to push the water into the
7 soil 1.2 inches and it starts accumulating after that
8 point, the salt would begin to accumulate in any case; it
9 just would take a little longer for it to get more of a
10 problem --

11 MR. HILDEBRAND: That's right.

12 Q -- is that correct?

13 A You don't accumulate it as fast if you have a
14 higher --

15 Q Thank you. That was my question, that the
16 accumulation would occur in any case.

17 A Yeah, you already have a problem with .7. And you
18 just make it worse if you go to 1.0.

19 Now, if on an annual basis you can get enough
20 total leach, then you start out your season with lower
21 salinity in the root zone. And so you can tolerate some
22 buildup for some period of time. But the rate at which it
23 builds up has to do with the amount of salt you're
24 bringing in with the irrigation water.

25 Q Mr. Hildebrand, has anybody in the South Delta area

1 that you know have come to DWR with a complaint regarding
2 their alfalfa crops not growing in the South Delta?

3 A Did they come to me personally?

4 Q Did they -- has anybody made a complaint to DWR
5 regarding their alfalfa crops not growing in the South
6 Delta?

7 A Well, I'm not sure what procedure you're talking
8 about. Certainly in a procedure like what we're having
9 right now we're complaining that we can't get full yields
10 of alfalfa in our crops, if we have --

11 CHAIRPERSON DODUC: Mr. Hildebrand, Ms. Crothers
12 was asking if to your knowledge anyone has raised that
13 concern or complained with the Department.

14 MR. HILDEBRAND: I'm not sure of the answer to
15 that question. But certainly there's been a lot of
16 concern in the South Delta about the inability to get full
17 yields of crops.

18 CHAIRPERSON DODUC: Thank you.

19 Ms. Crothers, your next question?

20 MS. CROTHERS: Mr. Hildebrand, you talked -- you
21 spoke about the State Water Project delivering water such
22 that it resulted in these increases to the San Joaquin
23 River salt load. I believe you mentioned it was through
24 the export of ocean salt, that's the Bay Delta salt that
25 is found at Clifton Court Forebay, and then that therefore

1 was exported to the San Joaquin River.

2 Could you explain to me what service areas that
3 drain into the San Joaquin River received that water from
4 Clifton Court Forebay?

5 MR. HILDEBRAND: Well, I thought I went through
6 that. But I'll do it again. We're concerned about the
7 import of salt via the Delta-Mendota Canal, which is
8 delivered to those entities on the west side, that then
9 have drainage into the river.

10 Q Excuse me. That's not a State Water Project service
11 area.

12 A No, but --

13 Q Could you explain what service areas of the State
14 Water Project?

15 A -- but what I said is if -- that if the state --
16 operation of the state Project increases the delivery of
17 salt to the westside service area of the CVP, they then
18 increase the amount of salt that drains into the river.
19 And that in turn comes down the river and increases the
20 salinity in the South Delta. Now, after it gets down to
21 the Delta, the bulk of it is drawn through Old River,
22 Grant Line Canal, goes back to the CVP pumps and is
23 re-exported back down there. So you're chasing several
24 hundred thousand tons a year of salt around a
25 merry-go-round here, and it does indeed salt up the South

1 Delta.

2 Q Excuse me. But none of that water is really delivered
3 into any State Water Project service area however.

4 A I didn't say it was.

5 Q Okay. That was my question, if any of that water was
6 delivered to a State Water Project service area that
7 drained into the San Joaquin River?

8 A No, no. What I said was that the operation of the
9 State Project increases the salt delivery to the CVP
10 service area.

11 Q And that CVP service area though is water delivered by
12 the U.S. Bureau of Reclamation?

13 A Yes.

14 Q Thank you.

15 You've proposed the idea of modifying the
16 temporary barriers program to improve their ability to
17 improve water quality in South Delta. Do you believe if
18 such a proposal was carried forward, there would need to
19 be an environmental document such as perhaps an
20 environmental impact report to do such a change in the
21 existing barriers?

22 A Oh, I doubt it. Basically it's the same idea, but you
23 just do it a little differently. You put in more
24 culverts. And we have different numbers of culverts in
25 the different barriers anyway. And you have more culverts

1 in order to be able to bring more water into the Middle
2 River by tides even though you raise the level of the rock
3 barrier so that it doesn't spill back so much water. And
4 then you put a pump in so that you capture still more
5 water. And bring that water up through Middle River, into
6 Old River, and thereby sweeten the water supply -- water
7 quality and also augment the flow -- unidirectional flow
8 in the other channels.

9 Q Well, Mr. Hildebrand, are you aware that DWR operates
10 those barriers pursuant to Army Corps of Engineers
11 permits?

12 A I'm very much aware of that.

13 Q Are you aware that when we obtain a permit from the
14 Army Corps of Engineers it's specific to the exact design
15 of the structure in the channel that the permit is issued
16 for?

17 A I believe that's true. But on the other hand, I think
18 on occasion you've gone back to the Corps and said, "We
19 want to make a certain modification," and they had not
20 required a whole new environmental impact statement.

21 Q Yes, that may be true. So if -- but however we
22 don't know for sure if we went to the Corps and asked them
23 for a modification, that we would have the ability to go
24 forward without another environmental review.

25 A Well, the reason we don't know is because you haven't

1 tried.

2 Q Yes. And do you also know then with your experience
3 that the fish agencies have concern about the way the
4 barriers are operated?

5 A Yes. Although there's usually a lot of confusion
6 there, and that people don't make it clearly enough to
7 just how we're going to modify it as to whether it would
8 indeed have any impact on the fishery. For example, we're
9 only talking about the recirculation from the DMC and then
10 the river and that kind of recirculation in July and
11 August and September. And to the best of my knowledge, we
12 don't have fishery problems in those months. And we
13 certainly concede that in late May and June the fishery
14 concerns will probably preclude doing that. That's why
15 we've suggested other ways of dealing with the problem in
16 those other months.

17 Q Well, would you agree though, if any modification were
18 to be proposed, we would have to obtain approvals of the
19 fishery agencies?

20 A I suppose you'd have to -- yes. But I get back to my
21 point that you don't know just how difficult that is
22 unless you try. I mean, after all, you knowing that
23 you're going to have to meet these water quality
24 requirements for years, and --

25 CHAIRPERSON DODUC: Thank you, Mr. Hildebrand.

1 I'm going to ask you to just answer Ms. Crothers
2 questions.

3 MR. HILDEBRAND: Okay.

4 MS. CROTHERS: I believe I'll just ask one other
5 question to clarify the record. This has been brought up
6 in other forms. But since you have -- I think you've
7 brought forth an excerpt from Department of Water
8 Resources -- let me ask this: Did you have an excerpt
9 showing the State Water Project long-term service
10 agreement -- water purchase agreements and the water
11 quality objective? I forgot. Is that what you had, is
12 it, on your --

13 MR. HILDEBRAND: Well, I had this -- it's --

14 Q The water supply --

15 A -- SDW-87.

16 Q Well, let me just ask it this way: You mentioned that
17 the State Water Project contracts -- long-term water
18 purchase contracts have in them an objective to take
19 reasonable measures to make available water with certain
20 water quality, is that right?

21 A That's right.

22 Q Are you also aware that in that section of our water
23 supply contracts it also states that there is no liability
24 to the state for not delivering such quality water?

25 A Well, I don't recall that. But I'm not surprised.

1 The state's pretty good at seeing to it that it's not
2 liable.

3 Q And also that, as we've stated before, that these
4 objectives are really goals in obtaining water quality
5 from municipal purposes?

6 A I can't attest to the precise language.

7 Q And would you also -- do you have any knowledge
8 whether DWR actually operates in a manner as to attain
9 this water quality's provision for some specific -- as
10 specifically provided here?

11 A I don't think they have to do much. I think it just
12 naturally comes out that way, that they -- your customers
13 receive this water quality that's considerably higher than
14 they would like us to have.

15 Q Well, Mr. Hildebrand, are you aware that the
16 Department operates to water quality provisions within the
17 Delta pursuant to our water quality requirements under
18 D-1641?

19 A Yes.

20 Q So if the Department is operating to those water
21 quality requirements in the Delta, do you believe that
22 that is the method by which we attain the water quality we
23 do at the Delta pumps?

24 MR. HERRICK: Let me just ask for a
25 clarification. Are you referring to the water quality

1 objectives for the three interior South Delta stations of
2 0.7?

3 MS. CROTHERS: No, I'm referring to, in the Delta
4 DWR operates to different water quality objectives, such
5 as at Pumping Plant No. 1 and different areas in the north
6 Delta, central -- interior Delta, central Delta, we
7 operate to water quality objectives in the Delta, which we
8 are obligated to meet and which we do maintain.

9 Q Would you believe -- would you agree that it's
10 maintaining those water quality requirements that is the
11 basis for the water quality that's provided at Clifton
12 Court Forebay?

13 A I'm not sure about that.

14 Q Would you agree that we do operate to maintain water
15 quality based on our water quality requirements in the
16 Delta?

17 A Well, you do with respect to those that are in the
18 western Delta. I'm not sure that you do with respect
19 to -- I haven't seen you do it relative to the water
20 quality objectives that we're talking about in the South
21 Delta.

22 Q No, but I was just going -- well that's all the
23 questions I have.

24 Thank you.

25 CHAIRPERSON DODUC: Thank you, Ms. Crothers.

1 San Joaquin River Group Authority.

2 CROSS EXAMINATION

3 OF THE SOUTH DELTA WATER AGENCY PANEL

4 BY MR. KEN PETRUZZELLI, ESQ., representing the San Joaquin
5 River Group:

6 MR. PETRUZZELLI: Ken Petruzzelli the River
7 Group.

8 Just a few questions, Mr. Hildebrand.

9 I believe you said earlier in your testimony that
10 the State Water Project contracts require water quality of
11 440 parts per million?

12 MR. HILDEBRAND: That was my understanding, and
13 it was shown on this reference I had. But I just agreed
14 that I don't know the precise wording as to whether that's
15 considered to be a goal or a requirement or just what it
16 is.

17 Q And correct me if I'm wrong, but I believe the
18 conversion for parts per million to DSM is a division by
19 640?

20 A Yeah, 1 part -- 1 EC is 640.

21 Q Okay. And then if one were to divide 440 by 640, the
22 result would be?

23 A Well --

24 MR. HERRICK: Excuse me. I think it's the other
25 way around. It's the parts per million is divided by 640,

1 not the EC divided by 640. But Mr. Hildebrand can answer
2 that.

3 MR. HILDEBRAND: Yeah, I think if you got 440
4 TDS, that is a little more than .5 EC.

5 MR. PETRUZZELLI: What would you say if I said
6 that dividing 440 by 640 on -- on my calculator I achieved
7 a 0.6875?

8 MR. HILDEBRAND: I'm not going to compete with
9 your calculator

10 (Laughter.)

11 MR. PETRUZZELLI: And no further questions, Madam
12 Chair.

13 CHAIRPERSON DODUC: Thank you.

14 Let me just try a different way of asking this.
15 Who's left in the audience who would like to cross-examine
16 Mr. Hildebrand?

17 I see only one hand. Mr. Rubin.

18 Oops, two hands. Mr. Minasian.

19 Already. Let's go ahead and go with Mr. Minasian
20 since you're next on the list.

21 CROSS EXAMINATION

22 OF THE SOUTH DELTA WATER AGENCY PANEL

23 BY MR. PAUL R. MINASIAN, ESQ., representing the San
24 Joaquin River Exchange Contractors:

25 MR. MINASIAN: Mr. Hildebrand, let's play the

1 alfalfa game.

2 MR. HILDEBRAND: Okay.

3 Q If you put water on for six hours at a rate of 2/10 of
4 an inch percolation factor, how deep would the water go at
5 the time you stopped irrigating?

6 A That depends on how much water was left in the root
7 zone before you irrigated.

8 Q But do you agree that the calculation that we were
9 doing and the question of Mr. Schulz is basically aiming
10 towards the question: How are we going to irrigate those
11 roots that are down at three feet or three and a half feet
12 if that's all the percolation that's occurring?

13 A Well, you won't get down that far on a single
14 irrigation, no, unless the pores in that root zone are
15 already partially filled.

16 Q Okay. And do you agree that one thing we've heard in
17 the testimony is there's great variability in the crops,
18 the soils, the approaches of farmers?

19 A Correct.

20 Q Okay. And bureaucracies don't deal well with
21 variabilities, do they?

22 A Boy, you can say that again.

23 Q Okay. Now, you remember that I asked you if you had
24 one half of the tax loss, \$1.5 million, how you would
25 spend it through a State Board order? First of all,

1 you -- let me ask you three questions about that.

2 You wouldn't give the money to the State Board to
3 have it tell you how to spend the money to reduce the
4 problems in the South Delta, would you?

5 A I wouldn't take the money in the first place, because
6 we want water, we don't want money.

7 Q Okay. Now, you heard me examine Mr. Johns about the
8 tar baby factor, didn't you?

9 A Yes, I did.

10 Q Okay. Aren't you playing that same game?

11 A Explain why you think I am.

12 Q Well, who better to determine how to spend \$1.5
13 million a year to try to ameliorate the risk of harm from
14 a violation?

15 A The way to get rid of that risk of harm is to improve
16 the water quality, and we don't have the control of doing
17 that.

18 Q You would agree with me that -- would you not, that I
19 could find farmers who are growing alfalfa, albeit on
20 different soils, for far less than 84 inches of water a
21 year, wouldn't you?

22 A Say that again please.

23 Q Yeah. Well, let's talk about the difference in soil
24 types. You agree that the university puts out figures in
25 regard to the amount of water that is applied to an

1 alfalfa crop in an ideal situation on a season-long basis?

2 A Yes.

3 Q And do you agree that it's about three and a half to
4 four acre/feet?

5 A Oh, I think it's more than that for a full yield.

6 Q Okay. And your people -- some of your people are
7 applying 84 inches, aren't they?

8 A Well, if they are, those are in soils where they can
9 actually get a leach.

10 Q Okay. And my question to you is: If we have this
11 sort of variability, who best to determine the best tools
12 to give the growers to make sure that they don't get a
13 yield reduction if their water is .7 EC or 1 EC?

14 A Well, you're assuming there's something that the
15 farmer can do to get higher permeability. And I don't
16 think that's possible.

17 Q Okay. Well, we know that if somebody's putting on six
18 hours of water and only getting the water 1.2 inches into
19 the ground, that he ought to have a soil EC reading to
20 know what he's dealing with below that level, shouldn't
21 we?

22 A He knows that. What farmer are you talking about who
23 wouldn't know that?

24 Q Do you agree that when we talked to Mr. Salmon, that
25 in order to get a leaf toxicity -- chloride leaf toxicity

1 he had to not be aware of what his soil EC was or not
2 understand what the reading was saying?

3 A I think you're confusing the question of how he knows
4 whether he has a problem there. And after you've been
5 farming for a few years and you have taken some readings
6 and so forth of the soil, you get so you can tell by
7 looking at the crop what the situation is.

8 My fields have variable permeability within the
9 field. So do most people's. And I can look out there and
10 I can see which parts of the field are hurting and which
11 aren't hurting by the color of the crop, the leaves in the
12 crop, and other visual things. And after awhile I learned
13 that I can tell just as well that way as I can with
14 tensiometers and a whole lot of reading.

15 Q One more try. I've given you \$1.5 million under a
16 hypothetical to spend within your district to help your
17 people with the risk that the water salinity will be above
18 .7 and maybe in the 1 range. How would you best spend it?

19 A Well, as I said before, I wouldn't take it because I
20 wouldn't be able to spend it in a way that would solve the
21 problem.

22 Q Okay. You just described to us how you know your
23 fields. Okay?

24 A Sure. And that applies to other farmers as well.

25 Q Good. And have you heard the old joke that the reason

1 that the son goes into the farming business is his father
2 will tell him the mistakes he made?

3 A I don't know as I've heard that particular thing. But
4 there's some applicability to that. But my father wasn't
5 a farmer, so that didn't happen to me.

6 Q Right.

7 My question to you is, again: If you wouldn't
8 take the money because it's too dangerous, you can't be
9 sure you'd get the result, is that danger any greater than
10 the danger of what is happening now, which is, some people
11 are dealing without soil EC, some people aren't figuring
12 out where the water quality is, and some people don't know
13 whether the drain up the slough is turned on and pumping
14 three-part water -- 3 EC water?

15 A You're I think assuming we have more incompetent
16 farmers than we have. The incompetent farmers get up and
17 go out of business after awhile. So the ones that are
18 left are like some of the farmers that we brought here to
19 testify. They know what they're doing. And their method
20 of knowing what the problem is isn't always what the
21 academics think it ought to be. And they've been through
22 all that and they've found out other ways of telling.

23 And this chloride thing is -- there's some
24 problem with a particular ion of chloride that has to do
25 with that -- concentration of that ion as distinguished

1 from salts generally. But as was mentioned, it's very
2 soluble. And if you can get enough leach ratio, you can
3 flush it out. And the problem is when you don't have
4 enough leach ratio to flush it out.

5 Q What would you recommend the State Board do compared
6 to the proposed enforcement order, which just says take
7 some measures? Do you think it's too dangerous for the
8 State Board to specify what the measures should be that
9 would be taken?

10 A Oh, yeah.

11 STAFF COUNSEL LEIDIGH: Mr. Minasian, how is this
12 in line with the scope of his rebuttal testimony?

13 MR. MINASIAN: That's a fair question. It's the
14 only area he didn't get into actually.

15 (Laughter.)

16 MR. MINASIAN: Let me stop.

17 Thank you.

18 (Laughter.)

19 CHAIRPERSON DODUC: Thank you, Ms. Leidigh.

20 Mr. Rubin.

21 You are forewarned.

22 CROSS EXAMINATION

23 OF THE SOUTH DELTA WATER AGENCY PANEL

24 BY MR. JON RUBIN, ESQ., representing the San Luis and
25 Delta-Mendota Water Authority:

1 MR. RUBIN: Good afternoon. John Rubin for San
2 Luis and Delta-Mendota Water Authority, Westlands Water
3 District.

4 Mr. Hildebrand, a question for you with regard to
5 salt concentration and salt load.

6 Can you explain to me the difference between salt
7 concentration and salt load?

8 MR. HILDEBRAND: The plant sees through its roots
9 what the concentration of salt is in the moisture that's
10 in its root system. It doesn't know how it got there.
11 That's all it sees.

12 So it might have gotten -- a given salt
13 concentration might have gotten there because you applied
14 salty water or it might have gotten there because you
15 couldn't get rid of the salt and it accumulated from
16 subsequent irrigations.

17 So I'm not sure whether I've answered your
18 question, but --

19 Q I'm sorry. I should have been more specific.

20 There's been quite a bit of discussion, and you
21 raised this in your rebuttal testimony, regarding salt in
22 the San Joaquin River and particularly discharges from the
23 agricultural water users upstream of Vernalis. And you
24 talked about activities particularly within the Grasslands
25 Bypass Project and distinguished, if I understood

1 correctly, between activities that affect the
2 concentration versus activities that affect the load.

3 A That's correct.

4 Q And if I understand it correctly, when you reduce the
5 load of salt in the San Joaquin River, what you're
6 reducing is the amount of salt generally measured by it's
7 weight; is that correct?

8 A That's correct.

9 Q And when you're talking about reducing the
10 concentration, what you're talking about is the amount of
11 salt per volume of water?

12 A That's right.

13 Q And what your comments were with regard to the
14 Grasslands Bypass Project, you raised a concern, if I
15 understood it, with the project not affecting load; is
16 that correct?

17 A No, no. What I said was that the bypass project is in
18 some degree reducing the load that gets into the river at
19 the expense of increasing the load that's retained in the
20 soils and groundwaters of those parties to that.

21 Q So you acknowledge that the Grasslands Bypass Project
22 is reducing the load of salt in the San Joaquin River?

23 A To some extent. But they're also reducing the volume
24 of flow, which then means that the concentration is not
25 necessarily reduced.

1 Q Mr. Hildebrand, you also spoke of the -- your
2 understanding that the State Water Project pumps water
3 that has non-indigenous salts; is that correct?

4 A That's right.

5 Q And the non-indigenous salts that you identified are
6 salts that are brought into the Bay Delta, in essence,
7 from the ocean; is that correct?

8 A I was referring to the -- yeah, that's the source of
9 it. But it's imported into the valley by the
10 Delta-Mendota Canal.

11 Q But the salts exist within the Delta because of the
12 connected nature of the Delta and the ocean?

13 A That's right.

14 Q And therefore is it correct to assume that water that
15 is diverted within the Delta, whether it's by the CVP, the
16 SWP or in-Delta diverters, are picking up water or
17 diverting water that contains these ocean-based salts?

18 A That's right.

19 Q Mr. Hildebrand, you spoke of the contracts that the
20 Department of Water Resources or the State of California
21 holds with the State Water Project contractors; is that
22 correct?

23 A That's correct. Although I don't claim to be
24 knowledgeable about the detail of the wording of those.

25 Q Are you familiar with the contracts that the United

1 States Bureau of Reclamation or the United States holds
2 with the federal contractors?

3 A Less so, but somewhat.

4 Q Would you be surprised to learn that the protections
5 afforded to the federal contractors with regard to water
6 quality are very limited?

7 A It's my understanding -- and I repeat that I'm not
8 privy to this in detail -- is that because of the greater
9 variability of salinity at the intake of federal pumps,
10 which in turn has to do with this recycling of salt that I
11 mentioned, because of that the objective, or whatever you
12 want to call it, for maximum salinity is a higher figure
13 because there are times, for temporary periods, that
14 salinity can get higher.

15 But on average, they still are getting in the DMC
16 water of considerably better quality than .7.

17 Q That was the next question.

18 Again, as I understand the testimony that's been
19 presented by farmers within the Central Delta and the
20 South Delta, the general practice is for those farmers to
21 divert directly from the river or the channel that is in
22 close proximity to their property to their crops; is that
23 correct?

24 A Within the South Delta you're talking?

25 Q Sure.

1 A Yeah.

2 Q And that practice is different for the federal and
3 state contractors; is that correct?

4 STAFF COUNSEL LEIDIGH: Mr. Rubin, did Mr.
5 Hildebrand testify as to the federal contractors?

6 MR. RUBIN: No. I could limit my questions.
7 That's fine.

8 STAFF COUNSEL LEIDIGH: Thanks.

9 MR. RUBIN: Mr. Hildebrand, I'll restate my
10 question.

11 There is a difference between the diversion of
12 water at the Banks Pumping Plant and the diversion of
13 water by a State Water Project contractor, isn't that
14 correct?

15 MR. HILDEBRAND: Well, they're two different
16 facilities, if that's what you mean.

17 Q Is it possible that the quality of water that is
18 diverted by a farmer within a service area for a state
19 water contractor receives different water quality than the
20 quality of water that's pumped at Banks Pumping Plant?

21 A Yes.

22 Q Now, Mr. Hildebrand, I'm a little bit concerned about
23 going through these lines of questions, but I still don't
24 think I fully understand some of the discussions that
25 you've had with other parties.

1 If I understand it correctly, on rebuttal you
2 testified that roughly 40 percent of the lands within the
3 South Delta Water Agency's service area have a
4 permeability, if I recall correctly, of .2.

5 A Point 2 or less.

6 Q Point 2 or less. And if I understand your testimony,
7 when you have a permeability of .2 or less, that means
8 when you apply water to your lands, at a maximum water is
9 moving through the soil at 2/10 of an inch per hour?

10 A That's right.

11 Q And therefore water could be moving less slowly
12 through the soil and therefore less than 2/10 of an inch
13 per hour?

14 A If you have compaction of the surface, yes.

15 Q And if I understand it correctly, if you are in an
16 area -- again, you've said about 40 percent of South Delta
17 Water Agency service area is like this -- an area where
18 the permeability is 2/10 of an inch per hour or less and
19 you apply water for six hours, the water is traveling 1.2
20 inches during that time or less?

21 A No, the water will travel more than that because the
22 porosity in the soil is typically not more than 25 percent
23 of the volume. So it would go down -- instead of going
24 down an inch, you'd go down four inches or something of
25 water.

1 Q I'm not sure I understand the difference then between
2 porosity and permeability. Can you explain that?

3 A Yes. If you look at the structure of a soil, it has a
4 lot of particles of different sizes, looking at a
5 microscopic scale. And the porosity represents the entire
6 volume of soil that is not filled with minerals. It opens
7 so it can hold water. But the permeability measures the
8 rate at which the water can flow through that porous soil.
9 And it doesn't uniformly flow through all of the pores.
10 Some of them are even blind alleys, where the salt can
11 only get out by diffusion. Others are well connected,
12 bigger. So that you find on a laboratory scale where you
13 can examine this in detail, that as water flows down
14 through, say, a foot of soil, it doesn't flush all of the
15 salt out that was in there. Even if it was distilled
16 water, it wouldn't flush it out all in one pass. It
17 would -- and the extent to which it wouldn't depends on
18 the variability in the porosity. But typically there
19 would be quite a bit that doesn't come out in a single
20 flush. So it can take -- I can see on my fields, if it
21 gets salt -- a lot of salt in the root zone from reverse
22 seepage, for example, it will take me a whole season to
23 get that salt flushed out of that root zone.

24 Q So if I understand it -- let me ask a question to --
25 the question I have for you: If I had a piece of property

1 where the permeability was .2 and I applied sufficient
2 water to cover the land for six hours, how far down do you
3 expect that water to have moved?

4 A Oh, four or five inches.

5 MR. RUBIN: I have no further questions.

6 Thank you.

7 CHAIRPERSON DODUC: Thank you, Mr. Rubin.

8 Any other parties who would like to cross examine
9 Mr. Hildebrand at this time?

10 All right. Seeing none.

11 I believe, Mr. Herrick, you mentioned another
12 witness for rebuttal on Monday?

13 MR. HERRICK: Yes, Madam Chairman. Thank you.

14 Terry Prichard, who was a direct witness, I will
15 have him here Monday morning. Again, if it doesn't work
16 out, it doesn't work out. But I would like to put him on
17 very briefly for a few comments.

18 And with that, we're done. I'll wait till Monday
19 to offer the South Delta 7, just because I'll make copies
20 for everybody and make sure they're distributed and people
21 can object or comment or -- they're copies out of a
22 publication of DWR, so I think it will be all right.

23 CHAIRPERSON DODUC: All right.

24 MR. HERRICK: That's all I have. Thank you.

25 CHAIRPERSON DODUC: Thank you.

1 Continuing with rebuttal, San Joaquin County.

2 MR. MCGREW: Mike McGrew for the County of San
3 Joaquin.

4 We have no rebuttal.

5 CHAIRPERSON DODUC: California Sportfishing
6 Protection Alliance?

7 I don't think they're here.

8 Department of Water Resources.

9 Ms. Crothers, if you could give me an estimate of
10 how much time you think you'll need.

11 MS. CROTHERS: Yes. We don't really have a lot
12 of rebuttal. I'm just trying to organize. We had a few
13 different areas and I think about -- so I'm thinking maybe
14 10, 15 minutes.

15 CHAIRPERSON DODUC: Okay. Do you want us to take
16 a break while you get organized?

17 MS. CROTHERS: Yes, we'd appreciate that. Thank
18 you.

19 CHAIRPERSON DODUC: All right. Let's take a
20 five-minute break and resume at 4:10.

21 (Thereupon a recess was taken.)

22 CHAIRPERSON DODUC: Ms. Crothers, do you need
23 more time?

24

25 MS. CROTHERS: My name's Cathy Crothers, for the

1 record. This is our rebuttal for the Department of Water
2 Resources.

3 During Central Delta Water Agency testimony there
4 was some testimony by R.C. Farms. And we would like to
5 explain some of the water quality in the area of concern
6 to R.C. Farms.

7 DIRECT EXAMINATION

8 OF THE DEPARTMENT OF WATER RESOURCES PANEL

9 (Ms. Tara Smith, Mr. John Leahigh, Mr. Rich Brewer,
10 Mr. Parviz Nader-Tehrani)

11 BY MS. CATHY CROTHERS, STAFF COUNSEL, representing The
12 Department of Water Resources:

13 MS. CROTHERS: Ms. Smith, can you -- have you
14 looked at the testimony from R.C. Farms in the water
15 quality that they are concerned about

16 MS. SMITH: I've -- yes, I've looked at some of
17 it anyway.

18 Q And where is the R.C. Farms diversion that we are
19 looking at?

20 A I believe it's on the San Joaquin River upstream of
21 Turner Cut.

22 Q And what has DWR's analysis found with respect to the
23 water quality in that area?

24 A What we found is that it was not only -- at times
25 there's not only San Joaquin River flowing in that area.

1 When there is San Joaquin River, it's usually a higher
2 flow and so the quality would be better. But as could be
3 shown in the particle tracking model, you can see that
4 Sacramento River water would make its way down into that.
5 So, that would affect the water quality.

6 And for those particle tracking simulations, it's
7 about -- the San Joaquin flow was about a thousand to
8 twenty-six hundred CFS.

9 Q So does that mean that the water quality at R.C. Farms
10 is influenced by -- at times by water quality from the
11 Sacramento River or the tributaries north of there?

12 A Yes.

13 MS. CROTHERS: Thank you.

14 The enforcement team has brought into discussion
15 the report that DWR submitted October 13th to the
16 Executive Director of the Board in regards to an
17 exceedance in the South Delta in 2003.

18 Mr. Leahigh, are you aware of the report that was
19 submitted by DWR to Executive Director Cantu?

20 MR. LEAHIGH: Yes, I am.

21 Q I'm going to show you a copy of the letter.

22 Is that a true and correct copy of the letter?

23 A Yes, it appears to be.

24 MS. CROTHERS: We would like to give this a DWR
25 exhibit number so we could -- since this was part of the

1 discussion of this hearing, we'd like to have it as an
2 exhibit as part of the record. Could we give this DWR
3 Exhibit No. 26? That would be our next consecutive
4 number, if that's acceptable.

5 Okay. We will label it DWR-26. We have several
6 copies of the letter. We don't have it labeled here, but
7 we could get copies through our regular service of process
8 to everybody with the correct label, if that's acceptable.

9 CHAIRPERSON DODUC: That would be fine.

10 MS. CROTHERS: Okay.

11 STAFF COUNSEL LEIDIGH: Which letter was it?
12 What was it originally?

13 MS. CROTHERS: It's dated October 13th, 2005, to
14 Celeste Cantu from DWR Carl Torgersen and Ron Milligan,
15 Central Valley Project Operations Office, U.S. Bureau of
16 Reclamation.

17 STAFF COUNSEL LEIDIGH: We'll get a copy from you
18 of that. And we can mark it for our files.

19 MS. CROTHERS: All right. Thank you.

20 STAFF COUNSEL LEIDIGH: Do you have copies for
21 anybody else who wants to look at it?

22 MS. CROTHERS: Yes, I do here.

23 Jean, did I put down 26 there?

24 MS. McCUE: Six.

25 MS. CROTHERS: Could you put down 26. Thank you.

1 Yes. We put them back -- in the back of the room
2 there to make them available to others.

3 I have a few questions -- in regards to the
4 concern about not having timely reporting of the stations
5 in the South Delta concern, that's addressed in a letter.

6 Mr. Leahigh, has DWR corrected that problem?

7 MR. LEAHIGH: Yes, we have. Just to kind of
8 review how that's happened, is I became the chief of the
9 branch that oversees the realtime compliance
10 responsibilities for the Delta stations, and I became
11 chief back in March of this year. And, you know, I became
12 aware of the change in the standards in the South Delta --
13 the change of the objective going to .7 -- the objective
14 change to .7 on April of this year. And at that time I
15 realized that we did not have this information in our
16 database and we were not tracking this data. And
17 therefore in order to do my job, I found it necessary -- I
18 directed staff to have this -- we did have two of the
19 stations, Old River at Middle River and -- actually one of
20 the stations -- Old River at Middle River was telemetered,
21 and the information was available on CDEC. However, the
22 Brandt Bridge station and the Tracy -- the Old River at
23 Tracy Road Bridge station we did not have that data ready
24 available.

25 So I directed staff to get those two stations

1 telemetered so that we could monitor those stations
2 realtime -- those compliance stations on a realtime basis.
3 And that occurred, about April of this year that that data
4 became available in CDEC. We also started to track that
5 data -- keep that data within our -- the database within
6 our office. And I also directed staff to start including
7 that data on our website -- DWR website for Operations
8 Control Office reporting on compliance in the -- for water
9 quality data. And we now -- shortly thereafter, I think
10 it was probably about May or June, we started reporting on
11 the 30-day averages. And to this date we are now
12 reporting on the 30-day average requirement there at all
13 three of those locations.

14 So that would -- we would not have the same
15 difficulty that was encountered by the lack of reporting
16 on this exceedance that occurred back in 2003; that we
17 have rectified the situation, have taken corrective
18 action, and we would not have that delay in reporting an
19 exceedance from here on out.

20 Q Thank you.

21 Also of concern was an annual reporting
22 requirement and reporting compliance under 1641 Condition
23 11. And DWR has also been addressing those requirements
24 under that prior D-1641. We've actually been working on
25 that for a while now. And Rich Brewer is here. He's now

1 the Chief of our Environmental Water Quality Estuarine
2 Studies Branch. And we've asked Rich to explain what his
3 branch has been doing to bring up to date the annual
4 reports that DWR is to provide to the Board.

5 MS. CROTHERS: Mr. Brewer, can you explain to the
6 Board the status of our annual reporting process

7 MR. BREWER: Yes. Since I've taken over the
8 program as of December of last year, we went back and
9 examined the current condition of not producing the annual
10 reports by December 1st of each year as required in Term
11 11. Within the last 18 months we have completed the
12 delivery of the '97 through 2000 report. The 2001, 2002
13 report was sent to the Board in the last several weeks.
14 The 2003 draft report is in the final editing stage.
15 Staff is currently writing the 2004 report, which will be
16 caught up this winter. And by calendar year December 1st
17 of 2006, we will be fully caught up and compliant with the
18 annual reporting.

19 Q Mr. Brewer, do you think there'll be a problem in the
20 future of providing those monitoring reports once we have
21 caught up, as you say?

22 A I think it's also -- it's important -- yes, we will.
23 And I think it's important to point out that the other
24 portions of Term 11 require us to make sure we get the
25 data that's important for compliance delivered in a timely

1 manner. And to that point, our staff are working
2 continuously every day on our monitoring stations to
3 provide that data.

4 Mr. Lindsay in his revised exhibits still showed
5 us that in the past if we were to go back and look at the
6 April through August compliance period for South Delta, it
7 showed that we had gaps greater than seven days. The
8 reality is is that we have excellent compliance at all
9 those stations. The data is collected. There's very few
10 gaps in the data when you really look at it. We're always
11 striving to continuously get this data telemetered, as Mr.
12 Leahigh said.

13 So the reality is is there's really no reason to
14 have an additional onus for us to report whether our
15 stations are down for seven days or greater, because in
16 the historical look at this data we haven't even had those
17 gaps.

18 Q So you're referring to reporting of data gaps if they
19 were greater than seven days as proposed in the modified
20 CDO?

21 A Yes. We have maintained those stations. And when we
22 do have a -- when a station goes down, we immediately
23 address that unless for some reason there's a -- there's a
24 catastrophic float or something where we can't get the
25 station.

1 Q So in the past have we had more than a seven-day data
2 gap in our collection of data?

3 A In the period where we went back I think to 1998 we've
4 had no gaps greater than five days.

5 Q And so your testimony is you do not believe we will
6 have a problem with that in the future?

7 A No. And now that actual -- the compliance kicked in
8 in 2005, then -- we haven't even had a problem in the past
9 when it wasn't compliance. Now it is; we'll be even more
10 extra careful.

11 MS. CROTHERS: Thank you.

12 This question is in relationship to the changes
13 in State Water Project pumping from the Delta and the
14 effects on water quality to the CVP.

15 Parviz, could you explain what your understanding
16 is, based on your modeling experience, what would happen
17 if state Water Project experts from the Delta are
18 increased and what that effect has on Central Valley
19 Project water quality?

20 MR. NADER-TEHRANI: This is Parviz Nader-Tehrani
21 from DWR.

22 The water quality that shows up at the pumps,
23 whether it's CVP or Banks, is a function of many different
24 parameters including the pumping rate. You cannot
25 conclude that the water quality at the pumps, whether it's

1 CVP or Banks, would -- the EC would increase when you pump
2 more. It is really a function of many different
3 parameters, including the river flows from Sacramento, San
4 Joaquin and so forth.

5 Take the extreme example, for example. If the
6 pumps stop altogether, then the water that's in the south
7 would be primarily of San Joaquin and any ag drains. And
8 so as you begin to start pumping -- as the pumps start
9 working, they will draw the water from the north, which
10 would be Sacramento. And in the -- if the pumps work very
11 hard, then at that point then you would begin to have
12 salinity intrusion.

13 So you cannot just conclude that when you
14 start -- when you pump more, that then salinity would be
15 impacted in a negative way, whether it's at CVP or Banks.

16 MS. CROTHERS: Thank you.

17 That concludes our rebuttal testimony.

18 CHAIRPERSON DODUC: Thank you, Ms. Crothers.

19 Let me ask, which parties would like to
20 cross-examine?

21 I see two, the prosecution team and Mr.
22 Nomellini.

23 We'll start with Ms. Mahaney.

24 CROSS EXAMINATION

25 OF THE DEPARTMENT OF WATER RESOURCES PANEL

1 BY MS. ERIN MAHANEY, STAFF COUNSEL, representing the
2 Division of Water Rights:

3 STAFF COUNSEL MAHANEY: Erin Mahaney, Division of
4 Water Rights prosecution team. I believe it was Mr.
5 Brewer that testified about the missing -- or data gaps.

6 Is it correct that you just testified that you
7 have not had data gaps greater than five days since
8 approximately 1999? Did I hear that correctly?

9 MR. BREWER: The question was -- the question in
10 the examination was during -- for these three stations,
11 the compliance period of April through August, were there
12 days greater than five days where there was data not
13 collected? And the answer is no.

14 I'm saying that a further, more detailed
15 examination of Mr. -- of the stations that Mr. Lindsay
16 looked at showed that he did not have the correct
17 information about the data that was collected at those
18 stations. When he went looking for that, he did not
19 approach our group asking us to conduct a detailed
20 analysis of where that data was. And so his exhibits were
21 incomplete in identifying the days where -- the stations
22 and days that data was collected.

23 Q Are you aware that Mr. Lindsay contacted the
24 Department of Water Resources to receive that data and
25 received at least three sets of data from your own

1 department?

2 A He didn't contact me.

3 Q Are you saying that Mr. Lindsay should have known
4 exactly who to contact as opposed to contacting someone at
5 the Department who seemed to have known which data to give
6 him?

7 A The Executive Director of the State Water Resources
8 Control Board is a director of the IEP program, which
9 directly oversees EMP program. So that there is the
10 channels and -- so all of our work plans for EMP are also
11 reviewed by that set of directors and approved.

12 Q Would you agree that making this data public on the
13 Internet would perhaps resolve these issues in the future?

14 A Yes, as of April when the station -- when the
15 compliance actually kicks in, these three stations are now
16 on CDEC.

17 Q You also testified about preparing the annual reports
18 that have been required since 2000. And I understand
19 you're working on those. When did you begin working on
20 preparing these annual reports?

21 A Are you speaking about me directly? I came aboard in
22 December 2004.

23 Q Did you just testify about preparing annual reports
24 for I believe it was 2000, 2001, and so forth?

25 A Right. When I came aboard last December, the 2001,

1 2002 report was in draft form and they had just started
2 writing the 2003 report.

3 But we also -- you have to understand too, the
4 spirit of Term 11 asks us to assess the impacts of State
5 Water Project operations on the estuaries. So there's a
6 lot more than just doing annual reports. We're in the
7 middle of a pelagic fish decline, and the priority is for
8 us to assess the impacts of what's going on with the
9 system. And so a lot of our staff have been working
10 diligently on that process.

11 Q Does Term 11 establish a priority for submitting the
12 annual report? Does it say the annual report takes a
13 lower priority than other reports? Or does it just say
14 submit an annual report?

15 A Just says submit an annual report?

16 STAFF COUNSEL MAHANEY: Thank you.

17 CHAIRPERSON DODUC: Mr. Nomellini.

18 CROSS EXAMINATION

19 OF THE DEPARTMENT OF WATER RESOURCES PANEL

20 BY MR. DANTE JOHN NOMELLINI, ESQ., representing the
21 Central Delta Water Agency:

22 MR. NOMELLINI: Dante John Nomellini for Central
23 Delta Water Agency.

24 Starting with Tara. I wasn't sure I heard
25 exactly what you said. But I think your testimony, am I

1 correct, that you said the R.C. Farms property is near
2 Turner Cut?

3 MS. SMITH: Well, my understanding from the map
4 that I looked at was it was down -- it was, yeah,
5 downstream on the San Joaquin River.

6 Q But it's upstream of, on the San Joaquin River --

7 A I'm sorry. Upstream.

8 Q -- from Turner Cut, is that correct?

9 A Yes, upstream, yes.

10 Q All right. And your testimony was that at times
11 Sacramento River water is available to R.C. Farms?

12 A That's correct.

13 Q And at times that water that's diverted by that piece
14 of property would also be influenced by San Joaquin River
15 water quality?

16 A That's correct.

17 MR. NOMEILLINI: All right. I think it's
18 Richard -- is it Parry? I may have missed --

19 MR. NADER-TEHRANI: Parviz, P-a-r-v-i-z. That's
20 my first name, yes.

21 Q All right. Thank you very much. I'm sorry about
22 that.

23 Is it your testimony that operation of the State
24 Water Project export pumps at no time would add salinity
25 that would enter the west side of the San Joaquin River?

1 A No, I don't think I said that. What I was saying is
2 that you cannot assume that when you pump more, that you
3 necessarily increase salinity at the pumps, whether it's
4 CVP or Banks.

5 Q Okay. So at times, depending on conditions, the
6 operation of the State Water Project pumps would add
7 salinity that could enter the San Joaquin River in the
8 form of drainage or otherwise?

9 MR. RUBIN: Madam Chair?

10 CHAIRPERSON DODUC: Mr. Rubin.

11 Hold on. Mr. Rubin has something to say.

12 MR. RUBIN: I believe the question is outside the
13 scope of the rebuttal. I don't believe the witness
14 testified to the effect of pumping on salinity within the
15 San Joaquin River.

16 CHAIRPERSON DODUC: Would you like to rephrase
17 your question?

18 MR. NOMELLINI: Maybe I've got to ask: What was
19 your testimony with regard to the pumping?

20 It's a rebuttal, I presume, to some of the
21 testimony that was put in that said that when you pump at
22 the State Water Project pumps, that could add salts that
23 could increase the salinity of either the Delta-Mendota
24 Canal exports or otherwise enter the San Joaquin River.

25 MR. NADER-TEHRANI: What I was -- in my testimony

1 what I was stating is that you cannot assume that you can
2 increase salinity at the pumps, whether it's CVP or SWP,
3 if you start pumping more at SWP. That was my -- that was
4 my testimony.

5 Q Okay. And to rephrase it is that simply an increase
6 in the pumping does not necessarily increase the amount of
7 salts that would enter that system?

8 A That is correct.

9 Q All right. But you did not testify that none of those
10 salts induced by the State Water Project enter the system?

11 A That was not part of my testimony.

12 MR. NOMELLINI: All right. That's all I have.

13 Thank you.

14 CHAIRPERSON DODUC: Thank you.

15 Anyone else with cross examination?

16 Ms. Crothers.

17 MS. CROTHERS: Thank you. I'd just like to enter
18 as -- into the record as evidence our Exhibit No. DWR-26.

19 CHAIRPERSON DODUC: Any objection?

20 Hearing none.

21 It is entered into the record.

22 MS. CROTHERS: Thank you.

23 CHAIRPERSON DODUC: Thank you, Ms. Crothers.

24 San Joaquin River Group Authority.

25 All right. Let me actually ask it a different

1 way. With the last time, I think yesterday, when Ms.
2 Leidigh asked who would be presenting rebuttal, we
3 received responses by South Delta Water Agency; water
4 Resources -- Department of Water Resources, that is; San
5 Joaquin River Group Authority; and San Luis and
6 Delta-Mendota Water Authority.

7 Is there anyone else who wishes to provide
8 rebuttal?

9 MR. MINASIAN: Paul Minasian for the San Joaquin
10 River Exchange Contractors.

11 As the Chair will remember, today the issue came
12 up in regard to the leaks out of the aqueduct and the
13 groundwater mound. I will desperately try to find my
14 witnesses and exhibits and bring them Monday.

15 CHAIRPERSON DODUC: All right.

16 MR. MINASIAN: Is there no one else with rebuttal
17 testimony?

18 CHAIRPERSON DODUC: I don't believe so.

19 MR. GODWIN: San Joaquin River Group does not
20 have any rebuttal --

21 CHAIRPERSON DODUC: Does not.

22 So left on our list are San Joaquin River
23 Exchange Contractors and San Luis and Delta-Mendota Water
24 Authority, as the two groups to present rebuttals on
25 Monday.

1 How much time do you think you will need? In
2 other words, do we need to begin at 5 a.m.?

3 MR. RUBIN: I can definitely say no to that
4 question.

5 The rebuttal testimony that we intend to present
6 for direct will probably take no more than 10, 15 minutes.

7 I think that I heard earlier that there would be
8 another witness I thought for Central Delta Water Agency
9 as well --

10 CHAIRPERSON DODUC: South.

11 MR. RUBIN: Excuse me. South Delta Water Agency.

12 CHAIRPERSON DODUC: Yes.

13 Mr. Minasian, how much time do you think you'll
14 need?

15 MR. MINASIAN: Well, I was going to suggest that
16 I do it by extracting testimony from the Bay Delta
17 hearings, because all these people were there and had an
18 opportunity to cross-examine. But in light of the fact
19 you're going to have some session, I'll try to bring a
20 live body.

21 CHAIRPERSON DODUC: Okay. One live body. So
22 let's --

23 MR. MINASIAN: The estimate will be 10 minutes,
24 15 minutes.

25 CHAIRPERSON DODUC: All right. So let's plan on

1 resuming here -- actually, no, in the Coastal Hearing
2 Room? -- Coastal Hearing Room on Monday at 10 o'clock.

3 (Thereupon the State Water Resources Control
4 Board, Division of Water Rights Delta Salinity
5 hearing recessed at 4:40 p.m.)

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1 CERTIFICATE OF REPORTER

2 I, JAMES F. PETERS, a Certified Shorthand
3 Reporter of the State of California, and Registered
4 Professional Reporter, do hereby certify:

5 That I am a disinterested person herein; that the
6 foregoing California State Water Resources Control Board,
7 Division of Water Rights public hearing was reported in
8 shorthand by me, James F. Peters, a Certified Shorthand
9 Reporter of the State of California, and thereafter
10 transcribed into typewriting.

11 I further certify that I am not of counsel or
12 attorney for any of the parties to said hearing nor in any
13 way interested in the outcome of said hearing.

14 IN WITNESS WHEREOF, I have hereunto set my hand
15 this 5th day of December, 2005.

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23 JAMES F. PETERS, CSR, RPR
24 Certified Shorthand Reporter
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