

0001

01

02

03

04

05

06

07

08

09

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

0002

01

02

03

04

05

06

07

08

09

10

11

12

13

14

15

16

17

18

19

19

20

20

21

21

22

22

23

23

24

24

PUBLIC HEARING
STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS
STATE OF CALIFORNIA

---o0o---

SUBJECT: AMENDMENT OF CITY OF LOS ANGELES' WATER RIGHT
LICENSES FOR DIVERSION OF WATER FROM STREAMS THAT ARE
TRIBUTARY TO MONO LAKE

---o0o---

Held in
State Water Resources Building
901 P Street
Sacramento, California
Friday, January 28, 1994

VOLUME XXXV

---o0o---

Reported by: Kimberley R. Mueller, RPR,
CSR No. 10060

BOARD MEMBERS

MARC DEL PIERO
JOHN CAFFREY
JAMES STUBCHAER
JOHN W. BROWN
MARY JANE FORSTER

STAFF MEMBERS

DAN FRINK, Counsel
JAMES CANADAY, Environmental Specialist
STEVE HERRERA, Environmental Specialist
RICHARD SATKOWSKI, Engineer
HUGH SMITH, Engineer

25
25
0003
01
01 COUNSEL AND OTHERS
02
02 For the U.S. Fish and Wildlife Service:
03
03 ERIKA NIEBAUER
04 Assistant Regular Solicitor
04 Office of Solicitor
05 Pacific Southwest Region
05 2800 Cottage Way
06 Sacramento, California 95825
06
07 For the Sierra Club:
07
08 LARRY SILVER:
08
09 For California Department of Fish and Game:
09
10 HAL THOMAS
10 VIRGINIA CAHILL
11 McDonough, Holland & Allen
11 555 Capitol Mall, Suite 950
12 Sacramento, California 95814
12
13 For the U.S. Forest Service:
13
14 JACK GIPSMAN
14 Office of General Counsel
15 U.S. Department of Agriculture
15
16 For the National Audubon Society and Mono Lake
16 Committee:
17
17 BRUCE DODGE
18 PATRICK FLINN
18 Attorneys at Law
19 755 Page Mill Road
19 Palo Alto, California 94304
20
20
21 For California Trout:
21
22 RICHARD ROOS-COLLINS
22 CYNTHIA KOEHLER
23 Attorneys at Law
23 114 Sansome Street, Suite 1200
24 San Francisco, California 94104
24
25 For the City of L.A. and L.A. DWP:
25
0004
01 THOMAS W. BIRMINGHAM
01 JANET GOLDSMITH
02 Attorneys at Law
02 Kronick, Moskovitz, Tiedemann & Girard
03 400 Capitol Mall, 27th Floor
03 Sacramento, California 95814

04
04 For State Lands Commission, Department of Parks and
05 Recreation:
05
06 JOHN STEVENS
06 Assistant Attorney General
07 1515 K Street
07 Sacramento, California 95814
08
08 For Meter Water District of Southern California and
09 L.A. MWD:
09
10 VICTOR GLEASON
10 Attorney at Law
11 1111 Sunset Boulevard
11 Los Angeles, California 90050-0153
12
12 FRANK HASELTON
13 Haselton Associates
13
14 JOHN ARCULARIUS
14 MARY SCOONOVER
15
15 For the California Air Resources Board:
16
16 OFFICER OF LEGAL AFFAIRS
17 2020 L Street
17 Sacramento, California 95814
18 BY: KIRK C. OLIVER, Senior Staff Counsel
18
19 For the Great Basin Unified Air Pollution Control
19 District:
20
20 PAUL BRUCE, District Counsel
21
21
22
22
23
23
24
24
25
25

0005

I N D E X

	PAGE
01	
01	
02	PANEL
02	
03	DR. BROWN, MR. HUCHISON
03	
04	Direct Examination by The Staff 13
04	Cross-examination by Mr. Birmingham 36
05	Cross-examination by Mr. Dodge 61
05	Cross-examination by Ms. Koehler 66
06	Redirect Examination by The Staff 75
06	Recross Examination by Mr. Birmingham 93
07	Recross Examination by Ms. Koehler 101
07	Cross-examination by Ms. Scoonover 105
08	

08	MR. DEAS, MR. HASENCAMP, MR. COUFAL		
09			
09	Direct Examination by Mr. Birmingham		110
10	Cross-examination by Ms. Cahill		157
10	Cross-examination by Mr. Dodge		178
11	Cross-examination by Ms. Koehler		200
11	Cross-examination by The Staff		212, 237
12	Redirect Examination by Mr. Birmingham		231, 247
12	Recross Examination by Ms. Cahill		233
13	Recross Examination by Mr. Dodge		234

13

14 E X H I B I T S

14

15		ID	EV
15			
16	SWRCF Exhibits Nos. 40 - 49		108
16	L.A. DWP Exhibit No. 153	111	
17	L.A. DWP Exhibit No. 154	117	
17	L.A. DWP Exhibit No. 155	124	
18	DFG Exhibit No. 185		234
18	DFG Exhibit No. 186	178	234

19

19

20

21

22

23

24

25

0006

01 SACRAMENTO, CALIFORNIA
 02 JANUARY 28, 1994, 8:45 A.M.

03 ---o0o---

04 HEARING OFFICER DEL PIERO: Ladies and gentlemen,
 05 this hearing will come to order.

06 Good morning. This is the continuation of the
 07 hearing regarding the amendment of the City of Los
 08 Angeles' water rights licenses for the diversion of
 09 waters from streams that are tributary to Mono Lake.

10 My name is Marc Del Piero. I'm Vice-Chair of the
 11 State Water Resources Control Board. I'm acting in the
 12 capacity of Hearing Officer in this matter.

13 I've aged a year during this process, as have all
 14 of us.

15 MR. BIRMINGHAM: Actually, Mr. Dodge has aged 25
 16 years in this process.

17 HEARING OFFICER DEL PIERO: Really? Is this true,
 18 Mr. Dodge?

19 MR. DODGE: That's what my wife says.

20 MR. BIRMINGHAM: Well, it started for Mr. Dodge in
 21 1979.

22 HEARING OFFICER DEL PIERO: Well, that constitutes
 23 expert testimony, Mr. Dodge.

24 Good morning, Mr. Birmingham. It's nice to see
 25 you, sir.

0007

01 Today we have all of our LAAMP aqueduct modeling
 02 taking place today. We've got Dr. Brown, Mr. Huchison,
 03 Mr. Vorster, Mr. Hasencamp, and Mr. Deas.

04 MR. BIRMINGHAM: Mr. Del Piero, you may recall

05 that on Monday, Dr. Beschta testified, and we indicated
06 that Dr. Beschta was going to come back today to talk
07 about --

08 HEARING OFFICER DEL PIERO: Yes. Would you like
09 to put him on first?

10 MR. BIRMINGHAM: Well, actually, Dr. Beschta, we
11 gave him a lot of data, and he asked for additional
12 time to analyze the data. I thought we probably would
13 have a pretty full day today. So with your permission,
14 we'd like to bring Dr. Beschta on at some future day.

15 HEARING OFFICER DEL PIERO: We have a half day on
16 the 3rd. We have no time on the 4th. We might have
17 time on the 7th or the 9th. Then we've got the 14th
18 and 15th which is still available.

19 So you may want to review the calendar, and
20 perhaps you can let us know after noon today when he
21 will be available so other people can be prepared in
22 terms of their cross-examination and so that the Staff
23 is also aware of what the scheduling requirements will
24 be.

25 MR. BIRMINGHAM: Thank you.

0008

01 THE COURT: Mr. Canaday?

02 MR. CANADAY: We've had one change in the
03 schedule. The 15th will be a dark day for us here.
04 That's when the Board Staff is meeting on the budget,
05 and so --

06 HEARING OFFICER DEL PIERO: Oh.

07 MR. CANADAY: So since that's of interest to me, I
08 deferred that day. We debated whether --

09 HEARING OFFICER DEL PIERO: Whether or not there's
10 going to be money in the budget for our salaries.
11 Small but significant issue. Thank you. I appreciate
12 that information.

13 Are we going to schedule another day beyond that
14 in the event we needed it? There's only two open days
15 left in our third revision of our schedule.

16 MR. FRINK: Actually, the witnesses we have listed
17 are scheduled through the 10th of February. We sent
18 out a notice yesterday indicating that we'd go on the
19 11th of February, if needed. So the 14th and 15th were
20 only in the event of absolute necessity, anyway.

21 HEARING OFFICER DEL PIERO: Well, the 10th and
22 11th were technically days that were available?

23 MR. FRINK: I'm looking -- excuse me. I'm looking
24 at an outdated list, but in any event, that --

25 HEARING OFFICER DEL PIERO: I thought the 10th and

0009

01 11th were dark because they had conflict problems.

02 MR. CANADAY: That's correct. I have scheduled
03 the 17th and 18th as two additional days for fall back.

04 HEARING OFFICER DEL PIERO: Hey, Mr. Canaday, I
05 called it. I knew we were going to finish right around
06 the 20th. It's just February instead of January.

07 Okay. Fine. Then, Mr. Birmingham, if you'd be
08 kind enough to get together with Mr. Canaday so we can
09 get it on the record when Dr. Beschta's going to be
10 here, I'd appreciate it.

11 MR. BIRMINGHAM: We'll talk to Dr. Beschta this
12 morning and discuss it with Mr. Canaday after that.

13 HEARING OFFICER DEL PIERO: Good morning,
14 Ms. Koehler. It's nice to see you.

15 MS. KOEHLER: I have a very brief procedural point
16 of order I'd like to get cleared away before we begin.
17 On the cross-examination, Dr. Vorster has
18 developed legal skills, he believes, and he would like
19 to test them. And he has asked if he could do the
20 cross-examination this morning, or this afternoon,
21 whenever we get to Los Angeles' management plan,
22 revised management plan.

23 That's fine with me. I'll be doing the
24 cross-examination on the modeling, but I wanted to
25 clear with you, first, whether that would be okay with
0010 you for Dr. Vorster to do so.

02 HEARING OFFICER DEL PIERO: I have no inherent
03 problems with this so long as we understand that if, in
04 fact, Dr. Vorster is going to do that, that he and you
05 will be obliged to comply with that somewhat
06 foundational rule that we set up in the beginning,
07 where we aren't going to have any tag team activities
08 going on.

09 If Dr. Vorster wants to conduct the
10 cross-examination, there's nothing in our rules that
11 prohibit that from taking place.

12 Alternatively, however, if he gets himself in
13 water over his head, then you need to be aware that he
14 needs to get himself out of it.

15 MS. KOEHLER: Mr. Vorster has been apprised with
16 the hazards incumbent with his request. As I said, to
17 avoid the -- we have divided the cross-examination
18 subjects between questions on the model, which I will
19 address, and questions on the management plan, which we
20 thought was a very clear division of the issues.

21 HEARING OFFICER DEL PIERO: Do I hear any
22 objections to it? None? Fine.

23 MS. KOEHLER: Thank you.

24 HEARING OFFICER DEL PIERO: You're welcome.

25 MR. DODGE: This is being done on behalf of Cal
0011 Trout?

02 MS. KOEHLER: Yes, I'm sorry. I should have made
03 that clear.

04 HEARING OFFICER DEL PIERO: Fine. It is being
05 done on behalf of Cal Trout.

06 Some people have far greater confidence in his
07 newly acquired legal skills than others.

08 MS. KOEHLER: I'm not sure confidence is --

09 HEARING OFFICER DEL PIERO: I will reserve
10 judgment, but it will be fun watching you, Dr. Vorster.

11 MR. BIRMINGHAM: It's going to be particularly fun
12 for me to listen.

13 HEARING OFFICER DEL PIERO: I don't doubt that,
14 Mr. Birmingham. I don't doubt that for a moment.

15 Okay. Mr. Canaday?

16 MR. CANADAY: Yes, sir.

17 HEARING OFFICER DEL PIERO: We have Dr. Brown and
18 Mr. Huchison on first; is that correct?

19 MR. CANADAY: That's correct.

20 HEARING OFFICER DEL PIERO: Okay.

21 MR. FRINK: Mr. Del Piero, before beginning with
22 the testimony of Dr. Brown and Mr. Huchison, we had one
23 exhibit that we wanted to clear up that Staff had
24 introduced earlier, and that was the corrected versions
25 of Table 3-D-8 and Table S-1 out of the Draft EIR, and

0012

01 that was Staff Exhibit No. 7 introduced three months
02 ago.

03 Mr. Satkowski has handed out the corrected
04 versions of the tables, and we have some extras
05 available for anyone else who would like one.

06 HEARING OFFICER DEL PIERO: Fine. Thank you very
07 much, Mr. Frink, for noting that for the record.
08 Everyone else, I assume, will have copies of that
09 document, if they don't already.

10 MR. FRINK: Now, we will move on with our rebuttal
11 testimony.

12 HEARING OFFICER DEL PIERO: Dr. Brown and
13 Mr. Huchison, you were both sworn previously; is that
14 not correct?

15 DR. BROWN: Yes.

16 MR. HUCHISON: Yes.

17 HEARING OFFICER DEL PIERO: And you are still
18 under oath.

19 MR. FRINK: I was going to make an introductory
20 remark that the only witnesses Staff intends to call in
21 the rebuttal phase of the hearing are Dr. Brown and
22 Mr. Huchison.

23 As you recall, there were some questions about the
24 LAAMP model. Early on, as part of the CEQA review
25 process, they indicated that they would be considering

0013

01 some revisions in that and reporting back. As you
02 noted, they've been sworn previously, and previously
03 the Board also accepted their statement of
04 qualifications into evidence.

05 Although both have worked on the LAAMP model, most
06 of my questions will be for Dr. Brown who prepared most
07 of the exhibits that we'll be offering this morning.

08 HEARING OFFICER DEL PIERO: Fine. Thank you very
09 much.

10 DIRECT EXAMINATION BY THE STAFF

11 Q. BY MR. FRINK: Dr. Brown, when you appeared
12 previously in this hearing, I believe that either you
13 or Dr. Huchison did indicate that you would be
14 reviewing the LAAMP model that was used in preparing
15 the Draft Environmental Impact Report and that
16 revisions would be made in the model if appropriate.

17 Could you give us a brief summary of the process
18 that was used to determine what modifications should be
19 made in the LAAMP model, and in the input assumptions
20 that were used in the model?

21 A. BY DR. BROWN: Okay. In response to review
22 comments on the Draft EIR and also to some of the early
23 testimony beginning in this hearing, one of the
24 technical advisory groups that the State Board Staff
25 had established early in the process was revitalized or

0014

01 re-enacted.

02 And this began with a meeting that was held on

03 September 20th of 1993. And at that meeting, L.A. DWP
04 staff, State Board Staff, other parties, Peter Vorster,
05 and some other interested people came together to
06 consider two basic subjects.

07 One is, there were identified several errors in
08 the original model. These needed to be corrected. But
09 more importantly, there were a number of features that
10 people wanted added to the model capabilities. And so
11 we began considering which of those could be
12 incorporated into the LAAMP model.

13 Following that initial meeting, beginning towards
14 the end of October, the changes were actually made to
15 the LAAMP code by Mr. Huchison, and other changes were
16 made. And then that revised code has been tested and
17 further revised through a whole series of meetings,
18 phone calls, by the TAG group.

19 Q. Who participated in the TAG group again?

20 A. L.A. DWP staff, State Board Staff, Peter Vorster,
21 representing several of the parties, and your
22 consultants, myself, Mr. Huchison are the major people
23 at most of the meetings and discussions.

24 Q. SWRCB Exhibit 40 has been labeled "The Written
25 Testimony of Dr. Russell T. Brown Regarding Revisions
0015

01 to LAAMP Model and Resulting Model Outputs, January
02 1994."

03 Is that a true and accurate statement of your
04 testimony in this proceedings?

05 A. Yes, it is.

06 Q. Exhibit 40 includes a discussion of the various
07 changes that were made in the LAAMP model and in the
08 input assumptions that were used in recent analyses or
09 recent runs using the LAAMP model.

10 Are those changes accurately summarized on pages 2
11 through 6 of Exhibit 40?

12 A. Yes, they are. They are listed and described in
13 summary.

14 Q. Are there any changes in particular that you would
15 like to emphasize or describe this morning?

16 A. Yes. It's probably worth emphasizing, a couple of
17 the major changes that were made between the version of
18 the LAAMP model used in the Draft EIR, which we're
19 referring to as version 2, and the revised model that
20 we're now offering for use in State Board Staff
21 analysis, which we're referring to LAAMP 3.3.

22 One of the major changes is shown or described in
23 brief on page 4 of Exhibit 40, and it's labeled "The
24 Mono -- the Monthly Mono Basin Export Pattern."

25 A number of commenters in early testimony
0016

01 suggested that the export pattern from the Mono Basin
02 was of interest. This was basically unregulated in the
03 previous version of LAAMP.

04 And what has happened now is, we're able to
05 specify a monthly fraction of the total annual exports
06 to be exported each month. So this evens out the
07 monthly pattern of exports from the Mono Basin into the
08 Upper Owens coming out of the East Portal.

09 Q. As long as we're on the subject of monthly exports
10 out of Mono Basin, now, is it your testimony that the

11 recent analyses you've made using the LAAMP 3.3 model
12 have evenly distributed the exports out of the Mono
13 Basin into the Upper Owens?

14 A. Yes. We've used an even distribution of the
15 monthly exports for the example simulations that I'll
16 be describing in just a bit.

17 But this is a user specified option so that other
18 runs could be made where more export is allowed during
19 the runoff months. And that may be a reasonable way to
20 specify the exports.

21 So although I used an even export distribution in
22 the results I'll show, other distributions could be
23 tried with the LAAMP.

24 Q. And that would not require a modification of the
25 model itself, would it?

0017

01 A. No. That will just require changing the input
02 monthly values that you're specifying.

03 Q. Do you have any opinion as to what the likely
04 effect would be if you added that additional
05 flexibility of allowing a variation in monthly exports
06 from the Mono Basin?

07 A. Yes. The general effect of that would be likely
08 to allow a slightly greater export from the Mono
09 Basin. By requesting an even export to the Upper
10 Owens, what needs to happen is that that water will be
11 stored in Grant Lake Reservoir. And there is the
12 possibility that in many years, the amount of water to
13 be exported later in the year, simply will not fit in
14 Grant. It has a limited storage capacity.

15 So in those years, then, water will be spilling
16 from Grant Reservoir, and so by changing that
17 specification to allow a larger fraction of the water
18 to be exported during the runoff months, more of that
19 available water for export could be exported.

20 Q. Okay. I believe before I interrupted you, you
21 were describing some of the other major changes that
22 were made in the LAAMP model?

23 A. Right. I would like to highlight, then, another
24 one that's listed on page 4. There were comments from
25 L.A. that they would like to see the possibility of

0018

01 spills from Lake Crowley and from Pleasant Valley on
02 the Owens River below the aqueduct intake, which is
03 located below Tinemaha Reservoir.

04 The possibility of spills from these locations
05 would be explicitly modeled, and so we did that. So
06 now, when the model is unable to operate the aqueduct
07 system with its available storage capacity and is
08 forced to spill water, this is clearly shown in the
09 model results.

10 Just a third one I'd like to emphasize is that the
11 previous version did not include an actual simulation
12 of Tinemaha Reservoir and Haiwee Reservoir, and these
13 are now included with actual reservoir area volume
14 evaporation. So full reservoir simulations for those
15 two reservoirs were added.

16 Just a last thing on the changes made. There were
17 a number of changes requested from different reviewers
18 on the spreadsheets that are available with the LAAMP

19 model. These are the normal means of reviewing the
20 results of the model. One of the largest requests was
21 that some means of historical verification or
22 comparison be provided.

23 So in my view, one of the major changes that has
24 been made between the two versions of the model was the
25 inclusion, now, of much historical aqueduct data. This
0019

01 includes annual values for the entire period 1940
02 through 1989, and then monthly values for the period
03 1972 through 1989.

04 So these are now included in the spreadsheets, and
05 as you do graphics or table summaries of the results,
06 the historical data for those periods is immediately
07 available for comparison. And I think this has been a
08 very helpful change or revision.

09 Q. On pages 6 through 13 of your testimony, you
10 discuss the results of using the revised LAAMP 3.3
11 model to analyze the impacts of operating Mono Basin
12 diversions under what the Draft EIR labeled as the
13 "no-restriction alternative."

14 In addition, Exhibit 41 includes a number of
15 graphs and tables showing results that would be
16 expected to occur under the no-restriction alternative.

17 Could you explain the purpose of doing the
18 extensive analysis of the no-restriction alternative
19 and your objective in submitting the graphs and tables
20 in Exhibit 41, please?

21 A. Okay. I'm going to, then, as I discuss the
22 results, quickly review some of the graphs that are
23 provided in State Board Exhibit 41, so I hope that
24 everyone has a copy of that available.

25 The no-restriction alternative, as described in
0020

01 the Draft EIR, provides a reference for several things;
02 three, in particular, that I'd like to emphasize.

03 The no-restriction alternative is meant to be a
04 simulation of what the likely operation of the aqueduct
05 system would have been with the historical hydrology if
06 there were no additional constraints on the aqueduct
07 system beyond the physical constraints of conduit
08 capacities, reservoir storages. In particular, there
09 would be no additional constraints on the Mono Lake
10 tributary streams.

11 This provides a reference, then, of using the
12 model as a comparative tool, what the operations would
13 have been.

14 Q. In doing that, are you able to determine the
15 validity, or to verify the validity of the model in
16 making that comparison between running the
17 no-restriction alternative, as your model would
18 simulate results, and the historic results?

19 A. Using the no-restriction alternative is probably
20 the most appropriate case for trying to match what the
21 model results show with the historic operations.

22 We would not expect the simulation to match each
23 month of each year during the historical record, but
24 the no-restriction alternative is the closest case that
25 the model would provide to the actual historic. And so
0021

01 that is one of the major reasons to look at a series of
02 graphs showing the simulated results and the historic.

03 The second sort of purpose --

04 Q. Is there a graph in Exhibit 41 that would show
05 those results?

06 A. Yes. And there are several graphs provided in the
07 exhibit, and I want to emphasize just a few of those.

08 And we can do that at this time.

09 The figures are labeled at the bottom right, and
10 we are going to look at just a few of those. And
11 again, our intent is to determine if the LAAMP
12 simulations match the historical operations.

13 A second goal here is to compare the differences
14 between the previous version of LAAMP 2.0, using the
15 Draft EIR, and the revised version of LAAMP. So both
16 of these purposes are accomplished using these
17 graphics.

18 Q. I wonder if you could begin and give us a
19 description of the graphic that's labeled Figure 2 of
20 SWRCB Exhibit 41?

21 A. Figure 2 is labeled, "The Mono Basin Exports."
22 These are annual values. Actually, there are three
23 lines and then dots on this graphic. The top line is
24 the historical runoff from the four tributary streams
25 in the Mono Basin. The units that we're using to

0022

01 compare here is the annual volume in thousands of
02 acre-feet.

03 So the runoff, the top line, varies from a low of,
04 perhaps, \$70,000 to a maximum of \$240,000 on that
05 graphic.

06 The dots that are, in all cases, below the runoff
07 is the historical exports that were made during this
08 year by the aqueduct system.

09 And then there are two additional lines, and these
10 are the simulated exports, on an annual basis, from the
11 Mono tributary streams using the previous version and
12 the revised version.

13 Q. And the previous version is labeled as DEIR?

14 A. That is right.

15 Q. Now, I notice that it appears that -- you also
16 show the actual historic level of exports; is that
17 correct?

18 A. That's right.

19 Q. It appears that the historical level tracks much
20 more closely with the simulated levels from 1972 on.

21 Could you explain that?

22 A. One of the reasons will be that there was, of
23 course, the major change in the aqueduct system. The
24 addition or completion of the second barrel, as it's
25 referred to, between Haiwee Reservoir in Los Angeles.

0023

01 This allowed, beginning in 1970, additional water
02 to be exported into the combined Owens River and Mono
03 Basin. So we might expect the annual or monthly values
04 to match better during that last 20 years of this
05 record.

06 Q. That would really be the only period of record
07 that would provide a fair basis of comparison with the
08 system that was simulated in LAAMP 3.3; is that

09 correct?

10 A. That's true. The last 20 years, that would match
11 much better. The previous 20 years, the conditions
12 were quite different with only the one barrel of the
13 aqueduct.

14 Q. I wonder if you could describe what is shown in
15 Figure 41 -- excuse me, in Figure 4 of Exhibit 41?

16 A. Okay. Skipping down to Figure 4, we have a
17 similar graphic showing the annual Owens Valley
18 groundwater pumping, again, between 1940 and 1989. But
19 again, because of the addition of the second barrel of
20 the aqueduct, you see that the historical data shown
21 with the little dots are much greater following 1970
22 and begin to follow the simulated pattern or, we should
23 say, the simulated pattern begins to follow the
24 historic much more, so that the years of high pumping,
25 and the years of low pumping are basically reproduced

0024

01 by the model.

02 Individual years, there are differences between
03 the model and the historic, but the general features of
04 the year-to-year demand on the pumping to supply the
05 demands at Haiwee going to Los Angeles are generally
06 reproduced with the model.

07 Q. Okay. And then I'd like you to skip ahead to
08 Figure 6 of Exhibit 41, and just give us a very brief
09 description of what is shown there, please.

10 A. Skipping to Figure 6, again, this is a similar
11 diagram showing the annual Haiwee exports to Los
12 Angeles with the historical dots.

13 Again, the increase around 1970 and following and
14 the correspondence between the simulated values, either
15 out of the previous version of LAAMP or the revised
16 version, tracking the historical variation which, in
17 large part, is caused by hydrologic variation within
18 the Mono Basin.

19 Q. In the interest of time, I'm not going to go
20 through all of figures or graphics that you submitted,
21 but I would ask, in your opinion, do the results verify
22 that LAAMP 3.3 provides a reasonably accurate method of
23 simulating water exports from the Mono Basin and
24 operation of the Los Angeles aqueduct under various
25 hydrologic conditions?

0025

01 A. Yes. That is my opinion, that it does provide a
02 good tool for describing and analyzing the available
03 exports.

04 Q. All right. Pages 13 through 18 of your testimony
05 discuss the results that would be expected to occur if
06 water diversions from the Mono Basin were conducted
07 under a number of specified alternative sets of
08 criteria.

09 Could you briefly describe what alternatives were
10 evaluated, and why you focused on those alternatives in
11 this analysis?

12 A. Okay. We've just been describing what we call the
13 no-restriction alternative. One reason for having to
14 run that is that once we have simulated the groundwater
15 pumping that would be required to meet the set of
16 export targets specified at Haiwee to supply water to

17 Los Angeles, that amount of groundwater pumping is then
18 fixed or set so that for future alternatives, it may
19 have less water available from the Mono Basin.

20 We do not allow groundwater pumping in the Owens
21 Valley to increase to make up for that unavailable
22 water. So we use the no-restriction case to provide a
23 simulation of the groundwater pumping, and then hold
24 that pattern of groundwater pumping constant for all of
25 the following alternatives.

0026

01 We thought it was then important to re-simulate
02 the point of reference, which is the reference point
03 used in the Draft EIR, to judge impacts to water supply
04 or other environmental effects between that reference
05 point and any other alternative analyzed.

06 Q. And then you also looked at the 6377 lake level.
07 Was that because it was specified in the preliminary
08 injunction and also suggested in the Department of
09 Water and Power's Mono Lake Management Plan?

10 A. Yes. And that was a Draft EIR alternative as
11 well.

12 Q. And then you looked at the 6383.5 alternative and
13 the 6390 alternative. Now, those were the two
14 alternatives identified in the Draft EIR as being
15 environmentally preferred alternatives under different
16 criteria; is that correct?

17 A. Yes, that's right. And so the sequence going
18 between 77 up to 6383.5 and then up to 6390, reproduce
19 three of the alternatives used in the Draft EIR. So we
20 thought this would give us a description or a
21 comparison of the jumps in available water between the
22 previous version and this revised version.

23 Q. Okay.

24 A. So that's why we wanted to do that.

25 Q. And then you looked at a couple or new

0027

01 alternatives that weren't evaluated in the Draft EIR;
02 is that right?

03 A. Yes, that's right.

04 Q. And the first one consisted of the recommended
05 stream flows that the Department of Fish and Game
06 proposed?

07 A. Yes. That was the first one.

08 Q. And the second one of those combined the
09 Department of Fish and Game's recommended stream flows
10 with the lake level criteria specified in the 6390
11 alternative; is that correct?

12 A. That's right.

13 Q. Did you consider evaluating any other alternatives
14 in doing this analysis?

15 A. Of course, many other alternatives can be
16 evaluated with the LAAMP model. It was my
17 understanding that some of the -- some higher lake
18 levels would be simulated by Peter Vorster and there
19 was limited time, so I am showing just this set that
20 ends up being -- I don't know how many it was. This
21 was all that we did.

22 Q. Did you prepare Exhibits 41 through 48 that are
23 described in your testimony?

24 A. Yes, I did. These are the summary of results for

25 each of the cases that we've just introduced.

0028

01 Q. Okay. And Table 3 of Exhibit 40, does that
02 essentially provide a summary of the summary that would
03 allow you to compare certain results of each of the
04 alternatives that you evaluated?

05 A. Yes. Table 3 provides a 50-year average for --
06 MS. KOEHLER: Excuse me, counsel. Where is
07 Table 3?

08 MR. FRINK: It's in his testimony. It's part of
09 Exhibit 40 near the end.

10 DR. BROWN: Second from the last page of Exhibit
11 40.

12 Because we have several alternatives to compare,
13 we selected what we thought were the most important
14 variables coming out of LAAMP, and also, we're only
15 able to show, in this table, the 50-year average of
16 these selected variables. But it is a one-page
17 comparison between the results of all the simulations
18 that I've done.

19 Q. BY MR. FRINK: Okay. Now if one wanted to get an
20 idea of what the exports from the Mono Basin would be
21 under each of the alternatives, which of the columns
22 would you look under here?

23 A. BY DR. BROWN: Okay. The three columns in which
24 is labeled West Portal Exports, the units would be
25 thousands of acre-feet per year over to get 50-year

0029

01 period that we're simulating.

02 Q. Okay. And if one wanted to know what the
03 incremental difference was between the Mono Basin
04 exports allowed under one alternative and the exports
05 allowed under a different alternative, one could simply
06 subtract the figures shown for each alternative; is
07 that correct?

08 A. That's right. Under each alternative for the
09 first use are three numbers; the current simulation
10 using LAAMP 3.3, and then for comparison, the previous
11 simulation results using the Draft EIR version of
12 LAAMP, and then the difference is shown.

13 To get a comparison between, say, the point of
14 reference and one of the lake level alternatives, you
15 would subtract the two top numbers from the groups.

16 Q. Okay. And just real quickly -- I think we're
17 going over our time here -- the exports allowed under
18 the point of reference or the exports simulated under
19 the point of reference using LAAMP 3.3 would be 75.6
20 thousand acre-feet, and the exports for the 6377
21 alternative would be 40,000 acre-feet; is that correct?

22 A. That's correct.

23 Q. So the difference between those two alternatives
24 would be, what, 35.6 thousand acre-feet?

25 A. That's right.

0030

01 Q. And then if one wanted to get an idea of the
02 difference between the 6377 alternative and the 6390
03 alternative for the first 50 years, you could subtract
04 23,000 acre-feet from 75.6 thousand acre-feet; is that
05 correct?

06 A. You had said between the 77. That would be with a

07 point of reference.
08 Q. Oh, excuse me. From the point of reference to --
09 A. That is right. So the 75.6 allowed a point of
10 reference, and subtracting the 23 would be a difference
11 of 52.6.
12 Q. Okay. And then looking more at what I mistakenly
13 stated a minute ago, the difference between the 6377
14 alternative exports and the 6390 alternative exports
15 for the first 50 years would be 17,000 acre-feet; is
16 that correct?
17 A. That is right.
18 Q. And what would that be for the next 50 years?
19 What would be the difference between those two
20 alternatives?
21 A. Okay. The exports allowed under the second
22 50-year simulation are 34.8, and subtracting that from
23 the -- which one were we using? The --
24 Q. The 6377.
25 A. The 77, which started at 40, so the difference
0031
01 would be 5.2 thousand acre-feet.
02 Q. Now, looking clear over at the right-hand side of
03 the column. It's labeled "L.A. delivery."
04 Does that show the total water delivered to Los
05 Angeles from both the Mono and Owens Basin?
06 A. Yes, it does.
07 Q. Okay. I won't go through the comparisons or the
08 figures here, but one could also get an idea of what
09 the incremental difference is simply by subtracting the
10 comparable numbers for each alternative?
11 A. That's right. Subtracting the two cases of
12 interest to you.
13 Q. In general, looking at the numbers, and we haven't
14 done the subtraction, but have you evaluated any of the
15 differences in L.A. water deliveries under the various
16 alternatives? I'm sorry, that question wasn't very
17 well put.
18 Have you compared the differences that exist
19 between the alternatives in water delivered to Los
20 Angeles with the differences in Mono Basin exports
21 under any of the alternatives?
22 A. Yes. This can be done by comparing -- choosing
23 two cases, subtracting the difference over in the West
24 Portal export column, as we were doing previously, and
25 comparing that to the same difference over in the L.A.
0032
01 export.
02 And just, as one example, between the point of
03 reference and the 77 alternative, we found a difference
04 of 35.6 at West Portal. And the comparable number from
05 the simulations over at L.A. delivery column is 34.6
06 thousand acre-feet.
07 So nearly all of the water that was unavailable at
08 West Portal is then unavailable for L.A. delivery.
09 Q. Okay. Did the alternative that you evaluated
10 using the DFG flow recommendation and the 6390 lake
11 level assume that water would be released from storage
12 at Grant Lake Reservoir to meet the Department of Fish
13 and Game's recommended flows, if needed?
14 A. Yes. In the revised model, you're allowed to

15 specify that that can happen or cannot happen. And for
16 these simulations, I specified that that would happen.

17 So when Rush Creek did not have enough water to
18 meet the specified minimum flows coming in from Rush
19 Creek itself, any available Grant Reservoir storage
20 could be released to make up that difference to provide
21 the full specified minimum flows.

22 Q. And what would be the expected effect on water
23 exports if you took the other course and, in running
24 the model, you did not provide for storage releases
25 from Grant Lake?

0033

01 A. Okay. Well, that is shown in the table that
02 describes the stream flow allocation, which is given as
03 a summary table, but without looking that up, it was
04 basically in the order of 3 or 4,000 acre-feet per year
05 were used in that way to make up for less than the
06 specified flows coming in on Rush from Grant.

07 So that if you used the other option and did not
08 release the storage for making up of Rush minimum
09 flows, that water would likely be exportable.

10 So it would be a difference on the order of 3 or
11 4,000 acre-feet per year.

12 Q. If you didn't use the storage releases to meet the
13 in-stream flow recommendations, then it would have the
14 potential of increasing the water available for
15 exports; is that correct?

16 A. That's right.

17 Q. Does LAAMP have the flexibility to allow the user
18 to vary the minimum reservoir storage areas in Grant
19 Lake and other reservoirs?

20 A. Yes. All the reservoirs have monthly minimum
21 storages that can be specified by the user and,
22 therefore, changed to any desirable pattern.

23 Q. Okay. Dr. Brown, you testified you prepared
24 Exhibit -- SWRCV Exhibits 40 through 48.

25 Who did the actual development and changes on the

0034

01 LAAMP model itself?

02 A. Mr. Bill Huchison did the changes.

03 Q. Okay. Dr. Brown, I believe that's all the
04 questions I have.

05 Was there anything else you wanted to bring up
06 that you believe is important regarding the model?

07 A. No. I think these were the important points.

08 Q. I just have a couple questions for Mr. Huchison.
09 We did not submit his testimony in writing.

10 Essentially, I just wanted to verify that he's prepared
11 the model.

12 Mr. Huchison, State Water Resources Control Board
13 Exhibit 49 existed of four diskettes which contain the
14 LAAMP version 3.3, a second model labeled as LAAMP
15 version 3.31, and related data input and output files.

16 Did you prepare this information?

17 A. BY MR. HUCHISON: I prepared LAAMP 3.3 and 3.31.
18 The input and output files and spreadsheets, Dr. Brown
19 prepared.

20 Q. Dr. Brown's analysis referred to utilizing LAAMP
21 3.3.

22 Could you briefly identify what LAAMP 3.31 is?

23 A. After 3.3 was released, an error that occurs in,
24 like, six years was discovered, and so that error was
25 corrected and is now version 3.31. That related to how

0035

01 the fish-flow deficits in the Mono Basin were credited
02 back to Haiwee release target under a certain specific
03 condition.

04 Q. Have you done any comparative runs evaluating the
05 alternatives that Dr. Brown discussed using the revised
06 LAAMP 3.31?

07 A. Like I said, it seemed to pop up at about six or
08 seven years. And so in those years, it does have an
09 effect, but in terms of long-term averages, it has less
10 than a hundred acre-feet per year difference.

11 Q. Have you reviewed the testimony that Dr. Brown
12 prepared and submitted as State Water Resources Control
13 Board Exhibit 40?

14 A. Yes, I have.

15 Q. And, in your opinion, does Exhibit 40 accurately
16 summarize the changes that were made in LAAMP 3.3 from
17 the earlier LAAMP model that was used in the Draft EIR?

18 A. Yes.

19 MR. FRINK: I believe that's all the questions I
20 have, Mr. Del Piero.

21 HEARING OFFICER DEL PIERO: Mr. Canaday, are there
22 other questions?

23 MR. FRINK: We'll do that on cross.

24 HEARING OFFICER DEL PIERO: Mr. Birmingham?

25 MR. FRINK: Or redirect.

0036

01 HEARING OFFICER DEL PIERO: Whatever.

02 MR. BIRMINGHAM: Did the Staff want to examine the
03 witnesses before --

04 HEARING OFFICER DEL PIERO: Go ahead,
05 Mr. Birmingham.

06 CROSS-EXAMINATION BY MR. BIRMINGHAM

07 Q. Good morning, Dr. Brown --

08 HEARING OFFICER DEL PIERO: How was Fresno,
09 Mr. Birmingham, before you begin?

10 MR. BIRMINGHAM: How was Fresno? Fresno was --
11 well, it was raining. It rained a lot down in Fresno
12 on Monday night and Tuesday.

13 HEARING OFFICER DEL PIERO: It's always fun in
14 Fresno when it rains I understand.

15 MR. BIRMINGHAM: Well, I spent as much time in a
16 building in Fresno on Tuesday as I did in this building
17 on Monday, so it was not a very pleasant --

18 HEARING OFFICER DEL PIERO: Well, we're glad to
19 have you back.

20 Q. BY MR. BIRMINGHAM: Dr. Brown, Mr. Huchison, as
21 you may recall, I'm Tom Birmingham. I'm one of the
22 attorneys that represents the Department of Water and
23 Power and City of Los Angeles in this proceeding.

24 Dr. Brown how are you today?

25 A. BY DR. BROWN: Fine.

0037

01 Q. Mr. Huchison, how are you?

02 A. BY MR. HUCHISON: Fine.

03 Q. That's not the last question I have for you,
04 Mr. Huchison, but we'll come back to my questions for

05 you in a little while.

06 The questions that I have are related -- primarily
07 related to the testimony of Dr. Brown, so I presume
08 Dr. Brown will answer them, but either of you are
09 certainly free to.

10 First, Dr. Brown, in your testimony, you state
11 that LAAMP, both 2.0 and 3.3, were designed to support
12 a relative comparison among alternatives; is that
13 correct?

14 A. BY DR. BROWN: That is right.

15 Q. And that it was not designed as a basis for --
16 neither LAAMP 2.0 nor 3.3 were designed as the basis
17 for the -- conducting the day-to-day operations of the
18 Los Angeles aqueduct; is that correct?

19 A. That is right. We described it as a planning
20 model.

21 Q. Now, in your testimony, there are several places
22 where you talk about LAAMP being a useful tool to
23 analyze annual operations of the aqueduct; is that
24 correct?

25 A. Well, I don't know if the word "annual" is the
0038

01 key. It's a useful tool for analyzing operations of
02 aqueduct system. Annual and also monthly information
03 is available from the model.

04 Q. Well, for instance, on page 9, at the bottom of
05 page 9, you state, "Figure 13 shows the annual
06 simulated and historical releases from Tinemaha,"
07 spelled T-i-n-e-m-a-h-a, "Reservoir into the Lower
08 Owens River during periods when the aqueduct intake and
09 capacity was exceeded.

10 A good match with historical data suggests that
11 the LAAMP 3.3 simulation of Lower Owens River releases,
12 as well as total aqueduct spills is generally reliable
13 on an annual basis."

14 A. Right. If you'll look at Figure 13, it is annual
15 values of Lower Owens River spill below the aqueduct.
16 And so from Figure 13, you could conclude that on an
17 annual basis, these values match reasonably well.

18 I also provide figures that show that the monthly
19 values at the same locations and other locations
20 match. So this is not to say that monthly information
21 is unreliable. Simply this figure, which involved
22 annual values, allows you to conclude that annual
23 values are reasonably accurate.

24 Q. Your testimony further states that the LAAMP
25 simulations are not sufficiently accurate to control

0039
01 actual daily operations of the aqueduct system; is that
02 correct?

03 A. That is right.

04 Q. Now, could the LAAMP model be used to control the
05 monthly operations of the aqueduct system?

06 A. Well, the monthly -- the LAAMP model results could
07 certainly be used to begin to plan the monthly
08 operations of the aqueduct system; that is, to allocate
09 what should be done with the available water using the
10 available storage to try to meet the desired export
11 targets. So it could certainly be used as the first
12 phase of determining the operations.

13 Q. But because it's a planning model and not an
14 operations model, it's correct, isn't it, that there
15 has to be discretion for the operators to modify plans
16 based upon day-to-day circumstances?
17 A. That is certainly right.
18 Q. Now, in your testimony, you listed some
19 corrections that were made to LAAMP 2.0.
20 A. Yes. There were several identified during the
21 review process.
22 Q. Now, when you were making those corrections, did
23 you analyze how individual corrections would affect the
24 simulations of LAAMP?
25 A. Not in every -- not for every correction. We made
0040 several corrections all at once.
01 Q. So it's not possible to determine which correction
02 resulted in a change in the simulated result?
03 A. Not in every detail, but in general, some of the
04 obvious changes caused obvious effects in the model,
05 effects that would have been expected from that change.
06 Q. Can either of you tell me what is LAAMP 3.3A?
07 A BY MR. HUCHISON: It's 3.31.
08 Q. 3.3A referred to in the testimony of Mr. Vorster
09 is the same as 3.31?
10 A. That's correct.
11 Q. What is Table 1 of State Water Resources Control
12 Board Staff Exhibit 41?
13 A. Let's give everybody a chance if they want to turn
14 to that.
15 Table 1 is simply summarizing all of the
16 hydrologic terms, these are the long-term annual
17 average values for each of the different inflows and
18 the uses or the outflows from the aqueduct system. And
19 it's an attempt to compare the values that were used in
20 LAAMP 2.0. They just go with the values used in LAAMP
21 3.3.
22 So the table, -- the second label on the table
23 that says LAAMP 3.2 is an error. You could revise
24 that. That's LAAMP 3.3.
0041 Q. And then the column labeled "change," the
02 information that's contained in that column are the
03 relative differences between LAAMP 2.0 and LAAMP 3.3?
04 A. That's right. For these water budget terms that
05 are specified as user inputs, these are showing the
06 differences. The major difference was in Long Valley,
07 it was determined that the gains were really almost
08 10,000 acre-feet more than we had in version 2.
09 And similarly, in the Tinemaha-Haiwee, the gains
10 in that region -- which were, in error, put in as a
11 loss. So the net change was a gain of 18,000
12 acre-feet. So these two terms, in large part, explain
13 why there's now more water simulated in Haiwee for
14 export to Los Angeles than there was in the Draft EIR.
15 MR. SMITH: Mr. Birmingham? Could I just break in
16 for a moment? We're referring to testimony in Table 1,
17 Exhibit 40?
18 MR. DODGE: You said 41, and I spent two minutes
19 looking for it.
20 HEARING OFFICER DEL PIERO: I thought this was a

21 test, gentlemen.
22 MR. SMITH: I'd like to correct the record.
23 MR. VORSTER: I found it for him.
24 HEARING OFFICER DEL PIERO: Thank you,
25 Mr. Vorster. I appreciated that very much. I'm sure
0042
01 he does, too. Maybe he'll let you cross-examine later
02 on.
03 MR. BIRMINGHAM: While we're on that subject --
04 HEARING OFFICER DEL PIERO: Why do I open my
05 mouth? Why do I do this to myself?
06 Go ahead, Mr. Birmingham.
07 Q. BY MR. BIRMINGHAM: Now, looking at the second
08 page of Table 1 to State Water Resources Board Staff
09 Exhibit 40, there are some values for Tinemaha to
10 Haiwee area under subsection G; is that correct?
11 A. BY DR. BROWN: Right.
12 Q. Now, if we look at the -- there is a change that
13 is not noted in terms of spreading; is that correct?
14 A. That is right. There is a term missing from
15 spreading.
16 Q. And there's -- so there's a difference there of
17 6.3; is that correct, with Dr. Brown?
18 A. That's right. The way we're showing it, that
19 would be a negative 6.3 implying that there is an
20 increase in the loss of 6.3.
21 Q. Now, isn't it correct that ultimately between
22 LAAMP 2.0 and LAAMP 3.3, there is an increase in Haiwee
23 export?
24 A. That's right. The net effect of all these changes
25 in hydrologic terms, plus the effects of errors that
0043
01 may have been in the original code, in net, ended up
02 with approximately 20,000 acre-feet a year more water
03 at Haiwee.
04 Q. Now, that is a change that isn't shown on Table 1?
05 A. That total change between the two versions of the
06 model is shown in Table 3. Table 1 is giving a part of
07 those changes that can be explained by these explicit
08 changes to the hydrologic terms.
09 So there are some undisclosed portions of the net
10 change of 20,000 that is not explainable by these
11 changes in water budget terms. That portion of net
12 change would have to be attributed to undisclosed
13 errors or differences between the two models.
14 Q. I want to write that down because I want to come
15 back to that in a moment.
16 When you are said "undisclosed errors or
17 difference in the models," was that --
18 A. That's right.
19 Q. Okay. Mr. Huchison, do you remember when you
20 testified that first time here? I think you expressed
21 the opinion that the changes that were going to be
22 implemented on LAAMP wouldn't result in significant
23 differences in the model outputs.
24 Was that your opinion?
25 A. BY MR. HUCHISON: I have not reviewed my
0044
01 testimony, but if you say so.
02 Q. Well, let's -- I'm -- let's look at Table 3.3 and

03 West Portal exports. In Table 3, comparison of LAAMP
04 3.3 and Draft EIR average simulated values from 1940 to
05 1989, the third column from the left, is labeled "West
06 Portal Exports, thousand acre-feet per year." Is that
07 correct?
08 A. Yes.
09 Q. Now, that represents the export from the Mono
10 Basin; is that correct?
11 A. That's correct.
12 Q. Now, let's look at some of the differences between
13 3.3 and the Draft Environmental Impact Report. The
14 Draft Environmental Impact Report refers to LAAMP 2.0;
15 is that correct?
16 A. That's right.
17 Q. If you look at the 6377 foot alternative, under
18 the Draft EIR, LAAMP 2.0 simulated an export of 51.8
19 thousand acre-feet; is that correct? Or 51,800
20 acre-feet; is that right, Mr. Huchison?
21 A. I see a 51.8, yes.
22 Q. Now, under LAAMP 3.3, it simulates an export of
23 40,000 acre-feet.
24 A. That's what it says.
25 Q. And that's a difference of 11.8 thousand
0045 acre-feet?
01 A. That's what that says.
02 Q. If my math is correct, that's a difference of
03 about 28 percent between LAAMP 3.0 and the resulting of
04 the LAAMP 2.0; is that right?
05 the LAAMP 2.0; is that right?
06 A. It's pretty close.
07 Q. If we look at the 6383.5 foot alternative, the
08 first 50 years, LAAMP 3.3 simulates an export of 29.9
09 thousand acre-feet or about 30,000 acre-feet; is that
10 right?
11 A. That's what it says.
12 Q. And the Draft Environmental Impact Report
13 simulated an export of 37.7 thousand acre-feet.
14 A. That's what it says.
15 Q. And the difference is about 26 percent; is that
16 right?
17 MR. DODGE: Objection. Vague as to percentage of
18 what?
19 MR. BIRMINGHAM: Let me restate the question.
20 MR. DODGE: I remember my math from grade school,
21 and when you're taking a percentage of something, you
22 take a percentage of the first number, in this case the
23 DEIR number --
24 HEARING OFFICER DEL PIERO: So we're clear, you've
25 withdrawn the question?
0046
01 MR. BIRMINGHAM: I will withdraw the question, and
02 I will reask the question.
03 Q. BY MR. BIRMINGHAM: The difference between what is
04 simulated by LAAMP 3.3 and what was simulated by LAAMP
05 2.0, that's a difference, isn't it, of 26 percent?
06 MR. DODGE: Objection --
07 MR. HUCHISON: I get 21 percent.
08 HEARING OFFICER DEL PIERO: Wait. Wait. Wait,
09 Mr. Huchison. I'm sorry. We've had an objection.
10 MR. DODGE: It's the same objection. It's the

11 same question. I have the same objection.
12 MR. BIRMINGHAM: I think Mr. Dodge is wanting me
13 to ask a different question. The question I'm asking
14 is not ambiguous at all. He may want to ask it
15 differently, but the way I'm asking it isn't ambiguous.
16 MR. DODGE: It's ambiguous in that it's unclear
17 whether you want him to take the 7.8 and determine
18 whether it's a percentage of 29.9, or whether it's a
19 percentage of 37.7.
20 HEARING OFFICER DEL PIERO: Can you clarify that?
21 MR. BIRMINGHAM: Certainly, I can.
22 Q. BY MR. BIRMINGHAM: Isn't it correct,
23 Mr. Huchison, if we divide 7.8 by 29.9, that results in
24 about a 26 percent difference?
25 A. BY MR. HUCHISON: 7.8 divided by 29.9 is .2608.

0047

01 Q. So that's about 26 percent?
02 A. Yes.
03 Q. Or if we round it up, about 27?
04 A. If you take 7.8 and divide it 37.7, you get 20.6.
05 Q. That wasn't my question. That my be Mr. Dodge's
06 question, but that wasn't my question, Mr. Huchison.
07 Let's go on to the next alternative.
08 HEARING OFFICER DEL PIERO: Thank you for
09 answering both questions, Mr. Huchison. Mr. Dodge and
10 Mr. Birmingham were both happy.
11 MR. HUCHISON: Just want to be helpful.
12 Q. BY MR. BIRMINGHAM: Let's look at the 6390 foot
13 alternative. Under the Draft Environmental Impact
14 Report 2.0, the simulated export was 29.8 thousand
15 acre-feet; is that right, Mr. Huchison?
16 A. BY MR. HUCHISON: That's what it says.
17 Q. And then under LAAMP 3.3, it's 23,000 acre-feet.
18 A. That's what it says.
19 Q. Now, if we take the difference, 6.8, and divide it
20 by 23,000 acre-feet, the LAAMP simulation, that's about
21 30 percent, isn't it?
22 A. 29.57.
23 Q. Let's stay on Table 3.3 of this exhibit for a
24 couple of moments. Excuse me, Table 3 which discusses
25 the differences between LAAMP 3.3 and LAAMP 2.0.

0048

01 Let's look at the differences between export and
02 ultimate L.A. aqueduct delivery. Now, let's use the --
03 again, just for purposes of analysis, let's use the
04 6377 foot alternative. Now, we've established that
05 using LAAMP 3.3, the simulated export is reduced by
06 approximately 12,000 acre-feet; is that right?
07 A. BY DR. BROWN: Using LAAMP 3.3 the losses between
08 Haiwee and Los Angeles --
09 Q. That's not my question.
10 A. No.
11 Q. The difference of export out of the Mono Basin is
12 about 12,000 acre-feet between LAAMP --
13 A. Oh, yes. You're right.
14 Q. Thank you. Then there were some adjustments made
15 further down the system; is that correct?
16 A. That's right.
17 Q. For instance, you included evaporation from
18 Tinemaha Reservoir?

19 A. That's right, and Haiwee.
20 Q. And you included evaporation from Haiwee
21 Reservoir; is that correct?
22 A. That is right.
23 Q. And that resulted in a loss of water; is that
24 correct?
25 A. Well, evaporation from the reservoir is certainly
0049
01 a loss of water, but as I mentioned, we also, in a
02 sense, found some terms that were in error the other
03 direction and, in fact, overall, the previous version
04 of LAAMP had 20,000 acre-feet of missing water that is
05 now included in LAAMP 3.3.
06 So the net effect is an increased supply at Haiwee
07 and an increased delivery to Los Angeles.
08 Q. Under the 6377 foot alternative of 9,000
09 acre-feet, 10,000 acre-feet?
10 A. That is right.
11 Q. Now, this is what I want to get to, because the
12 20,000 acre-feet that you say you found in the system,
13 now, those differences, the ultimate change can't be
14 accounted for; isn't that right, Dr. Brown?
15 A. No. In large part, the difference in water can
16 easily be accounted for using Table 1, where we find
17 that 10,000 were found, using that term, in the Long
18 Valley area, and approximately 20,000 were found in the
19 Tinemaha to Haiwee. And that was reduced by the
20 missing evaporation terms, but the net effect of all
21 that can largely be explained by the water budget terms
22 that were corrected.
23 Q. Okay. So we lose 10,000 acre-feet at Tinemaha and
24 Haiwee; is that correct?
25 A. From the reservoir evaporation, approximately
0050
01 10,000 is lost.
02 Q. And you found an additional 10,000 in gain?
03 A. In the Long Valley area, and we found an
04 additional 18,000 in the Tinemaha to Haiwee. So the
05 first two 10 might cancel, and the extra 18 that was
06 found, largely explains the net change between the two
07 versions of model.
08 Q. Now, if the two 10s cancel, then there ought to be
09 a change of 18,000 acre-feet; is that right?
10 A. Right. If these water budget terms were the only
11 changes, then it would have been exactly 18. But as I
12 said, there were undisclosed other changes; could have
13 been errors, could have been calculations, mistakes of
14 throwing water away. And when you add that to it, you
15 still end up with on the order of 20,000.
16 So, although, there were some other things leading
17 to this net change, the large majority of the net
18 change can easily be explained by the water budget
19 terms that were explicitly changed.
20 Q. But in LAAMP 3.3, there are still undisclosed
21 errors?
22 A. No. I was referring to there were undisclosed
23 errors in 2.0 that we assume are now all corrected in
24 LAAMP 3.3.
25 Q. Now, what were the Owens -- when you assume that
0051

01 they were corrected, you said in your testimony that
02 Mr. Vorster was going to run some LAAMP runs at higher
03 lake level alternatives; was that your testimony?
04 A. That was my understanding, that he has made those
05 runs.
06 Q. And because he was going to do it and because you
07 were short of time, you didn't do it?
08 A. That's right. And L.A. staff was making some
09 additional runs at the same time, so we split the work
10 between the three of us.
11 Q. So if you and Mr. Vorster did the same run, then
12 you ought to come out with about the same result?
13 A. Yes, I'm confident we would.
14 Q. DFG only. Do you have a copy of Mr. Vorster's
15 testimony in front of you?
16 A. No, I don't. I can run and get it, though.
17 Q. Let me find a copy for you.
18 MR. HERRERA: Also, Mr. Birmingham, your 20
19 minutes have expired.
20 MR. BIRMINGHAM: I make an application for an
21 additional 10 minutes.
22 HEARING OFFICER DEL PIERO: Granted.
23 Mr. Birmingham, and everyone else, too, at the end of
24 that 10 minutes, we'll take a break.
25 Q. BY MR. BIRMINGHAM: I'm handing you, Dr. Brown, a
0052
01 table that's labeled Vorster Table 2-A?
02 A. BY DR. BROWN: Yes. I'm familiar with this.
03 Q. And there is, under the alternative columns on
04 Vorster Table 2-A, which is part of the testimony of
05 Peter Vorster, who we'll hear from later I presume.
06 Mr. Vorster has a DFG only run; is that correct?
07 A. Yes, that's his top entry.
08 Q. Now, you also did a DFG only run; is that correct?
09 A. Yes. That's towards the bottom of my Table 3.
10 Q. Now, if we look at Mr. Vorster's DFG only, Table
11 1, of the first 50 years, if we look over the
12 right-hand column, second to the last right-hand
13 column, it shows Mono Basin exports; is that correct?
14 A. Yes.
15 Q. Now, there he shows a Mono Basin export of 32.3
16 thousand acre-feet; is that right?
17 A. Yes.
18 Q. And if we look at Table 3. -- I'm sorry, Table 3,
19 which is part of your testimony, at the DFG only
20 export, it shows a West Portal export -- I'm sorry, the
21 DFG only alternative, it shows a West Portal export of
22 27.5 thousand acre-feet; is that correct?
23 A. Yes.
24 Q. That's a difference of approximately 5,000
25 acre-feet; is that correct?
0053
01 A. That's right. A difference of 4.8.
02 Q. 4.8. Okay.
03 A. Would you like to know why? I'm not supposed to
04 ask questions. I forgot.
05 Q. I'm sure if there's an explanation, Mr. Frink will
06 be able to bring it up, or Mr. Del Piero will ask that
07 question, but I don't.
08 MR. DODGE: It's already in my right-hand column.

09 One word, here.

10 HEARING OFFICER DEL PIERO: Actually,
11 Mr. Birmingham, Mr. Vorster wrote it for him. I
12 noticed that.

13 MR. BIRMINGHAM: Maybe Mr. Vorster will ask that
14 question when he cross-examines on behalf of Cal Trout.

15 HEARING OFFICER DEL PIERO: Gee, maybe -- could I
16 have started a trend? I don't know.

17 Q. BY MR. BIRMINGHAM: Now, the LAAMP 3.2 had Owens
18 Valley uses in it; is that correct?

19 A. BY MR. BROWN: You're asking about LAAMP 3.2,
20 which was the intermediate version?

21 Q. 2.0.

22 A. Yes. 2.0. Draft EIR version had Owens uses in
23 it, certainly.

24 Q. Now, the LAAMP 3.3 has Owens Valley uses in it; is
25 that correct?

0054

01 A. Yes.

02 Q. Now, what are those Owens Valley uses?

03 A. The Owens Valley uses, which are summarized on
04 Table 1 of my testimony, are basically irrigation.

05 There are a couple of water supplies for lake
06 recreation areas, but we could say, generally, are
07 irrigations for agricultural uses in the Long Valley
08 area and then throughout the Owens Valley.

09 Q. Now, many of those uses are provided for in an
10 agreement between the County of Inyo and the City of
11 Los Angeles Department of Water and Power; is that
12 correct, Dr. Brown?

13 A. I don't know the specifics of how those uses are
14 regulated.

15 Q. You would agree with me that the Owens Valley uses
16 are not dependent on Mono Basin exports?

17 A. I don't know that either.

18 Q. LAAMP 3.3, as Mono Valley -- excuse me, as Mono
19 Basin export change, it's correct, isn't it, that the
20 model simulates changes in Inyo -- in Owens Valley
21 uses?

22 A. Actually, to a large extent, they do not. This is
23 shown on Table 3, where we have the simulated values of
24 Owens Valley uses shown just a little to the right of
25 the middle of the table, and for the no-restriction

0055

01 alternative, the highest value of uses is shown. It's
02 114.3.

03 Now, there is some drop in that number. If we
04 were to just drop down to the 6390 alternative. The
05 114 has now dropped to 111.7, so there's been a loss of
06 just less than 3,000 acre-feet out of the 114.

07 These are uses that cannot be supplied, because
08 the flow in the Owens River is not high enough to
09 divert to those uses and still maintain the minimum
10 Owens Valley river flow that is specified in the
11 model.

12 So only in the model, it is not able to find the
13 water in particular months, because indirectly, there's
14 not as much water coming out of the Pleasant Valley
15 Reservoir. So the uses do fall off slightly in the
16 model.

17 Q. And if Inyo -- if the agreement between Inyo
18 County and the Department of Water and Power provided
19 that the Owens Valley uses were not to change dependent
20 upon Mono Basin exports, then that would be an error in
21 LAAMP 3.3; is that correct?

22 A. No, it wouldn't be an error. Remember, we
23 differentiated between the information you can get from
24 the planning model and how you actually operate, so
25 this is not an error. This is a case where the actual
0056

01 releases from Pleasant Valley to supply those constant
02 uses, if indeed that's what they need to be, would have
03 needed to have been slightly different than what the
04 model predicted. So that the easiest way to make that
05 adjustment, if you would like to hold uses constant, is
06 to take that decrease in uses out of the export at
07 Haiwee. Because if that's the way it needs to actually
08 operate, then that water which is taken out of the uses
09 in the model needs to remain in uses; therefore, that
10 water needs to come out of what was simulated as Haiwee
11 export. So for this example that we've been running,
12 you need to take 3,000 acre-feet out of the deliveries
13 to Los Angeles in order to hold uses constant, as you
14 stipulated.

15 Q. Now, this found water that you've talked about,
16 differences between LAAMP 2.0 and LAAMP 3.3, the found
17 water is not attributable to Mono Basin alternatives;
18 isn't that correct?

19 A. That is right. That's independent of Mono
20 exports.

21 Q. So that found water, that water that you found in
22 the Owens Valley, that water was always there?

23 A. Yes. When I describe the found, this is simply
24 that the model found it. In reality, the water was
25 always there.

0057
01 Q. So regardless of lake level alternative that's
02 chosen by this Board, that water is going to be in the
03 Owens Valley and available for export?

04 A. Well, remember, we are simply using the historic
05 hydrologic record. If that repeats, and this available
06 water will be there, I am not -- nobody can guarantee
07 how much water is -- water is available. Perhaps, I'm
08 unclear of your question.

09 Q. Well, if the found water was there and available
10 for export under the no-restriction alternative, it
11 would be available under the 6377 alternative; is that
12 correct?

13 A. That's right. This water basically involved the
14 unmeasured inflows to these areas that occurs from a
15 series of springs and small streams.

16 Q. And that found water would be at the 6390
17 alternative?

18 A. That's right. It's part of the base hydrology.

19 Q. So it's correct, isn't it, Dr. Brown, that the
20 impact on the Department of Water and Power could be
21 based upon the Mono Basin export, not aqueduct
22 diversion?

23 MR. DODGE: Objection. Unintelligible. I think,
24 among other things, the question assumes that a

25 decrease of X water from the Mono Basin automatically
0058
01 equates to a decrease of X water received in Los
02 Angeles, and I don't think that's a fact.
03 HEARING OFFICER DEL PIERO: Mr. Birmingham?
04 MR. BIRMINGHAM: Well, Dr. Brown, you've testified
05 -- I'll see if I can lay the appropriate foundation.
06 HEARING OFFICER DEL PIERO: All right.
07 Q. BY MR. BIRMINGHAM: You've testified that the
08 amount of water that the City of Los Angeles can export
09 from the Owens Valley is not dependent on lake level
10 alternatives; isn't that correct?
11 A. BY DR. BROWN: I don't think so. We were talking
12 about the amount of this extra water that was
13 discovered during this model revision process. That
14 amount of water that we have set is on the order of
15 20,000 acre-feet year, that is unaffected by Mono
16 exports.
17 Q. So that 20,000 acre-feet is going to be there
18 regardless of alternative that's chosen or selected by
19 this Board?
20 A. Yes.
21 Q. So in evaluating an impact, you would look at Mono
22 exports; is that correct?
23 MR. DODGE: Objection. Vague and ambiguous as to
24 what impact you mean.
25 HEARING OFFICER DEL PIERO: Sustained. You need
0059
01 to specify, Mr. Birmingham.
02 Q. BY MR. BIRMINGHAM: The impact on the Department
03 of Water and Power in terms of water supply?
04 A. BY DR. BROWN: Well, of course, the whole idea of
05 modeling the entire aqueduct system is to examine all
06 of the sources of supply, West Portal being the source
07 of supply from the Mono Basin. If that is the only
08 variable of interest, then West Portal is a very
09 appropriate model output.
10 If you wanted to look at the effects, the
11 cumulative effects on the system, you could judge that
12 at the Haiwee export for the deliveries to L.A. So in
13 my view, both numbers are quite important in judging
14 water supply impacts.
15 MR. BIRMINGHAM: I have no further questions.
16 HEARING OFFICER DEL PIERO: Thank you very much,
17 Mr. Birmingham.
18 Ladies and gentlemen, we're going to take a
19 ten-minute break, and we'll return then.
20 (A recess was taken at this time.)
21 HEARING OFFICER DEL PIERO: Ladies and gentlemen,
22 this hearing will again come to order.
23 Ms. Cahill?
24 MS. CAHILL: We have no questions.
25 HEARING OFFICER DEL PIERO: Thank you very much,
0060
01 Ms. Cahill.
02 Where is Mr. Dodge? Mr. Dodge, any questions?
03 MR. DODGE: Yes, I have a few.
04 MR. BIRMINGHAM: First one is going to be why.
05 HEARING OFFICER DEL PIERO: Mr. Huchison,
06 Dr. Brown, prepare yourselves.

07 DR. BROWN: Thank you.

08 MR. DODGE: I have a couple of housekeeping
09 matters, Mr. Del Piero.

10 First, with your permission, I would substitute a
11 new Vorster Table 4 which -- the one that was submitted
12 two days ago inadvertently omitted one of analyses at
13 6400 feet.

14 MR. BIRMINGHAM: No objection.

15 HEARING OFFICER DEL PIERO: No objection. So
16 ordered.

17 MR. DODGE: We'll distribute copies to everyone.

18 HEARING OFFICER DEL PIERO: Thank you. I'd like
19 one, too, Mr. Dodge.

20 MR. DODGE: Secondly, we have an amended Vorster
21 Table 2-A, which is a parallel to our old exhibit,
22 National Audubon Exhibit 195, as I recall. But in any
23 event, it has been amended to reflect the changes in
24 LAAMP.

25 I would ask that the Board accept an amended
0061

01 Vorster Table 2-A, which again, adds analysis of the
02 second of 6400 foot alternative, and also makes a
03 substantive change in the sense that it has creek
04 flows, monthly average creek flows for the various
05 alternatives analyzed.

06 Now our Exhibit 195 originally had the same creek
07 analysis. We came to Friday at 4:30, or excuse me,
08 Wednesday at 4:30, and the information was simply not
09 available. And Mr. Vorster did the work yesterday and
10 gave me the table today.

11 And with everyone's permission, I would substitute
12 that.

13 MR. BIRMINGHAM: We have absolutely no objection.

14 HEARING OFFICER DEL PIERO: Thank you very much.
15 So ordered.

16 CROSS-EXAMINATION BY MR. DODGE

17 Q. Excuse me. I just saw the yellow sticker. I'm
18 Bruce Dodge. I represent the National Audubon Society
19 and the Mono Lake Committee.

20 MR. BIRMINGHAM: I'm informed that this court
21 reporter will know all of us by our voice, so this
22 afternoon about 2:00 o'clock, she'll begin to recognize
23 you.

24 Excuse me, Mr. Del Piero.

25 HEARING OFFICER DEL PIERO: That's quite all
0062

01 right, Mr. Birmingham. You're welcome to make any
02 comments to Mr. Dodge.

03 Q. BY MR. DODGE: I just have a few questions.

04 Dr. Brown, you testified, I think, toward the end
05 of Mr. Birmingham's examination, that you felt that all
06 the errors in LAAMP 2.0 had been corrected in 3.3.
07 Now, that's not quite right, is it? Isn't there that
08 one error that Mr. Huchison referred to that was
09 corrected in LAAMP 3.3A?

10 A. BY DR. BROWN: That's right. That gives away the
11 fact that I'm an optimist. I said I assumed they were
12 all fixed, and yet we have continued to find some. And
13 that one being an example of a yet undetected error.

14 Q. And that error was found by Mr. Vorster; is that

15 correct?

16 A. That is right.

17 Q. Now, I was interested in your responses to
18 Mr. Frink's questions about the lake level elevations
19 that you analyzed. Was there some special reason why
20 6410 was not analyzed?

21 A. No. Again, we divided the work. I had understood
22 that those higher lake levels were being done by Peter
23 Vorster, so I went with the three named lake levels
24 from the Draft EIR, the lower one.

25 Q. Have you read Mr. Vorster's testimony and his

0063

01 analysis of managed lake levels 6405 feet?

02 A. Yes, I looked over that.

03 Q. Did you have any quarrel with it?

04 A. No. I have no quarrel with it.

05 Q. Now, I notice that going back to this Table 3,
06 which I believe is part of Board Exhibit 40, on the far
07 right-hand column, it says, "L.A. delivery, thousand
08 acre-feet a year." Am I reading that right?

09 A. Yes.

10 Q. Does that mean the total delivery to Los Angeles
11 from the aqueduct?

12 A. Yes.

13 Q. And I notice that in each case, for each
14 alternative analyzed, that under LAAMP 3.3, more water
15 was delivered through the aqueduct than under LAAMP
16 2.0; is that correct?

17 A. That's right.

18 Q. Would that also be true at elevation 6405?

19 A. We'd have to look -- well, it's very likely that
20 that is also true at 6405. But I did not make that
21 run, though.

22 Q. Mr. Birmingham asked you a series of questions
23 about percentages under LAAMP 3.3 versus the Draft EIR,
24 what the changes were. And I take it if I asked you
25 the same questions about lake elevation 6405 feet, you

0064

01 wouldn't know the answer?

02 A. That's right. I don't know the comparisons of
03 that.

04 Q. One final line of questions. Mr. Birmingham
05 brought out correctly that when you were looking at DFG
06 flows, under your analysis, you found exports of, what,
07 27.5; is that right?

08 A. That's right.

09 Q. Thousand acre-feet per year?

10 A. Yes. That is the 50-year average.

11 Q. 50-year average. Okay. And Mr. Vorster found
12 something different, right?

13 A. That's right.

14 Q. 32.3?

15 A. Well, he ran, actually, two different cases. So
16 for one of his cases, he found 32.3 as a long-term
17 average. For another case he ran, he found 30.3.

18 These different cases are because he input different
19 things to the model input looking for the effect of
20 that change in the output.

21 Q. Let me ask you the question that I wrote down at
22 the time that Mr. Birmingham didn't ask you. Why did

23 you and Mr. Vorster come to different conclusions in
24 your analyses?
25 A. Okay. We ended up with different long-term
0065 averages because we were using different assumptions as
01 to the allocation of water from the Mono tributaries.
02 The two most important changes between our runs are
03 these: For the Draft EIR, we had assumed a minimum
04 lake storage of 20,000 acre-feet. And this was in
05 response to analysis that there is a recreational
06 threshold that is exceeded if you drop the lake all the
07 way down to 11,000.
08 Q. The lake referring to what, sir?
09 A. Referring to Grant Lake, the minimum allowable
10 storage. So in my case, I was using the 20,000 that I
11 had used in the Draft EIR simulation, whereas Peter
12 Vorster was using a minimum of 11,000. You can see
13 that that gives, in general, 10,000 acre-feet, or not
14 quite 10,000, of more available seasonal storage in
15 Grant for his case. And that allows him, using the
16 even export targets, which we both used, to get more of
17 the available water through the West Portal.
18 In my case, because my Grant storage was higher, I
19 ended up spilling in more of the years, in more of the
20 months of the years, than he did, and that is one of
21 the causes of the difference.
22 Q. Are there also others?
23 A. Yes. The other cause of the difference is
24 evaluated in Peter's two trials. In the one case, he
0066 used available Grant storage to make up Rush Creek
01 deficits; that is, when Rush Creek flow did not exceed
02 the specified minimum for a certain month, if there was
03 water in Grant, he is using the necessary storage from
04 Grant to make up that deficit. That is what accounts
05 for his 2,000 difference between his two cases.
06 So we have two causes, each of which is allowing
07 approximately 2,000 more export as you move from my
08 case to his two cases. And that explains the full
09 difference.
10 MR. DODGE: That's all the questions I have.
11 Thank you, gentlemen.
12 HEARING OFFICER DEL PIERO: Ms. Koehler?
13 CROSS-EXAMINATION BY MS. KOEHLER
14 Q. Good morning. My name the Cynthia Koehler. I am
15 one of the attorneys for California Trout today. I
16 have just a few questions.
17 Mr. Huchison, turning to Table 3of Dr. Brown's
18 testimony. There's been a favorite expression this
19 morning about "found water in the system." Does that
20 found water evidenced in this table suggest that Los
21 Angeles does not need to lose an acre-foot of water for
22 every -- in deliveries for every acre-foot of water
23 left in the Mono Basin?
24 A. BY MR. HUCHISON: I'm not sure I understand what
0067 your question is.
01 Q. Let me clarify. Isn't it correct that -- well,
02 let me put it in the positive.
03 Does -- for every acre-foot of water left in the
04

05 Mono Basin as a result of whatever decision this Board
06 makes, is it true that Los Angeles will lose an acre of
07 water? Is there a one-to-one relationship between
08 water left in Mono Lake and water lost by Los Angeles,
09 or is it possible for that water to be made up in the
10 system?

11 MR. BIRMINGHAM: Objection. Compound.

12 HEARING OFFICER DEL PIERO: Sustained.

13 Q. BY MS. KOEHLER: Let me just ask the simple
14 question about one-to-one relationship.

15 A. I'll use my favorite answer yes and no. Depends
16 on the assumptions made.

17 HEARING OFFICER DEL PIERO: You recall that
18 answer, do you not, Mr. Birmingham?

19 MR. HUCHISON: I've heard it's become kind of a
20 folklore around here.

21 HEARING OFFICER DEL PIERO: That's not quite how I
22 would characterize it.

23 Q. BY MS. KOEHLER: Could you expand on that?

24 A. MR. HUCHISON: Basically, what you're looking at
25 is if you start with that assumption, you can make it
0068

01 happen, in essence. You say hold everything static
02 downstream of the Mono Basin, and for every acre-foot
03 of export that you lose, you will lose an acre-foot of
04 export at Haiwee. If you make those assumptions, you
05 will achieve that result.

06 However, the model suggests that there's not
07 exactly a one-to-one, but pretty close, because we are
08 holding a lot of things static. We're holding the
09 groundwater pumping static. We're holding uses
10 relatively static, and reservoir storage targets are
11 static. Yet, there is still some very limited
12 opportunities, based on these model results, in the
13 context of spreading, primarily, to I guess mitigate
14 losses from the Mono Basin and to Haiwee.

15 Now, you could go the next step, even further
16 extreme, and change reservoir targets, change pumping,
17 although that may be in violation of a difference
18 between Haiwee and Los Angeles, but again, in terms of
19 just analyzing the impacts, you could relax those
20 assumptions, and then you would get much less than a
21 one-to-one impact relationship.

22 Q. So let me ask you this question, Mr. Huchison:
23 Does L.A. have opportunities or options available to it
24 to minimize the impact, the water supply impacts of the
25 reduction in Mono Basin exports through its operation

0069
01 of the system? Is that your testimony?

02 A. I would say in general any system, there are
03 opportunities to make up losses from one component. I
04 would say that in a general sense, yes.

05 Q. All right. And let me ask you a related
06 question. Does L.A. have opportunities to make up
07 reductions in Mono Basin exports through structural
08 changes to the L.A. aqueduct system?

09 A. Well, back in 1986, there was a proposal to
10 increase Long Valley storage, which was subsequently
11 dropped. That certainly would be a way to mitigate
12 that loss. There's also been environmental

13 documentation as part of the Inyo-L.A. Agreement that
14 discussed increased recharge facilities in the loss of
15 Big Pine areas, although, those have not gone forward.

16 So those are opportunities. Whether any of those
17 would ultimately be built or not would be speculation,
18 I guess, more than anything at this point.

19 Q. But there are opportunities out there?

20 A. Sure.

21 Q. Now, you mentioned before that you thought there
22 was some opportunities to make up some water that was
23 spreading, could you expand upon your answer?

24 A. Well, the EIR that covered the second barrel of
25 the aqueduct and the agreement, proposed agreement,
0070
01 between Inyo and Los Angeles, identified increased
02 spreading facilities. Primarily, I think they were
03 loss in Big Pine. The loss facilities would consist of
04 kind of a very -- pipe-drain type system that would
05 allow more rapid infiltration of water below the soil
06 line. There's a hard pan layer near the surface that
07 limits the availability of surface spreading or limits
08 the capability of just surface spreading.

09 The Big Pine area, I believe, was a structural
10 improvement in a culvert that was restrictive of the
11 amount of water that could cross over into a currently
12 used spreading area.

13 Q. Okay. Thank you. Are you familiar with the
14 rebuttal of -- the rebuttal testimony of Michael Deas
15 submitted by Los Angeles?

16 A. Yes, I've got it right here.

17 Q. Are you familiar with it, though, Mr. Huchison,
18 have you had a chance to review it?

19 A. Yes, I've read it.

20 Q. On page 2 of Mr. Deas' testimony, he states that,
21 "The priority of the water use is different in new
22 LAAMP than in old LAAMP. It specifically -- " I'm
23 reading about halfway down the page. It says,
24 "Includes Mono Basin water," I'm sorry, "Mono Basin
25 available water in Owens Valley available export."

0071
01 Can you tell me whether you regard this statement
02 as accurate or not?

03 A. It is not accurate for version 3.3 or 3.31.

04 Q. Can you expand upon that answer, please?

05 A. When we first made the change from version 2 to
06 version 3, the West Portal flow was treated
07 differently. In version 2, West Portal was called upon
08 in the subroutine not enough. And so, therefore, the
09 West Portal flow was only used for exports to Los
10 Angeles.

11 One of the changes that was requested in version
12 3, and I'm using that term generically at this point,
13 was to cause even export out of the Mono Basin. Well,
14 when you examine the output from version 2, it was
15 clear that, although West Portal flow was called upon
16 in most months, because it was in a NOTENUF subroutine
17 quite a bit more often than it was in the TOOMUCH
18 subroutine, there was still --

19 Q. Let me interrupt you for the court reporter.

20 Could you spell NOTENUF and TOOMUCH?

21 A. Not enough is all capitals, N-O-T-E-N-U-F, and too
22 much is all caps, T-O-O-M-U-C-H.

23 At any rate, the model was in NOTENUF a lot more
24 than it was in TOOMUCH, but there were periods of time
25 when the West Portal was shut down on occasions,
0072

01 because if the model was in TOOMUCH, there was no need
02 for West Portal flow. There was no export.

03 When the idea of constant export came up, we said,
04 "Well, we're going to have to have -- constant export,
05 we're going to have to have water coming out of the
06 Mono Basin all the time." So the version 3.0 and --
07 see version 3.0 had the West Portal flow coming in
08 right at the beginning as part of what's called the
09 AVEX calculation, A-V-E-X, and TOOMUCH then included a
10 routine to turn it down or turn it off, if there was
11 too much water, then we would, in essence, send it back
12 to the Mono Basin.

13 In order to maintain as much a constant export as
14 possible, that routine was set way low in priority of
15 TOOMUCH. It caused exports to go a lot higher, caused
16 a lot more spilling and spreading.

17 So in view of that, we decided to move -- it was
18 agreed that the priority of West Portal flow reduction
19 would be moved up in priority, which then caused the
20 West Portal to turn off more frequently, thus even
21 further getting away from this concept of always having
22 an export in the Upper Owens River.

23 Subsequent to that, in the change between version
24 3.2 and 3.3, it was -- we, in essence, went back to the
25 old version 2 approach of putting West Portal flow back
0073

01 in the NOTENUF context, taking it out of AVEX
02 calculations, and subsequently reducing it into a
03 TOOMUCH routine.

04 So what we wound up doing was going back to the
05 way we had it in version 2, and that was largely
06 because the water that was being sent from the West
07 Portal was having a big flew on the operation in Owens
08 Valley, which was viewed as inappropriate in view of
09 the fact that West Portal was primarily a way to get
10 water from the Mono Basin to Los Angeles, and not being
11 grabbed and sucked off and doing other things with the
12 Owens Valley.

13 Q. Thank you for that very complete answer.

14 Mr. Deas also states at one point, and I believe
15 I'm quoting now, "An analysis of monthly and annual
16 operations is not a valid application of the model,"
17 referring to new LAAMP. Do you agree with this
18 assessment?

19 A. Where does he say that?

20 Q. I think it's on page 3.

21 A. Oh. Well, a little earlier he talks about how it
22 can be used as a tool in a general fashion in the State
23 Board review process.

24 Q. Wait. It's that statement about --

25 A. And it can be used to make a comparison of
0074

01 alternatives. I would say that the statement is more
02 correct than incorrect, but I don't think I would say

03 the same thing in the same way.
04 Q. What would you say?
05 A. I'd say you should look at the monthly and the
06 annual numbers as a guide for what may be done. And I
07 think Russ Brown said it pretty well. You use it as a
08 first stage in planning operations. It's a planning
09 model. The output is useful, but in context of what
10 you're trying to do with it.
11 MS. KOEHLER: All right. That concludes my
12 questions. Thank you.
13 HEARING OFFICER DEL PIERO: Thank you very much,
14 Ms. Koehler.
15 Ms. Scoonover?
16 MS. SCOONOVER: I have no questions.
17 MR. FRINK: Ms. Cahill.
18 HEARING OFFICER DEL PIERO: Ms. Cahill had no
19 questions.
20 Mr. Frink?
21 MR. FRINK: Yes. I have a few questions.
22 HEARING OFFICER DEL PIERO: See, I didn't forget
23 you this time.
24 MR. FRINK: Thank you.
25 HEARING OFFICER DEL PIERO: Your welcome.
0075
01 MR. FRINK: Well, they are our witnesses.
02 HEARING OFFICER DEL PIERO: I know. You would
03 have to point that out on the record, wouldn't you?
04 REDIRECT EXAMINATION BY THE STAFF
05 Q. BY MR. FRINK: Dr. Brown, Mr. Birmingham asked you
06 several questions about differences in simulated
07 exports that were predicted by the LAAMP 3.3 analysis
08 and the exports that were predicted in the Draft EIR.
09 I believe you testified that the LAAMP 3.3 analysis, as
10 summarized in Table 3 of Exhibit 40, assumes an even
11 level of Mono Basin exports to the Owens Valley; is
12 that correct?
13 A. BY DR. BROWN: That is right.
14 Q. And that the fish flow requirements in Rush Creek
15 could be met, if needed, by storage releases from Grant
16 Lake Reservoir; is that correct?
17 A. That's right.
18 Q. Now, neither of those assumptions were used in the
19 Draft EIR analysis, were they?
20 A. That's right. Both of those are new features of
21 the revised model.
22 Q. And you explained earlier that the revised model
23 would allow the user the option of using either of
24 those assumptions; is that correct?
25 A. That's right. That's the user's choice to apply
0076
01 either of those.
02 Q. So LAAMP 3 has the ability to analyze a variable
03 rate of export from the Mono Basin?
04 A. That's right.
05 Q. And it also has the ability to determine exports
06 from the Mono Basin without assuming a release of
07 storage from Grant Lake to meet fishery requirements;
08 is that correct?
09 A. Right. And Peter Vorster has already used that
10 option both ways.

11 Q. If the same assumptions regarding the rate of Mono
12 Basin exports and the use of Grant Lake storage for
13 fish flows were used in a LAAMP 3.3 analysis as were
14 used in the Draft EIR analysis, would you expect that
15 there would be less of a difference in the Mono Basin
16 export levels predicted by the two analyses?

17 A. Yes. I would expect less difference, particularly
18 the even export assumption that tends to fill up Grant
19 Reservoir much more often than in the Draft EIR
20 simulations and is spilling water to the lake that was
21 available for export, except that we limited export to
22 this even monthly pattern. So removing that even
23 assumption would allow more of the available water to
24 be exported.

25 Q. I've just asked you to comment on a couple of the
0077
01 changes in assumptions that were utilized in the two
02 analyses. But is it correct to say that a number of
03 changes were made in the input assumptions into the
04 LAAMP 3.3 analyses that were not used in the Draft EIR
05 assessment?

06 A. Yes. There were a number of other changes. I
07 think we have mentioned most of the -- or the most
08 important ones, but there were others that haven't been
09 discussed.

10 Q. Mr. Huchison, the LAAMP 3.3 model, does that model
11 the entire L.A. aqueduct system?

12 A. BY MR. HUCHISON: What do you mean by "entire"?

13 Q. Does it model the L.A. aqueduct system both in
14 terms of the Mono Basin exports and the Owens Basin
15 exports?

16 A. It calculates both the Mono Basin exports and the
17 Haiwee exports, and it also calculates L.A. delivery.

18 Q. Okay. Now, if one were interested in getting a
19 percentage difference in the changes in L.A. deliveries
20 that were predicted under the LAAMP 3.3 analyses and
21 the Draft EIR analyses, could one look at the numbers
22 in the far right-hand column of Table 3 of State Water
23 Resources Control Board Exhibit 40?

24 A. The L.A. delivery column?

25 Q. Yes.

0078

01 A. Yes.

02 Q. Okay. And if one were to take a percentage of the
03 L.A. deliveries, or if one were to calculate the
04 percentage that 7.8 thousand acre-feet is of 396.1
05 thousand acre-feet, those numbers are shown under the
06 6390 alternative, one would simply divide 396.1
07 thousand acre-feet by 7.8 thousand acre-feet; isn't
08 that correct? Excuse me, one would divide 7.8 thousand
09 acre-feet by 396.1 thousand acre-feet?

10 A. Yeah. Well, there's two ways to do it. There's
11 7.8 divided by 396.1 or divided by 388.3, depending on
12 what you want to do in terms of difference.

13 Q. Which one would you view as most appropriate in
14 this instance?

15 A. Well, if you're trying to get a difference from
16 the Draft EIR, then you would do the difference divided
17 by the Draft EIR, or 7.8 divided by 388.3.

18 Q. And what is the percent difference from the Draft

19 EIR that you get for the 6390 alternative?
20 A. 7.8 divided 388.3 is 0.02, which is 2 percent.
21 MR. FRINK: I believe that's all my questions.
22 HEARING OFFICER DEL PIERO: Thank you very much.
23 Mr. Satkowski?
24 MR. SATKOWSKI: No questions.
25 HEARING OFFICER DEL PIERO: Mr. Smith?

0079

01 MR. SMITH: Yes. I have a couple of questions.
02 Q. BY MR. SMITH: Good morning, gentlemen.
03 Hopefully, this is the last time we'll grill you.
04 Speaking of that in terms of changes, Mr. Huchison,
05 you said something about a hundred acre-feet being an
06 error. Could you clarify that? Is that actually an
07 error, or is that a difference in your original -- in
08 your original statement, you said you had manipulated a
09 few things and come up with a hundred acre-feet
10 difference?
11 A. The difference between 3.3 and 3.31, that was an
12 error, and it resulted in a long-term average change of
13 less than a hundred acre-feet per year. I think it was
14 actually more like two or three, but to be generic, I
15 said less than a hundred.
16 Q. Does that continue to be an error, or has it been
17 cleared up?
18 A. No. That was the change between 3.3 and 3.31, so
19 3.31 is the most current correct version.
20 Q. And again, that error has been cleared up?
21 A. Yes.
22 Q. Thank you.
23 In terms of that now, what kind of a model, aside
24 from the planning model, obviously, do you think this
25 new version of LAAMP, 3.31, provides for the Board? Is

0080

01 it adequate in the planning process for the Board? Is
02 it a good planning model? In other words, how do you
03 feel? Dr. Brown has already said how he feels about
04 it.
05 A. I think it's a very good tool for what was being
06 planned here. I agree with him.
07 Q. Okay. Thank you.
08 Mr. Frink answered some of my questions about the
09 difference of Haiwee exports, so I won't go into that.
10 Have either of you had a chance to compare LAAMP
11 3.31, or any version of LAAMP with LAASM in any detail?
12 A. During one of the last TAG meetings, which was
13 held last week, there was a table put up of LAASM
14 output for unrestricted run. And as we were
15 developing -- or as we were making changes in
16 developing 3.3, we compared the results of LAASM and
17 LAAMP, and they appeared to be very, very close for an
18 unrestricted case.
19 Q. For the court reporter, LAASM is L double a-s-m.
20 Okay, one last question for you, Mr. Huchison.
21 You have participated in the preparation of the
22 so-called "Green Book" that we've heard a little bit
23 about?
24 A. That's correct.
25 Q. Two things. Briefly describe your involvement in

0081

01 the Green Book, and then briefly explain what the Green
02 Book does or does not do. And in light of that, could
03 you please answer a question for me?

04 We have heard that the Green Book so called limits
05 L.A.'s exports. Could you comment on that, please?

06 A. The Green Book is part of -- is one of the key
07 documents of what's referred to in the
08 Inyo-L.A agreement, which is currently under court
09 review. The Inyo-L.A. agreement sought to end over 20
10 years of litigation between the City of Los Angeles and
11 Inyo County with regard to Los Angeles' groundwater
12 pumping in the Owens Valley.

13 The agreement primarily presents overall goals and
14 principles of groundwater management and vegetation
15 management in the valley. The Green Book was designed
16 to be primarily more of a living document that had more
17 of the detailed information on monitoring and
18 techniques of management; recognizing that as data
19 improved, those techniques may also improve or change
20 or modify. So without having to go back and redo the
21 agreement, which was intended to be a stipulated
22 judgment, the Green Book was designed to be freely
23 modified by agreement between the parties, as kind of a
24 technical guidebook of how to manage the valley.

25 The Green Book contains no specific numbers in
0082

01 terms of pumping limits. Everything is geared -- in
02 the current version of the Green Book, everything is
03 geared toward monitoring of vegetation, and then
04 following certain procedures on how it is to be
05 monitored. Then depending on certain threshold levels,
06 wells would be turned off and/or turned back on
07 depending on which condition you were in.

08 So annual plans would be developed based on this
09 turn-on-turn-off provision that is, in turn, based on
10 the monitoring. That is the primary mechanism by which
11 the groundwater pumping is controlled in the Owens
12 Valley. Even though agreement is still under court
13 review, the parties are, in essence, operating under
14 the fundamental principles of the agreement with only a
15 couple of modifications that were basically intended to
16 respond to the recent doubt that is going on that
17 hopefully ended, maybe not.

18 There's another provision in the Green Book
19 related to prevention of groundwater mining, and that
20 is a running calculation that was done on a 20-year
21 basis where pumping cannot exceed recharge in any
22 20-year period. And there's specific methods on how to
23 calculate recharge. Obviously, the context of some of
24 the discussion we've heard before, if artificial
25 spreading were to be increased, therefore, recharge

0083
01 would be increased, presumably, that would cause
02 changes in groundwater levels, which may or may not
03 beneficially affect the vegetation; therefore, its
04 monitoring and, in turn, the well turn on and turn off
05 provisions would certainly have a benefit in the
06 context of prevention of groundwater mining, because
07 the more water you put in, theoretically, the more
08 water you can take out. But again subject to the

09 constraints of the vegetation monitoring.
10 I was the primary author of the hydrologic section
11 of the Green Book. I also participated in the
12 preparation and negotiations of the Green Book, and the
13 EIR was a part of all that.

14 Q. So, in short, you do not view the so-called
15 problem of spreading as really a problem. It is not a
16 waste of water in the Owens Valley. It is, in fact, a
17 recharge of the aqueduct?

18 A. It is viewed as a benefit, but only qualitatively.
19 So there's no direct link quantitatively to it. If
20 spreading increase is X, then pumping can increase X or
21 some fraction of X. It's -- everything is still
22 predicated on the vegetation monitoring requirements.
23 So, in theory, all that water could be pumped out
24 later. In theory, also, just as equally, none of it
25 could ever be pumped out later. It all depends on what

0084

01 the vegetation monitoring is telling the people that
02 are in charge of managing the valley's water resources
03 and vegetation.

04 MR. SMITH: Okay. That's all the questions I
05 have.

06 I just wanted to put on the record, though, that I
07 wanted to thank all the members of TAG Committee for
08 all their hard work, Peter Vorster, Mr. Hasencamp, Russ
09 Brown, and Mr. Huchison, all -- Mr. and Mrs. Deas.
10 Mr. Deas right over there also, and my colleague Rich
11 Satkowski.

12 HEARING OFFICER DEL PIERO: Thank you very much,
13 Mr. Smith.

14 Mr. Herrera?

15 MR. HERRERA: I have no questions, Mr. Del Piero.

16 HEARING OFFICER DEL PIERO: Mr. Canaday?

17 Q. BY MR. CANADAY: I want to backtrack a little bit,
18 so I'm clear on the history in the development of all
19 the models and when they were presented to the various
20 parties.

21 Dr. Brown, when was the LAAMP 2.0 made available
22 to the parties; do you recall?

23 A. BY DR. BROWN: 2.0, if I am in the right year, was
24 in April of 1992. And it was at that point that your
25 staff had finalized the alternatives and we were

0085

01 simulating the alternatives with the model, and we
02 released the model to all the parties. We did not, at
03 that time, release our particular assumptions of the
04 alternatives.

05 Q. But the parties could have used the model with
06 their own assumptions and tested that model; is that
07 correct?

08 A. Right.

09 Q. Did you receive any comments on the model prior to
10 the release or the closing of the comments of the Draft
11 EIR?

12 A. Well, we received numerous communications from one
13 of the members of TAG group, even though the TAG group
14 was sort of disbanded. And Peter Vorster had many
15 questions about using it. I did not receive any
16 written comments from any party on the model until the

17 close of the Draft EIR comment period.

18 Q. So at the time, approximately a year had passed
19 prior to receiving any comments on the 2.0 model; is
20 that correct?

21 A. That's right. Over a year.

22 Q. When was LAASM presented, or when did Jones and
23 Stokes receive a copy of the LAASM that's been referred
24 to in testimony by L.A. DWP?

25 A. We received a copy of LAASM with other parties on
0086

01 the last day to submit, I guess, exhibits to this
02 hearing.

03 Q. So that would be September 22nd?

04 A. Yes.

05 Q. Of 1993?

06 A. Right.

07 Q. This is a question for either one of you. The
08 difference between 2.0 and LAAMP 3.3, as it relates to
09 the chain or the ability to -- or the differences
10 between those two models and how water -- how you would
11 analyze the impacts of different alternatives in the
12 basin, the Mono Basin, have there been any changes that
13 have affected in-basin analysis of the alternatives?

14 A. Well, there are -- I guess in my view, there are
15 now, because of the Upper Owens export target, that's
16 the major change that directly affects the water in the
17 Mono Basin. So with that additional feature, you can
18 now simulate closer to some of the recommended
19 management plans, or ideas have been submitted as part
20 of the testimony, and because of that difference,
21 largely -- I should say, that difference is largely the
22 cause of the different long-term averages that are
23 simulated between the two.

24 And as we have, I think, described, there are
25 additional things that could be tried if the goal was
0087

01 to further maximize the available exports or what you
02 got from them. And so that remains as the single
03 largest difference.

04 You may recall, the Draft EIR made the assumption
05 that maximizing exports to Los Angeles was a priority
06 once the minimum flows and the lake level had been
07 satisfied, and so we forced the export of available
08 water through the West Portal up to a maximum of 300
09 cfs. And with the even export, a lot of that export
10 capacity is no longer available without changing that
11 pattern of exports to allow these higher exports during
12 the runoff months.

13 A. BY MR. HUCHISON: Those were also tracking fish
14 flow deficits more explicitly in the model, so you can
15 actually get a report on what fish flows were not met
16 on which creeks.

17 Q. Well, would you agree with me that the changes
18 that have been made from 2.0 to arrive at 3.3 are
19 primarily changes that affect the flow of water or the
20 quantity of water below East Portal in the Upper Owens?

21 A. BY DR. BROWN: Especially in terms of the errors
22 that were in the previous code and these water
23 hydrologic term changes that we found during the
24 revision. Those are all in the Owens River Basin.

25 Q. So therefore, they would not affect the assessment
0088

01 of impacts to the various different resources within
02 the basin, the Mono Basin; is that correct?

03 A. Right. They would have a very small indirect
04 effect back on the West Portal exports.

05 Q. Mr. Huchison, there were questions earlier about
06 the Green Book. That has triggered some questions that
07 I have.

08 In the Green Book -- first of all, in the model
09 3.3, in the area called Owens uses, irrigation and you
10 said -- testified earlier that was the largest quantity
11 of water under that particular category; is that
12 correct?

13 A. BY MR. HUCHISON: I think Russ said that.

14 Q. Okay.

15 A. Irrigation is one of the biggest components of
16 uses.

17 Q. Now, was that irrigation number kept constant in
18 3.3?

19 A. No.

20 Q. Is there ability in the Green Book -- in the Green
21 Book operation criteria, is it mandated that irrigation
22 be fixed within the Owens Basin?

23 A. Let's back up a little bit. Uses were not kept
24 constant, okay? Irrigation, there's two components to
25 that. There's an irrigation component, and then

0089

01 there's like the recreation uses, that sort of thing.
02 It's not in the Green Book, but actually in the
03 agreement where it talks about the various vegetation
04 types; there's A, B, C, D, and E, and the one of note
05 here is type E, which is irrigated vegetation.

06 And the agreement says that, "The Department,"
07 meaning DWP, "shall continue to provide water for Los
08 Angeles owned lands in Inyo County in an amount
09 sufficient so that the water related uses of such lands
10 that were made during the 1981-82 runoff year can
11 continue to be made."

12 So, in essence, that says the amount of water used
13 in '81-82 is kind of the floor that has got to be made.

14 It also later says that, "It is recognized that
15 successive dry years would result in insufficient water
16 to meet all needs. During periods of dry years or
17 water shortages, technical group will evaluate existing
18 conditions. A program providing for reasonable
19 reductions in irrigation water supply for Los Angeles
20 owned lands in Owens Valley and for enhancement
21 mitigation projects may be implemented if such a
22 program is approved by the Inyo County Board of
23 Supervisors and the Department through the
24 Stanley (phonetic) Committee."

25 So that there was clearly an intent to evaluate

0090

01 dry-year conditions and potentially produce uses. That
02 has, in fact, occurred over the last few years,
03 especially towards the end of drought. Enhancement
04 mitigation uses were cut by quite a bit; some uses just
05 simply cannot be met under dry-year conditions. And I
06 think that you could run the model or do some back

07 calculations to keep uses constant, but I don't think
08 that's exactly what the agreement calls for.

09 I think holding the pumping constant is
10 appropriate and more in tune with the agreement, but I
11 don't agree that holding the uses absolutely constant
12 100 percent of time is necessarily in accordance with
13 the agreement.

14 Q. So that's a, to use a term that's been used in
15 testimony which we'll hear later, the word
16 "flexibility," and that would be a word that might
17 represent --

18 A. I'd say limited flexibility, because it's subject
19 to agreement. And there's also a provision in the
20 agreement that acknowledges the fact that there might
21 be a reduction in the Los Angeles' water supply as a
22 result of court or State Board action on the Mono
23 Basin, and that is specifically stated that -- that law
24 shall not be the basis for a future request to
25 terminate the stipulated order absent an agreement by
0091

01 everybody. They can't back out of the agreement if all
02 of a sudden there was a lot less water.

03 So in kind of in keeping with that, there was some
04 recognition that there would be some impact associated
05 with that. How that would specifically be dealt with
06 has never been brought up in any detail, because the
07 agreement is still under court review.

08 Q. But there is provisions within that pending
09 agreement to adjust for whatever decision this Board
10 may make?

11 A. Yeah. And it's all predicated to a '81-82 water
12 use, first of all. The uses that we see here, as I was
13 sitting here during the DWR testimony, it's kind of
14 like the 7.1 or the 6.0, what's the wish and what's
15 reality. I think the uses that we put in here are
16 really the full uses that would occur in the best of
17 circumstances. And I think it's recognized, and I
18 think this is one of the reasons why the Lower Owens
19 River project part of the agreement is so important,
20 because that provides a way to recapture some of the
21 water that would be used for that Lower Owens River
22 project.

23 Q. In this vegetation monitoring that you briefly
24 mentioned, what kind of -- I'm trying to understand the
25 structure of how that works. Is there a provision in
0092

01 the agreement for someone from Inyo County to oversee
02 that?

03 A. The monitoring is carried out by the technical
04 group which is made up of staff and consultants of Los
05 Angeles and Inyo County. So in reality, it's the
06 technical group that does the monitoring, makes the
07 initial recommendations and decisions, and basically,
08 the Owens work did the agreement.

09 The people actually out in the field are primarily
10 Los Angeles staff members, although Los Angeles does
11 contribute, I think one or two staff members. It
12 changes every year depending on the personnel
13 requirements for every season, but it's a joint effort.

14 Q. And the funding is provided jointly or primarily

15 by the city?

16 A. The funding is all from Los Angeles. Los Angeles
17 provides funds to manage and conduct these activities
18 to the County of Inyo who then, in turn, provides that
19 money to Inyo County Water Department.

20 Q. Okay. And then they have staff that then carries
21 that out?

22 A. That's correct.

23 MR. CANADAY: Thank you. That's all I have.

24 HEARING OFFICER DEL PIERO: Thank you very much.

25 Let me take a two-minute break. I have to make a

0093

01 phone call. Actually, five minutes. Be back at 20 to,
02 promptly, so we can get going.

03 (A recess was taken at this time.)

04 HEARING OFFICER DEL PIERO: Ladies and gentlemen,
05 this hearing will again come to order.

06 Mr. Birmingham?

07 MR. BIRMINGHAM: Thank you.

08 RE-CROSS EXAMINATION BY MR. BIRMINGHAM

09 Q. Dr. Brown, Mr. Dodge asked you a question at the
10 very beginning of his examination of you about an error
11 that was contained in LAAMP 3.3 and the correction of
12 that error that has resulted in LAAMP 3.3A.

13 Do you recall that question?

14 A. BY DR. BROWN: Right. I do.

15 Q. And you said you were being optimistic, you were
16 assuming there were no errors in LAAMP 3.3, no
17 additional errors?

18 A. That's right.

19 Q. It's correct, isn't it, Dr. Brown, that there
20 still may be some errors in LAAMP 3.3, not in 3.3A?

21 A. Unfortunately, that's a reality. There still may
22 be.

23 Q. In fact, it's true, isn't it, that models
24 generally are not going to be perfect documents, that
25 there will always need to be some adjustments that need

0094

01 to be made?

02 A. Certainly, that's right.

03 Q. Mr. Huchison, Ms. Koehler asked you some questions
04 about the opportunities of the Department of Water and
05 Power to ameliorate the losses as a result of the
06 Board's decisions and, in particular, she asked you if
07 there were opportunities to increase storage in the --
08 along the aqueduct's system.

09 Do you recall that question?

10 A. BY MR. HUCHISON: Yes.

11 Q. And in response to the question, you said that
12 back in 1986, there had been a proposal to increase
13 storage in Long Valley Reservoir.

14 A. That's what I said, yes.

15 Q. Do you know why that proposal wasn't pursued to
16 construction?

17 A. Let's see, it's been a long time. What I recall
18 at the time, there was -- seems to me there was some
19 push by the Mono Lake Committee to have Los Angeles
20 sign off on a minimum lake level in return for its
21 support of an increased Crowley, and no agreement was
22 reached, so the Department simply dropped the proposal,

23 seems to be what I recall.

24 Q. The Mono County Board of Supervisors was also
25 interested in imposing conditions; is that correct?

0095

01 A. I don't remember that.

02 Q. And is it correct that the Department of Water and
03 Power conducted a feasibility study and determined that
04 the increased storage would have been minimal?

05 A. The increased storage would have been pretty
06 significant. It was -- as I recall, there was two
07 alternatives; one was a ten-foot increase, and the
08 other was a 20-foot increase. And, boy, now we're
09 really going back. The current capacity is 183,000,
10 and I think a 20-foot rise would have increased it to
11 something on the order of 250,000 total, some number
12 around there. So I would say that provided a fair
13 amount of space. The feasibility study, the
14 geotechnical feasibility study that was completed.

15 Q. Now, we've heard testimony from Dr. Stine about
16 the inundation of wetlands that resulted from the
17 original construction of Crowley Reservoir. If the
18 Crowley Reservoir were enlarged to increase its
19 capacity to 250,000 acre-feet from its existing
20 capacity of 183,000 acre-feet, in your opinion, would
21 that have some environmental consequences in the Long
22 Valley?

23 A. As I recall, when DWP was conducting public
24 meetings to get input on this proposal, there were
25 several issues related to environmental impacts that

0096

01 were raised.

02 Q. And one of the -- excuse me. Go ahead.

03 A. And I think wetlands was one of them. Air
04 quality. At that time, there was a variety of issues.
05 That was a preliminary kind of, "Hey, would these sorts
06 of things, would they happen?"

07 Q. Now, Ms. Koehler also asked you about testimony of
08 Mr. Deas, the rebuttal testimony of Mr. Deas, and she
09 asked you about two statements made by Mr. Deas. In
10 response to the second question, you stated that
11 Mr. Deas' written testimony was more correct than
12 incorrect, but you wouldn't necessarily say it the same
13 way.

14 Do you recall that?

15 A. Yes, I remember that.

16 Q. And then with respect to testimony contained on, I
17 believe it was page 2 of Mr. Deas' testimony, written
18 rebuttal testimony, you indicated that there was a
19 statement made by Mr. Deas about LAAMP 3.3 that was
20 incorrect?

21 A. That's right.

22 Q. Now, I'd like to ask you some questions, as did
23 Mr. Canaday, about the process that was followed in
24 revising the LAAMP. Earlier, Dr. Brown said that the
25 group that worked on the revisions to LAAMP contained

0097

01 representatives from the L.A. Department of Water and
02 Power, and you're nodding your head affirmatively.
03 Does that means yes?

04 A. Yes.

05 Q. And that would have been Mr. Hasencamp and
06 Mr. Deas?
07 A. That's correct.
08 Q. And there were members of State Water Resources
09 Control Board Staff?
10 A. Yes.
11 Q. And he said Mr. Vorster represented a couple of
12 parties; is that correct?
13 A. He was there.
14 Q. The ambiguous Mr. Vorster?
15 A. He switched hats a lot.
16 Q. Did he represent the Mono Lake Committee? Which
17 hat did he wear?
18 A. As far as I know, yes.
19 Q. And Cal Trout?
20 A. I wasn't never really completely 100 percent clear
21 on -- I knew Mono Lake Committee. I heard once in a
22 while Audubon, Fish and Game, Cal Trout.
23 Q. And then the consultants would have been you and
24 Dr. Brown?
25 A. That's correct.

0098

01 Q. Now, was there a protocol that was set up to
02 inform representatives of these individual parties
03 about changes that were made to LAAMP during this
04 revisions process?
05 A. If you mean something written, no. If you mean
06 the way we operated, everybody was sort of free to call
07 anybody else. And what I tried to do, as the one who
08 was making the changes, was let as many people as I
09 could know or -- my primary contact was -- I had two
10 primary contacts, Russ Brown and Hugh Smith, and I
11 often talked to them and to Peter.
12 Q. So you often talked to Russ Brown, Hugh Smith, and
13 to Peter?
14 A. Mm-hmm.
15 Q. Peter Vorster?
16 A. Right.
17 Q. Now, this change that you described to Ms. Koehler
18 in response to the question about the modification --
19 let me restate the question.
20 The change that was made in LAAMP 3.3 that you
21 discussed in response to Ms. Koehler's questions about
22 Mr. Deas' testimony on page 2, did you inform Mr. Deas
23 of that change?
24 A. I did not personally inform him, no.
25 Q. Did you inform Mr. Vorster of that change?

0099

01 A. Yes. The meeting -- it was actually done while we
02 were sitting in a meeting. Mike Deas and Bill
03 Hasencamp had to leave early, and it was within an
04 hour, half hour after they left that we had made that
05 change and distributed the disks. And I forget who I
06 gave the disk to, who was going to give it to Mike, but
07 somebody was going to do that.
08 Q. So you informed Mr. Vorster of the change, or he
09 was informed by his participation. Mr. Deas was not
10 informed, to your knowledge?
11 A. Mr. Deas was not at the meeting, so he did not
12 know about it when everybody else did. He was at the

13 meeting, but then had to leave to go to class. He was
14 going to get the disk and the information, I guess, the
15 next day.
16 Q. This LAAMP 3.31A, do you have a copy of that?
17 A. Well, it's being referred to both --
18 Q. Excuse me. I'm sorry. 3.3A or 3.31.
19 A. Right.
20 Q. That refers to the same model?
21 A. Right.
22 Q. Do you have a copy of that?
23 A. Yes.
24 Q. To your knowledge, does any representative of the
25 Department of Water and Power have a copy of that?
0100
01 A. I made copies of the disk yesterday. I don't know
02 if they've received them yet.
03 Q. So, to your knowledge, no representative of the
04 Department of Water and Power has a copy of that model?
05 A. Not that I know of, no.
06 Q. Now, in response to questions -- and I'd have to
07 say I'm ignorant as to who was asking you the
08 questions. It may have been Ms. Koehler again -- you
09 were talking about spreading water in the Owens
10 Valley.
11 Now, it's correct, isn't it, that if additional
12 water is spread in the Owens Valley, the Department of
13 Water and Power may not be able to extract that water
14 in subsequent years?
15 A. I would say it is not necessarily so that that
16 water could be extracted.
17 Q. It depends upon the vegetation monitoring that you
18 described?
19 A. That's correct.
20 Q. And in response to questions by Staff members with
21 respect to the Green Book and the agreement between the
22 Department of Water and Power and the City of Los
23 Angeles and Inyo County, you said that the county and
24 DWP contemplated a reduction in water supply as a
25 result of the Mono Basin precedent; is that correct?
0101
01 A. No. They acknowledged -- they recognized that
02 that could happen. They did not want that to affect
03 their agreement. In other words, keep the issues
04 separate. In other words, Inyo was saying to L.A.,
05 "You guys are entering this agreement fully recognizing
06 you may take a big loss in the Mono Basin."
07 Q. And that big loss in the Mono Basin will not
08 change your obligation to comply with this agreement?
09 A. That's correct.
10 MR. BIRMINGHAM: May I confer with Ms. Goldsmith
11 for one moment?
12 HEARING OFFICER DEL PIERO: Certainly.
13 MR. BIRMINGHAM: I have no further questions at
14 this time.
15 HEARING OFFICER DEL PIERO: Thank you very much,
16 Mr. Birmingham.
17 MR. BIRMINGHAM: Thank you.
18 HEARING OFFICER DEL PIERO: Ms. Cahill?
19 MS. CAHILL: We have no questions.
20 HEARING OFFICER DEL PIERO: Mr. Dodge?

21 MR. DODGE: No questions.
22 HEARING OFFICER DEL PIERO: Ms. Koehler?
23 MS. KOEHLER: I have very few questions.
24 RECROSS-EXAMINATION BY MS. KOEHLER
25 Q. Mr. Huchison, Mr. Birmingham asked you several
0102
01 questions about Los Angeles' receipt of the recent 3.31
02 model. Can you tell me, is the 3.31 a different model
03 from 3.3?
04 A. BY MR. HUCHISON: Well, it does have a difference,
05 yes. There was an error corrected.
06 Q. Right. Is it accurate to characterize this as a
07 relatively minor coding change?
08 A. Hence the name 3.31, as opposed to 3.4.
09 Q. And your testimony and Dr. Brown's testimony
10 today, that's based on model runs of 3.3; isn't that
11 correct?
12 A. Dr. Brown ran his runs and prepared his testimony
13 with 3.3. I told him about 3.31, told him it didn't
14 look like it was making that big of a difference for
15 the purposes of his testimony. He decided, and I
16 agreed with him, that 3.3 was more than an adequate
17 substitute for 3.31.
18 Q. And the Department of Water and Power's
19 consultants has received copies of 3.3; isn't that
20 correct?
21 A. To my knowledge, yes.
22 Q. Just a quick summary question perhaps for you,
23 Dr. Brown. Are you satisfied that the LAAMP 3.3 water
24 supply impacts to the Department of Water and Power as
25 shown in Table 3 of the written testimony, are you
0103
01 satisfied that those results are more accurate than the
02 same impact as modeled by LAAMP 2.0?
03 A. BY DR. BROWN: Yes and no.
04 (Laughter.)
05 HEARING OFFICER del PIERO: Dr. Brown, I'm not
06 going to let you sit next to Mr. Huchison.
07 (Laughter.)
08 MR. HUCHISON: Can we exchange high five's or
09 something?
10 DR. BROWN: My only difficulty with the question
11 is that evaluating the impacts depends very strongly on
12 the set of assumptions that the user has decided to
13 choose, and so characterizing what is in this Table 3 as
14 sort of a final set of simulations between the
15 alternatives --
16 Q. BY MS. KOEHLER: Let me clarify my question, then.
17 I'm not asking you about those numbers as being
18 absolutes. I think we all understand they're
19 estimates. I'm asking you if you're satisfied that 3.3
20 is or more -- perhaps the way to put it is: Is 3.3 a
21 more accurate, a simply more accurate model than 2.0
22 for estimating water impacts of the Mono Lake decision
23 to the City of Los Angeles?
24 A. BY DR. BROWN: Even though I still have the
25 problem, I find that, in review of the comparisons,
0104
01 that version 2.0, as used in the Draft EIR, was
02 accurate in its simulations of the Mono Basin water

03 allocation.

04 Version 3.3 remains to be an accurate calculation
05 of what would happen under a specified set of
06 conditions. So the great advantage of 3.3 is that it
07 incorporates additional features that can be specified
08 for the user.

09 The one that we've been using, for example, is the
10 Upper Owens export pattern because that provides
11 flexibility to simulate more cases. It is a more
12 adequate model for the job, which is to resolve the
13 water rights.

14 Q. For purposes of finalizing the Environmental
15 Impact Report, which model will you be using to
16 estimate the water supply impacts to Los Angeles of the
17 various lake level alternatives?

18 A. I actually don't know. That will be at the
19 direction of State Board Staff.

20 MS. KOEHLER: Thank you. That's all I have.

21 HEARING OFFICER DEL PIERO: Thank you very much,
22 Ms. Koehler.

23 Ms. Scoonover?

24 MS. SCOONOVER: I have just one quick question.

25 HEARING OFFICER DEL PIERO: Sure.

0105

01 CROSS-EXAMINATION BY MS. SCOONOVER

02 Q. Mr. Huchison, my name the Mary Scoonover, and I
03 represent the State Lands Commission and the Department
04 of Parks and Recreation in these hearings.

05 There's been a number of questions, Mr. Huchison,
06 about the Green Book, and I have just a couple of what
07 I hope will be very brief follow-up questions.

08 You've testified previously that the Inyo-L.A.
09 agreement is before a judge awaiting approval; is that
10 accurate?

11 A. BY MR. HUCHISON: I said it's under court review.

12 Q. But the parties, Inyo and L.A., are operating, in
13 essence, under the terms of the agreement; is that
14 accurate?

15 A. In terms of vegetation and groundwater management,
16 that's true.

17 Q. Do you know if -- I assume you mean they're
18 currently operating under the terms of the agreement in
19 terms of the vegetation monitoring?

20 A. That's correct.

21 Q. Do you know if they will be operating under the
22 terms of that agreement next year?

23 MR. BIRMINGHAM: Objection. Calls for
24 speculation.

25 MS. SCOONOVER: He --

0106

01 HEARING OFFICER DEL PIERO: I'm going to sustain
02 the objection. You can rephrase it and get to where
03 you want to go.

04 MR. BIRMINGHAM: I'll withdraw the objection,
05 Mr. Del Piero.

06 HEARING OFFICER DEL PIERO: It will take longer,
07 but the objection was a valid objection.

08 MR. BIRMINGHAM: No. It will take longer. I'll
09 just withdraw the objection. I have tickets to the
10 theater tonight.

11 HEARING OFFICER DEL PIERO: Oh.
12 Q. BY MS. SCOONOVER: Do you know, Mr. Huchison,
13 whether or not this is a --
14 HEARING OFFICER DEL PIERO: He's having a heart
15 attack over there.
16 Q. BY MS. SCOONOVER: Do you know whether or not this
17 is a single-year agreement to operate under the terms
18 or if it's a multi-year -- whether it's a single-year
19 agreement to operate under the terms of the agreement?
20 A. BY MR. HUCHISON: The Stanley Committee continues
21 to meet. This was approved in October of 1991. The
22 agreement was approved by the parties, and the EIR was
23 adopted. And ever since then, there's been sort of a
24 limbo land of what are we operating under.
25 And basically, it's through a series of agreements
0107
01 by the Stanley Committee and resolutions adopted by
02 the Stanley Committee, which are, in essence,
03 proceeding with the main provisions of monitoring and
04 the groundwater management of the agreement.
05 So, in essence, the answer to your question is
06 unless something changes, yeah, it's going to be this
07 way until the court says otherwise.
08 Q. Under the terms of the agreement that was
09 approved, was it anticipated that the parties would
10 operate in this, as you describe it, limbo land for
11 some period of time?
12 A. I don't think that was anything specifically
13 anticipated in terms of the length of the time of court
14 review. I don't recall.
15 Q. Should one of the parties decide not to abide by
16 the terms of the agreement in terms of the vegetation
17 monitoring, do you know if the agreement spells out any
18 particular enforcement agreement during this limbo
19 period?
20 A. It could probably be reasonably argued that it
21 would fall back to the original, what we call the
22 interim agreement, or the five-year agreement which was
23 signed in 1984, which had some dispute resolution built
24 into it.
25 Q. The five-year agreement signed in 1984, I assume
0108
01 it was the agreement with --
02 A. Right. But there were extensions sought and
03 achieved. That's what we called the five-year
04 agreement. Extensions were sought and received from
05 the Third District Court of Appeals, and I'm not
06 exactly sure what the latest sunset date is. It's
07 basically ended because all the other documents have
08 been received. So the answer to your question is: I
09 don't know what would happen.
10 MS. SCOONOVER: Thank you. That's all.
11 HEARING OFFICER DEL PIERO: Thank you very much.
12 Mr. Frink?
13 MR. FRINK: Yes, Mr. Del Piero. At this time,
14 Staff would like to move for the acceptance of SWRCB
15 Exhibits 40 through 49.
16 HEARING OFFICER DEL PIERO: Any objections?
17 MS. CAHILL: No objection.
18 HEARING OFFICER DEL PIERO: None. Those will be

19 accepted and ordered into the record.
20 (SWRCB Exhibits Nos. 40
21 through 49 were admitted into
22 evidence.)
23 HEARING OFFICER DEL PIERO: Yes, sir. Thank you
24 very much.
25 Ladies and gentlemen, rather than starting with
0109
01 another witness, I think it's quarter to the hour.
02 Let's take a break for lunch and return at 1:15.
03 Okay? Thank you.
04 (The lunch recess was taken at this time.)
05 HEARING OFFICER DEL PIERO: Ladies and gentlemen,
06 this hearing will again come to order.
07 When last we left, we had finished off Dr. Brown
08 and Mr. Huchison, and now we have some additional
09 gentlemen to talk to this afternoon; Mr. Hasencamp,
10 Mr. Deas, nice to see you people.
11 MR. BIRMINGHAM: We have a third --
12 HEARING OFFICER DEL PIERO: Mr. Coufal?
13 MR. BIRMINGHAM: Coufal.
14 HEARING OFFICER DEL PIERO: Coufal. Mr. Coufal,
15 sir, you haven't been sworn yet, have you, I don't
16 believe?
17 Would you please stand? Do you promise to tell
18 the truth during the course of this proceeding?
19 MR. COUFAL: I do.
20 HEARING OFFICER DEL PIERO: Mr. Birmingham, please
21 begin, sir.
22 MR. BIRMINGHAM: Thank you very much. Department
23 of Power of the City of Los Angeles and City of Los
24 Angeles would like to call William Hasencamp and
25 Michael Deas to present rebuttal testimony.
0110
01 Mr. Coufal was designated as a surrebuttal witness
02 with respect to the testimony submitted by Mr. Vorster
03 and Dr. Brown. And at the request of the State Board
04 Staff, the request made by Mr. Frink at the beginning
05 of this process, we'll present his surrebuttal
06 testimony at this time with our rebuttal testimony.
07 HEARING OFFICER DEL PIERO: I appreciate that very
08 much. Thank you.
09 MR. BIRMINGHAM: That may necessitate an
10 application for additional time.
11 HEARING OFFICER DEL PIERO: Then that application
12 can be made at the appropriate time.
13 MR. BIRMINGHAM: Thank you.
14 DIRECT EXAMINATION BY MR. BIRMINGHAM
15 Q. Mr. Deas, we will begin with you. Did you prepare
16 a document entitled "Rebuttal Testimony of Mr. Michael
17 L. Deas," which has been submitted in connection with
18 this proceeding?
19 A. BY MR. DEAS: Yes, I did.
20 MR. BIRMINGHAM: That document has not been
21 marked.
22 MR. FRINK: Has not been marked.
23 MR. BIRMINGHAM: I needed Dr. Smith's assistance.
24 HEARING OFFICER DEL PIERO: They need an exhibit
25 number.

0111

01 MR. SMITH: Your next in order is 153.
02 MR. BIRMINGHAM: I would ask that the rebuttal
03 testimony of Mr. Michael L. Deas be marked as L.A. DWP
04 153.
05 HEARING OFFICER DEL PIERO: Any objection? So
06 ordered.
07 (L.A. DWP Exhibit No. 153 was
08 marked for identification.)
09 Q. BY MR. BIRMINGHAM: Mr. Deas, would you please
10 provide a very brief summary of the written testimony
11 marked as L.A. DWP 153 keeping in mind I have tickets
12 to a play at 8:00 o'clock this evening.
13 A. BY MR. DEAS: Okay.
14 HEARING OFFICER DEL PIERO: Oh, this is how we
15 keep them -- you should have told me earlier, Tom. I
16 would have tickets regularly for everything --
17 MR. DEAS: He's promised me a set.
18 HEARING OFFICER DEL PIERO: -- to finish this
19 before Thanksgiving.
20 Please proceed, Mr. Deas.
21 MR. DEAS: Thank you. Good afternoon. My name,
22 for the record, is Michael L. Deas, and I'm just going
23 to briefly go through the application of computer
24 models in water resource planning with respect to this
25 process.

0112

01 I'd like to start out by noting that computer
02 models are simply a tool, like any other tool you use
03 in your life, to help a decision-maker when making
04 decisions. It's not the basis for a decision. It's a
05 means to an end, not the end itself.
06 And the reason that model output is not used
07 directly, in other words, pushing the enter key and
08 getting a number and using that as the actual numbers,
09 is uncertainty results whenever you use a computer
10 model due to, for example, approximations, specific
11 compute code, uncertainty in modeling data, uncertainty
12 in the assumptions made in model input, and the
13 all-important task of interpreting output, which is a
14 function of the user and qualifications that the user
15 has in terms of interpreting the results in light of
16 how the system actually operates on a monthly or annual
17 basis, whichever may be the case for the model.
18 LAAMP is a computer program used by the State
19 Board in the Environmental Impact Report process and,
20 as noted, LAAMP has undergone several modifications
21 between version 2 and version 3. Several modifications
22 were addressed by the technical advisory group, labeled
23 the TAG, and the group not only noted that there were
24 some improvements and changes in modifications to the
25 model, but that there were also model limitations.

0113

01 So I'm just going to touch on the new LAAMP, the
02 limitations of the LAAMP, and some State Board
03 requested LAASM updates for the model.
04 LAAMP 3.3 is the newest model or 3.31, I suppose,
05 is the latest one, and several changes, as mentioned,
06 have been made between 2.0 and 3 and 3.1 and 3.2 and
07 3.3. Is it important to note that the changes are
08 significant.

09 Beyond coding errors being corrected and
10 enhancements and parameters being modified, the model
11 structure has been modified. There are many more
12 subroutines. There are several new logic blocks,
13 modified logic blocks. Some logic blocks have been
14 removed and, in addition, the priorities of water uses
15 has been shifted slightly between the versions.

16 I'm going to remove the comment about Owens Valley
17 available water and Mono Basin water that somebody
18 referred to earlier. I'm sorry, I don't recall who.

19 Q. BY MR. BIRMINGHAM: Which comment would that be,
20 Mr. Deas?

21 A. BY MR. DEAS: That would be the first one on page
22 2, the first comment I have "Includes Mono Basin
23 available water in Owens Valley, available export."

24 Sorry if that causes inconvenience to people.
25 Just some general changes include Mono Basin

0114

01 export which may now occur concurrent with the Mono
02 Lake release. That was not available in version 2.

03 Water is no longer explicitly shifted from Grant
04 Lake Reservoir to Long Valley Reservoir as it was in
05 the subroutine of version 2, and water use priorities
06 in the subroutine is not enough -- as a result, the
07 newer model LAAMP 3.3 apportions water differently than
08 LAAMP 2.0.

09 I'd like to note that no one else has specifically
10 carried this out to determine which changes, which
11 enhancements, which input assumptions have made the
12 difference or caused the difference between the two
13 versions of model.

14 Okay. Moving on to applications and limitations.
15 As mentioned, there's been a substantial amount of time
16 and energy in modifying LAAMP and, as noted, there's
17 still some computations which seem to exist in the
18 model which need to be incorporated because the
19 imageries --

20 THE REPORTER: Hold on for a moment. Images
21 incorporated --

22 Q. BY MR. BIRMINGHAM: I believe you said computation
23 with limitations.

24 A. BY MR. DEAS: Computation with limitations within
25 the model framework, and they are important in terms of

0115

01 uncertainty. So when you get a model result, how good
02 is that model result? Computation limitations are
03 inherent in all models because models are
04 simplifications or approximations of the real system.

05 HEARING OFFICER DEL PIERO: Mr. Deas, could you
06 pull that microphone just a touch closer?

07 What's happening is you're reading off the paper
08 and every time you turn your head, the volume goes down
09 and when you turn back into the microphone, it comes
10 back up.

11 MR. DEAS: Thanks.

12 The -- what can occur, though, is if you represent
13 something to simplistically, it can cause additional
14 uncertainty among results and that should be taken into
15 account.

16 Such simplifications do exist in LAAMP 3.3, and

17 they should be taken into account. These include Grant
18 Lake Reservoir operations, Long Valley Reservoir
19 operations, the Mono Basin monthly export distribution,
20 and the system advance subroutines mentioned before,
21 TOOMUCH and NOTENUF. These limitations do introduce
22 additional uncertainty in LAAMP 3.3 model results.
23 After attending the TAG meetings and reviewing
24 LAAMP from 2.2 up through 3.3 and applying it and in
25 light of limitations of computer models in such

0116

01 processes; that is, they're only supposed to be used as
02 a tool to help the decision maker, it's my opinion that
03 LAAMP 3.3 can be used in the general fashion for the
04 State Board presses. It does provide a means for
05 simple analysis for general approximations for
06 comparison of alternatives.

07 The analysis of monthly or annual operations is
08 not valid applications of the model, however, nor
09 should calculated values such as long-term averages be
10 used as specific actual number. It must be taken into
11 account that there is uncertainty.

12 Since Mr. Birmingham has a appointment, I'll just
13 finish this up with the last two LAASM updates.

14 At the request of the State Board Staff, the
15 Department of Water and Power has updated the L.A.
16 model. The two modifications include transition logic
17 in Upper Owens River maximum flow limits. The
18 transition logic allows the user to export while moving
19 from a lower lake elevation to a higher elevation.

20 The user can specify what exports are as per a
21 year type, and the Upper Owens River maximum flows can
22 now be entered on a monthly basis. So you can specify
23 maximum flows for the 12 months of the year versus what
24 was a constant value for all 12 months of year.
25

0117

01 Thank you.

02 Q. BY MR. BIRMINGHAM: Thank you very much, Mr. Deas.
03 Mr. Hasencamp, is it correct that you prepared for
04 presentation in this proceeding a document entitled
05 "Testimony of William J. Hasencamp," which has now been
06 marked as an exhibit?

07 A. BY MR. HASENCAMP: Yes, it is.

08 MR. BIRMINGHAM: That, I would request be marked
09 next in order, L.A. DWP Exhibit 154.

10 (L.A. DWP Exhibit No. 154 was
11 marked for identification.)

12 Q. BY MR. BIRMINGHAM: Do you have a copy of L.A. DWP
13 Exhibit 154 in front of you, Mr. Deas -- I'm sorry,
14 Mr. Hasencamp?

15 A. BY MR. HASENCAMP: Yes, I do.

16 Q. And is that testimony which you prepared for the
17 rebuttal portion of this proceedings?

18 A. Yes, it is.

19 Q. Would you please provide a brief oral summary of
20 the written testimony that has been identified as
21 L.A. DWP Exhibit 154?

22 A. Yes. Mr. Deas is a little more sympathetic to
23 your play tonight. Since I've been living out of a
24 suitcase for the last three months, I'm a little less

25 sympathetic.

0118

01 HEARING OFFICER DEL PIERO: I was wondering when
02 it was going to start coming to the surface. Go for
03 it, Bill.

04 (Laughter.)

05 MR. HASENCAMP: Thank you.

06 The Los Angeles Department of Water and Power has
07 revised its management plan. It is very similar to the
08 original management plan, but there are a few
09 modifications and the plan is a lot more specific than
10 the original plan was. The plan was run with the LAASM
11 model, and the options were added that Mr. Deas
12 discussed in his testimony.

13 The flows were revised to reflect all of the
14 releases. On the original management plan, we had the
15 minimum flows that we felt were necessary. But we also
16 put in the caveat that because of lake level
17 requirements, higher flows would be released down the
18 creeks, and there was, quote, no guarantee of what any
19 of the monthly flows would be.

20 So we incorporated higher flows into our minimums,
21 realizing that these flows were going to be going down
22 the creeks anyway. The revised flows are included in
23 Table 1 of my testimony and, unfortunately, my
24 testimony does not have page numbers. But Table 1
25 lists the minimum flows for Lee Vining, Rush, Walker,

0119

01 and Parker Creeks.

02 Q. BY MR. BIRMINGHAM: Excuse me, Mr. Hasencamp. Is
03 that on the second page of L.A. DWP Exhibit 154?

04 A. MR. HASENCAMP: Yes.

05 Q. Excuse me for interrupting.

06 A. Now, these flows do not take water out of Grant
07 Lake to augment the flows in Lower Rush Creek. One of
08 the main reasons for our recommendation not to do that
09 is because Grant Lake is a reservoir storage on the
10 aqueduct system, and we would like to store water in
11 that reservoir and have it be used for the whole
12 aqueduct purpose and not have a caveat that, well, the
13 water may have to be released for stream flows down the
14 Lower Rush Creek.

15 For example, if we convert water from Lee Vining
16 Creek when it's permissible, we might want to store in
17 Grant Lake. But then if we store it in Grant Lake and
18 there's a requirement that additional releases have to
19 be made, then Lee Vining Creek storage might end up
20 going down Rush Creek rather than exported out of the
21 basin. And so we're living in -- using Grant Lake as
22 an effective storage reservoir for the entire system.

23 Q. Mr. Hasencamp, is there an exception or general
24 rule that waters in storage would not be used to
25 augment the minimum flows specified in the plan?

0120

01 A. Well, yes. I recommended that certainly, if the
02 inflow in Upper Rush Creek might drop for some
03 unnatural reason, if Southern California Edison was to
04 shut off its operation for some reason and the inflow
05 to Grant Lake was zero or close to zero, then that
06 would be a reason to augment the flows. So I have

07 included a minimum of 25 cfs April to September or 20
08 cfs October to March as reasonable minimums where the
09 flows should be augmented, but those occur very rarely.

10 I also wanted to point out that although it's not
11 listed here, the total release of water to the Rush
12 Creek bottomlands is the sum of the Rush Creek
13 releases, Walker Creek releases, and Parker Creek
14 releases and, of course, there's some transit lost
15 along the way, but the releases is measured as the sum
16 of those three.

17 Now, I -- the State Board Staff had asked me to do
18 a comparison the last time I testified, of the DFG
19 flows on both the impaired and unimpaired runoff, and
20 I've included that in Table 6 And I also did the same
21 analysis with the L.A. DWP flows, and they are in Table
22 7.

23 The DWP plan also calls for no appropriation of
24 water from Walker and Parker Creeks. That's not
25 because the Department is not interested in the water

0121
01 from those creeks, but it is because water is going to
02 be released into Mono Lake to maintain the given level.
03 And so we would use Walker and Parker for that purpose,
04 also knowing that it flows into Rush Creek.

05 In other words, rather than diverting the water
06 from Walker and Parker into Grant and releasing it
07 through Grant into Rush Creek, they flow directly into
08 Rush Creek.

09 Channel maintenance flows, table 2, which is on, I
10 believe, page 3 of the testimony, gives the
11 Department's channel recommendations for channel
12 maintenance flows in Lee Vining and Rush Creek. The
13 frequency is every other year, preferably every even
14 year, and if the odd year were a year which met the wet
15 year flushing flows, in other words, if it had a 250
16 cfs peak with an average of 150, 160 cfs for 10 days,
17 then that would cancel the need to flush in the odd
18 year -- in the even year, rather.

19 So you still have the same number of these large
20 flow events, but there would not be a need to flush
21 three consecutive years. It would be every even year,
22 but you may have one odd year and then skip one of the
23 even years.

24 The peak flows under the plan for the wet years, I
25 used a return period of three years. On Rush Creek, we

0122
01 do have 50 years of data for the Rush Creek and dam
02 site, but Lee Vining Creek is a little more limited, we
03 only have the official records back to 1973. So
04 there's a little more uncertainty on what the actual
05 return period is on Lee Vining Creek than there is on
06 Rush Creek.

07 For the normal year flush, I used the 1.5 return
08 period, and for the dry year, I used a return of 1.1,
09 or a 90 percent exceedence.

10 I also included a secondary peak on here, and the
11 secondary peak serves to rewater the soil after the
12 initial flush has receded, and then it increases and
13 rewaters some of the soil, and the flows increase 50
14 percent in the period before their final decrease back

15 to the base flow.

16 And I've also listed on here the total duration of
17 the increased flow and, for example, for Rush Creek on
18 a wet year, it would be 28 days from the time you begin
19 ramping to the time you end ramping.

20 I've also listed on Table 2 the ramping criteria,
21 and I have -- this is a percent change from previous
22 day. So on Lee Vining Creek, there's a 30 percent
23 change from the previous day on the ascending limb and
24 20 percent on the descending limb.

25 The one exception is that if the change is less
0123

01 than 10 cfs, then we would just go ahead and change the
02 10 cfs. And I've rounded all the figures to 5 cfs.
03 When you start to get more precise than 5 cfs on some
04 of these flows, it's a little too precise for this
05 system.

06 So we have on Tables 3, 4, and 5, the ramping
07 schedule for these criteria, and Figures 1, 2, and 3
08 show what the hydrograph would look like with these
09 types of flows for each of the years.

10 And for my criteria, the wet year is defined as
11 runoff greater than 120 percent than normal and a dry
12 year as less than 80 percent of normal. And a normal,
13 again, as I said, I've written in previous testimonies,
14 the 50-year average, when we talk about a runoff
15 forecast, we take a 50-year average and we update it
16 every five years.

17 So it's a 50-year moving average, and the current
18 average is based on the 1941 to 1990 data. And that is
19 consistent with the way that the Department of Water
20 Resources gives its percent of normal or its long-term
21 average runoff projections.

22 Now, I was going to use this board to make an
23 example of how we came up with our flushing flows, if I
24 may, briefly.

25 MR. BIRMINGHAM: May we have this marked next in
0124

01 order L.A. DWP Exhibit 155?

02 (L.A. DWP Exhibit No. 155 was
03 marked for identification.)

04 MR. HASENCAMP: I'll try to speak up, so I don't
05 need the mike.

06 If, for example, there was a flow of 8, 10, and 8
07 units, we can call it cfs, where it increased and
08 decreased, using Mr. Dodge's mathematics, he realizes
09 that the percent change is not the same. Now, we have
10 2 cfs change on both days but, of course, the percent
11 change is not the same.

12 On the one date, it's a 25 percent increase, but
13 on the second date, it's a 20 percent decrease. So
14 even though it's a constant symmetrical hydrograph, the
15 change is quite a bit different.

16 And there's actually a formula that you can use to
17 equate these two terms in a symmetrical hydrograph, and
18 that is -- I'll -- a little bit of algebra.

19 In order to equate these, the ascending rate would
20 have to equal one divided by the sum of -- or the
21 difference of one minus the descending rate, and that
22 whole term minus one. And that would make a perfectly

23 even hydrograph.

24 Now, of course, if you use the same ramping rates
25 on both sides and you went from 8 cfs to 10 cfs, a 25
0125 percent increase, but if you use a 25 percent decrease,
01 you would actually come down to 7.5. So your rates,
02 then, would have a sharper decline and a slower incline
03 even though the ramping rates are the same.

04
05 Now, in reality in the eastern Sierra, the
06 hydrographs are not symmetrical but they are skewed to
07 the right.

08 In my previous testimony, I showed 1986, in my
09 testimony submitted last week. I don't know the
10 exhibit number. But 1986 is a good-looking hydrograph,
11 because it looks like you would expect a hydrograph to
12 look, and that would be sharper increase and a slower
13 decrease. I'm not the best artist, but this is a year,
14 a typical year.

15 Now, if you want to have the descending less steep
16 than the ascending limb, then this formula would have
17 to be equal to or greater than. So I'll put a greater
18 than. So if the ascending rate is greater than this
19 formula, then you would mimic what the natural
20 hydrograph would look like; a steeper rise and a slower
21 fall, which is typical of the eastern Sierra.

22 Now, the Department of Fish and Game's
23 recommendations are uniform ramping up and down and, in
24 fact, they produce the opposite effect. They would
25 have a slower rise -- of course, this is exaggerated --

0126 and then a sharper descent. And that is the opposite
01 of what you would naturally see in the area.

02
03 Now, the way I developed the ramping requirements
04 is I took the -- I want to point out that Lee Vining
05 Creek is much more natural because -- the flow is much
06 more naturally because there's much less storage, so
07 the rises and falls on Lee Vining Creek are much higher
08 than on Rush Creek.

09 So on Lee Vining Creek, we are recommending a 30
10 percent increase in ramping because that is the average
11 of the steepest part of this curve. It is a three- to
12 four-day average when the hydrograph is peaking. The
13 average over the 20 years of the steepest three to four
14 days here is 30 percent. So the stream is used to
15 seeing this 30 percent rise on the ascending limb, and
16 on Rush Creek, it's 20 percent.

17 Now, on the descending limb for Lee Vining Creek,
18 we have 20 percent and 15 percent, or 20 for Lee Vining
19 and 15 for Rush.

20 Q. BY MR. BIRMINGHAM: Excuse me, Mr. Hasencamp.
21 Before you leave the butcher paper, would you please
22 mark that sheet as L.A. DWP Exhibit 155. And for
23 purposes of record, Mr. Hasencamp's previous rebuttal
24 testimony to which he referred is L.A. DWP Exhibit 133.

25 Would you please continue, Mr. Hasencamp?

0127
01 Q. BY MR. HASENCAMP: Certainly.

02 MR. HERRERA: Before he does that, Mr. Birmingham,
03 your 20 minutes has expired.

04 MR. BIRMINGHAM: I would make an application for

05 an additional 20 minutes.

06 HEARING OFFICER DEL PIERO: Given the complexity
07 of this -- I'm waiting for Mr. Hasencamp to take out
08 Ms. Cahill's red pen.

09 MR. BIRMINGHAM: I'm waiting for Ms. Cahill to
10 take out her red pen.

11 MR. HASENCAMP: Now, also on the hydrograph,
12 which you see rises and then falls, if you look at a
13 single day, which you see typically is, this will be
14 12:00 a.m. and this is also here 12:00 a.m., and then
15 you see it rising, falling and rising. And so there's
16 a typical fluctuation where the peak flow occurs
17 typically about 3:00 a.m. on the average, and the low
18 flow occurs about 3:00 p.m. on the average. The
19 fluctuation without the -- throughout the day can
20 average --

21 HEARING OFFICER DEL PIERO: Excuse me.

22 MR. HASENCAMP: -- about 10 percent.

23 HEARING OFFICER DEL PIERO: Is that right?

24 MR. HASENCAMP: No. That is correct because of
25 the time.

0128

01 HEARING OFFICER DEL PIERO: Peak flow at three in
02 the morning?

03 MR. HASENCAMP: Because of the lag time. The snow
04 melt --

05 HEARING OFFICER DEL PIERO: Between snow melt, the
06 flood flow arrives in the early morning because of the
07 time it takes to get down to the watershed?

08 MR. HASENCAMP: Yeah. You have a combination of
09 it running all the way up from Tioga Pass across
10 Ellery (phonetic) Lake, and if Ellery Lake is filling,
11 the whole reservoir rises a little bit, and then it
12 comes all the way down. So the net effect of the lag
13 time, and so you do see the highest flows --

14 HEARING OFFICER DEL PIERO: See that,
15 Mr. Birmingham? You and I were both wrong.

16 MR. BIRMINGHAM: I looked and there were four
17 engineers or hydrologists all nodding affirmatively in
18 response to your question; Mr. Hasencamp, Mr. Deas,
19 Mr. Coufal, and Mr. Vorster.

20 MR. DODGE: We're all happy that Encyclopedia
21 Britannica set didn't sell.

22 HEARING OFFICER DEL PIERO: Okay. Absolutely,
23 Mr. Dodge.

24 MR. HASENCAMP: Now, in implementing the flushing
25 flows, and just flows in general in the eastern

0129

01 Sierras, flexibility is the key.

02 On Rush Creek it is fairly simple. You have a
03 reservoir, so you release Grant Lake outflow. You can
04 set it, and it will remain a fairly constant outflow,
05 and that flow will be released into Rush Creek.

06 On Lee Vining Creek, however, the system is a lot
07 different, and you can put together any plan you want,
08 but implementing it is a different story.

09 Now, on Lee Vining Creek, as I said, much of the
10 year, the flows are relatively constant, and there's
11 not this diurnal swing. But during the peak times,
12 that's when you see this diurnal swing.

13 So when we say we're setting a flow, we would go
14 out at 9:00 a.m., which is about in the middle of this
15 downward slope, and 9:00 a.m. represents approximately
16 the daily average. So when we would set the flow down
17 Lower Lee Vining Creek at 9:00 a.m. at, say, for
18 example, 50 cfs, the flows will fall a little bit in
19 the afternoon and then rise again at night.

20 But 9:00 a.m. seems to be about, or roughly 9:00
21 a.m., about the optimum time to set it if you want to
22 try to figure what the daily average is. But the
23 system on Lee Vining Creek is not set up to just open
24 up a valve and have a constant flow go out as it is in
25 Grant Lake. So flexibility is the key.

0130

01 Now, when you're coming to the flushing flows, you
02 have to time it with a peak runoff. On Rush Creek, you
03 do not have to because you have a storage reservoir, so
04 you can release flushing flows, and you have the
05 storage. So it's not a problem. But on Lee Vining
06 Creek, you have to time it with the rise, the natural
07 rise.

08 And on figure -- Figure 4 in my testimony shows
09 that typically the runoff can rise quickly but then
10 melt off again or die off, and then rise quickly and
11 die off again.

12 So when you want to implement a ramping schedule,
13 you have to be fairly certain that the rise that's
14 going up is going to sustain the amount of flushing
15 flow you want to release. So these first three rises
16 did not make it past 160 cfs, so if you were trying to
17 ramp in that period, you would be unsuccessful.

18 Conversely, if you waited too late, if you waited
19 after June 10th, then you would not make it, either,
20 because you've missed it.

21 So when these flushing -- we were about to
22 implement flushing flows, the L.A. DWP hydrologist will
23 monitor the snow melt, we have snow sensors up on the
24 Lee Vining Creek drainage, monitor the runoff, and keep
25 in contact with SE, and find out about their

0131

01 operations.

02 Using all of the data, plus the historical records
03 that we have, then we would say, "This is probably a
04 good time to start ramping," and to go up for this
05 peak.

06 But, unfortunately, no one can really predict if
07 it's going to be a true peak, and so there is always a
08 possibility of missing it. And that flexibility is the
09 key, that there's enough room to try to make that, but
10 if some provision would occur, then you cannot.

11 Now, one of the benefits over the Department of
12 Water and Power's recommendations, over the Department
13 of Fish and Game's recommendations, is that you ramp
14 much more quickly so you can get to the peak earlier.

15 The Department of Fish and Game takes 12 days to
16 ramp from 54 cfs to 160 cfs. So if you had a year
17 similar to 1981, or many other years, this is a normal
18 year recommendation, you would have to know 12 days
19 ahead of time to meet this peak. And that's almost
20 two weeks, and it's difficult to know two weeks ahead

21 of time when the peak's going to occur.
22 With -- if L.A. DWP ramps from 35 cfs to 180 in
23 seven days, seven days, well, seven days certainly
24 isn't a guarantee to hit -- that you can hit that peak.
25 It's much easier to forecast seven days than it is 12

0132

01 days, almost double the time.

02 Also, the DWP has a higher peak in normal years on
03 Lee Vining Creek, but it does not have the higher
04 sustained flows.

05 Okay. I'll briefly talk about the Mono Lake
06 level. Mono Lake level is very similar to the previous
07 plan, that the April 1st lake level is the level that
08 the Department plans to protect, and the Department
09 management plan manages the 6377 level by April 1st.

10 Now, it is acknowledged that there's an actual
11 fluctuation of Mono Lake, and that Mono Lake will drop
12 and fall throughout the year up to a half a foot either
13 way in a normal year, and these are typical.

14 But the -- but through the use of computer models,
15 on April 1st and May 1st, the plan will be finalized to
16 determine how much you can export and still keep Mono
17 Lake at the target level by April 21st. And obviously,
18 if there's very little runoff, then no water can be
19 exported out of the basin because by the following
20 April 1st, you would not meet your target.

21 Conversely, if it was a very wet year or a year
22 significantly above your target, then the fish flow
23 would be the only governing release, and then all of
24 the additional water above fish flows could be exported
25 as long as the following April 1st would be above the

0133

01 target.

02 When we export out to the Upper Owens River, the
03 previous plan used 375 cfs as a maximum. The revised
04 plan uses a maximum 300 cfs. And that is partly
05 because with lower export numbers compared to historic,
06 the need for 375 is not as great.

07 Also, the ramping rates recommended by Dr. Platts
08 are the 10 percent on the descending limb and 15
09 percent on the increasing limb. And this is measured
10 at the Owens River below East Portal.

11 Now, obviously, natural rates might exceed these
12 rates. You might have a greater than 10 -- I might
13 have -- 15 percent on the ascending limb and 10 on the
14 descending limb. I might have transposed those. But
15 the natural rates might be higher than that. If they
16 are, then the exports will remain constant, and you
17 wouldn't back off the exports to keep the ramping
18 consistent with the 15 percent, but just a natural rise
19 would occur.

20 There are some difficulties involved, however,
21 with this -- the Owens River exports in that water is
22 split at Mono Gate One, and there's no real hard
23 controls to do that. So if you put some water into
24 Rush Creek and some water through the tunnel, there's
25 not a sophisticated system to do that.

0134

01 So while Grant Lake outflow is fairly accurate,
02 when you come to the splitting, there needs to be some

03 flexibility and some trial and error where you can get
04 a real accurate or a realistic split between the two
05 flows.

06 And one last thing is that Crowley -- on this
07 point, is that Crowley will govern the ramping rates.
08 Obviously, if Crowley is about to spill, public safety
09 is more important than the ramping rates on Upper Owens
10 River. Hopefully, that situation wouldn't happen, but
11 if we had to reduce the flows faster than the 10
12 percent to minimize spills, that certainly is a
13 governing factor.

14 Now, the Department will put together a plan each
15 year and by May 1st, the plan will be final.

16 Now, we ran this plan with the Los Angeles
17 aqueduct simulation model. You don't need a fancy
18 computer model to run this plan. The plan says these
19 streams flows, these lake levels, these ramping rates
20 govern, you don't need a fancy model to do that.

21 But to find out what would be expected from this
22 plan, we did run the L.A. model. The reason we did not
23 use the LAAMP is because it is a little more hard fast
24 and not as operationally realistic as our model is
25 because ours used more of the actual operations.

0135

01 And so the output of the model is on Table 8 and
02 this has the exceedence tables that you would expect
03 for each of the creek releases in the Mono Basin and
04 for several other parameters that are important when
05 you look at -- when you try to evaluate a plan.

06 And under this revised plan, the average export
07 would be 44,500 acre-foot over the long term compared
08 with a historic export of 91,000. So it would be less
09 than half of the water that the Department used to get
10 from the Mono Basin.

11 And that's all.

12 Q. BY MR. BIRMINGHAM: Mr. Hasencamp, Table 8 on Mono
13 Lake elevation indicates a maximum lake elevation of
14 6385.8 feet; is that correct?

15 A. BY MR. HASENCAMP: Did you say .88?

16 Q. No. 6385.8.

17 A. Yes.

18 Q. Now, what would be the maximum lake level below
19 which DWP proposes to maintain Mono Lake under their
20 management plan?

21 A. Well, the April 1st level would be 6377, and there
22 would be some fluctuations throughout the year, but
23 typically April 1st, 6377.

24 Q. Under the L.A. management plan, what would be the
25 maximum lake level --

0136

01 A. Oh, I'm sorry.

02 Q. -- that you propose to operate?

03 A. Well, that's a very difficult question because
04 this output is based on one set of hydrology. No one
05 knows what the future hydrology will be, and you could
06 run you could make up any hydrology you want. So when
07 you look at this type of output, the minimum and
08 maximum are certainly a little questionable, as with
09 any computer model.

10 But based on the historic hydrology and the

11 limitations of the model which have fixed operations,
12 the maximum, according to the model, is 6385.8, but, as
13 I've testified previously, there are things that you
14 could do to minimize that rise if that was something
15 that was not desired.

16 And, in fact, in our computer run, there was
17 storage available at Crowley. It only got up to about
18 170 in that year. There was storage available in
19 Grant. There was the reduced irrigation and irrigation
20 could be increased. There was -- the spreading did not
21 match the historical spreading, so if you wanted to --
22 there are places to put the water other than Mono Lake,
23 yes.

24 So I think you could manage it, again, based on
25 the historic hydrology, closer to 6383 on this run.

0137

01 But it might go much lower than that or -- it's hard to
02 say.

03 Q. Based upon the historic hydrology, DWP would
04 propose to operate its system so that Mono Lake would
05 not rise above the elevation 6383 feet?

06 A. Yes.

07 MR. BIRMINGHAM: At this point, I would like to
08 switch gears and go into our surrebuttal case, and I
09 will start with Mr. Coufal.

10 Q. BY MR. BIRMINGHAM: Mr. Coufal, you haven't
11 appeared here previously.

12 Sir, would you please tell the Board and the
13 Board's Staff a little bit about your educational and
14 work experience?

15 A. BY MR. COUFAL: Okay. I've got a bachelor's
16 degree in civil engineering. A master's degree in
17 water resources. I'm a registered civil engineer.
18 I've been working for the Department for 17 years, 15
19 of those years have been in aqueduct division.

20 I've worked on operations, water resource studies,
21 hydrology, worked in San Fernando Valley, Owens Valley,
22 Mono Basin, doing various water resource-type studies,
23 modeling of Mono Lake. I've worked in the various
24 aspects of the Owens Valley and studies of the
25 groundwater basin with the U.S.G.S., development of the

0138

01 agreement; co-authored the Green Book; development of
02 the Owens Valley EIR; and various hydrology portions of
03 that.

04 I worked in San Fernando Valley and acted as
05 assistant water master for the groundwater basin for
06 the San Fernando Valley.

07 Q. You said that you co-authored the Green Book. Is
08 that the book that Mr. Huchison referred to in his
09 testimony earlier today?

10 A. Yes, that's the book.

11 Q. Would you describe your responsibilities in the
12 preparation of that document?

13 A. Well, as Bill said, it's a living document. The
14 intent was to put down what we knew at that time and to
15 use that as our guide for operating the wells and
16 monitoring vegetation in Owens Valley.

17 A portion of the book is looking at the vegetation
18 and just the mechanisms for monitoring and measuring

19 what the plants are doing. The other portion of book
20 is the hydrology portion of it, and that's the portion
21 I worked with Mr. Huchison on; monitoring, doing a
22 balance of hydrology in the Owens Valley and looking at
23 the groundwater mining issue.

24 Q. What is the current status of the agreement
25 between Inyo County and the Department of Water and
0139 Power?

01 A. I think, as Mr. Huchison said, we are waiting for
02 a response from the court. The agreement is a part of
03 the Owens Valley EIR, and we're waiting for something
04 from the court on that.

05 We are currently operating under a Statement of
06 Intent which was signed by between the two parties to
07 act as if the -- as far as the monitoring and pumping
08 provision and agreement go, to act accordingly.

09 Q. Are you involved in the administration of the
10 agreement between Inyo County and the Department of
11 Water and Power?

12 A. One of my responsibilities, and I'm currently in
13 the Bishop office. One of my responsibilities is to
14 overlook the activities regarding the EIR and
15 relationships within Inyo County.

16 Q. What is your current title with the Department of
17 Water and Power?

18 A. I'm a water works engineer, assistant to the
19 northern district engineer.

20 Q. You stated that you had a degree in civil
21 engineering. From what institution did you obtain that
22 degree?

23 A. I received my bachelor's degree from Loyola
24 Institute of Engineering in Los Angeles.

0140 Q. And you stated you had a master's in water
01 resources; is that correct?

02 A. Yes. That's from California State University of
03 Long Beach.

04 Q. And when did you receive those degrees?

05 A. Bachelor's degree in 1974 and master's degree in
06 1981.

07 Q. Were you involved in modeling efforts in the Mono
08 Basin?

09 A. Yes, that is correct.

10 Q. Would you briefly describe your modeling visits in
11 the Mono Basin?

12 A. Basically, it was development of a water level
13 prediction model for Mono Lake. And what we --
14 basically, it was a physical system regression model.
15 The -- it was used in the initial or in the beginning
16 portions of this process with the State Board, that was
17 one of the models, along with Peter Vorster's, that was
18 being reviewed and being used for predictions early on
19 and that was later replaced by the L.A. simulation
20 model and Mr. Huchison's model.

21 Q. So it was replaced by LAASM and by LAAMP?

22 A. That's correct.

23 Q. Have you reviewed the rebuttal testimony of Peter
24 Vorster?

25

0141

01 A. Yes, I have.
02 Q. Do you have a copy of that in front of you,
03 Mr. Coufal?
04 A. Yes, I do.
05 Q. I'd ask you to turn to page 10 of that testimony.
06 Now, on page 10 of Mr. Vorster's rebuttal testimony,
07 that page is entitled "Opportunities to mitigate the
08 reductions in Mono exports called for by the two water
09 management plans."
10 Are you familiar with that portion of
11 Mr. Vorster's testimony?
12 A. Yes. I have reviewed it.
13 Q. On page 10, Mr. Vorster apparently lists a number
14 of actions that could be taken. He labels them
15 opportunities that could be pursued by the Department
16 of Water and Power to increase water exports from the
17 Owens Valley. Is that your understanding of his
18 testimony on page 10?
19 A. Well, it looks like -- yeah, it's opportunities to
20 mitigate reduction in Mono exports called for in the
21 water management plans.
22 Q. Now, at the bottom of the page it says, "The
23 Department of Water and Power is currently pursuing
24 many, if not all, of these opportunities." Generally,
25 is that a correct statement?

0142

01 A. Yes, that is true.
02 Q. I'd like to talk about these opportunities that
03 Mr. Vorster outlines individually. The first one is,
04 "To increase the capacity to store runoff in the Owens
05 Valley ground water basin. The ability to later
06 extract water stored in the Owens Valley groundwater
07 basin is constrained but not excluded by the Inyo-Los
08 Angeles Groundwater management agreement."
09 Has the Department of Water and Power looked at
10 increasing the capacity to store runoff in the Owens
11 Valley groundwater basin?
12 A. Yes.
13 Q. Would you tell us a little bit about that, please?
14 A. Any discussion on storing the groundwater in the
15 Owens Valley, I think, needs to be prefaced, you know,
16 with a little bit of history of what was going on there
17 and why.
18 The Inyo-L.A. agreement, that was -- one of the
19 main premises for that agreement was the fact that
20 early on, a statement was made that there was enough
21 water in the Owens Valley for both the needs of the
22 valley and for the City of Los Angeles.
23 And that was a basic premise we were going along
24 on, and that was early on, I mentioned in the studies,
25 groundwater studies, that were done by the U.S.G.S. in

0143

01 Owens Valley. That was during the 1980s.
02 We learned a lot from that and, you know, they did
03 a groundwater balance of the basin. The modeling
04 effort used a base period 1970-1984 and what came out
05 of the report was the fact that during that period of
06 time, the City of L.A. had pumped 95,000 acre-feet per
07 year on the average, and that was approximately 8,000
08 acre-feet on the average more than what the recharge

09 was. And this is after the fact, you know, after the
10 statement was made and the premise of the agreement
11 that there was plenty of water.

12 And so as a result of that -- I should also
13 mention that as part of negotiations with Inyo County,
14 there was an agreement to put into operation various
15 enhancement mitigation projects in the valley; that the
16 amount of water needed for those projects was on the
17 order of 30,000 acre-feet. And they started in the
18 1986-87 period. So the intent was to provide water for
19 those projects with groundwater.

20 So now here we are in late 1980s, and we've got
21 previous commitments, previous pumping that has
22 occurred in the valley of 95,000 acre-feet and an
23 additional commitment of what was 90 to 30,000
24 acre-feet. We say in the EIR, based on what the past
25 practice was, that pumping would be on the order of
0144

01 105, 110,000 acre-feet per year on the long-term
02 basis. There is a deficit there, and that was
03 acknowledged at that time. And as a result, what you
04 have in the Owens Valley EIR are designs, preliminary
05 designs or identification of spreading facilities in
06 the loss in Big Pine areas in the northern half of the
07 Owens Valley.

08 The practice of recharging the groundwater basin
09 has been going on for umpteen years, as long as the
10 city has been in the valley. But it wasn't until --
11 early on, it was a practice of really just getting rid
12 of water during high runoff years, acknowledging yes,
13 it did go down to the groundwater basin and recharge,
14 but it was the practice of dealing with high runoff and
15 getting rid of it.

16 In the eighties, in development of U.S.G.S.
17 studies and the EIR, it was realized, with the Green
18 Book, that we would have to be more accountable for our
19 pumping and what effect it had on the vegetation and
20 having to look at groundwater mining and balancing that
21 was going on.

22 So as part of that, we identified spreading
23 facilities and, at this point in time, we are willing
24 to and when and if the EIR gets approved, it will -- it
25 sets in motion the constructional facilities to be more
0145

01 efficient and more efficient about getting that water
02 into the ground and being able to take credit for that
03 and balancing that against the --

04 MR. HERRERA: Mr. Birmingham, your time has
05 elapsed.

06 MR. BIRMINGHAM: I petition for an additional 20
07 minutes. The basis for my application is that we're
08 now presenting not only the direct rebuttal testimony,
09 but surrebuttal testimony, which actually, in the
10 normal course, would come at a later stage, but we're
11 presenting it now for purposes of conserving time. And
12 I suspect we'll be able to finish within the 20
13 minutes.

14 HEARING OFFICER DEL PIERO: Okay. Mr. Birmingham,
15 I'm going to grant you the 20 minutes, and at the end
16 of that 20 minutes, we'll break.

17 Q. BY MR. BIRMINGHAM: Mr. Coufal, if I understand
18 the answer that you just gave me, the Department of
19 Water and Power is considering looking at ways of
20 increasing the capacity of the stored runoff in the
21 Owens Valley groundwater basin, but that any increase
22 will have the effect of returning or restoring the
23 historic level of groundwater pumping in the basin
24 itself; is that correct?

25 A. BY MR. COUFAL: Yeah. I think of it as really
0146 01 keeping us whole in our ability to pump groundwater and
02 export it.

03 Q. And that's because the -- prior to entry into the
04 agreement with Owens and Inyo County, the Department of
05 Water and Power was pumping groundwater in excess of
06 the recharge?

07 A. That was occurring and has, in effect, created a
08 situation or a state that we were in in 1984 through
09 the eighties, and that is the condition that we are
10 being measured against as far as vegetation and keeping
11 control of the pumping to protect the vegetation that
12 existed at that time.

13 Q. Now, the second item that Mr. Vorster refers to is
14 increasing surface water storage capacity along the Los
15 Angeles aqueduct system by increasing the height of
16 existing dams or demonstrating to the satisfaction of
17 the California Division of Dam Safety that additional
18 water can be stored in the existing reservoirs.

19 Has the Department of Water and Power considered
20 expanding the capacity of its reservoirs on the
21 aqueduct system?

22 A. Yeah. They're really four, four main dams,
23 reservoirs in the system. You have Grant, Long Valley,
24 Tinemaha, and Haiwee Reservoir, and each one, in some
25 respect, has been looked at here. I should say, you
0147

01 know, Grant has not, but Long Valley was talked about
02 earlier today, and it has been studied by the
03 Department and would, I think, provide -- it's a
04 project that would go ahead and have marginal success
05 as far as looking at the cost of constructing the
06 facilities versus the increase yield there.

07 We were prepared to go ahead with that,
08 negotiations and discussions were going on. But due to
09 lack of support or resistance from key people in Mono
10 County, we realized that it was an uphill battle. It
11 wasn't going to go unless we had their support. So
12 it's been tabled.

13 If you look at some of our other reservoirs,
14 Tinemaha, Tinemaha is currently being reviewed because
15 of the design of the reservoirs and dams in the
16 southern half of the valley are hydrology-filled dams
17 seismically questioned, and so as a result of that,
18 we're having to go back and look at those dams for, you
19 know, safety.

20 Tinemaha, right now, is scheduled to be taken out
21 of service. We -- a response to State Dam Safety as to
22 what are we going to do with it; take it out of
23 service, or rebuild it constructively?

24 Right now, we're looking at -- we're already

25 operating at a reduced level, net reservoir. We're
0148
01 looking at investing something on the order of \$4.0
02 million to maintain that by buttressing so we can
03 operate that reservoir at a reduced level.
04 South Haiwee was taken out of service for a number
05 of years there. We had the damn re-analyzed to operate
06 at a lower level and were successful there and have
07 recently been granted permission to operate at a lower
08 level because of re-analysis.
09 To go back and try and, you know, construct these
10 dams in a seismically sound way and restore the storage
11 that we had previously is going to cost -- I think the
12 estimate I heard for South Haiwee Dam if we went to try
13 to reconstruct it would be on the order of 80 to \$100
14 million.
15 Yes, something can be done on these reservoirs but
16 -- you know, if you throw enough money at it. So it's,
17 you know, it's a question of evaluating water lost
18 versus the amount of money that you're willing to throw
19 at it.
20 Q. One of the things that Mr. Vorster mentioned is
21 reducing transit losses along the aqueduct system south
22 of the Owens Valley. Approximately what is the
23 percentage of loss along the aqueduct system?
24 A. We're talking something on the order of like
25 2 1/2 to 2 percent, and part of that loss is losses, in
0149
01 a fair amount of reservoirs, from areas that are
02 exposed. In the actual aqueduct itself, given the
03 travel distance, the percentage is really low.
04 We do have a maintenance program. The aqueduct
05 system is patrolled on a regular basis to look for
06 leaks and problems on it. The aqueduct is shut down on
07 an annual basis to go back and refurbish areas that are
08 weak or if there may be a leaky problem.
09 Right now, I think there's a project, it's like a
10 \$1.2 million project, to realign and fix leaks on the
11 Antelope Siphon that is just being completed or has
12 been completed.
13 Q. The second to the last item that Mr. Vorster lists
14 on page 10 of his testimony is, "Integrating the
15 operations of Los Angeles aqueduct system with the San
16 Fernando groundwater basin and the Metropolitan Water
17 District supplies."
18 Is the aqueduct system currently integrated with
19 the San Fernando groundwater basin and the Metropolitan
20 Water District supply?
21 A. Yeah. The operations and the systems are all tied
22 together. An aqueduct -- on an annual basis, an
23 aqueduct is measured -- on an annual basis is part of
24 the Inyo-L.A. agreement. One of the -- in developing
25 an annual pumping program, one of the -- there are
0150
01 several things that need to be looked at as part of
02 determining what the pumping number is, and that
03 includes operation of the San Fernando groundwater
04 basin, includes looking at what MWD supply is and
05 availability.
06 On an annual basis, the people in our operations

07 group and aqueduct division sit in with people
08 operating who are in close ties with the Metropolitan
09 Water District, and they come up with a plan for
10 operations for that year. So they are all intertwined
11 and considered in developing a plan on an annual basis.
12 Q. Finally, Mr. Vorster states that one of the
13 opportunities available for the Department of Water and
14 Power is increasing the efficiency of the Mono Lake
15 Basin. Has the Department undertaken any program to
16 increase the efficiency of irrigation within the
17 Mono-Owens Basin or basins?
18 A. There have been a number of studies over the years
19 as to looking at that efficiency. The Department, as
20 part of its conversion over to a -- prior to 1970, the
21 EIR, the way the irrigation was handled was a
22 feast-or-famine type operation. If you had plenty of
23 runoff, the irrigators, the agricultural people would
24 get plenty of water. During dry years, it would be cut
25 off and water would be sent south to the aqueduct.

0151

01 As part of the diversion to the second aqueduct
02 project, there was a commitment made to irrigate
03 roughly 20,000 acres in the valley of the higher
04 quality prime irrigation land.

05 One of the programs that the Department had was
06 to, rather than to flood irrigate these lands, they
07 went to approximately 3,000 prime acreage where alfalfa
08 was grown, went to and assisted the irrigators with
09 sprinkler systems, financing the payment of the
10 sprinkler systems, interest free, and allowing them to
11 pay it back on time to make it feasible for that
12 conversion, because it was a more efficient way of
13 irrigating. So, you know, that was a project that was
14 done.

15 We've looked as different type of crops. Alfalfa
16 seems to be the one that works the best in the valley
17 because of, you know, the various conditions that
18 you've got, the weather conditions, the soil types, you
19 know, it works the best. There have been efforts to
20 look at various other crops; carrots, garlic, things
21 like that, potatoes. But there's some real concerns.

22 The City of L.A. has the responsibility of taking
23 care of that watershed, maintaining not only the
24 quantity, but the quality. So there's some concerns
25 regarding other crops as far as having to put

0152

01 pesticides, herbicides on them, you know, dust problems
02 that you have with other types of crops.

03 There is some question about what kind of gain
04 would be made if we did go to some kind of alternate
05 crop other than alfalfa because of the, you know, water
06 savings, and the feeling is that on that prime land,
07 there still wouldn't be a water savings because of the
08 type of soils there.

09 A lot of this is prime land. You've either got
10 real sandy soils or alkaline soils that -- and sandy
11 soils will, you know, lose the water a lot quicker.
12 It's not available to the crops, or in the alkaline
13 situation. You've got to put the water down to flush.
14 So the feeling is there really would be minimal gain by

15 looking at some alternate crops.

16 Q. You stated earlier that the Department of Water
17 and Power is currently pursuing or considering all of
18 the opportunities listed by Mr. Vorster. Is the
19 pursuit of these opportunities in any way dependent on
20 the -- on exports from the Mono Basin?

21 A. No. You know, like I said, I think with the
22 realization, what we find in the EIR is the fact that
23 we really are looking at a cut -- because of the
24 Inyo-L.A. agreement, we're looking at a cut of what
25 we've done in the past. So it's more of just trying to

0153

01 stay even and catch up as much as we can by recharge
02 and reducing losses in the aqueduct system and that
03 type of thing.

04 Q. Mr. Hasencamp, are you awake?

05 A. BY MR. HASENCAMP: Yes, I am.

06 Q. Are you familiar with the term, "Mono Basin gains"
07 as it's used in LAAMP?

08 A. Yes, I am.

09 Q. What are Mono Basin gains?

10 A. Well, most areas have a transit loss, but one of
11 the functions in the Mono Basin is the system seems to
12 have a transit gain. Granted, some of this gain is
13 gauging error, but some of it is precipitation that
14 falls on Grant Lake or some other snow melt into Grant
15 Lake. So the gain is the gain that occurs in the
16 conduit or in Grant Lake in the Mono Basin.

17 Q. Now, Mr. Vorster's testimony and, in fact, in the
18 LAAMP 3.3 model, is it assumed in the preparation of
19 that testimony and does that model assume that the Mono
20 Basin gain is constant?

21 A. Yes, it does.

22 Q. And is that an accurate assumption?

23 A. Well, there are some problems with it.

24 Q. Would you please tell us what those problems are?

25 A. Well, the gain is correlated, in a sense, to the

0154

01 precipitation and the runoff. And so what happens is
02 the average gain over the 20 years, whatever the source
03 of it is, is about 4,000, 4100 acre-feet. But it is
04 not a constant gain. And, in fact, in 1976, it was not
05 a gain, but it was a loss, a loss of 1900 acre-feet.
06 That was the driest precipitation year on record.

07 So what the LAAMP model does, is, it adds 4,000
08 acre-foot to the runoff of Rush Creek. But in reality,
09 you should have subtracted 2,000 acre-foot. So the
10 LAAMP model adds 6,000 acre-foot to Rush Creek in one
11 of the driest years on record.

12 Now, the runoff in Rush Creek in 1976 was about
13 25,000 acre-foot. So the LAAMP model adds 25 percent
14 runoff of Rush Creek from what was there in 1976.

15 Now, when you're looking at the unrestricted
16 historical case, the long term averages work out pretty
17 well and, as Dr. Brown demonstrated, much of the
18 averages over the long term matched historical.

19 But when you put in different operations, such as
20 the Department of Fish and Game recommended flows,
21 things change. And there's not enough water to meet
22 the flows in 1976, and so this extra water, then, can

23 be exported or something done with it.

24 But it is fictitious water because it is not
25 really there. The LAAMP says it's there, but in

0155

01 reality it's not there. So it makes the drier years
02 not as critical in the LAAMP model. So you would
03 expect less export in the bottom line.

04 Q. On page 6, paragraph 11, of Mr. Vorster's
05 testimony he is describing one of Mono Lake water
06 management -- Mono Lake Committee management plans. He
07 says that in the period when the lake is initially
08 between 6384 feet and 6390 feet, the diversion will be
09 limited to 10,000 acre-feet per year of available water
10 in all year types.

11 Given what you know about the proposed plan that
12 Mr. Vorster has articulated in his rebuttal testimony,
13 do you think it's reasonable to expect the Department
14 to be able to export 10,000 acre-feet per year between
15 elevation 6384 feet and 6390, as described in paragraph
16 11?

17 A. Of course. The lake elevation doesn't matter.
18 But can the Department or could -- is there flexibility
19 to get 10,000 out of the basin? And no, there's not.

20 Q. I will amend my question, Mr. Hasencamp, so you
21 can answer the question you asked. That would be fine.

22 A. Yes. There's a number of times when the
23 Department of Fish and Game flows would take all or
24 much of the flow, and there's not 10,000 available for
25 export.

0156

01 Now, with the LAAMP model average of gain, it
02 would allow you to get the 10,000 more often. But if
03 you put the actual -- this gain or this loss term in
04 there, rather than the average, you would find in the
05 drier years, you could certainly not take 10,000.

06 MR. BIRMINGHAM: I don't believe I have any
07 further questions.

08 HEARING OFFICER DEL PIERO: Thank you very much,
09 Mr. Birmingham.

10 Ladies and gentlemen, we're going to take about a
11 ten-minute break.

12 (A recess was taken at this time.)

13 HEARING OFFICER DEL PIERO: Ladies and gentlemen,
14 this hearing will again come to order.

15 After having given it serious consideration,
16 Mr. Dodge, you have some overwhelming desire to have
17 this hearing go on tonight.

18 MR. DODGE: No. No. I think late on Friday night
19 is not a good time for Mr. Vorster.

20 HEARING OFFICER DEL PIERO: Is there a good time
21 for Mr. Vorster?

22 MR. DODGE: We certainly hope so.

23 HEARING OFFICER DEL PIERO: We are not going to
24 take up Dr. Vorster. We're going to finish up with
25 this panel, and does that make you happy,

0157

01 Mr. Birmingham?

02 MR. BIRMINGHAM: It makes me very happy. More
03 importantly, it makes Mrs. Birmingham more happy.

04 HEARING OFFICER DEL PIERO: I'm glad your wife is

05 going to be happy.

06 MR. BIRMINGHAM: Well, she is. Thank you.

07 HEARING OFFICER DEL PIERO: Please proceed,
08 Ms. Cahill.

09 CROSS-EXAMINATION BY MS. CAHILL

10 Q. Good afternoon. I think all of my questions are
11 for Mr. Hasencamp, so you other two can relax.

12 Mr. Hasencamp can probably relax as well.

13 Mr. Hasencamp, you indicated that you had run the
14 revised DWP management plan using both LAASM and LAAMP,
15 but the results you were presenting in your testimony
16 were all from the LAASM runs; is that right?

17 A. BY MR. HASENCAMP: No. I said that the management
18 plan had been run, but I was not the one who did the
19 runs myself.

20 Q. Are the LAAMP runs of the management plan
21 presented anywhere?

22 A. No, they are not.

23 Q. And in order to compare the L.A. DWP management
24 plan with the other alternatives, such as the DFG
25 recommendations or the lake level alternatives,

0158

01 wouldn't it be helpful to do an apples-and-apples
02 comparison where we had the results from the LAAMP for
03 all of the proposals?

04 A. Yes. And as a matter of fact, we are planning on
05 doing both the other alternatives in the LAASM model
06 and then our alternative in the LAAMP model. It wasn't
07 available at this date due to the late time we got the
08 LAAMP model, and now we're not sure which version of
09 the LAAMP model even to use right now.

10 So our plan is to submit that pursuant to the
11 permission of the State Board at a later date. And I
12 will be testifying on something else later, so I can
13 present it at that time.

14 Q. So at this time, would you be able to tell me what
15 lake level ranges result when you run the L.A. DWP
16 management plan on LAAMP?

17 A. No, I cannot.

18 Q. With regard to the flows in Table 1 in your
19 testimony, is it my understanding that those would be
20 the input flows, the input minimum flows, for the
21 L.A. DWP management plan?

22 MR. DODGE: Objection. Calls for speculation.

23 HEARING OFFICER DEL PIERO: Sustained.

24 MR. DODGE: Just wanted to see if Ms. Cahill was
25 awake. You asked him whether it was your

0159

01 understanding. How does he know what your
02 understanding is?

03 MS. CAHILL: Did I say it was my understanding?

04 Oh, I'm sorry.

05 Q. BY MS. CAHILL: Mr. Hasencamp, are the flows
06 listed in Table 1 -- I'm not awake -- of your
07 testimony, the --

08 HEARING OFFICER DEL PIERO: It must be Friday.

09 Q. BY MS. CAHILL: -- the minimum flows to be input
10 into whatever model is used to run the L.A. DWP
11 management plan?

12 A. BY MR. HASENCAMP: Yes, they are. Although, we

13 put a, as I said in our management plan, a
14 flow-through condition. So pursuant to the adoption of
15 the Lee Vining and Rush Creek flows, then we're
16 recommending Walker and Parker Creek not be diverted
17 for export. So it would be just the entire flow down
18 the creek. I don't know if the LAAMP model can do that
19 or not.

20 Q. And then with regard to releases from storage from
21 Grant Lake, you would not make releases from storage
22 unless flows in Rush Creek would otherwise fall below
23 25 cfs, April through September, or 20 cfs between
24 October through March; is that correct?

25 A. Yes, that's correct.

0160

01 Q. So then can you tell me on Table 8, there is a
02 minimum -- a main minimum of 20.6 cfs. Can you explain
03 how that comes to pass?

04 A. Yes, I can. And that is that the model says that
05 you can put those flows down unless you're at an
06 elevation, a storage at 11,000 at Grant Lake Reservoir.
07 So we are at the operational minimum, and so, you know,
08 that governed in this case.

09 Q. Okay. With regard to your flushing flows as
10 presented on page 3 of your testimony, the peak flow on
11 Lee Vining Creek in wet years is now 250 cfs; is that
12 right?

13 A. Yes. Yes, it is.

14 Q. And in Rush Creek the peak flow in wet years is
15 also 250 cfs?

16 A. Yes, it is.

17 Q. And what is the duration of the 250 cfs peak?

18 A. Well, on Table 3, it has the flows, so the
19 duration would be 24 hours.

20 Q. And what is the duration of flows above 200 cfs on
21 Rush Creek?

22 A. In a wet year?

23 Q. In a wet year.

24 A. Well, for these maintenance flows, absent any
25 other releases, it would be three days.

0161

01 Q. And on Lee Vining, what is the number of days
02 above 200?

03 A. With the same prerequisite, three days.

04 Q. And back to Rush. The number of days that the
05 flows are 160 or above?

06 A. Five days.

07 Q. How did you determine this duration?

08 A. The duration is based on the ramping rates. As
09 the ramping rates -- Table 3 shows the 10 cfs change
10 governs because that is the minimum change, and then on
11 Rush Creek, the 20 percent takes over, and, of course,
12 this is rounded off to the nearest five peaks at 250.

13 And just as natural hydrographs do, they don't
14 remain at a constant flow for a given period of time.
15 Usually, it peaks very quickly and goes back down. It
16 recedes. So the duration is strictly a function of the
17 peak and the ramping.

18 Q. Isn't it true that in the wettest one-third of
19 years, actual flows on Rush Creek had an average of
20 over 50 days greater than 200 cfs?

21 A. I do not know.

22 Q. Are you confident that your recommended duration
23 mimics the natural hydrograph in terms of duration?

24 A. Well, obviously, if you don't divert any water,
25 then you will have exactly the natural hydrograph in a
0162

01 creek. You will have the same number of days above cfs
02 that naturally occur.

03 We're trying to allow for diversion of water, but,
04 at the same time, keep all of the characteristics of
05 the flow patterns in the stream. So, of course, the
06 duration of the flows is less than they would be
07 naturally, otherwise you couldn't export anything.

08 Q. Have your ramping -- have your flushing flow
09 recommendations changed since you testified on Monday?

10 A. That is -- I don't understand what Monday is.

11 Q. Or since the last time you testified here?

12 A. Last time I testified on the fishery panel? Well,
13 they've changed -- the recommendations have changed
14 from the original management plan.

15 Q. And haven't they changed even since your most
16 recent testimony?

17 A. Well, the most recent testimony, I was testifying
18 on the original management plan, and I did not testify
19 on the flows that were in the process of being
20 developed. And so I -- most of the questions asked, in
21 fact, were of the previous plan since that was the only
22 plan in the record. So that's what I was testifying
23 to. So that's what I was testifying to. So yes,
24 they've changed since the original plan.

25 Q. And if I were to ask you how we could calculate
0163

01 the duration of -- how you determined the proper
02 duration of the flushing flows you -- how did you do
03 it?

04 A. Well, again, it's strictly a function of the
05 ramping and the peak. On table -- or Figure 1, for
06 example, the peak was 250 cfs, the initial peak. So
07 the ramping, then, is defined by going from the 40 cfs
08 base flow to the 250 cfs, then going back down to 80,
09 up to 120, and then back down to 40. So it's based
10 strictly from the peaks and the ramping rates.

11 Q. Okay. So you chose -- I think you believe that in
12 order to determine a ramping rate, you took the
13 five-day -- basically, the steepest five-day average
14 going up and going down; is that right?

15 A. Yes. The average of the 20 years of record. 20
16 years is what we had available on computer diskette and
17 that's also what I submitted earlier with a -- I forget
18 the exhibit number, but the daily flows. And yes, it
19 is the steepest increase for each year, the average of
20 those.

21 Q. Rather than the average increase going up and
22 going down?

23 A. Yes. For ramping rates. However, when you look
24 at the descending limb of this, while the steep part
25 here, of course, is the 15 percent, but if you take the
0164

01 average of this top to this bottom, if you say, "What
02 is the average descent of this hydrograph," it is much

03 less than the 15 percent. I don't know what the
04 percentage is, but it is very easily calculated from
05 the table.
06 Q. But the duration, in fact, you just simply set the
07 peak for a one-day duration and then ramped up and
08 down; is that right?
09 A. It was set to mimic what I see in the hydrographs.
10 And yes, there always is one day of peak flow. It
11 doesn't rise to some flow and stay for any length of
12 time.
13 Q. And did Dr. Beschta give you any information on
14 the duration the peak should last?
15 A. Yes.
16 Q. And did he tell you one day was an adequate peak?
17 A. Yes. Well, he said that rather than a flat amount
18 of, for example, 160 cfs for 15 days, if you could
19 increase the beginning of that hydrograph to a peak and
20 then, in other words, shift the water so it's steeper
21 in the front, and then it can come down to a lower
22 level and then go back up so you can rewet the banks
23 and then drop off again, that is more desired as
24 opposed to a flat constant flow of, for example, 160
25 cfs.

0165

01 Q. You referred to the Q-3. When you looked at the
02 Q-3 flow, were you using impaired flows or natural
03 flows?
04 A. Impaired flows.
05 Q. Isn't it true that Dr. Beschta indicated that it
06 would be more realistic to set flushing flows based on
07 the natural flows?
08 MR. BIRMINGHAM: Objection. Misstates the
09 testimony.
10 MS. CAHILL: Let me ask you, what is your
11 understanding that Dr. --
12 HEARING OFFICER DEL PIERO: Excuse me, counselor.
13 MS. CAHILL: Yes. I will withdraw the original
14 formulation.
15 HEARING OFFICER DEL PIERO: Fine.
16 Q. BY MS. CAHILL: Is it your understanding that
17 Dr. Beschta testified that impaired flows are a more
18 meaningful -- I'm sorry, that natural flows are a more
19 meaningful measure of the appropriate flushing flow?
20 MR. BIRMINGHAM: Objection. Relevance.
21 MS. CAHILL: I believe it's relevant because I
22 believe he testified he had input from Dr. Beschta.
23 HEARING OFFICER DEL PIERO: Overruled.
24 Mr. Hasencamp, do you know the answer?
25 MR. BIRMINGHAM: Excuse me. May I speak to this?

0166

01 I think it would be relevant if she asked Mr. Hasencamp
02 what he understands Dr. Beschta's position to be. The
03 question is: What does he understand Dr. Beschta's
04 testimony was?
05 MS. CAHILL: I will be happy to withdraw the
06 question and reword it that way.
07 HEARING OFFICER DEL PIERO: Fine.
08 Q. BY MS. CAHILL: Mr. Hasencamp, do you understand
09 it to be Dr. Beschta's position that natural flows are
10 a better measure of the appropriate magnitude of

11 flushing flows?
12 A. BY MR. HASENCAMP: No, that's not my
13 understanding.
14 HEARING OFFICER DEL PIERO: When does the play
15 start, Mr. Birmingham?
16 MR. BIRMINGHAM: Starts at -- would anybody like a
17 ticket?
18 (Laughter.)
19 Q. BY MS. CAHILL: And in the -- given the historical
20 hydrograph, is a wet year duration of 250 cfs for one
21 day typical in Rush Creek?
22 A. BY MR. HASENCAMP: No, it is not.
23 Q. You indicate that the Department of Water and
24 Power proposes to allow all Walker and Parker flows to
25 bypass the conduit. Does DWP also support opening the
0167
01 abandoned channels on those streams and allowing water
02 to flow into them?
03 A. I said that the DWP would support the -- support
04 not appropriating water from those creeks pursuant to
05 the adoption of the other flows. It is not my
06 understanding that the Department -- if I can have the
07 second half of the question again.
08 Q. Does the Department support rewatering the
09 abandoned channels on Walker and Parker?
10 A. No, they do not.
11 Q. You also indicate that in terms of ramping, there
12 would be a minimum flow change of 10 cfs. Is this true
13 even if the beginning flow is as low as 40 cfs?
14 A. Yes, it does.
15 Q. And in that case, it would be a 25 percent
16 increase?
17 A. That's true.
18 Q. Is it possible that there would be a time that 20
19 cfs would be the starting flow and you would be ramping
20 up from 20 cfs?
21 A. I don't foresee that happening. I don't foresee a
22 time when that could happen.
23 Q. With regard to your year types, the wet years are
24 120 percent of average runoff; is that correct?
25 A. Yes, that's correct.
0168
01 Q. And is that approximately the wettest one-third of
02 the years?
03 A. I believe the wettest one-third of the years, it
04 would be closer to about 30 percent, but approximately
05 one-third, yes.
06 Q. And with regard to the 80 percent of average
07 runoff that would be a dry year, is that approximately
08 a third of the years?
09 A. No. That's a little more than a third.
10 Typically, in any distribution, you have -- in
11 hydrologic distribution, you have more drier years and
12 few very wet years.
13 Q. Is it correct that the L.A. DWP management plan
14 provides for release of stored water from Grant Lake
15 when necessary to make the required flushing flows on
16 Rush Creek?
17 A. Yes. The recommendation is that it is very
18 difficult to predict the timing of the peak for the

19 runoff. And as on Lee Vining Creek, you have to get it
20 just right in some years, and it can be very
21 difficult. So on Rush Creek, rather than starting to
22 ramp up and ramp back down again and then ramp up as
23 the flows change, it would be more efficient to do it
24 just one time and not consider the inflow for that
25 particular case.

0169

01 Q. I think you lost me. Were you talking about Lee
02 Vining?

03 A. Well, I was talking about both.

04 Q. The original question was release of stored water
05 from Rush. Isn't it true that the management plan
06 provides that there will be, if necessary, release of
07 some stored water to meet the flushing requirements to
08 Rush Creek?

09 A. Yes. The flows would try to increase as the
10 natural flows, but there might be a case where that
11 wouldn't happen. So that is the recommendation.

12 Q. And in that case, stored water would be released
13 so you would make it up to 250?

14 A. Yes. Pursuant to the operational minimal of
15 11,000 acre-feet.

16 Q. Were there any evaluation criteria used to
17 evaluate the water fowl and wildlife values other than
18 fish associated with DWP's management plan?

19 A. Well, the State Board worked with Jones and Stokes
20 to prepare the Draft Environmental Impact Report, and
21 our plan is similar to the 6377 alternative and so,
22 certainly, we didn't need to prepare an EIR for this
23 when one has been done.

24 So our results are very similar to the 6377
25 alternative when it comes to those types of things.

0170

01 Q. Was any consideration given to duck habitat?

02 A. Well, historically, there's -- we try to operate
03 Crowley as we have historically and so, Mr. Tillemans
04 testified there is duck habitat time on Crowley.

05 So certainly, that is the general reservoirs of
06 Crowley and some of the other areas provided water fowl
07 habitat, so in that respect, yes.

08 Q. Was there any consideration given to the Mono Lake
09 level that would be required to restore the type of
10 duck habitat that existed pre-diversion?

11 A. No, there was none.

12 Q. With regard to the Upper Owens River, you indicate
13 that the monthly average maximum flow in the Upper
14 Owens River is proposed to be 300 cfs; is that right?

15 A. That is on a planning basis. Dr. Platts testified
16 that, depending on how the system changes, that it
17 might be beneficial to have some flushing flows of
18 higher magnitude. And that is sort of an open-ended
19 question that can't be answered now, but for the
20 planning purposes, we used 300 cfs.

21 Q. In terms of this 300 cfs, would that be able --
22 does the L.A. DWP management plan contemplate that
23 flows in the Upper Owens River could average 300 cfs in
24 any months of the year?

25 A. Well, Table 8 shows the frequency distribution,

0171

01 and I want to point out that you had asked about this
02 last time I testified, so part of this is as a result
03 of your question. This does show that we would have
04 the 300 cfs average on the absolute maximum three
05 months, June, July, and August, in the Upper Owens.
06 But most of the time, you know, the median condition,
07 it's well below 200. And there's maybe a third of the
08 years where it's 200 or more.

09 Q. Is there anything in the model that would limit
10 the other months so that they wouldn't reach 300?

11 A. Well, again, it's the plan and not the model. The
12 model is just a way of demonstrating the plan. So the
13 plan is that we would operate in a way that is
14 consistent with this type of outflow. We store water
15 in Grant during the runoff season early. We release it
16 later when the runoff starts to wane as we export into
17 the Long Valley. And, of course, it typically dies off
18 later in the year, the runoff does, and so there's
19 nothing specific prohibiting that, but it just wouldn't
20 happen.

21 Q. It's not likely that you would have a 300 cfs flow
22 in December, for example?

23 A. No. No, it's not.

24 Q. Because I think Mr. Del Piero will be disappointed
25 if he doesn't see some more red, I'm wondering if we

0172

01 could put up the overhead projector.

02 Let me start by asking you, Mr. Hasencamp, with
03 regard to your table, Table 7, on Rush Creek, this
04 table shows that --

05 HEARING OFFICER DEL PIERO: Wait. Wait. Wait.

06 MS. CAHILL: Okay.

07 HEARING OFFICER DEL PIERO: Okay.

08 Q. BY MS. CAHILL: On Table 7 of your testimony, this
09 indicates that on Rush Creek, the percentage of years
10 that the L.A. DWP recommended flows equal or exceed
11 historic impaired flows is on average 6 percent; is
12 that correct?

13 A. BY MR. HASENCAMP: Yes, that's correct.

14 Q. And so that means that the L.A. DWP flows are
15 consistently lower than the actual impaired flows have
16 been?

17 A. Yes.

18 Q. And they would represent, then, the -- basically,
19 the dry year conditions; is that right, in all
20 likelihood?

21 A. Well, this is not -- excuse me. This does not
22 include channel maintenance flow, and so what this
23 includes is what minimum stream flow is necessary so
24 that you can allocate water for other things. And if
25 you want to put this water in Mono Lake or you want to

0173

01 export it or whatever, that's separate. So that is
02 what this shows is, yes, the flows would be much lower
03 than they would be without diversions.

04 Q. Your fish flows are basically in the very low end
05 of the historic impaired flow range; isn't that right?

06 A. Except for the flushing flows, yes.

07 Q. And looking now at this, which is a representation
08 of Table 8 from your testimony, looking at Rush Creek,

09 is it true that those months that are outlined in red
10 are the months in which the average monthly flow is
11 equal to or less than your flow, your recommended flow?
12 A. I don't understand.
13 Q. Aren't the monthly flows marked in red on the
14 overhead, the months in which the average monthly flows
15 are equal to or less than your recommended flow?
16 A. No, they are not.
17 Q. Can you explain why not?
18 A. Well, certainly. Table 1 has the minimum flows,
19 the recommended flows and -- for example, June, 35 cfs
20 on Lee Vining Creek. There's at least 35 in every
21 month. So are you saying --
22 Q. Well, these are the months, are they not, where
23 the flow is equal to or less than your flow?
24 A. Well, I'm sorry. I did not understand. Yes, that
25 appears to be the case.

0174

01 Q. So on Rush Creek in what appears to be somewhat
02 more than half of the months, the flows are held to no
03 more than your recommended flow; isn't that right?
04 A. Yes. That's a function of recommended flushing
05 flows on an every-other-year basis. So on the off
06 year, the flows would tend to be closer towards the
07 recommended minimums in Table 1.

08 MR. HERRERA: Excuse me, Ms. Cahill, your 20
09 minutes have expired.

10 MS. CAHILL: Mr. Del Piero, I have not many more
11 questions. I would apply for an additional five
12 minutes.

13 HEARING OFFICER DEL PIERO: Granted.

14 Q. BY MS. CAHILL: And on Lee Vining, are the numbers
15 shown in red the months in which the flows are held to
16 no more than your recommended flows?

17 A. BY MR. HASENCAMP: Yes, it appears that way.

18 Q. And that would be, it looks like it's
19 approximately 80 percent of the months; is that right?

20 A. That looks about right.

21 Q. And according to your Table 7 on Lee Vining Creek,
22 the percentage of years in which your recommended flows
23 equaled or exceeded historic flows, impaired historic
24 flows, was only 10 percent; is that right?

25 A. Yes, that's correct.

0175

01 Q. So on Lee Vining Creek, in approximately 80
02 percent of the months, the flows that will result from
03 the L.A. DWP management plan are flows that were
04 historically equal to about 10 percent of the impaired
05 flows, or that historically equal the flows that
06 occurred historically 10 percent of the time?

07 A. Yes.

08 Q. With regard to the combined flows of Walker,
09 Parker, and Rush Creek, I think you indicated that the
10 amount that actually reached the bottomlands would
11 depend on whether there were losses and what the
12 magnitude of what those losses is; is that correct?

13 A. Yes, that's correct. There's usually losses.

14 Q. And so, in fact, the actual amount that reaches
15 the bottomlands is likely to be somewhat less than the
16 numbers?

17 A. On an average basis, yes.

18 Q. There is a reference somewhere in your testimony
19 to a dewatering of Rush Creek. Can you tell me what
20 circumstances you had in mind when you referred to a
21 dewatering of Rush Creek?

22 A. Well, it's difficult without knowing exactly where
23 it is, but -- and unfortunately, I didn't number the
24 pages. But I believe -- I believe that I was saying
25 that if, for some reason, the inflow to Grant Lake was
0176 extremely low because maybe Edison had a breakdown of
01 their plant and they temporarily had to shut off their
02 power and shut of the pen stocks and it were a dry
03 year, the flow might not be there into the creek, into
04 the reservoir.

05 And so those are just sort of catch-all types of
06 things in case this thing happened. We don't want to
07 be too limited in our scope. That's part of the
08 flexibility of the plan.

09 Q. I've been passed a note that indicated that I may
10 have misspoken awhile back when I said that the DWP
11 flows on Lee Vining were those that were -- I guess the
12 question was the DWP flows on Lee Vining were flows
13 which were exceeded 90 percent of the time and the
14 converse would be then that they were there
15 approximately 10 percent of the time; is that correct?

16 MR. BIRMINGHAM: I'm going to object --

17 HEARING OFFICER DEL PIERO: I'm sorry. I heard
18 I'm going to object, and that's all.

19 MR. BIRMINGHAM: Objection. It's vague and
20 ambiguous.

21 Q. BY MS. CAHILL: On Table 7 --

22 HEARING OFFICER DEL PIERO: Are you going to
23 withdraw the question?

24 MS. CAHILL: I'll withdraw the question. I think
0177 what happened is I may have mixed up exceedence with
01 current. I just wanted to clarify that.

02 Q. BY MS. CAHILL: On Table 7, the first column would
03 show that the L.A. DWP recommended flows were -- they
04 occurred 10 percent of the time, would that be correct?

05 A. BY MR. HASENCAMP: They occurred 10 percent of the
06 time?

07 MR. BIRMINGHAM: Just so the record is --

08 HEARING OFFICER DEL PIERO: Sufficiently muddled?
09 Is that the term you're looking for Mr. Birmingham?

10 MR. DODGE: It's already done.

11 MR. BIRMINGHAM: I believe that Mr. Hasencamp's
12 last statement was a restatement of her question, not
13 an answer.

14 THE WITNESS: Yes, that's true.

15 MS. CAHILL: Let me -- just one more time.

16 Q. BY MS. CAHILL: It appears from Table 7 that 10
17 percent was the percent of the time that L.A. DWP
18 recommended flows equal or exceeded historic flows; is
19 that right?

20 A. BY MR. HASENCAMP: Yeah, that's right.

21 MS. CAHILL: I think for the clarity of the
22 record, I'd like to mark the overhead as DFG Exhibit
23 186, and we will make copies for the parties with those
24

25 numbers marked in red. And I think that concludes my
0178
01 questions. Thank you.
02 (DFG Exhibit No. 186 was
03 marked for identification.)
04 HEARING OFFICER DEL PIERO: Thank you very much.
05 Mr. Dodge, did you call home?
06 MR. DODGE: I didn't have time.
07 CROSS-EXAMINATION BY MR. DODGE
08 Q. Mr. Hasencamp, on surrebuttal, Mr. Birmingham
09 asked you about paragraph 11 of Mr. Vorster's
10 testimony. Do you recall that?
11 A. BY MR. HASENCAMP: I recall some questions. I
12 don't know if it was referring to paragraph 11
13 precisely.
14 Q. Well, Mr. Birmingham asked you, in effect, whether
15 between 60 -- when Mono Lake was between 6384 and 6390,
16 whether it would necessarily be true that 10,000
17 acre-feet a year would be available for export. And
18 you said there was no guarantee of that, in effect;
19 isn't that right?
20 A. Yes, that's correct.
21 Q. And you don't read Mr. Vorster as saying there
22 would be that amount of water available, do you?
23 A. Well, except for evaporation from Grant Lake, I
24 read that it would be fairly close.
25 Q. Doesn't he say that during this interim period
0179
01 when the lake is between 6384 and 6390, the diversions
02 will be limited to 10,000 acre-feet per year of
03 available water?
04 A. Yes.
05 Q. That means a cap, doesn't it?
06 A. I suppose it does.
07 Q. A maximum of 10,000 acre-feet?
08 A. Yes, it probably does.
09 Q. Now, Mr. Coufal, I just have a few questions for
10 you.
11 A. It's Coufal.
12 Q. I'll try to get it right.
13 It sounds, between Mr. Vorster's written testimony
14 and your rebuttal of that, that there's a really a bit
15 of a love fest here. I mean, you basically agree that
16 these are potential ways to increase water down the
17 aqueduct and that DWP is pursuing them, correct?
18 MR. BIRMINGHAM: In fact, I will stipulate that
19 last night when Mr. Coufal and I were talking, he said,
20 "Life would have been so much easier if we had just
21 hired Mr. Vorster."
22 MR. HASENCAMP: He is here for who,
23 Mr. Birmingham?
24 HEARING OFFICER DEL PIERO: I have no response to
25 that remark, Mr. Birmingham. You and Mr. Birmingham
0180
01 need to take your negotiations out of the hearing room.
02 MR. COUFAL: I think what he's identified here is
03 things that are being worked on, yes. These are areas
04 that, you know, we're down to, if you want to call it
05 that. If there's going to be a way of making water,
06 this is a good list right here.

07 Q. BY MR. DODGE: A good list of potential ways to
08 increase the yield from the aqueduct?

09 A. BY MR. COUFAL: But in many cases, it's already
10 occurring, yes.

11 Q. Now, neither you nor Mr. Vorster to date have
12 tried to quantify this potential for increase, and I
13 want to see if you can do that at all. I want you to
14 take -- I appreciate your testimony about things that
15 have happened in the eighties, but I want you to start
16 today, January of 1994.

17 Is there any way that you can quantify the
18 potential for increase down the aqueduct from these
19 measures listed in paragraph 18 of Mr. Vorster's
20 testimony?

21 A. In some of them, you know, like A, you know, I've
22 just got to question how much you can really save, as
23 far as groundwater recharge. But as I say, that's a
24 practice that's been going on for years and water has
25 been recharged. How much you can increase that by is
0181

01 basically the amount of water that would get over and
02 past the aqueduct that could be captured. How much
03 that would be, I really couldn't guess because it's,
04 you know, as far as an increase goes, because it's been
05 done in the past.

06 Q. I'm interested to the extent you can do it and
07 quantifying it in terms of thousands of acre-feet per
08 year?

09 A. Yeah. As far as runoff goes and how much water's
10 available to recharge, that's a variable. I mean, you
11 can go through and look at some averages and look at
12 what, you know, what's available in certain periods of
13 time and try to come up with some numbers.

14 Q. Let me give you -- let me ask you, I appreciate
15 this is difficult, but stare into your crystal ball and
16 looking at the sum total of all of these five measures
17 listed in Mr. Vorster's paragraph 18, and let's go out
18 16 years to 2010.

19 Now, would it be a reasonable goal to increase the
20 yield in the aqueduct from these five measures by 11.4
21 thousand acre-feet per year?

22 A. How much money do I have? You look at dams and
23 raising dams and that type of thing, you know, it's --
24 I want to say, too --

25 HEARING OFFICER DEL PIERO: Wait. Wait. Wait,
0182

01 gentlemen. Mr. Coufal needs additional information.

02 Q. BY MR. DODGE: I understand. Would it be an
03 achievable goal, sir, putting aside money, and we'll
04 get to that in a second.

05 A. BY MR. COUFAL: Like I said, if you had unlimited
06 funds and you could raise political cooperation, you
07 could raise Long Valley Dam, sure.

08 Q. Do you have any idea in your mind as to how much
09 money it would take to increase the yield of the
10 aqueduct by 2010 by 11.4 acre-feet per year?

11 A. I couldn't tell you. I think you need to
12 remember, too, that we're looking at not just making up
13 11,000 or some water from Mono Basin, we're also
14 dealing with in-values in the Owens Valleys and making

15 up for commitments that the City of L.A. has made with
16 Inyo County as far as pumping and maintaining
17 vegetation. There's a commitment there. There's
18 enhancement mitigation projects that take water. That
19 was not part of our operation before 1986.

20 Q. Mr. Hasencamp, I have a few questions for you.
21 Page 2 of your testimony, if you could put it in front
22 of you.

23 The first main paragraph you talk about, "These
24 flows no longer represent the minimum necessary flows
25 to keep fish in good condition." Do you see that, sir?

0183

01 A. BY MR. HASENCAMP: I see that.

02 Q. What you're saying there, of course, is the Table
03 1 flow includes something in excess as what you regard
04 as necessary to keep fish in good condition, correct?

05 A. What -- I was basing that on Dr. Hardy's
06 testimony.

07 Q. I was going to ask you that question. What flows
08 do you believe are necessary to keep fish in good
09 condition?

10 A. Well, Dr. Hardy was recommending that 25 on Rush
11 Creek in the October through March period, and 33 in
12 the April through September period for Rush Creek, and
13 20 October through March on Lee Vining Creek, and 27
14 April through September on Lee Vining.

15 Q. So the flows necessary to keep fish in good
16 condition are those recommended by Dr. Hardy, right?

17 A. Yes.

18 Q. But isn't it true that the those flows are higher
19 than DWP had initially put in its management plan?

20 A. Yes, they are.

21 Q. In fact, you had Rush Creek at approximately 20 to
22 30 cfs initially, right?

23 A. Yes.

24 Q. And Lee Vining at 15 to 25, right?

25 A. Yes.

0184

01 Q. And when you wrote the initial management plan,
02 Dr. Hardy was already your consultant, wasn't he?

03 A. Yes, he was.

04 Q. But the basis for the change was the recent
05 testimony by Dr. Hardy?

06 A. Well, it was that and also, Dr. Hardy testified
07 that the October-through-March period, that these were
08 the -- in the Tennant method, kept -- was equivalent to
09 the excellent level and not just the good level
10 anymore.

11 So, in effect, the October through March are a
12 little higher on the Tennant method scale than the
13 April through September. And so you could argue on
14 that case that October through March are more than
15 required to keep fish in good condition.

16 Q. Let me follow-up on page 3 of your testimony.
17 Just a couple of questions that follow-up on
18 Ms. Cahill's questions.

19 Let's take Rush Creek, the primary peak flow, wet
20 year, 250 cfs. Do you see that, sir?

21 A. Yes, I do.

22 Q. Now, that was based on the Q-3; is that right?

23 A. Approximately, yes.
24 Q. My information is that the Q-3 would yield a peak
25 flow of a little over 280 cfs. Am I missing something
0185
01 here?
02 A. Well, sounds like you are.
03 Q. You think it's 250?
04 A. Yes.
05 Q. Okay.
06 A. There's different assumptions that go into any
07 analysis, and I don't know what assumptions you had in
08 your analysis.
09 Q. I thought the Q-3 was just a mathematical
10 computation; is that not so?
11 A. That is, but what numbers do you use for your
12 mathematical computation, that's the question. Do you
13 use -- what time period? I mean, there's a lot of
14 others besides just a mathematical.
15 Q. And the duration of this 250 cfs was one day; is
16 that right?
17 A. That's correct.
18 Q. Am I misremembering? Did Dr. Platts indicate a
19 three-day duration was appropriate?
20 A. I don't know that Dr. Platts testified on Lee
21 Vining and Rush Creek flushing flows, and I don't
22 recall that testimony.
23 Q. Have any of your consultants ever advised you that
24 three days of a peak flow is a good number?
25 A. I don't believe so.
0186
01 Q. You told Ms. Cahill, I think, that the peak flow
02 in a naturally regulated system sometimes lasts one
03 day; is that right?
04 A. Yes, I think that's what I told her.
05 Q. But it sometimes lasts several days, doesn't it?
06 A. No, I don't believe so.
07 Q. And in a close range? I mean, I'm not talking
08 about the exact number of cfs.
09 A. It certainly can be a few days where it's close,
10 and it can also be less than -- less than one day where
11 it's close, or where it peaks.
12 Q. 1993 was a wet year?
13 A. No, it was not.
14 Q. 125 percent of normal, wasn't it?
15 A. No, it was not.
16 Q. What was it?
17 MR. BIRMINGHAM: Objection. Ambiguous.
18 HEARING OFFICER DEL PIERO: The question that's
19 been asked was: "What was it?" How is that ambiguous?
20 MR. BIRMINGHAM: He's asking what percentage of
21 normal it was, and "it" is ambiguous. Rush Creek or
22 Lee Vining watershed; which is it? What's "it"?
23 MR. DODGE: Thank you. And I'll rephrase the
24 question.
25 Q. BY MR. DODGE: The 1993 Rush Creek watershed, was
0187
01 that a wet year, sir?
02 A. MR. HASENCAMP: Well, the year type is based on
03 the overall Mono Basin runoff, so the overall Mono
04 Basin runoff, of course -- we are in the 1993 runoff

05 year, so we don't know exactly what the runoff is going
06 to be until April 1st, which is still -- it's over two
07 months away. And the latest projection, which was made
08 on 11 -- November 23rd, is that the runoff -- the
09 current runoff year is 119 percent of normal. So it
10 could still be a wet year if we got some heavy rainfall
11 and our projections were off.

12 Q. How about the Rush Creek runoff? What projections
13 were on that?

14 A. I don't have that but, again, the year type is
15 defined as the total Mono Basin runoff. And I don't
16 know what --

17 Q. Do you recall that, in July of 1993, that there
18 was -- in terms of inflow from Rush Creek into Grant
19 Lake, that there were nine consecutive days that --
20 where the inflow was within 10 percent?

21 A. 10 percent of what?

22 Q. Each other?

23 A. I don't follow.

24 Q. Well, my understanding is that for nine days in a
25 row in July, the inflow into Grant Lake from Rush Creek
0188

01 was between 360 cfs and 390 cfs. Does that sound about
02 right to you?

03 A. Well, I have the record. I can quickly --

04 Q. Well, let me ask you a hypothetical question.

05 A. Okay.

06 Q. We'll try to cut through this. Assuming that's
07 true, you would agree with me that the peak flow lasted
08 substantially more than one day in 1993, wouldn't you?

09 A. However you define peak. You know, a -- if you
10 define peak as within 10 percent of the peak, then I
11 would say the peak lasted as long as you say it is, if
12 that's how you define peak.

13 Q. But you're -- in Rush Creek on the ascending limb,
14 you're going at what percentage again, sir?

15 A. The maximum is 20 percent.

16 Q. 20 percent. So that if you -- the top is 250,
17 then the top minus one day is what, 200?

18 A. Actually, the way the schedule ramps it up, it's
19 actually 215.

20 Q. 215?

21 A. Yes.

22 Q. And then on the down side, you got 15 percent on
23 the way down?

24 A. Yes.

25 Q. But you would agree with me that if you applied
0189

01 your system for nine days, that you would have
02 substantial differences from 250 cfs in terms of day
03 one and day nine, right?

04 A. Certainly.

05 Q. Certainly. It would be a much different order of
06 magnitude than between 360 and 390 cfs?

07 A. Yes.

08 Q. Now, Ms. Cahill stole my thunder in re-asking the
09 questions I asked you before about reopening the
10 tributaries to Parker and Walker Creek. You said
11 that's still not your recommendation; is that right?

12 A. No. That's not my recommendation.

13 Q. That's not part of the Department's plan?
14 A. I'm not involved in the Department's plan for
15 stream restoration.
16 Q. I see. You're not taking a position one way or
17 the other?
18 A. Well, I am personally.
19 Q. Okay. And the position is?
20 A. Well, that we do not reopen the distributary
21 channels.
22 Q. And you do understand that at peak flows, the
23 existing single channel that was created in 1990 will
24 not hold those peak flows, correct?
25 A. I don't have an understanding on that.

0190
01 Q. Do you have an understanding as to why the
02 Department is opposed to reopening the distributary
03 channels?
04 A. The "Department" meaning?
05 Q. The Department of Water and Power?
06 A. You're assuming that -- I'm not aware of the
07 Department's position.
08 Q. Who should I ask about that?
09 HEARING OFFICER DEL PIERO: Except you're not
10 under oath, Mr. Birmingham.
11 MR. BIRMINGHAM: Then I can almost guarantee --
12 HEARING OFFICER DEL PIERO: And I'm afraid if he
13 starts cross-examining you, not only will you miss your
14 play, I may not get out of here until tomorrow morning.
15 MR. BIRMINGHAM: That's an issue that will be
16 addressed at some point in argument.
17 Q. BY MR. DODGE: The answer is: You don't know.
18 And I won't berate you any more, sir.
19 A. MR. HASENCAMP: You can ask me next time I come
20 back. And by then, I will have an answer.
21 MR. BIRMINGHAM: He still won't know.
22 MR. DODGE: Maybe you'll have the right answer.
23 HEARING OFFICER DEL PIERO: If you have to
24 determine there is an answer.
25 Q. BY MR. DODGE: Your lake level recommendation is
0191
01 still 6377 feet, right?
02 A. BY MR. HASENCAMP: The April 1st level, target
03 level?
04 Q. Yes. Basically, the same as it was before?
05 A. Very similar.
06 Q. So you and I can agree to disagree on the same
07 basis as we did before and not ask too many questions
08 about that?
09 A. I can't agree with that.
10 Q. The page --
11 HEARING OFFICER DEL PIERO: Wait. Wait. Wait.
12 Shall I have the record read back on that, on that
13 question and the response? No? Let's move on.
14 MR. DODGE: I just meant to say there's not much
15 new here, and I didn't want to ask him anymore
16 questions on it and just try to move ahead.
17 Q. BY MR. DODGE: If 6377 feet is a crummy lake level
18 elevation for either re-establishing the fisheries or
19 for protecting public trust values in Mono Lake, then
20 this management plan, at least in terms of lake level

21 elevation, isn't worth much.

22 MR. BIRMINGHAM: Objection. Argumentative.

23 MR. DODGE: I withdraw the question.

24 HEARING OFFICER DEL PIERO: I thought you were
25 going to argue it was ambiguous because he hadn't
0192

01 defined what "crummy" was.

02 Q. BY MR. DODGE: Page 8 of your testimony, sir.

03 A. If you could --

04 Q. It starts, "Implement of Upper Owens River flow
05 criteria." Do you see that, sir?

06 A. Yes, I do.

07 Q. And under the first paragraph, the last sentence,
08 "The flow of water entering the Mono Crater tunnel
09 grows as stream inflow enters the tunnel before
10 reaching the Owens River." Now, is that what's
11 referred to as tunnel make, sir?

12 A. Yeah. I was referring to that as tunnel make,
13 yes.

14 Q. That, on an average, is how much acre-feet per
15 year?

16 A. I think it's around 11 or 1200.

17 Q. 11 or 12,000?

18 A. Thousand, yes.

19 Q. 11 or 12,000?

20 A. 11 or 12,000, yes.

21 Q. So for the past four years when diversions have
22 been stopped, that's basically what goes into the Upper
23 Owens River, the tunnel make; is that right?

24 A. With a few exceptions, that is, as to the upper,
25 it adds to the flow depth, yes.

0193

01 Q. And the next paragraph you talk about splitting
02 the flow into 240 cfs flows as a challenge. That's
03 with the existing equipment, right, sir?

04 A. Yes.

05 Q. Isn't that fairly antiquated equipment?

06 A. It seems to have worked well over the last 50
07 years.

08 Q. But there is equipment on the market that would
09 make that less of a challenge, isn't that so?

10 A. Well, if you have infinite funds, you can do
11 anything you want.

12 Q. Now, down at the bottom you say, "Crowley has
13 never spilled," and you talk about a public safety
14 risk. Can you elaborate on that?

15 A. On the --

16 Q. Public safety risk?

17 A. Yes. There's a -- with any significant spill,
18 there's the pen stocks in the gorge, damage can get
19 caused to those. These flows come down into the living
20 quarters that are in the rocky gorge area. And the
21 safety of the dam, if there were to be spills, that's
22 another issue and there are a lot of problems.

23 If people are down in the gorge fishing, it's a
24 popular fishing spot, and a sudden flow bring all this
25 debris, there's no place to run down in the gorge.

0194

01 Q. As a result of that, DWP has been very careful not
02 to have Crowley spill; isn't that right?

03 A. Yes.
04 Q. And one thing you do in order to make sure Crowley
05 does not spill is to limit exports from the Mono Basin
06 in wet years; is that right?
07 A. It's a combination of reducing the storage ahead
08 of time. You look at the snow pack in a wet year, you
09 bring Crowley down, you hold water in Grant before
10 bringing it through the tunnel. So there's a whole
11 combination of things. It's not just simply let's
12 reduce the Mono Basin export.
13 Q. One of the things you do is reduce Mono Lake
14 export; is that right?
15 A. Yes.
16 Q. For example, in 1983, that was one thing you did
17 to avoid having Crowley spill; is that right?
18 A. That's certainly true.
19 Q. And isn't it true that during very wet years, that
20 Los Angeles has tended to export very little Mono Basin
21 water?
22 A. I would disagree with that statement.
23 Q. Why would you disagree?
24 A. Well, there's so many other factors that you're
25 not looking at.

0195

01 If you take 1978, for example, was a very wet
02 year. And that was the year that most of the water was
03 exported out of the Mono Basin. That is the record
04 year, so if there's room for it in wet years, we will
05 take -- refill the system and, in fact, the wet -- most
06 exports occur in the wettest year in 1978.
07 Q. My last line of questions, sir, and this is
08 actually, the -- not usually this candid, but we've
09 been around so long together that I'll just come out
10 and say this is really the only place that we had some
11 trouble with your testimony.

12 You and I don't agree as to what appropriate lake
13 level is or appropriate stream flows are, but we
14 understand each other on those issues.

15 Now, on this Mono Basin irrigation is an area
16 where we really don't understand your testimony. Your
17 written testimony says, "If it is desired to limit the
18 rise of Mono Lake, historical irrigations areas may be
19 used in order to reduce or delay the rise of the lake."

20 Do you see that, sir?

21 A. And what page are you referring to?

22 Q. The next page, "General Operational Criteria, Mono
23 Basin Irrigation."

24 A. Yes, I see that.

25 Q. Now, have you quantified that as to how Mono Basin
0196

01 irrigation might limit the rise of Mono Lake?

02 A. Well, historically we irrigated 9,000. And
03 sometimes it was up to 10, 11,000. If you increase
04 your irrigation in a very wet year by 8,000, for
05 example, acre-feet, that water -- granted, some of it
06 will evaporate, some of it will get in groundwater and
07 make it to Mono Lake, but it is not an instantaneous
08 thing. So if you remove 8,000 in a very wet year, for
09 example, most of that will not make it to the lake.

10 Q. Okay. So you're --

11 A. Right away.

12 Q. So you're saying, at least in the short-term, you
13 can keep 8,000 acre-feet from going to Mono Lake?

14 A. Yeah. Or maybe more, but in a very short-term.
15 It is not a normal practice. That would be in a 1983
16 event, if there was concern about a very rapid lake
17 level rise, they're saying the plan does not preclude
18 the use of these historical irrigation. But that is
19 not something that would happen on a regular basis.

20 Q. But 8,000 acre-feet is only going to be a couple
21 of inches in Mono Lake, isn't it?

22 A. Well, there's 8,000 acre-feet there. There's
23 10,000 acre-feet at Crowley. There's 10,000 acre-feet
24 spreading. There's some more bringing the reservoirs
25 down earlier. It's just a combination of everything.

0197

01 I did not put this in there to say 8,000 is certainly
02 sufficient to do those things, but I put it in there to
03 show that it is not necessary to seal those irrigation
04 diversions off because there might be use for them.

05 Q. Far be it for me to argue with you, Mr. Hasencamp,
06 as you know, but it's under Mono Basin irrigation, and
07 that, you've told us, is about 8,000 acre-feet
08 potential. And that is, at best, a couple inches in
09 Mono Basin, isn't it?

10 A. It depends on what level. Maybe Mr. Deas has a
11 better answer.

12 A. BY MR. DEAS: Just a little insight because I have
13 to stay awake. It might be just a couple inches, 6375.
14 It might be a quarter foot.

15 Q. Quarter of a foot is three inches.

16 A. Maybe four inches.

17 Q. But in terms of on Table 8 Mr. Hasencamp, where you
18 had the maximum elevation under your plan at 6385.8
19 feet -- do you recall that?

20 A. BY MR. HASENCAMP: Yes, I recall that.

21 Q. Okay. Now, that -- and then you told
22 Mr. Birmingham that we were going to potentially get
23 this down to 6383 feet. We're certainly not going to
24 do that by irrigation in the Mono Basin, are we?

25 A. As I said, that was one portion of a larger plan,
0198

01 and I was not intending that that alone would suffice.
02 That is part of a larger plan.

03 Q. In fact, at existing Mono Lake elevations, three
04 feet -- excuse me. Let me restate that question.

05 At approximately 6385 feet versus -- excuse me,
06 6386 feet versus 6383 feet, I'm talking about that
07 range of Mono Lake elevations, you would be talking
08 about a reduction of flows into Mono Lake of
09 approximately 150,000 acre-feet, wouldn't you?

10 A. Well, this is not a -- this is a cumulative
11 impact. It's not all of a sudden it gets to a certain
12 level and then take 150,000 out. So I don't know -- I
13 don't know what figure -- I don't know if 150,000 is
14 right.

15 Q. Sound about right? Just answer slowly, and
16 Mr. Deas will do the calculations.

17 MR. DEAS: What do you -- I'm sorry.

18 MR. BIRMINGHAM: If Mr. Deas has the answer,

19 perhaps Mr. Deas could answer.
20 MR. DEAS: I wasn't listening. I'm sorry.
21 MR. HASENCAMP: I really don't know.
22 Q. BY MR. DODGE: In fact, Mr. Hasencamp, in a very
23 wet year, there occurs -- sometimes there are wet years
24 when Los Angeles simply can't take the water all the
25 way down the aqueduct to Los Angeles; isn't that a
0199
01 fact, the Mono Basin water?
02 A. BY MR. HASENCAMP: I'm not sure I understand.
03 Q. You physically cannot carry all the water
04 available to you in the aqueduct?
05 A. All the Mono Basin water?
06 Q. Well, let me try to back up and approach it from a
07 different angle.
08 Isn't it true, occasionally, in very wet years,
09 that Los Angeles elects not to take Mono Basin water
10 because it has all the water it can handle in the
11 aqueduct downstream from Mono Basin?
12 A. Did I say not take any water or limits the
13 water -- amount of water it takes?
14 Q. Let's take the latter, first.
15 A. Yes. There's been a number of years during the
16 unrestricted period where all the water was not taken.
17 Q. And that's because of the downstream availability
18 of the water and the capacity of the aqueduct?
19 A. Partly.
20 Q. And it's also true that, occasionally, Los Angeles
21 limits the amount of water, Mono Basin water, taken due
22 to a fear of Crowley coming up too far and possibly
23 spilling, correct?
24 A. Yes.
25 Q. So would you agree with me that in a hypothetical
0200
01 wet year, there's no guarantee that you could drain off
02 Mono Basin water and, therefore, as Mono Lake was
03 approaching its maximum, under your management plan
04 6385.8, in fact, keep it to 6383?
05 A. I would disagree with you. We're -- if a
06 hypothetical wet year differed from the historic
07 hydrology came along, put the hypothetical on the
08 historic hydrology, we've shown in the model that you
09 could do things differently on a one-time, short-term
10 basis. And so I would disagree with the statement.
11 MR. HERRERA: Excuse me, Mr. Dodge.
12 MR. DODGE: That's all I have.
13 HEARING OFFICER DEL PIERO: Thank you very much,
14 Mr. Dodge.
15 Ms. Koehler? Go ahead, Ms. Koehler.
16 MS. KOEHLER: Thanks.
17 Good afternoon. I come to you with good news and
18 bad news, primarily. The bad news is that Mr. Vorster
19 will not be making his debut appearance as I had
20 promised you this morning. I have acquiesced to wiser
21 heads of my colleagues, and we will save Mr. Vorster's
22 appearance for his testimony.
23 The good news that my colleagues have also asked
24 all the questions on my list, so I will be very brief.
25 CROSS-EXAMINATION BY MS. KOEHLER

0201

01 Q. Mr. Deas, I have just a few questions for you.
02 You have testified that LAAMP version 3.3 can be used
03 generally to compare alternatives; isn't that right?
04 A. BY MR. DEAS: Yes.
05 Q. I just want to clarify. Do you mean by this that
06 LAAMP 3.3 can be used to compare the water supply
07 impacts of the Draft Environmental Impact Report
08 alternatives?
09 A. Yes, with an explanation just quickly. As I
10 mentioned in my oral summary, computer models have
11 uncertainties. If that is properly accounted for, if
12 careful use of the tool is used, then that can occur.
13 Q. I don't want to belabor the point. I'm just
14 trying to understand what you're recommending.
15 What we're doing -- what I understand is being
16 done with this particular tool is the generation of
17 projections about water supply impacts given a set of
18 input assumptions. Is that what you mean when you say
19 the uncertainties should be accounted for?
20 A. Yes. There's uncertainties, but if you have one
21 alternative that says you get to take X, alternative B
22 says you take Y, the difference is 30,000, people tend
23 to latch on to that and say, "That's what it is." It
24 may be plus or minus 10,000. We don't know. We need
25 to account for that.

0202

01 Q. So accounting for the uncertainties inherent in
02 any water supply impact estimate tool, you think LAAMP
03 3.3 is a tool appropriate for this Board to use in
04 estimating water supply impacts and the alternatives
05 under consideration in this proceeding?
06 A. Yes.
07 Q. Thank you.
08 Now, you've also testified that you have revised
09 LAASM; is that correct?
10 A. Yes.
11 Q. Can new LAASM now model the different water supply
12 impacts to the Department of Water and Power of the
13 alternative lake levels in the DEIR?
14 A. I'm sorry. Can you repeat that?
15 Q. Can new LAASM now model the different water supply
16 impacts to L.A. that are of the lake level alternatives
17 in the Draft Environmental Impact Report?
18 A. Yes. There are some minor differences, but we can
19 force it to be close.
20 Q. There are minor differences with what?
21 A. For instance, transition triggers in LAAMP.
22 That's a different operational thing for Mono Lake than
23 we have in our model.
24 Q. Okay. So when you say there are differences, you
25 mean there are differences in the way LAAMP and LAASM

0203

01 model those waters supply impacts?
02 A. Yes.
03 Q. Can new LAAMP's model export from Mono Basin, when
04 the lake level falls below the target level, first of
05 all, during the transition period to the target --
06 MR. BIRMINGHAM: Excuse me, you asked new LAAMP?
07 MS. KOEHLER: I'm sorry. I meant new LAASM.
08 MR. DEAS: Can you repeat the question?

09 Q. BY MS. KOEHLER: Sure. Can new LAASM, as revised
10 by you, can it now model exports from the Mono Basin
11 when the lake level falls below the target level, and
12 I'm asking you, first of all, during transition period?
13 A. BY MR. DEAS: I'm confused because you say "falls
14 below the target level during the transition."
15 Transition's not to a target level.
16 Q. Right. But at times, you won't -- there will be
17 times, won't there, when the lake level is below the
18 target, I'm sorry, for a particular year in your
19 management plan?
20 A. If you're transitioning, you're going up to a
21 level.
22 HEARING OFFICER DEL PIERO: Wait. Wait.
23 Ms. Koehler, you need to restate your question
24 because I don't understand the question. And if I
25 don't understand the question, I won't understand the
0204
01 answer.
02 MS. KOEHLER: Perhaps it's a more technical point
03 than I think we need to dwell on, so I'll withdraw it.
04 HEARING OFFICER DEL PIERO: I'm relieved.
05 MS. KOEHLER: Then I have chosen wisely.
06 Q. BY MS. KOEHLER: Mr. Hasencamp, I have just a
07 couple questions about LAASM for you. I'm still a
08 little confused about the role of LAASM in this
09 proceeding.
10 Is it your testimony that you use LAASM instead of
11 LAAMP to simulate the water impacts of L.A.'s water
12 management plan?
13 A. BY MR. HASENCAMP: Yes.
14 Q. And you testified in your written statement that,
15 I believe, you chose LAASM instead of LAAMP 3.3 for
16 this purpose because it is your view that LAASM better
17 represents the L.A. aqueduct system than LAAMP 3.3.
18 Have I got that right?
19 A. Yes, that's correct.
20 Q. I believe you told Ms. Cahill that you are using
21 LAASM at this -- now to analyze the water supply
22 impacts under DEIR alternatives; is that right, but
23 that has not yet -- well, I'll just leave it at that.
24 A. Could you please restate it?
25 Q. Are you now analyzing the water supply impacts of
0205
01 alternatives in the Draft Environmental Impact Report
02 using the LAASM, the revised LAASM?
03 A. Yes, to the extent we can. There's -- it's not an
04 exact match, but we're trying to approximate.
05 Q. And I believe you told Ms. Cahill that you are
06 attempting -- you will be attempting to compare the
07 results of LAAMP 3.3 and new LAASM with regard to those
08 waters supply impacts; is that right?
09 A. Yes.
10 Q. Then is it --
11 MR. BIRMINGHAM: Excuse me. There was not a
12 verbal response to that last question.
13 MR. HASENCAMP: Yes.
14 MR. BIRMINGHAM: If there was, I didn't hear it.
15 HEARING OFFICER DEL PIERO: You can start
16 extending your answers, Mr. Hasencamp, and let

17 Mr. Birmingham sweat there for a while.

18 Q. BY MS. KOEHLER: Do you have an opinion today as
19 to whether or not the Board should use LAASM rather
20 than LAAMP 3.3 to evaluate the water supply impacts of
21 the lake level alternatives in the DEIR?

22 A. Yes, I do.

23 Q. And can you share that view with us?

24 A. Well, I think that -- my view is that the LAAMP
25 model is just recently been completed. And I don't
0206

01 think anyone knows, has tested it enough to know if
02 there are any errors that might pop up or any
03 inconsistencies. But if time permits, and I'm not -- I
04 don't know the Board's schedule, but if time permits, I
05 think that, assuming that things work out okay, that
06 the LAAMP model should be used because it has been
07 developed by the Board and circulated among all the
08 parties.

09 Q. In your view, then, for what purpose should the
10 Board use the LAASM model in this proceeding, if any?

11 A. Well, the LAASM model has already been
12 instrumental because in comparing the two versions, we
13 found that the -- we never would have found the error
14 in the transition gain in the Tinemaha-Haiwee likely
15 without the LAASM model.

16 And to the extent that there is another model to
17 compare it with, if you just have one model on its own,
18 it's sort of scary if, when you look at some of the
19 outputs. But if you have another one that confirms it,
20 I feel much more comfortable.

21 So the extent that the Board has two tools, I
22 would -- that is the way I would recommended the Board
23 use the LAASM model.

24 Q. So is it fair to characterize your testimony that
25 you're recommending that the Board use LAASM as a kind
0207

01 of check on the outputs provided by LAAMP 3.3 or
02 whatever the LAAMP version is ultimately named?

03 A. Yes.

04 Q. Okay. I'm turning to the last page of your
05 written testimony. You state that the State Board
06 could review L.A. DWP's hydrologic basis on a monthly
07 basis and could provide input each year in L.A. DWP's
08 Mono Basin plan.

09 Could you explain for us what -- exactly what
10 you're recommending here. I was confused by this
11 paragraph.

12 A. And where is the paragraph again, page 12?

13 Q. I believe this was the last -- yeah, page 12 and
14 13.

15 A. Yes. Well, the Department of Water and Power
16 would put together a plan for the year. This plan is
17 based on, you know, the permits and the licenses as far
18 as these stream flows, these channel maintenance flows,
19 this lake level. And then the Department, who has the
20 -- not only the experience in this Mono Basin, but also
21 knows the demand for water downstream, would then
22 submit the plan to the State Board early in the runoff
23 year. And then at the end of the year, submit all the
24 data for verification.

25 Q. I see. So is it your recommendation that the
0208
01 Board essentially approve this plan?
02 A. Well, provide input. Certainly, they might have
03 some input into the process. But I think that if the
04 permits were specific enough with, you know, these fish
05 flows and the lake level and if we can demonstrate that
06 we complied with the permit, then there shouldn't be --
07 I don't foresee any problems.
08 Q. So, it's not your recommendation that the Board
09 approve or disapprove of the plan?
10 A. Well, certainly to the extent that the Board can
11 approve that the conditions are met or that the
12 requirements are met, to that extent, they should
13 approve it.
14 Q. Then am I characterizing your testimony correctly,
15 are you recommending that guidelines for the Mono Basin
16 plan be included in whatever license amendment results
17 eventually from this proceedings?
18 A. Well, guidelines as far as stream flows and, you
19 know, lake levels. But as far as export and the need
20 for water, there has to be enough flexibility to allow
21 for these types of decisions to be made, because only
22 the DWP knows what the demand or the need for water is
23 downstream. And so the decision on whether to export
24 on a wet year or not, all those types of decisions need
25 to be made on a macro scale, not a micro scale.
0209
01 Q. Turning to some of the other issues in your
02 management plan. I believe you testified for my
03 colleague, Mr. Roos-Collins, previously, that it is
04 possible for Los Angeles to change the outflow from
05 Grant Lake on a daily basis.
06 MR. BIRMINGHAM: Objection. Asked and answered.
07 MS. KOEHLER: I don't believe that's correct. I
08 haven't asked --
09 MR. BIRMINGHAM: She prefaced her question by
10 stating Mr. Roos-Collins asked this question on behalf
11 of Cal Trout earlier, and he answered it.
12 HEARING OFFICER DEL PIERO: Well, I'm going to
13 overrule it. I think it's foundational for the balance
14 of the questions she's going to ask. So inasmuch as
15 we're changing the subject --
16 Mr. Hasencamp, do you understand the question,
17 sir?
18 MR. HASENCAMP: Yes, I recall.
19 HEARING OFFICER DEL PIERO: Do you have an answer?
20 MR. HASENCAMP: Yes. Yes, they could.
21 HEARING OFFICER DEL PIERO: Why don't you proceed?
22 Q. BY MS. KOEHLER: On page 5 of your testimony, you
23 indicate that in cases when runoff into Grant Reservoir
24 is lower than the minimum release into Rush Creek, the
25 operator will adjust Grant Lake outflow to equal inflow
0210
01 into Rush Creek, and that that will be done on a
02 bi-weekly basis; is that correct?
03 A. BY MR. HASENCAMP: Yes.
04 Q. And can you tell us why you chose bi-weekly as
05 opposed to on a daily basis?
06 A. Well, the records of the Rush Creek dam site

07 station, when you say inflow equals outflow, we're
08 talking daily average inflow versus daily average
09 outflow, and the record has to -- you have to look at
10 the takes every day before you actually take that data
11 and can work it up.

12 So it's much more efficient if the data is worked
13 up for a several-day period, rather than constantly
14 adjusting up and down, because it's impossible to do it
15 instantaneously.

16 Q. But don't you say just a few lines down in your
17 testimony that you only need four days to make this
18 adjustment?

19 A. That you only need three or four days to make this
20 adjustment?

21 Q. Right.

22 A. Where does it --

23 Q. Well, let me go back.

24 You said you needed a few days, and that's why you
25 set it on a bi-weekly basis.

0211

01 What I'm asking you is: Why do you need to wait
02 two weeks, when you say here that you're averaging over
03 three or four days?

04 A. Bi-weekly is defined as either once in two weeks
05 or twice in a week, so in this definition, I'm using it
06 as twice a week.

07 Q. Oh, I see. Thank you for clarifying that.

08 In this situation we've just discussed, the
09 hypothetical is that the runoff into Grant Lake is
10 lower than the minimum release into Lower Rush Creek.

11 I'm going to ask you a hypothetical about a period
12 when there are large fluctuations in flow, specifically
13 during snow melt periods. And let's say that you have
14 a situation where you must release all of the flow into
15 Grant Lake, you know, based on the parameters in your
16 management plan, in order to maintain the target lake
17 level.

18 Are you with me?

19 A. Which lake are you referring to?

20 Q. Mono Lake.

21 A. Okay.

22 Q. How frequently in that situation will you adjust
23 the inflow into Rush Creek?

24 A. We wouldn't adjust it at all in this case, because
25 it would just be flow through addition. Yes -- I mean,

0212

01 that's a different situation.

02 Q. Okay. Thank you.

03 Is it correct that Los Angeles can remotely
04 retrieve real-time data from Lee Vining Creek regarding
05 stream levels?

06 A. Regarding stream --

07 Q. Levels.

08 A. Stream flow, yes.

09 Q. Stream flow. Okay.

10 Can the same capability be established on Rush
11 Creek?

12 A. It can.

13 Q. And can that capability be established on Rush
14 Creek for both inflow and outflow?

15 A. Yes.
16 MS. KOEHLER: Thank you. That concludes my
17 questions.
18 HEARING OFFICER DEL PIERO: Thank you very much,
19 Ms. Koehler.
20 Ms. Scoonover?
21 MS. SCOONOVER: I have no questions for this
22 witness.
23 HEARING OFFICER DEL PIERO: All right. Mr. Frink?
24 MR. FRINK: Yes.

25 CROSS-EXAMINATION BY THE STAFF

0213

01 Q. BY MR. FRINK: Mr. Hasencamp, I have a few
02 questions. First, I wanted to clarify some questions
03 that were raised by Mr. Birmingham regarding the
04 modified version of LAAMP 3.3, and that has been
05 referred to here alternatively as LAAMP 3.31 or LAAMP
06 3.3A.
07 Did you speak with Mr. Satkowski last week and ask
08 what version of the LAAMP model Dr. Brown would be
09 using in preparing the exhibits and testimony for the
10 hearing? Do you recall speaking to Mr. Satkowski about
11 that?
12 A. BY MR. HASENCAMP: It's been a long week. I
13 recall getting a message on my voice mail from
14 Mr. Satkowski. I don't recall speaking to him directly
15 about this.
16 Q. And was this message about the LAAMP model and
17 which version would be used in preparing exhibits?
18 A. Yes, it was.
19 Q. And what did the message inform you of at that
20 time?
21 A. That LAAMP 3.3 would be used.
22 Q. Okay. So you were aware that there was a
23 modification of the LAAMP model that had been made if
24 anyone was interested in using it; is that correct?
25 A. Well, there were several modifications. I guess

0214

01 the question was whether we were going to use the 3.2
02 version or the 3.3 version, and there was a little
03 uncertainty. And then by the phone call or the phone
04 message, I, at that point, knew that Dr. Brown was
05 going to use 3.3.
06 Q. And were you aware that Mr. Vorster had identified
07 another error that had been corrected in what has now
08 been identified as the LAAMP 3.31 model?
09 A. Yes. I got a voice mail from Mr. Vorster, but the
10 voice mail is limited to two minutes, so I only got the
11 first two minutes of his message.
12 (Laughter.)
13 HEARING OFFICER DEL PIERO: Mr. Hasencamp, so you
14 understood the message to be from Mr. Vorster?
15 MR. HASENCAMP: Yes. My voice mail has a warning.
16 It says, "Two minutes," before the message starts.
17 Q. BY MR. FRINK: And he did get through the hello in
18 that time period; is that correct?
19 After getting that message, did you ever request a
20 copy of the modified version of the LAAMP model?
21 A. BY MR. HASENCAMP: Well, the message, from what I
22 heard of it, was that -- not that he would necessarily

23 be using a different version, but that he found a
24 problem; that Mr. Huchison was working on a new
25 version; and that it was unclear exactly what was going

0215

01 to happen at that point, but that Mr. Vorster was
02 looking at these models.

03 MR. DODGE: I object to this line of questioning.
04 There's no serious suggestion that Los Angeles has not
05 been given full access to everything, and there's no
06 serious suggestion that they don't have time to deal
07 with 3.3 or 3.3A.

08 Why don't we get on with the merits?

09 MR FRINK: I would agree entirely, but I believe
10 there may have been such a suggestion. If
11 Mr. Birmingham would stipulate that he intended no such
12 suggestion, I'd be happy to move on.

13 MR. BIRMINGHAM: I intended no such suggestion.

14 MR. FRINK: Okay. Thank you.

15 MR. BIRMINGHAM: I think we can all agree that the
16 Staff of the Board and representatives of DWP and
17 Mr. Vorster all worked very, very hard in trying to
18 develop a model that everyone now agrees can be used
19 for the purposes discussed. And I think, as everybody
20 has said, Dr. Smith said it today, the Staff is to be
21 commended.

22 MR. FRINK: Okay. I appreciate that.

23 Q. BY MR. FRINK: On page 11 of your testimony,
24 Mr. Hasencamp, you state that the LAAMP 3.3 model was
25 used to simulate the DWP management plan, but that the

0216

01 results of that simulation were not shown in your
02 testimony.

03 Do you recall how the LAAMP 3.3 results and the
04 modified LAASM results for simulation of the DWP
05 management plan compared with each other?

06 A. BY MR. HASENCAMP: Could you just point out the
07 page?

08 Q. Page 11 of your testimony which --

09 A. That's all I needed.

10 Yes, it does not say that 3.3 -- oh, I'm sorry.
11 That is not the diversion that we had initially
12 simulated. So, I don't know.

13 Q. Okay. Then the statement that the plan was also
14 simulated using version 3.3 of the LAAMP model
15 submitted by Jones and Stokes on January 26, 1994, is
16 that statement incorrect?

17 A. Well, I did not do the simulations.

18 Q. Did someone working for the Department of Water
19 and Power do that simulation?

20 A. Yes, but I don't know what the results are.

21 Q. You didn't see the results then?

22 A. No.

23 Q. Did you see those results, Mr. Deas?

24 A. BY MR. DEAS: No, I did not.

25 Q. Mr. Coufal, I believe you stated in your testimony

0217

01 that Owens Valley groundwater pumping exceeded
02 groundwater recharge for a period ending some time in
03 the 1980s.

04 Do you recall that statement?

05 A. BY MR. COUFAL: Yes. I think what I was referring
06 to is out of this report here. It's the "U.S.G.S.
07 Water Supply Paper, 227B, Geology Water Resource in the
08 Owens Valley." That's where the statement came from.

09 It's a period from 1970 to 1984. U.S.G.S. did a
10 balance of the groundwater system, and during that
11 period, their studies revealed a water deficit in
12 storage and water balance of approximately 8,000
13 acre-feet for that 1970-84 period.

14 Q. In doing that water balance, is it your
15 understanding that U.S.G.S. looked at other factors
16 beyond just groundwater recharge and pumping?

17 A. Yes. It was a total balance of the groundwater
18 flow system. So it took into account all of the
19 recharge and all the discharge. Discharge was --
20 included groundwater pumping, springs flows, under
21 flow, that type of thing.

22 Q. I spoke with Mr. Huchison at the break, and he
23 gave me a copy of the Green Book that showed from the
24 period of 1970 through 1989, that actually the
25 groundwater recharge exceeded the amount of pumping

0218

01 overall in the Owens Valley. It wasn't looking at the
02 entire water balance, but it focused just on the
03 groundwater recharge pumping numbers.

04 Would you have any reason to dispute that
05 conclusion?

06 A. No. That's exactly what it is. It's a comparison
07 of what the recharge is in the area against the pumping
08 in that area.

09 MR. FRINK: That's all my questions. Thank you.

10 HEARING OFFICER DEL PIERO: Mr. Satkowski?

11 Q. BY MR. SATKOWSKI: Yes. I have quite a few
12 clarification questions.

13 First, Mr. Deas, in the testimony on page 3, third
14 paragraph, line 3, in discussing the LAAMP model, you
15 state that, "An analysis of the monthly and annual
16 operations is not a valid application of a model, nor
17 should model-calculated averages be used as precise
18 values."

19 Are you saying here that the models should not be
20 used on a monthly basis?

21 A. BY MR. DEAS: Yes.

22 Q. Nor should it be used on an annual basis?

23 A. For operations, yes.

24 Q. For operations. But for EIR planning purposes and
25 for this water rights decision, it is okay to use it on

0219

01 a monthly and annual basis?

02 A. I'd be careful on the monthly basis. If you look
03 at -- I don't know the exhibit that Russ Brown
04 presented, but if you go through all those graphs,
05 you'll see on a monthly basis, some of those things
06 don't fit very well at all.

07 But I think both Mr. Huchison and Dr. Brown were
08 correct in that you could use it as a start in terms of
09 planning, but in terms of operations, no.

10 Q. Thank you.

11 Mr. Hasencamp, on your Exhibit 155, which was up
12 on the butcher block paper -- could you maybe turn that

13 over for us? I just wanted to clarify the equation.
14 You have the ascending rate equals the one over,
15 in parentheses, one minus the descending rate, paren,
16 minus one.

17 Is the minus one at the end included in the
18 denominator, or should it be outside the fraction?

19 A. BY MR. HASENCAMP: Outside the fraction.

20 Q. On page 2 of your --

21 HEARING OFFICER DEL PIERO: I knew that,
22 Mr. Satkowski.

23 (Laughter.)

24 MR. SATKOWSKI: I knew that, too, but I just
25 wanted to make sure the record got that clear.

0220

01 Q. BY MR. SATKOWSKI: On page 2 of your testimony you
02 show Table 1, which are the recommended stream flows
03 for the various streams in Mono Basin.

04 Just to make it clear, are these recommendations
05 monthly averages or dailies?

06 A. BY MR. HASENCAMP: They're actually instantaneous,
07 except in Lee Vining Creek. When the daily fluctuation
08 is such, then they're dailies.

09 Q. In the column -- you have two columns here, Walker
10 Creek and Parker Creek, are these recommendations
11 different than in your previous management plan?

12 A. No, they are not.

13 Q. Down at the bottom of the page, the last full
14 paragraph, you state that, "In general, the L.A.
15 Department of Water and Power plan does not take water
16 out of Grant Lake Reservoir to augment minimum flows in
17 Rush Creek. The exception to that criterion is that if
18 the runoff drops below 25 cfs April through September,
19 or below 20 cfs between October through March, the L.A.
20 Department of Water and Power plan provides that water
21 will be taken out of storage to maintain these
22 minimums."

23 What is the basis for the 25 cfs value and 20 cfs
24 value stated in this sentence?

25 A. Those are close to the historical minimums of
0221

01 record, and so -- for that period, and so those are
02 equivalent to more or less the driest that the runoff
03 would be naturally.

04 Q. Okay. Going on to page 3, Table 2, I wasn't quite
05 sure as to the basis for these values on Table 2, and I
06 didn't see it in the written testimony.

07 Could you briefly explain where you obtained these
08 flow recommendations?

09 A. Anything in particular? I said some things. Was
10 there something that you wanted me to elaborate on
11 particularly?

12 Q. Well, let's start from the top.

13 A. Okay.

14 Q. Let's start with Rush Creek. The wet year primary
15 peak flow of 250 cfs.

16 A. Yes.

17 Q. Where did that value come from?

18 A. That is the return period of one in three years,
19 or the approximate Q-3 as --

20 Q. And why did you use a Q-3 return period?

21 A. Well, a wet year is about a one-in-three return
22 period, and so it approximates what the lower boundary
23 of the wet year flows would be naturally.
24 Q. In the normal year for Rush Creek, I think that
25 you said the return period was 1.5; is that correct?

0222

01 A. Yes, I did.

02 Q. And why did you use that value?

03 A. Similarly, the 1.5 is on the lower end of a normal
04 year and what a normal year would typically receive.
05 So that is, again, close to a peak of the lower end of
06 the normal year's natural flow, if that makes sense.

07 Q. So the secondary peak flow for Rush Creek is
08 listed as 120 cfs. What was the basis for that value?

09 A. It was upon discussion with Dr. Beschta and that
10 he wanted to see a second peak in there that rewatered
11 some of the soil and the size of the creek.

12 And so if there's -- we increased the flow by
13 about 50 percent from the trough, from the middle of
14 the trough, and the trough is 80 cfs. And so he
15 thought a 50 percent increase from the 80 cfs would be
16 sufficient. So it's based on the hydrology, really, of
17 the typical hydrograph.

18 Q. I see. Now, going down to total duration of
19 increased flow for Rush Creek in a wet year, it's 28
20 days. Where did that value come from?

21 A. That's based on the peak and ramping rates. So
22 given these peaks listed above and the ramping rates
23 listed below, the tables, Table 3, 4, and 5, show that
24 you would have to increase the flow above the base for
25 that number of days for each of the year times.

0223

01 Q. And when you did your analysis for Q-3, did you
02 use unimpaired flows or impaired flows?

03 A. Unimpaired flows, unimpaired peak flows that
04 occurred between April and July. Occasionally, there
05 would be a peak flow that occurred in October or
06 September, and that has to do with either Edison -- a
07 sudden release or a sudden thunderstorm or something
08 else. Since that is not what we would be flushing,
09 that was not used in the analysis.

10 Q. I see. Down at the bottom of the page, in the
11 paragraph down at the bottom of the page, first
12 sentence, it says, "Between May and July of even
13 numbered years," and it goes on to talk about channel
14 maintenance flows.

15 Do you mean May and July inclusive? That's May
16 through July?

17 A. No. It means either May, June, or July.
18 Typically, this would occur in June, but it depends on
19 when the natural peak is occurring. So these flows
20 would be released in concert with the natural rise in
21 increase as much to that extent as possible.

22 MR. BIRMINGHAM: I think that Mr. Hasencamp
23 misunderstood the question, because I think that he
24 answered no, and then proceeded to answer the question
25 affirmatively. So I think he may have misunderstood.

0224

01 MR. SATKOWSKI: Yes, he did.

02 HEARING OFFICER DEL PIERO: Excuse me,

03 Mr. Hasencamp. Did you misunderstand the question?
04 MR. HASENCAMP: Well, I don't understand if I
05 misunderstood it.
06 HEARING OFFICER DEL PIERO: Would you like to have
07 your answer read back to you and also the question?
08 MR. HASENCAMP: The question -- if the question
09 can be read back.
10 HEARING OFFICER DEL PIERO: Ms. Mueller, would you
11 be kind enough to do that?
12 (Whereupon the record was read as requested.)
13 MR. HASENCAMP: Thank you. Yes, I do.
14 MR. BIRMINGHAM: Excuse me. You have to wait
15 until she's back on the record.
16 HEARING OFFICER DEL PIERO: Mr. Hasencamp, do you
17 want to give your answer again?
18 MR. HASENCAMP: Yes, that's true.
19 Q. BY MR. SATKOWSKI: Thank you.
20 Down at the very bottom of that same page, which
21 is page 3, it says that, "With the one exception to the
22 release frequency is that if, during the odd year
23 between channel flushes, the flow of Rush Creek peaks
24 at 250 cfs and averages at least 160 cfs for 15 days,
25 and the lower, and the -- " excuse me, "And the flow in
0225 Lower Lee Vining Creek peaks at 250 cfs and averages at
01 least 150 cfs for 15 days, then the required channel
02 maintenance flow for that year will not occur."
03 I'm not sure I understand what the basis is for
04 the 160 cfs and the 150 cfs mentioned in that sentence?
05 A. BY MR. HASENCAMP: Well, that's roughly the
06 average of these flows. We're trying to say that if a
07 flow of this volume -- obviously, it's not going to
08 mimic exactly what is mentioned here in Table 2, but if
09 a flow equals the same peak and has a volume equal to
10 this amount, which is close to what is listed here,
11 it's a little more, in fact.
12 Then, in that case, there will be no need to
13 release these high flows again the next year, because
14 the purpose has been served. And it is not necessary
15 to flush the stream every year.
16 Q. Okay. I think I understand that. Thank you.
17 Going on to page 4, in the third full paragraph
18 you discuss the May 1 forecast. And you said that,
19 "For the purposes of determining year types, the May 1
20 forecast will be used."
21 How would you suggest that the Board handle flow
22 standards that may start in April versus May of a
23 certain year type?
24 A. Well, certainly a forecast is issued in April, and
0226 that could be a preliminary year type. One of the
01 functions of the April runoff is that it is inversely
02 correlated to the total runoff.
03 So in the wetter years, the April flows tend to be
04 lower, and in the drier years, they tend to be higher
05 because the snow melt is melting earlier, so you get
06 runoff earlier.
07 So I would recommend not having any -- just having
08 it the same April for each year type, because there's
09 no correlation that that would support higher flows in
10

11 April of the year.

12 Q. Have the same April flow for all year types?

13 A. Yes. And then you wouldn't have that problem.

14 Q. But if there were different April flows for
15 different years types?

16 A. Yes. Then you could go by the preliminary April
17 flow type.

18 Q. Thank you.

19 Earlier you were discussing the Mono Basin gains,
20 and I believe you stated that the LAAMP model uses a
21 constant average gain of about 4,000 acre-feet; is that
22 correct?

23 A. Yes. Well, close to that. It might be between 4
24 and 5,000.

25 Q. What does LAASM use for the gains in the Mono
0227 01 Basin?

02 A. It uses a regression analysis which includes a
03 runoff and precipitation and is correlated much better
04 to the historical than the average.

05 Q. Do you recommend that LAAMP be modified to include
06 that regression?

07 A. I would recommend that either LAAMP use the
08 regression, or LAAMP use the historical record as
09 historical input. And since the latter would probably
10 be more effective in LAAMP, because it is solely
11 dependent on historical record, so I would recommend
12 using the historical record.

13 Q. Did you make this recommendation that you just
14 talked about during any of the TAG meetings that we had
15 dealing with the LAAMP model?

16 A. Yes, I did.

17 Q. Do you recall what the date of that recommendation
18 was?

19 A. No, I do not.

20 Q. Okay. One last question. On page 12 of your
21 testimony, at the top of the page, you discuss a major
22 difference between LAASM and LAAMP, and you state that
23 one of the major differences is in the modeling of the
24 reservoir storage, and that LAASM allows the user to
25 specify monthly storages for nine different types of
0228

01 runoff years.

02 Would you recommend that LAAMP be modified to
03 perform the modeling of reservoir storages in the same
04 manner as LAASM?

05 A. LAAMP cannot do it in that version. There's
06 fundamental differences between the models, and it --
07 they're just different. So you cannot incorporate the
08 LAASM logic into the LAAMP without major revisions to
09 the code.

10 Q. But would there be a way to modify LAAMP to
11 incorporate these reservoir targets?

12 A. Mr. Deas will answer that.

13 A. BY MR. DEAS: I think Bill just answered it. When
14 you start the model, you sit down and make a concept,
15 and you build up from there. And by switching over and
16 using the nine year types in this reservoirs, like it's
17 used in LAASM, you have to cut into the original
18 concept. Then you're sacrificing potentially other

19 parts of models. It's kind of apples and oranges.
20 There might be some way to bandage it together, but I
21 don't know. It's not the best way to go, it seems like
22 right now.
23 MR. SATKOWSKI: Thank you very much. Those are
24 all the questions I have for now.
25 HEARING OFFICER DEL PIERO: All right. Let's take
0229
01 a ten-minute break.
02 (A recess was taken at this time.)
03 HEARING OFFICER DEL PIERO: Okay. Ladies and
04 gentlemen, this hearing will again come to order.
05 When last we left, Mr. Smith was on and,
06 gentlemen, where did Mr. Canaday go? We lost him.
07 MR. BIRMINGHAM: Does that mean he's waiving his
08 rights to ask questions?
09 HEARING OFFICER DEL PIERO: Go ahead, Mr. Smith.
10 MR. SMITH: Unfortunately, I can't.
11 MR. HASENCAMP: I have two clarifications. I have
12 been informed that I may have misspoken twice in the
13 last half hour. I wanted to see if I could clarify
14 that.
15 HEARING OFFICER DEL PIERO: The hour is growing
16 late and some of us are suffering from fatigue,
17 Mr. Hasencamp.
18 MR. HASENCAMP: The one was to Mr. Satkowski's
19 question.
20 HEARING OFFICER DEL PIERO: Was that the yes
21 answer or the no answer?
22 MR. HASENCAMP: It was the impaired answer. I
23 believe that I said the basis was on unimpaired flow,
24 and I meant impaired flow for developing flushing
25 flows.
0230
01 And the second clarification is that -- to
02 Ms. Koehler's cross-examination, and I believe she was
03 talking about in a wet-year condition, the flow
04 releases from Grant Lake, and I think it would be
05 operated in a flow-through condition. But I
06 misunderstood. I meant that the releases would be
07 managed depending on the desired reservoir storage
08 levels for Grant Lake Reservoir.
09 HEARING OFFICER DEL PIERO: Okay.
10 MR. HASENCAMP: Thank you.
11 HEARING OFFICER DEL PIERO: Those clarifications
12 are now on the record.
13 Mr. Herrera, do you have any questions?
14 MR. HERRERA: No, I do not.
15 MR. BIRMINGHAM: I'll conduct my redirect.
16 HEARING OFFICER DEL PIERO: Okay. Why don't you
17 go ahead and do that?
18 Where did Mr. Canaday go?
19 HEARING OFFICER DEL PIERO: Okay. Fine. Everyone
20 should assume that Mr Canaday does have questions, and
21 we'll just --
22 MR. BIRMINGHAM: Mr. Canaday said he did have
23 questions.
24 HEARING OFFICER DEL PIERO: We'll just continue on
25 and attempt to get as much done as possible while he is
0231

01 absent.
02 REDIRECT EXAMINATION BY MR. BIRMINGHAM
03 Q. Mr. Deas, I have one question.
04 And Ms. Koehler, please don't object, because it's
05 compound.
06 Los Angeles Department of Water and Power Exhibit
07 150, a document entitled "Los Angeles Aqueduct
08 Simulation Model User's Guide, Release 1.2," L.A.
09 Department of Water and Power Exhibit 149, a document
10 entitled "L.A. DWP/Mono Lake Management Plan Drought
11 Analysis," and Los Angeles Department of Water and
12 Power Exhibit 151-A, a document entitled "Modification
13 to LAASM Version 1.1."
14 Are these documents you and Mr. Hasencamp prepared
15 in connection with the submission of your surrebuttal
16 testimony?
17 A. BY MR. DEAS: Yes, with the help from Staff.
18 MR. BIRMINGHAM: That's it.
19 HEARING OFFICER DEL PIERO: Thank you,
20 Mr. Birmingham.
21 Ms. Cahill?
22 MR. BIRMINGHAM: Excuse me.
23 MR. VALENTINE: One more.
24 MR. BIRMINGHAM: I do have. Mr. Valentine was
25 correct.

0232
01 Q. BY MR. BIRMINGHAM: Exhibit 152, Mr. --
02 HEARING OFFICER DEL PIERO: Mr. Deas, I want you
03 to understand. Now that you've had two questions,
04 they're going to start asking a whole bunch.
05 Q. BY MR. BIRMINGHAM: Los Angeles Department of
06 Water and Power Exhibit 152 is a computer disk on which
07 there is a computer file labeled "LAASM 1.2 model."
08 Was that a computer disk submitted in connection with
09 your testimony?
10 A. BY MR. DEAS: Yes.
11 MR. BIRMINGHAM: Mr. Del Piero, we submitted one
12 copy of that disk to the State Board, and we submitted
13 one copy of it to the Mono Lake Committee for
14 Mr. Vorster's use. We have not submitted it to any of
15 the other parties. As we did with the original LAASM,
16 we will make a copy of that disk available to any party
17 that requests it.
18 HEARING OFFICER DEL PIERO: Mr. Vorster did, in
19 fact, have access to it?
20 MR. BIRMINGHAM: Yes. It was served to the Mono
21 Lake Committee/National Audubon Society by Express Mail
22 on --
23 MR. DODGE: I got it yesterday in my office and
24 after a careful analysis of it, extensive analysis of
25 it, I handed it over to Mr. Vorster.

0233
01 (Laughter.)
02 HEARING OFFICER DEL PIERO: Was that with your
03 left hand or right hand?
04 MR. DODGE: Right wrist.
05 HEARING OFFICER DEL PIERO: Right wrist. Okay.
06 Thank you very much, Mr. Birmingham, for that
07 clarification.
08 Ms. Cahill.

17 period of increased flow is similar.

18 Q. My question is: What caused the change?

19 A. Well, again, as I think I said earlier,
20 Dr. Beschta saw the original version and wanted to make
21 some suggestions to it. And he said that, along with
22 the natural hydrographs, that you don't see a flow that
23 increases, remains flat, and decreases.

24 He said if you could make a higher peak sooner,
25 and then it doesn't necessarily have to stay high for
0236

01 as long. He'd rather see a higher initial peak, then
02 it could drop back off. Then he would like to see a
03 secondary peak, if that was practical, and I worked out
04 this to show him a way that that could be done. Then
05 it drops back down.

06 Q. If I recall your initial testimony, sir, when you
07 were first here, you told us that your recommended
08 flushing flows were based, in part, on advice from
09 Dr. Beschta, correct?

10 A. I testified on advice from Dr. Orton. He was my
11 main contact for flushing flows, and Dr. Orton is in
12 contact with Dr. Beschta.

13 Q. But in terms of your initial flushing flow
14 recommendations, the Department of Water and Power,
15 whether it through Dr. Orton or from you, had input
16 from Dr. Beschta; isn't that true?

17 A. Yes, there was some input from both of these.

18 MR. DODGE: That's all I have.

19 HEARING OFFICER DEL PIERO: Thank you very much,
20 Mr. Dodge.

21 MS. KOEHLER: I have no questions.

22 HEARING OFFICER DEL PIERO: Ms. Scoonover?

23 MS. SCOONOVER: I have no questions.

24 HEARING OFFICER DEL PIERO: Mr. Frink?

25 MR. FRINK: No questions.

0237

01 HEARING OFFICER DEL PIERO: Mr. Satkowski?

02 MR. SATKOWSKI: No questions.

03 HEARING OFFICER DEL PIERO: Mr. Smith?

04 MR. SMITH: No, sir.

05 HEARING OFFICER DEL PIERO: Mr. Herrera?

06 MR. HERRERA: No.

07 HEARING OFFICER DEL PIERO: Mr. Canaday, welcome
08 back.

09 MR. CANADAY: I do have some questions.

10 HEARING OFFICER DEL PIERO: I know you do, sir.
11 Please proceed.

12 CROSS-EXAMINATION BY THE STAFF (CONTINUED)

13 Q. BY MR. CANADAY: Mr. Deas, you cautioned us
14 earlier about the use of the LAAMP model and that the
15 LAAMP model like -- the LAASM model like the LAAMP
16 model is a monthly model; is that correct?

17 A. BY MR. DEAS: Yes.

18 Q. And so the same cautions that you brought our
19 attention to on LAAMP, at least to a certain degree,
20 those same kinds of cautions or limitations on the
21 day-to-day operations in an aqueduct system would also
22 be valid for the LAASM model?

23 A. Of course.

24 Q. The rest of my questions -- well, I have one for

25 Mr. Coufal. You talked earlier about the irrigation in
0238

01 the Owens Valley, and the implementation for irrigation
02 was enhanced by using sprinklers for alfalfa; is that
03 correct?

04 A. BY MR. COUFAL: Yes.

05 Q. Has a similar analysis been done in the Upper
06 Owens for the pasture irrigation in Pleasant Valley?

07 A. In Pleasant Valley?

08 Q. Or in Long Valley, I'm sorry, in Long Valley?

09 A. When I was referring to, like, the alfalfa, that's
10 mainly in the northern half of the Owens Valley.

11 That's where you would grow it. You wouldn't have them
12 up in Long Valley just because of different conditions,
13 the elevation, temperature.

14 Q. I wasn't referring to the crop, but the method of
15 application of water. And so --

16 A. The use of sprinklers up there?

17 Q. Yes.

18 A. The only place it's really used is on the crops.
19 It's not used for any type of pasture application.

20 Q. And the reason why that would be so is it would be
21 the economic return for the investment of irrigation;
22 is that correct, of, say, a permanent set or removable
23 set of sprinklers for pasture for grazing, the economic
24 return, the cost benefit is not there?

25 A. That's probably the case.

0239

01 Q. Mr. Hasencamp, I want to -- I have a line of
02 questions more on the implementation of the management
03 plan, or a management plan, whatever this Board will
04 decide, rather than discussing numbers with you.

05 In reviewing your testimony in the area of
06 implementation of your plan, I refer you to the first
07 area would be in the Upper Owens River criteria. I'm
08 not sure what page number that is.

09 A. BY MR. HASENCAMP: I have it.

10 Q. And it's the bottom paragraph of that page. And
11 there's a statement in your testimony that says, "Once
12 the vegetation has become better established along the
13 Upper Owens River, the plan recommends examining
14 feature flows of up to 375 cfs. This plan should be
15 done upon the analysis of recommendation of riparian
16 systems experts."

17 Who did you have in mind, or does the Department
18 have in mind for those experts? Do you have any
19 particular people?

20 A. No. I had no one in mind when I made that
21 reference.

22 Q. Do you see a need to coordinate with the State
23 Board on this particular element?

24 A. Well, I think that --

25 Q. Rather than an independent decision by the

0240

01 Department?

02 A. Yes. Well, I can see that if -- yes.

03 Q. And it wouldn't be unreasonable to allow private
04 landowners on the Upper Owens River to be part of that
05 analysis and recommendation as well?

06 A. No, it would not be unreasonable.

07 Q. I'd like to take you to general operations
08 criteria again, I'm not sure what page it is, again, on
09 the Mono Basin irrigation. Have you found that page?

10 A. Yes, I have.

11 Q. And it's in the second paragraph. Again, it's
12 referring -- you were questioned earlier about the use
13 of irrigation to help limit the rise of Mono Lake if it
14 was desirable to reduce the delay, and it's wise to
15 protect certain resources.

16 Now, who do you believe is responsible for making
17 that decision in your plan? When you developed the
18 plan, what sort of decision step did you anticipate
19 for making that decision?

20 A. On whether to irrigate?

21 Q. Yes.

22 A. Well, the Department of Water and Power.

23 Q. Is that a decision step that you think the Board
24 ought to be involved in as well in making that
25 decision?

0241

01 A. Well, I think that the Department of Water and
02 Power is planning to reduce irrigation to this extent.
03 Now, if the DWP wants to increase its irrigation from
04 its own supply, I think that that should be at the
05 discretion of the DWP.

06 Q. I wasn't referring to general irrigation use.
07 This is more like an emergency case where the
08 Department would make a decision that they were going
09 to apply additional water for the sole purposes of
10 reducing the fluctuation of the lake as you identify in
11 your plan here.

12 A. I think I see. Well, if you tie it into what is
13 the goal of your lake plan then, to that extent, yes.

14 Q. So the Board should be part of the implementation
15 of that?

16 A. Well, the Board is obviously going to determine
17 the lake level. And so, to the extent that this
18 affects the lake level, then the Board should be
19 involved.

20 Q. On the same page under Grant Lake Reservoir
21 operations. It would be the second paragraph from the
22 bottom. Your testimony discusses that if on emergency
23 -- if emergency conditions warranted, the reservoir,
24 Grant Reservoir, could be lowered on a temporary
25 basis. And you testified that you -- this flexibility

0242

01 is needed.

02 Again, who did you have in mind that would make
03 that determination, and then how would the Board be
04 informed?

05 MR. BIRMINGHAM: Objection. Compound.

06 HEARING OFFICER DEL PIERO: Make it two questions.

07 Q. BY MR. CANADAY: In the reduction of -- under
08 emergency conditions, of temporarily lowering the
09 reservoir below the 11,000 foot normal minimum, who
10 would make that decision?

11 A. BY MR. HASENCAMP: The DWP.

12 Q. Is it your opinion that that's a decision that
13 should be involved in the State Water Resources Control
14 Board?

15 MR. BIRMINGHAM: I'm going to object to the
16 question on the grounds it calls for a legal
17 conclusion. Actually, a number of Mr. Canaday's
18 questions thus far about the extent to which the Board
19 should be involved in the implementation plan have
20 called for a legal conclusion.

21 HEARING OFFICER DEL PIERO: Ms. Mueller, would you
22 read the question back, please?

23 (Whereupon the record was read was requested.)

24 MR. DODGE: I think the question just asks him to
25 explain what their management proposal is, not only in
0243

01 terms of what should be done, but who should be
02 involved in the decision. I think it's a fair
03 question.

04 MR. BIRMINGHAM: If Mr. Canaday's is asking --

05 HEARING OFFICER DEL PIERO: Excuse me. I'm going
06 to overrule the objection with this caveat. The record
07 is already clear that Mr. Hasencamp is not here in his
08 capacity as anyone who has expertise in terms of water
09 law, so the only capacity in which you can answer is in
10 the capacity to which you have been qualified as an
11 expert.

12 Mr. Hasencamp, do you understand the question?

13 MR. HASENCAMP: Yes, I do.

14 HEARING OFFICER DEL PIERO: Did you have an
15 opinion or answer to the question?

16 MR. HASENCAMP: Yes, I do.

17 HEARING OFFICER DEL PIERO: Go ahead.

18 MR. HASENCAMP: I think the Board should not be
19 involved in that decision.

20 Q. BY MR. CANADAY: I'd like you to turn to the next
21 page that's referring to Crowley Lake management, and
22 so I understand how the plan -- or what the inference
23 of the plan -- it's in the second paragraph. And your
24 testimony says that, "If there are shortages of water
25 in Los Angeles, however, the reservoir will be drawn
0244

01 down to accommodate the demand for water. This would
02 occur in most serious droughts."

03 So I understand the operations plan, my question
04 to you is, the reservoir, Crowley Lake, will be drawn
05 down prior to any reduction in irrigation either from
06 the Owens Valley or the Long Valley?

07 A. MR. HASENCAMP: Could you please repeat the
08 question?

09 Q. The question is: If a decision is made by the
10 Department, or the plan identifies a decision that
11 there are shortages in water in Los Angeles, Crowley
12 Lake will be drawn down to accommodate that demand for
13 water.

14 My question to you is: Does this mean that
15 Crowley Reservoir will be drawn down prior to any
16 reductions in irrigation use of water in the Owens or
17 Long Valley?

18 A. I don't think there's any exclusive -- it doesn't
19 say one way or the other, and Mr. Coufal would be more
20 qualified to talk about the irrigation requirements
21 from the Owens Valley, so maybe he can answer that
22 portion of question.

23 HEARING OFFICER DEL PIERO: Mr. Coufal.
24 MR. COUFAL: If I could just add, I don't think
25 it's just a this-or-that type of decision. If we're in
0245
01 a situation where water is short, you've got runoff
02 that's very low, it's going to be a combination. Along
03 with cutbacks in irrigation, reduction of storage in
04 Crowley, you're going to see mandatory rationing in
05 L.A. It's going to be a number of things.
06 HEARING OFFICER DEL PIERO: Excuse me,
07 Mr. Canaday. I want to follow-up on that. By what
08 criteria is the decision ultimately made?
09 MR. COUFAL: There's no hard and fast rule. It's
10 Department management making a decision. The
11 recommendation is going to come from staff. Department
12 management is going to make a decision, "This is what
13 we want to do."
14 HEARING OFFICER DEL PIERO: What criteria does
15 staff use to make the recommendation as to
16 prioritization and commitment of water?
17 MR. COUFAL: Again, there's no hard and fast -- I
18 mean, it's just looking at the picture, the integration
19 of what's the runoff conditions in the Owens Valley?
20 What the situation is with the San Fernando groundwater
21 basin? What MWD, the availability there? It's all
22 part of picture that's looked at, and a decision is
23 made.
24 HEARING OFFICER DEL PIERO: But that's --
25 MR. COUFAL: Groundwater pumping.
0246
01 HEARING OFFICER DEL PIERO: The question is
02 related to irrigation in the Owens or Long Valley for
03 the drawdown of the Crowley Lake, not the rest of the
04 extraneous issues you just referred to.
05 Are there definitive criteria by which
06 prioritization is achieved, or is it made some other
07 way?
08 MR. COUFAL: There is no magical -- runoff is X
09 percent, so we're going reduce Crowley down the X
10 acre-feet. There is no criteria. It's past practice
11 and judgment.
12 HEARING OFFICER DEL PIERO: Okay. Thank you.
13 Mr. Canaday, why don't you proceed?
14 Q. BY MR. CANADAY: The purpose of my questions,
15 Mr. Hasencamp, is that -- and I'll refer to your
16 summary and conclusion paragraphs as it relates to the
17 L.A. management plan, and I'll quote you, is that,
18 "With experienced operators at the gates of the
19 facilities and proper planning from hydrologists, a
20 plan can be followed to the extent that it reasonably
21 can.
22 The L.A. DWP plan follows or allows -- " excuse
23 me. Let me repeat this.
24 "The L.A. DWP plan allows for the experience of
25 L.A. DWP staff to determine an annual operation plan
0247
01 that was acceptable to the Water Board."
02 And by that last sentence, it tells me that you're
03 suggesting, on an annual basis, there needs to be some
04 oversight on the development of the plan, particularly

05 some of these very specific operational criteria.

06 Do you disagree with that?

07 A. BY MR. HASENCAMP: It depends on what specific
08 operational criteria you're referring to. The plan,
09 just a general operation is formulated in the beginning
10 of the runoff year, and if there's sufficient
11 flexibility, the plan is followed pretty much.

12 Now, then, if there's, obviously, a change in
13 hydrology conditions, in the fall -- it's updated
14 occasionally, but I think if a plan is formulated in
15 the beginning of the year, that is sufficient.

16 You said -- did you say about annual -- I'm
17 through.

18 MR. CANADAY: That's all I have.

19 MR. BIRMINGHAM: Mr. Del Piero, Mr. Canaday's
20 cross-examination has just raised a couple issues I'd
21 like to address. Three questions maximum.

22 HEARING OFFICER DEL PIERO: Okay.

23 REDIRECT EXAMINATION BY MR. BIRMINGHAM

24 Q. Mr. Coufal, does the Department of Water and Power
25 in its leases with individuals that operate in the

0248

01 valley, Long Valley, do those leases provide for a
02 reduction in irrigation during short water years?

03 A. BY MR. COUFAL: With the Inyo-L.A. agreement,
04 there is criteria that's in there now that says
05 basically, we, in the Owens Valley, have commitment to
06 maintain the 1981-82 uses. There is a provision to cut
07 back on those uses if it's agreed to by the standing
08 committee members, representatives from Inyo County and
09 Los Angeles.

10 Q. Now, Mr. Hasencamp, there have been a couple of
11 questions about the conclusion of your testimony where
12 there was the discussion of the submittal to the State
13 Board of an annual plan.

14 Is it correct that what you meant by that
15 testimony is that at the beginning of each runoff year,
16 or in May, a plan would be submitted to the State Board
17 concerning the Department of Water and Power's
18 operation for that year?

19 A. BY MR. HASENCAMP: Yes. On a runoff year.

20 Q. And then for the conclusion of runoff year, the
21 Department of Water and Power would submit data to the
22 state so that the State Board could determine
23 compliance with that, then?

24 A. Yes, that's correct.

25 MR. BIRMINGHAM: I have no further questions.

0249

01 HEARING OFFICER DEL PIERO: Thank you very much,
02 Mr. Birmingham.

03 Anyone else, based on Mr. Canaday's last
04 questions, have any others? Don't all jump up at once.
05 Ladies and gentlemen, we have -- when's our next
06 hearing day?

07 MR. CANADAY: It's next Thursday, Mr. Del Piero.

08 HEARING OFFICER DEL PIERO: 28th.

09 MR. CANADAY: No, it would be the 3rd.

10 HEARING OFFICER DEL PIERO: Half-day session,
11 that's next Wednesday? Dr. Stine on behalf of The
12 National Audubon Society and the Committee, Mono Lake

13 Committee, and Mr. Roos on behalf of Los Angeles
14 Department of Water and Power.

15 And then we will have a hearing on the day of the
16 4th, full day, and it's scheduled for a late evening.
17 We're going to try vigorously to try and get that done,
18 so a certain friend of mine can attend a -- it's
19 sticking in my throat, a Bulls game.

20 Nonetheless, we will try to do our very best to
21 move it along expeditiously. In the meantime, folks,
22 we will see you next week.

23 MR. CANADAY: Mr. Del Piero, several points of
24 business.

25 We will have to store your exhibits so -- and on

0250

01 another topic, for those of you that are going to
02 attend the services tomorrow for Ms. Anglin, if you
03 need a map, I have maps here, and you can see me about
04 that, and I will provide those to you.

05 HEARING OFFICER del PIERO: Ladies and gentlemen,
06 this hearing is in adjournment. We will see you next
07 week.

08 (Whereupon the proceedings were
09 adjourned at 5:20 p.m.)

10 ----o0o----

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

0251

01 REPORTER'S CERTIFICATE

01

02

02

03

03

04

04

05

06

07

08

09

10

11

12

13

14

15

16

02 ----o0o----

03 STATE OF CALIFORNIA)
03) ss.
04 COUNTY OF SACRAMENTO)

05 I, KIMBERLEY R. MUELLER, certify that I was the
06 official court reporter for the proceedings named
07 herein; and that as such reporter, I reported, in
08 verbatim shorthand writing, those proceedings, that I
09 thereafter caused my shorthand writing to be reduced to
10 typewriting, and the pages numbered 1 through 250
11 herein constitute a complete, true and correct record
12 of the proceedings:

14 PRESIDING OFFICER: Marc Del Piero
15 JURISDICTION: State Water Resources Control Board
16 CAUSE: Mono Lake Diversions

17 DATE OF PROCEEDINGS: January 28, 1994

18

19 IN WITNESS WHEREOF, I have subscribed this
20 certificate at Sacramento, California, on this 14th day
21 of February, 1994.

22

23

24

24

25

25

Kimberley R. Mueller, RPR
CSR No. 10060