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5 Federal Energy Regulatory Commission (via
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7 Aaron Liberty
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10 Federal Energy Regulatory Commission (via
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12 Alan Mitchnick
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15 American Whitewater
16 Robert Hughes
17 California Department of Fish and Game
18 Beth Lawson
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6 Chris Shutes
7 California Sportfishing Protection Alliance
8 Russ Kanz
9 California State Water Resources Control Board
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11 Allen Harthorn
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13 Michael Smith
14 Friends of Butte Creek (via telephone)
15 Cindy Charles
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6 Tom Jereb
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8 Russ Liebig
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10 on behalf of Pacific Gas and Electric Company
11 Curtis Steitz
12 Pacific Gas and Electric Company
13 Curtis Wilcox
14 Stillwater Sciences
15 on behalf of Pacific Gas and Electric Company
16 Mark Gard
17 United States Fish and Wildlife Service
18 Deborah Giglio
19 United States Fish and Wildlife Service
20 Kerry O'Hara, Solicitor
21 United States Department of Interior
22 on behalf of United States Fish and Wildlife
23 Service
24 Kathy Wood
25 United States Fish and Wildlife Service

1 APPEARANCES (CONTINUED):

2 Dennis Smith

3 United States Forest Service

4 Julie Tupper

5 United States Forest Service

6 Kathy Turner

7 United States Forest Service (via telephone)

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	I N D E X	
		Page
1		
2		
3	Proceedings	8
4	Introduction	8
5	Introduction of Participants	8
6	Meeting Procedures and Objectives	12
7	Chronology of 10(j) Process	12
8	General Explanation of Commission	
9	Staff's Preliminary Determinations of	
10	Inconsistency	13
11	Discussion of 10(j) Issues	
12	Aquatic Resources	
13	Annual Fish Stocking Plan	17
14	Discussion of Viable and Generally	
15	Healthy Fish Populations	20
16	Fish Screens and Ladders	30
17	Afternoon Session	137
18	Aquatic Resources (continued)	
19	DeSabra Forebay Water Temperature	
20	Improvement Plan	137
21	Minimum Instream Flows	153
22	Resident Fish Monitoring	257
23	Benthic Macroinvertebrate Monitoring	271
24	Stream Flow Gages & Remote Monitoring	
25	Equipment	273

1	I N D E X	
2		Page
3	Revised Drought Plan	277
4	Terrestrial Resources	
5	Foothill Yellow-legged Frog Monitoring	289
6	Other Issues	278, 292
7	Summary of Meeting	
8	Issue Resolution	292
9	Follow-up Actions	294
10	Adjournment	300
11	Certificate of Reporter	301
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		

1 PROCEEDINGS

2 9:15 a.m.

3 MR. HOGAN: Good morning everybody. I'm
4 Ken Hogan with FERC. I am the project coordinator
5 for the DeSabla Project.6 I would like to start the meetings with
7 introductions. If we could start at this part of
8 the table and work our way around, name,
9 affiliation and spell the name.10 MR. WILCOX: Scott Wilcox, Stillwater
11 Sciences, W-I-L-C-O-X.12 MR. LIEBIG: Russ Liebig, Stillwater
13 Sciences, L-I-E-B-I-G.

14 MR. BUNDY: Jim Bundy, PG&E, B-U-N-D-Y.

15 MR. JEREB: My name is Tom Jereb, I'm
16 with PG&E. And it's spelled J-E-R-E-B.17 MR. FOSTER: Bill Foster with NOAA
18 Fisheries. And it's F-O-S-T-E-R.19 MR. WANTUCK: Rick Wantuck, NOAA
20 Fisheries, W-A-N-T-U-C-K.21 MR. THOMPSON: Larry Thompson, NOAA
22 Fisheries, T-H-O-M-P-S-O-N.23 MR. HILLYER: Steve Hillyer, NOAA
24 Fisheries, H-I-L-L-Y-E-R.

25 MS. LAWSON: Beth Lawson, Fish and Game,

1 L-A-W-S-O-N.

2 MR. HUGHES: I'm Robert Hughes with
3 Department of Fish and Game. That's H-U-G-H-E-S.

4 MS. LYNCH: MaryLisa Lynch with the
5 Department of Fish and Game, L-Y-N-C-H.

6 MS. McREYNOLDS: Tracy McReynolds,
7 Department of Fish and Game, M-C-R-E-Y-N-O-L-D-S.

8 MS. MOREY: Sandra Morey with Fish and
9 Game, M-O-R-E-Y.

10 MR. ANDERSON: Craig Anderson, NOAA
11 Fisheries, A-N-D-E-R-S-O-N.

12 MS. O'HARA: Kerry O'Hara, that's O
13 apostrophe H-A-R-A. I'm with the Department of
14 the Interior's Solicitor's Office.

15 MS. GIGLIO: Debbie Giglio, Fish and
16 Wildlife Service, G-I-G-L-I-O.

17 MR. GARD: Mark Gard, Fish and Wildlife
18 Service, G-A-R-D.

19 MS. WOOD: Kathy Wood, Fish and Wildlife
20 Service, W-O-O-D.

21 MR. MITCHNICK: Alan Mitchnick, Federal
22 Energy Regulatory Commission, M-I-T-C-H-N-I-C-K.

23 MR. LIBERTY: Aaron Liberty, L-I-B-E-R-
24 T-Y, with FERC.

25 MR. HOGAN: Ken Hogan with FERC. It's

1 H-O-G-A-N.

2 MS. MANJI: Annie Manji, M-A-N-J-I,
3 Department of Fish and Game.

4 MR. D. SMITH: Dennis Smith, Forest
5 Service. The last name is spelled Smith.

6 (Laughter)

7 MR. KANZ: Russ Kanz with the California
8 State Water Resources Control Board and it is
9 spelled K-A-N-Z.

10 MR. SHUTES: Chris Shutes, California
11 Sportfishing Protection Alliance, S-H-U-T-E-S.

12 MR. STEINDORF: Dave Steindorf, American
13 Whitewater, S-T-E-I-N-D-O-R-F.

14 MR. HARTHORN: Allen Harthorn, Friends
15 of Butte Creek. It's spelled A-L-L-E-N, H-A-R-T-
16 H-O-R-N.

17 MR. STEITZ: Curtis Steitz, PG&E, S-T-E-
18 I-T-Z.

19 MR. HOGAN: And on the phone?

20 MR. LAWSON: Quentin Lawson, FERC,
21 Office of General Counsel. That's Lawson, L-A-W-
22 S-O-N.

23 MS. TURNER: Kathy Turner with the
24 Forest Service. Turner is T-U-R-N-E-R.

25 MR. M. SMITH: Michael Smith with

1 Friends of Butte Creek, S-M-I-T-H.

2 MR. HOGAN: Is that everybody on the
3 phone? Okay.

4 MS. TURNER: I believe Julie Tupper will
5 also be joining you.

6 MR. HOGAN: I'm sorry, what was that,
7 Kathy?

8 MR. THOMPSON: I know I said she would
9 be there in person but I got an e-mail, Ken, that
10 said she might be joining via phone. Is there
11 enough lines?

12 MR. HOGAN: Yes, there is.

13 MR. THOMPSON: Okay.

14 MR. HOGAN: Kathy, who was going to be
15 joining us?

16 MS. TURNER: Julie Tupper. Possibly
17 Dennis there at the room may know better where she
18 is at.

19 MR. D. SMITH: She's here, I saved her a
20 seat.

21 MS. TURNER: Okay.

22 MR. HOGAN: And for those of you on the
23 phone or sitting in the back rows, if you could
24 say your name each time you speak for the court
25 reporter. We are recording this meeting for the

1 record so it will help keep everything on track.

2 Okay, meeting procedures, second item on
3 the agenda. I would like to go over some ground
4 rules. My ground rules are simple, no punching.

5 (Laughter)

6 MR. SHUTES: You take all the fun out of
7 it.

8 MR. HOGAN: I would like for everybody
9 to respect everybody's opinion and just treat each
10 other with common courtesy and respect when they
11 are speaking.

12 The meeting here is between the agencies
13 and FERC. We will entertain opportunities for
14 others to ask questions or comments but it is by
15 invitation, provide comments by invitation, and I
16 would appreciate it if that's respected. And the
17 objective here is to try to resolve our
18 differences on the 10(j) issues. Does anybody
19 have anything they would like to add to that?

20 MR. HUGHES: At some point when it's
21 convenient I would like to make an introductory
22 statement on behalf of the resource agencies.

23 MR. HOGAN: Okay. So the chronology of
24 the 10(j) process is we have issued our draft
25 environmental assessment, issued our letters of

1 10(j) inconsistency. We received meeting requests
2 and that's why we are here today.

3 We are going to try to resolve our 10(j)
4 issues. The 10(j) process either runs until it's
5 all resolved or until the Commission makes a
6 determination in a licensing decision, in their
7 licensing decision. So if we walk away from this
8 meeting today with items unresolved don't think
9 the door is closed, we can still work, okay.

10 A general explanation of the Commission
11 staff's preliminary determination of
12 inconsistencies. The way that we evaluate the
13 10(j) measures and the resources, we got a lot of
14 comments that said, you just threw our 10(j)
15 recommendation out based on cost. And I want to
16 say that that's not how we do it. What we do is
17 we look at the resource, we look at the resource
18 needs, and we evaluate what that resource needs
19 based on costs.

20 So there is a cost component and a
21 generation component that is considered but it is
22 based on what our analysis shows the resource
23 needs are and met. So I would like to just throw
24 that out there right now and keep that in mind
25 when we talk about the other issues, that we are

1 doing a balancing here. And that's pursuant to
2 the Act, the Federal Power Act.

3 So if you would like to go ahead and do
4 your introduction from the resource agencies.

5 MR. HUGHES: Sure. This is Robert
6 Hughes. The Federal Power Act allows state and
7 federal fish and wildlife agencies to provide the
8 FERC with recommendations for the protection,
9 mitigation of damages to and enhancement of fish
10 and wildlife resources affected by a hydropower
11 project, including related spawning grounds and
12 habitat.

13 Under Section 10(j) of the FPA the FERC
14 must consider the agency recommendations, giving
15 due weight to their technical expertise in respect
16 to statutory responsibilities. The FPA states
17 that the FERC should adopt the agency
18 recommendations unless it determines that the
19 recommendations are inconsistent with the Federal
20 Power Act or other applicable law.

21 When FERC staff reject a recommendation
22 submitted pursuant to Section 10(j) the Commission
23 is required to find that the recommendations of
24 the fish and wildlife agencies are inconsistent
25 with the purposes and requirements of the FPA; and

1 two, the conditions adopted by the Commission are
2 appropriately protective of the fish and wildlife
3 resources affected by the project, included
4 related spawning grounds and habitat.

5 The California Department of Fish and
6 Game, the NOAA National Marine Fisheries Service
7 and the US Fish and Wildlife Service submitted
8 many important recommendations that protect,
9 mitigate damage to and enhance the fish and
10 wildlife resources affected by PG&E's DeSabra-
11 Centerville Project, FERC Number 803.

12 However, FERC staff rejected several of
13 these recommendations, finding that they may be
14 inconsistent with the comprehensive planning
15 standard of Section 10(a) and the equal
16 consideration provision of Section 4(e) of the
17 Federal Power Act.

18 Our goal today is to gain a better
19 understanding of the basis for each of these
20 findings and why FERC staff rejected the fish and
21 wildlife agency recommendations as being
22 inconsistent with the Federal Power Act so that we
23 can attempt to resolve the inconsistencies in a
24 manner that gives due consideration to our
25 technical expertise and respect to statutory

1 responsibilities.

2 MR. HOGAN: Does anybody else have
3 anything they would like to add?

4 Now I sent out this agenda at two
5 o'clock eastern time on Friday afternoon. I
6 revised it based on Fish and Wildlife Service's
7 comments, Debbie's comments. And I was just
8 wondering if the revised agenda is okay with
9 everybody else here or do we want to be shuffling
10 it before we start?

11 All right, hearing nothing let's go
12 ahead and start.

13 Before I do, restrooms are out across
14 the hall, past the back doors. You need a code to
15 go through. It's 3-2-4 on the door there. I
16 think we can all, if we need to caucus just say we
17 need to caucus and we'll happily take a break.
18 And I figured we could just take breaks and
19 lunches as we feel as a group it fits in
20 appropriately or they are needed. Does that work
21 for everybody?

22 (Affirmative responses)

23 MR. HOGAN: Okay. So annual fish
24 stocking plan. This is a 10(j) issue with Cal
25 Fish and Game. And I would just like to provide

1 some clarification that you had requested.

2 It is our intent that it be 7200 pounds
3 of fish. However, it is also our intent that the
4 five-year surveys that we had intended or planned
5 to recommend to the Commission be used to evaluate
6 the stocking level. And the goal there being that
7 angler satisfaction based on the krill services
8 that are conducted is maintained.

9 So if the fishing effort goes down the
10 stocking level should be able to go down. If the
11 fishing level goes up the stocking level goes up.
12 And that is based off the recreational surveys
13 that we are recommending.

14 MS. LYNCH: Okay. And can I ask who
15 then will make that decision? The way the license
16 article was written, the draft license article was
17 written, it was not very clear.

18 MR. HOGAN: And we will be clarifying
19 that. It will be a recommendation in the report.
20 And the report would have to be consulted with the
21 agencies, Fish and Game in particular. And the
22 Commission will ultimately make the decision of
23 the approval.

24 MS. LYNCH: Of whether or not to go up
25 or down.

1 MR. HOGAN: Right.

2 MS. LYNCH: And the krill surveys
3 themselves, where will those be conducted? Is
4 that only if --

5 MR. HOGAN: Our recommendation is for
6 the development of, I believe it's a Recreation
7 Monitoring Plan. So I think that can get worked
8 out in the plan.

9 MS. LYNCH: Okay. I do have to ask the
10 question though right up front. We had originally
11 in our 10(j) letter, Department of Fish and Game
12 had recommended that based on increasing
13 population that we bump up the amount of fish that
14 was stocked by what we thought was a reasonable
15 number from the 7200 pounds to the 8,000 pounds.
16 And FERC made a determination that that was
17 inconsistent with the Federal Power Act. And I am
18 wondering how FERC makes that decision based on a
19 cost of about \$2,400 annually versus the added
20 benefit to the public?

21 MR. HOGAN: We based it on the projected
22 recreational demand growth over the term of the
23 new license, not necessarily just the cost. And
24 we felt that because we were going to be doing
25 continuing recreational surveys on a five year

1 basis that that information could be used to then
2 apply -- allow the number of fish stocked to
3 respond to the fishing pressure. With the goal of
4 maintaining angler satisfaction.

5 MS. LYNCH: Okay. and the details of
6 where that angler satisfaction surveys take place
7 can be, it can be hammered out in the --

8 MR. HOGAN: In the plan.

9 MS. LYNCH: In the plan itself.

10 MR. HOGAN: Yes.

11 MS. LYNCH: Sandy, is that acceptable?

12 MS. MOREY: And we are a part of that
13 planning process?

14 MR. HOGAN: Yes.

15 MS. MOREY: Okay, that's acceptable.

16 MR. HOGAN: Okay. Note for the record
17 that stocking fish plan is resolved with Cal Fish
18 and Game.

19 MS. LYNCH: At 7200 pounds of fish?

20 MR. HOGAN: Seventy-two hundred pounds
21 of fish to start and it can go up or down based
22 on --

23 MS. LYNCH: Krill surveys.

24 MR. HOGAN: -- krill surveys and angler
25 satisfaction.

1 MS. LYNCH: Thank you.

2 MR. HOGAN: All right. And this was a
3 big issue for I think most everybody in the room
4 and it really drove our analysis. I think that's
5 why it was so critical for all and we wanted to
6 have a little discussion on our determination of
7 the fish populations in the project-affected
8 stream reach as being generally healthy and --
9 viable and generally healthy.

10 I will note that both Fish and Wildlife
11 Service and the Forest Service in their comments
12 on the REA described the fish population as being
13 viable.

14 We looked at historic composition to
15 present day composition, species composition, and
16 we were able to come to some conclusion that the
17 population was viable. What was there 30 years
18 ago was there today.

19 We looked at the health by looking at
20 the condition factors of the fish that had been
21 rescued from the canals. Ideally that's not, I
22 think we all agree that those aren't the ideal
23 fish to look at but that's the information we had
24 at the time. And we took a little flack in your
25 comments about that. Just saying that, you know,

1 it's not appropriate to use condition factor from
2 these fish.

3 Cal Fish and Game accurately
4 acknowledged that we erred in our statement that
5 the fish could move freely from the canals to the
6 stream reaches. But I will say that I think we
7 all agree that the canals are not ideal habitat
8 and therefore condition factors of those fish in
9 those canals should be less than those in the
10 stream reaches. So I don't think my analysis is
11 wrong in saying that --

12 MS. LYNCH: That may very well be true
13 for the condition of an individual fish but I
14 think that still would be an incorrect analysis to
15 use for condition of the population of fish.

16 MR. HOGAN: I used mean conditions of
17 the fish sampled.

18 MS. LYNCH: Right. But to say that the
19 fish in the canal are fat and healthy and saying,
20 and therefore that can be extrapolated back into
21 -- because this isn't ideal habitat and they're
22 fat and healthy so therefore the fish in the
23 stream must be even more fat and healthy. That's
24 talking about one aspect of viability of a
25 population of fish. That's health of individual

1 fish. And oh by the way, they are entrained in
2 the canal. How does that project into FERC's
3 analysis of the condition of the population of
4 fish in the stream?

5 MR. HOGAN: And as Cal Fish and Game
6 correctly pointed out, we looked at three things.
7 One was the composition, the historical
8 composition to current composition, condition
9 factor and the age class structure.

10 But, you know, in your comments you
11 criticize us for not acknowledging the downward
12 trend in the population, you know. And I'll use
13 West Branch Feather River from 1977 data where it
14 was a much, I don't have the chart in front of me,
15 but a significant number of increase in population
16 compared to the '06 data, and a downward trend.

17 And I didn't say this in the NEPA
18 document and I probably should have. We
19 discounted that '77 data because West Branch
20 Feather River was being stocked and discontinued
21 stocking in 1977 to '78. And it hasn't been
22 stocked for the previous 20 to 25 years.

23 MS. LYNCH: And it also did at one time
24 have a fish screen also on it also. And when was
25 the fish screen removed?

1 MR. HOGAN: I don't know, I'm not sure.

2 MR. LIBERTY: When was it removed?

3 MS. LYNCH: Actually I asked that
4 question of PG&E because in our original 10(j)
5 letter, in the draft license application PG&E had
6 indicated that there had once been a screen there
7 and that the screen had been removed with the
8 permission of Fish and Game. So in our 10(j),
9 original 10(j) letter, we had asked the question
10 of -- I went back and looked through boxes and
11 boxes and boxes of letters and meeting notes and
12 correspondence going back to 1950-something and I
13 found nothing in there to indicate that Fish and
14 Game agreed to have the screen removed. And I
15 still have not gotten a reply from PG&E about when
16 that was agreed to.

17 MR. HOGAN: Does PG&E have a response.

18 MR. JEREB: I don't have a date when
19 that was removed.

20 MR. HOGAN: Do you have a decade?

21 MR. JEREB: Tom Jereb, PG&E. Best
22 guess.

23 MS. LYNCH: We have an approximate date
24 because there was a lot of meetings and
25 discussions about replacing it. There was a large

1 flood event. I believe it was in 1977. I'm
2 sorry, Allen, what year?

3 MR. HARTHORN: In '83.

4 MS. LYNCH: 1983 was when the discussion
5 about replacing it was?

6 MR. JEREB: I don't know that.

7 MR. STEITZ: Curtis Steitz. I think it
8 was in '70s. I think it was around 1977 or '78.

9 MS. LYNCH: Yes. I'd have to go back
10 and look at all the meeting notes again but I
11 believe that was in -- That was when the fish
12 screen was removed.

13 MR. HOGAN: Okay.

14 MS. LYNCH: And then you have the
15 precipitous fish population.

16 MR. HOGAN: Well we also had the
17 discontinuation of stocking, which is providing
18 you with an artificial number in 1977 for those
19 populations estimates. So looking at the '85-86
20 data and the '05-06, those numbers could simply
21 represent variations in year class -- annual
22 populations, not natural variation. We didn't
23 feel that we could say that this population of
24 fish, the fish in the project-affected stream
25 reaches, were being imperiled by the project.

1 MS. LYNCH: And you made that decision
2 based on rejecting just 1977's data?

3 MR. HOGAN: My analysis -- It's not just
4 '77, I mean, it's the whole picture. The
5 condition factors are good, the fish have been
6 around. The project has been in operation since
7 1940, the fish are still there. They are healthy,
8 based on the fish that were captured in the canals
9 which is not the prime habitat so the fish in the
10 stream should be healthier.

11 That's how we got to our analysis. If
12 there is something we need to be looking at
13 differently tell us. I mean, I've looked at the
14 comments on the 10(j). But I haven't seen
15 anything that persuades me that says that my
16 analysis is inaccurate.

17 MR. LAWSON: Ken?

18 MR. HOGAN: Yes Quentin.

19 MR. LAWSON: Quentin Lawson of FERC. We
20 are having trouble hearing the agency people. Is
21 it possible to turn up the microphone gain for
22 them somewhat?

23 MR. HOGAN: That's not -- We only have
24 one mic.

25 MR. LAWSON: Okay.

1 MR. HOGAN: We are going to have to just
2 make sure we speak up for the folks on the phone.

3 MR. LAWSON: Okay.

4 MR. THOMPSON: On a technical -- This is
5 Larry Thompson with NMFS. On a technical issue.
6 The use of condition factors to determine the
7 health of fish is -- if they are just length/
8 weight condition factors, there are additional
9 ways of adjusting condition factors to look at the
10 size of the fish as well. Adjusting, I think they
11 are called relative condition factors.

12 I mean, sometimes you get spurious
13 results when you measure fish and weigh fish and
14 there are -- you are assessing four-year-old fish
15 that are, you know, maybe four inches long are
16 healthy based on their length and weights, when in
17 fact there are adjustments to condition factors
18 you could probably do with existing data that you
19 have. So I am suggesting that might be a way to
20 improve that aspect of the analysis.

21 MR. HOGAN: The other thing in response
22 to the 10(j) data. PG&E did file condition
23 factors of the fish sampled from the streams. So
24 we will be taking that into consideration in our
25 final NEPA document as well.

1 MS. LYNCH: And you just asked if there
2 was something else we would like you to take a
3 look at. I would like you to take a look at the
4 historic fish stocking that you referred to as far
5 as amounts and timing of when those '77 surveys
6 were done.

7 And we would like you also to look at
8 the historic fish screen that was there. When it
9 was removed and how that might have had an impact
10 on trout abundance and biomass.

11 MR. HOGAN: I'm not sure the stocking
12 records that I have indicate the date. It has the
13 year and the numbers. I'm not sure it has --

14 MS. LYNCH: And I'm sorry, I don't have
15 that historic data in my head or in my computer.

16 MR. HOGAN: Okay.

17 MS. LYNCH: And since you have looked at
18 it and I haven't, is there some indication there
19 that it would be, you know, on the magnitude of
20 700 fish per hundred meters?

21 MR. HOGAN: I think in '77 it was 5,000
22 fish.

23 MS. LYNCH: In a 14 mile stream?

24 MR. HOGAN: Keep in mind, those fish
25 were being stocked for 25 years and likely

1 naturally reproducing as well. And, you know,
2 holdovers.

3 MS. LYNCH: Actually I would say that
4 most people would say that hatchery fish have a
5 very low reproduction success. And I can probably
6 submit something to you that would back that up.

7 MR. D. SMITH: This is Dennis Smith. We
8 actually agree with Fish and Game. I know in our
9 rationale we said something different but at that
10 time we didn't have the information available to
11 us. And even with stocking, given the low carry-
12 over rate from year to year and the fact that it
13 has gone from the '77 numbers to the current
14 numbers, it appears that something is driving down
15 the fish population. The stocking may have had
16 some effect on populations. But given the numbers
17 today and the numbers we saw in the entrainment --
18 what's an entrainment sampling is basic canal
19 sampling. It appears that the canal does have
20 significant effects.

21 MR. HOGAN: So Dennis, you are now
22 saying that you don't feel the population is
23 viable?

24 MR. D. SMITH: Right. And we have been
25 negotiating with PG&E over a screen to rectify

1 that issue. And that's ongoing.

2 MR. HOGAN: That brings up an
3 interesting issue. I have heard that the agencies
4 are talking with PG&E on a quasi-settlement. Are
5 there things in our agenda that are on the topic
6 of that settlement that people want to talk about?
7 I mean, is there something we should know so we
8 are not surprised?

9 MS. LYNCH: I don't think there is
10 anything at this point because we haven't reached
11 agreement on anything.

12 MR. HOGAN: Okay.

13 MS. LYNCH: Dennis, we should talk.

14 MR. D. SMITH: This is Dennis Smith
15 again from the Forest Service. We have talked
16 issues. But in the last, what, two months we
17 haven't met so we are not sure where that process
18 is right now.

19 MR. HOGAN: Okay.

20 MS. LAWSON: And Ken, one note on that
21 fish data. There is 1978 data that was collected
22 downstream of Hendricks too and that was in
23 PG&E's, I think that's in their updated studies
24 report that shows that downstream of Hendricks.
25 And that data is elevated too. It shows about 471

1 fish, trout per 100 meters. So that data does
2 indicate that there is a declining trend since '78
3 additionally.

4 MS. GIGLIO: Debbie Giglio, Fish and
5 Wildlife Service. The Fish and Wildlife Service
6 also agrees with the Department of Fish and Game
7 and what Dennis has said on behalf of the Forest
8 Service that based on this new information the
9 Department of Fish and Game has come forward with
10 we do not agree that the fish populations are in
11 good or viable condition.

12 MR. HOGAN: Well I guess we kind of have
13 a good segue to move on to fish screens and fish
14 ladders. I think you understand how we have done
15 our analysis. Happy to look at more information.
16 But right now I still can't get to, at this table
17 seeing that, you know, my analysis is invalid.
18 Debbie.

19 MS. GIGLIO: Debbie Giglio, Fish and
20 Wildlife Service. I guess we -- Well, I'll say
21 Fish and Wildlife Service does not understand your
22 analysis. It does not understand how based on
23 your analysis that you are saying that the fish
24 are good and healthy but yet you are saying the
25 data is flawed in some of the analysis that you

1 made to make your determination. So I don't
2 understand how -- Can you explain further how you
3 can make that determination if you agree that the
4 data is flawed?

5 MR. HOGAN: Well I agree with using the
6 '77 data it's an outlier, you know, because of the
7 fish stocking.

8 MS. GIGLIO: I guess what I am saying is
9 we are making a decision here for public trust
10 resources for the next probably 30 years. If we
11 have insufficient data that may be flawed should
12 we just pass over that and just say --

13 MR. HOGAN: Well the other thing that we
14 have to keep in mind here is that we are
15 recommending fish population monitoring and an
16 adaptive management approach. So even though this
17 license is for 30 to 50 years there is going to be
18 ongoing data collection.

19 And if there is justification based on
20 that data collection of demonstrating the need for
21 fish screens then that can come before the
22 Commission. But right now I don't see, based on
23 the information that I have, a need for the fish
24 screens. And that's kind of the segue I was
25 talking about.

1 MS. GIGLIO: I would just like to state
2 for the record, Debbie Giglio, that Fish and
3 Wildlife Service, we do not agree that we have
4 enough information to make the determination of
5 healthy and viable fish at this time.

6 MR. MITCHNICK: Just one question, Alan
7 Mitchnick. All the information that people have
8 been talking about. I mean, has that been
9 provided to the Commission? Has that been filed?

10 MS. GIGLIO: Yes.

11 MS. LYNCH: Ken, I have a question. You
12 alluded to -- Debbie mentioned a license of 30
13 years and you alluded to 30 to 50 years. But all
14 of your annual cost analysis is based on 20 or 30
15 years --

16 MR. HOGAN: Thirty.

17 MS. LYNCH: -- depending on how you look
18 at it.

19 MR. HOGAN: Thirty.

20 MS. LYNCH: Well that's actually the
21 second part of my question. We'll make that the
22 first part of the question since we are already
23 going there. In your financial analysis, and we
24 asked this same question at the South Feather
25 10(j) meeting two weeks and we didn't get a clear

1 answer then so I'm hoping we'll get one now, there
2 is financing over 20 years versus cost projected,
3 I'm sorry, I have to look it up, over 30 years.
4 And it is not clear to us whether or not the
5 annual costs that we see FERC making their
6 decisions on about whether or not it is
7 inconsistent with the Federal Power Act, whether
8 that's based on the 20 years that is allowed for
9 financing or the 30 years that we presume the
10 license is going to be?

11 MR. HOGAN: We do all of our economic
12 analysis on a 30 year time frame.

13 MS. LYNCH: Okay. So the annual costs
14 that are in there are on 30 years.

15 MR. HOGAN: Yes.

16 MS. LYNCH: So how does FERC adjust
17 their thinking about whether or not a
18 recommendation is inconsistent with the Federal
19 Power Act if you decide to issue a 50 year
20 license? You just said a 30 to 50 year license in
21 response to Debbie's assumption that it would be a
22 30 year license. That changes everything.

23 MR. HOGAN: Our economic analysis is a
24 based on 30 year analysis. Our determination of
25 license term, A, is dictated by the Federal Power

1 Act. It's 30 to 50 years what Congress afforded
2 the Commission as far as a window. And we make
3 our determination based on the amount of new
4 development, environmental measures needed and
5 things of that nature for the term somewhere
6 within that 30 to 50 years.

7 MS. LYNCH: Okay. So for the sake of
8 those of us -- Because really what we are trying
9 to get at today is not just this 10(j) proceeding
10 but every 10(j) proceeding that we have coming
11 before us in the next, let's see, 15 years I'd be
12 worried about now.

13 How are we supposed to know where that
14 bottom line is? How are we supposed to know if we
15 are inconsistent with the Federal Power Act based
16 on benefit to the public, based on public trust
17 resource and protecting it, versus the cost of the
18 development project? How can we make that
19 analysis even in the information you have in the
20 EA? Because we assume you are doing a 30 year
21 license the annual cost is based on a 30 year
22 license and then you may issue a 50 year license.
23 And that is going to change that annual cost.

24 MR. HOGAN: Our analysis is what is
25 needed to the unprotected resource. That is the

1 primary part of our analysis. And then if there's
2 -- and I'll use fish screens as an example here.
3 I think everybody can agree fish screens will
4 fully protect the resource or ultimately protect
5 the resource. We also agree that canal fish
6 rescues will adequately protect the resource.

7 And then we look at costs on an
8 individual measure and say okay, can we do what
9 will adequately protect the resource in a more
10 cost-effective manner. If fish screens were
11 cheaper than canal fish rescues, even though we
12 found that only canal fish rescues would be
13 needed, we would require the screens.

14 MR. GARD: So the standard is just it
15 has to be adequate. You are not looking at the
16 incremental benefits to the resource of higher
17 protection levels?

18 MR. HOGAN: We are looking at what is
19 needed to protect the resource. And I don't know
20 how more to explain it.

21 MS. GIGLIO: Debbie Giglio, Fish and
22 Wildlife Service. You mean you are looking at
23 what is minimally needed to protect the resource?
24 Because I guess we or I am uncertain as to your
25 cost benefit analysis. It is not transparent in

1 the DEA. I don't really understand how you are
2 making your decision. I don't understand the
3 costs that are in the DEA, I don't understand how
4 it was analyzed.

5 I need further clarification about how
6 you are assigning costs to the resources. How you
7 are making decisions. Is it that you are trying
8 to protect the resources at the very minimal cost?
9 And will that be effective enough for the next 30
10 to 50 years? How can you make that decision for
11 the future?

12 MR. HOGAN: And Alan, I may ask you to
13 weigh in here. I am looking at what is needed to
14 protect the resource from my protectable
15 perspective, okay. Ultimately, if I felt that
16 fish screens were needed that's what I would
17 recommend to the Commission.

18 We do 30 years because we can't prejudge
19 what the Commission will issue for a license term.
20 That's why we use a 30 economic analysis. Do you
21 have anything you want to add, Alan?

22 MS. O'HARA: Ken, this is Kerry O'Hara.
23 I just wanted to ask a question that sort of goes
24 back to what Mr. Hughes said in his opening, is
25 that you are to give due regard to the expertise

1 in the agency. And I wonder if you could explain
2 how you have done that, given that you just said
3 that this is based on what is needed to protect
4 the resources from your technical perspective.
5 What about what you have heard from Fish and Game,
6 Fish and Wildlife Service, the US Forest Service,
7 about this very issue?

8 MR. HOGAN: I understand that the
9 resource agencies feel that as far as fish screens
10 go that that is the only measure that will protect
11 the resource. We also are responsible with not
12 only weighing the resources but also the power
13 development of the site. So that's where the
14 balancing comes in. My technical expertise tells
15 me that at this point with the information that I
16 have, that you have provided me, I don't think it
17 requires fish screens to protect those fishery
18 resources.

19 MS. GIGLIO: Debbie Giglio, Fish and
20 Wildlife Service. You are saying that you
21 analyzed all the information, that you do not feel
22 that fish screens are required. But yet others
23 from the resource agencies are telling you,
24 expertise in that area are telling you through
25 everything we have written and today, that we

1 believe it is required. Are our concerns not
2 being considered?

3 The Federal Energy Regulatory Commission
4 is tasked with determining equally what is needed
5 for the project in consideration of the power and
6 other resource needs. But in hearing that heavily
7 weighted opinion from the resource agencies,
8 doesn't that sway you in any way to consider the
9 experts are telling you, they were there before
10 and we believe they need to be put in again?
11 Based on the information that we have -- the
12 studies that have been developed and that we have
13 analyzed.

14 MR. HOGAN: I definitely take that into
15 consideration. But that is why we are an
16 independent agency though is so that we can
17 evaluate the information equally. I understand
18 that we have different objectives in our
19 positions. And I understand where the agencies
20 are coming from and I understand that fish screens
21 will be the ultimate protection.

22 And right now I am not, I am saying that
23 I don't see where that level of protection is
24 needed. I'm not saying it wouldn't be a good
25 thing, it would. But I don't see how, how I can

1 justify that standard of protection if I don't
2 feel that the resources are, are being imperiled
3 by the project. And that there's only one way to
4 correct it.

5 MR. THOMPSON: Ken, Larry Thompson with
6 NOAA Fisheries. I think it would help if in the
7 EA the analysis were a little more transparent
8 with regard -- I mean, that is a NEPA document.
9 And my understanding is that the baseline
10 condition is supposed to be evaluated very clearly
11 in that document because a No Action alternative
12 is one of the alternatives we can choose, to leave
13 it the way it is.

14 I think part of the problem that the
15 agencies have is that you stated you don't see a
16 need for it. I think if we would be able to get
17 the study information, evaluations done to assess
18 the baseline very clearly, the No Action
19 alternative baseline. What is the degree of
20 entrainment? What is it?

21 Then evaluate each of the alternatives
22 that are put forward. We are recommending a
23 screen, someone else is recommending a canal
24 rescue, someone else is recommending another
25 action. And then have those different options

1 clearly evaluated against the baseline.

2 I think what we are seeing sometimes is
3 we are seeing the evaluation of the different
4 options against one another and not against the
5 baseline. And I don't think that under NEPA that
6 is correct to do that. You know, when we get to
7 fish screens we are going to talk more about that.
8 But I think that that's a good example of a need
9 to evaluate the baseline.

10 And I think, you know, if you do another
11 draft of the EA I would suggest, you know, make
12 that more clear so you can justify what you say
13 that you don't see the need. You don't see the
14 need, you have got to evaluate it against the
15 baseline. What is the situation now and then all
16 of the different options that are put out there.
17 And make that evaluation. If that is more clear
18 then we can evaluate that a little bit more
19 clearly ourselves.

20 MS. LAWSON: And this is Beth Lawson
21 from Fish and Game. You additionally mentioned
22 when you were speaking with Debbie that you saw
23 that if during the life of the license your
24 adaptive management and monitoring indicated that
25 the fish population had dropped even further that

1 you would recommend installing a fish screen
2 during the life of the license.

3 MR. HOGAN: I don't think I said that
4 exactly.

5 MS. LAWSON: I thought that you
6 mentioned --

7 MR. HOGAN: What I said was it could be
8 considered through an adaptive management program.
9 After the license is issued I would no longer be
10 involved so I wouldn't be making any
11 recommendation. It would be the agencies who
12 could make recommendation based on the information
13 that is collected from the fish population
14 monitoring and the reports, which also have to be
15 reviewed by the agencies prior to getting filed.
16 And through an adaptive management program.

17 MS. LAWSON: So I guess that's my
18 question is our recommendations at this point are
19 being rejected because they are not -- you are
20 saying that our -- what we are seeing is not a
21 viable population. Where would that population
22 need to get to in order for you to consider it,
23 for FERC to consider it a big enough drop in
24 population that you would consider recommending a
25 fish screen or accepting the fish screen

1 recommendations that we make. Considering that we
2 have already said that we don't consider these
3 populations are viable now or that they have
4 dropped significantly now.

5 MR. HOGAN: You know I can't give you a
6 number. I know you really want one but I know you
7 are not expecting one. I think you would have to
8 show more trend data to what is occurring with the
9 project. It has to be tied to the project-related
10 effects, not environmental or climate or anything
11 else, and you have to make a case for it.

12 Right now the trend data that I have is
13 skewed. And I think that the years that we have
14 that are useful, it doesn't necessarily account
15 for project-related effects. So that's the
16 trouble I'm having. We have to tie it back to
17 what is the effect of the project on these fish
18 and I can't make that connection right now.

19 MS. LYNCH: So, I'm sorry, I have a
20 question. So does FERC not have a standard that
21 they use for what viable population means? When
22 you are using your best professional judgment to
23 determine whether or not information that an
24 entity has supplied to you is sufficient to
25 describe a population is viable, do you not have a

1 standard that you compare that to?

2 MR. HOGAN: As an agency, I'd say no.

3 I'm not sure. Alan?

4 MR. HILLYER: If that's the case --
5 Steve Hillyer, NOAA Fisheries. If that's the case
6 don't you have to defer to the agencies?

7 MR. MITCHNICK: Let me talk a little bit
8 about how we utilize the agencies' expertise. And
9 we certainly do and we adopt over the years 90
10 percent or more of agency recommendations.

11 But we also have a responsibility under
12 the Federal Power Act to take in consideration,
13 you know, development to resources such as costs.
14 And let me just sort of talk a little bit
15 generically but it may apply somewhat to the
16 project.

17 You know, we are going to look at sort
18 of a range of measures that would have different
19 incremental effects on the resource. And we also
20 would look at, well, what is the cost of that
21 incremental increase in the fish population. And,
22 you know, and we are going to look at, well what
23 is the value of the resource. How important is
24 this resource from a scientific, commercial,
25 recreational, whatever, educational standpoint.

1 That's where we rely on agencies to give that sort
2 of information. And we utilize that into our
3 analysis.

4 Ultimately, you know, we look at, okay,
5 we are going to get ten percent increase in
6 population for a cost of \$100,000 a year, is that
7 worth it. Do we want to spend, should we be
8 spending \$100,000 a year to benefit a population
9 by ten percent? Well if it's a critical
10 population the answer more likely will be yes, it
11 is very important. If it is a very common
12 resource it is likely perhaps we are going to come
13 down on the other side.

14 So we base our recommendation on the
15 value of the resource, and in this case,
16 population viability. And if you think we got it
17 wrong, I mean, we are going to rely on your
18 expertise to, you know, reevaluate whether we are
19 right or wrong. And that is something that we
20 will do in the final EIS, the final EA, based on,
21 based on that information.

22 So it is sort of an iterative process,
23 an evolving process, as it goes on. And, you
24 know, we don't make the final decision until the
25 final license order. And in the final license

1 order that is where we sort of determine well,
2 it's going to be a 30, 40 or 50 year license and
3 then we start looking at the economics sort of a
4 little bit differently.

5 If we know it's a 30 year license or a
6 30 year license then that might alter, potentially
7 it could alter the balance. You know, in a 30
8 year license it doesn't make sense. A 50 year
9 license, as those annual costs come down then
10 maybe it will be worth it. So, you know, the
11 final decision isn't made until the license order
12 because we don't know the license term until then.
13 And so the final economics aren't completed until
14 we get to that point in the process.

15 MR. LAWSON: Alan, Quentin Lawson here,
16 FERC staff. I guess with regard to the license
17 term. Can you hear me?

18 MR. MITCHNICK: Yes.

19 MR. LAWSON: It's important -- The
20 Commission has sort of generally announced its
21 policies towards the license terms. As you know
22 generally the Commission has said in its orders
23 that the 30 year term is generally appropriate for
24 projects with little or no development,
25 construction or capacity or environmental measures

1 and that 40 year terms are for projects of a
2 moderate amount of new development, construction,
3 capacity or environmental measures.

4 Obviously in this case the project
5 clearly doesn't involve any new construction or
6 capacity, the environmental measures are moderate.
7 But that's generally how the Commission looks at
8 these. Of course it looks at each one case by
9 case but that's the general policy that are now --
10 They can of course deviate from that.

11 MS. LYNCH: So for future reference I
12 would like to make the recommendation that FERC
13 include in any draft environmental document an
14 economic analysis that includes --

15 MR. LAWSON: Hello?

16 MR. HOGAN: Quentin, hold on, we're
17 getting a response.

18 MS. LYNCH: I don't understand why FERC
19 doesn't include in their draft environmental
20 documents an analysis that includes --

21 MR. LAWSON: Hello, Alan?

22 MR. MITCHNICK: Yes, hold on Quentin.

23 MS. LYNCH: -- not just the 30 year but
24 the 40 year and the 50 year on the annual basis.

25 MR. LAWSON: Hello?

1 MR. HOGAN: Can you hear us, Quentin?

2 MR. LAWSON: Yes. Did you hear
3 everything I said.

4 MR. HOGAN: Yes, we understood it all.

5 MR. LAWSON: Okay.

6 MR. MITCHNICK: The question now is,
7 should the Commission be considering the economic
8 consequences of issuing a 30, 40 or 50 year
9 license in its NEPA document.

10 MR. LAWSON: In the NEPA document?
11 Generally that question is deferred to the final
12 decision. But obviously for purposes of analysis
13 I guess staff generally uses what -- an analysis
14 consistent with normal Commission decisions for
15 this type of project.

16 MR. MITCHNICK: We'll bring you a
17 suggestion back and we'll talk about it. We
18 certainly don't have an answer here but if it
19 would make sense to do it.

20 MR. LAWSON: Yeah.

21 MR. MITCHNICK: If it does influence the
22 conclusion then maybe we should be doing it.

23 MR. HUGHES: On the topic -- This is
24 Robert Hughes. On the topic of fish screens for
25 the canals. I guess I am having difficulty

1 understanding how and why FERC believes that a
2 fish rescue is an appropriate term or condition
3 and how that adequately protects the resource. My
4 understanding is that the canal rescues only
5 happen once or so a year.

6 MR. HOGAN: You know, I based my
7 analysis on what I found to be the population, the
8 fishery populations to be. As you know I found
9 them viable and generally health. So based on
10 that I figured what the applicant is continuing to
11 do is adequate.

12 MR. HUGHES: So you are saying just stay
13 the course.

14 MR. HOGAN: Yes.

15 MR. HUGHES: Even though a screen would
16 provide protection year-round.

17 MR. HOGAN: I acknowledge that the
18 screen would provide better protection year-round.

19 MS. LYNCH: And did FERC consider what
20 was in Fish and Game's original 10(j) letter.
21 That the number of fish that are rescued from a
22 canal when the project is diverted 100 percent of
23 the water versus the number of fish that are
24 rescued from the canal during a spill event?

25 MR. HOGAN: I did. The numbers during a

1 spill event are much reduced compared to when
2 there is no spill, based on your information. But
3 that does not, that demonstrates to me that the
4 project is having an entrainment defect but it is
5 not demonstrating to me how that entrainment
6 effect is negatively affecting the fish
7 populations in the streams, based on the analysis
8 that I did.

9 MS. LYNCH: So the fish rescues that you
10 envision, will those be -- what time of year will
11 those be done? And how often?

12 MR. HOGAN: Do you have a
13 recommendation?

14 MS. LYNCH: And how often can they be
15 done? I mean, the problem I personally have with
16 the fish rescues is that it's a snapshot in time
17 when it happens to be convenient. The canals are
18 getting shut down, they go out and rescue the
19 fish. I mean, I think we all recognize that there
20 is entrainment from the project and that is just a
21 -- I mean, the Forest Service did a number
22 crunching, Fish and Game did a different number
23 crunching.

24 There's lots of ways to look at the fact
25 that you have ten times as many fish rescued out

1 of the canal as they actually found through electro-
2 fishing the streams. And that is just a snapshot
3 in time. How often does FERC anticipate that
4 these rescues are going to be taking effect, what
5 time of year are they going to happen, and how
6 does that impact the amount of water that needs to
7 be sent over from the West Branch?

8 MR. HOGAN: I am open to recommendations
9 or suggestion. If you have --

10 MS. LYNCH: We recommend you put a fish
11 screen.

12 MR. HOGAN: But if you have alternative
13 times or seasons or --

14 MS. LYNCH: There is a very limited
15 window because of the way the water needs to be
16 shuffled over to Butte Creek. A very limited
17 window. That's our concern. And we would like
18 you to reconsider that.

19 MS. McREYNOLDS: There really is only
20 one season you can legitimately do a fish rescue.

21 MS. LYNCH: And are they going to be
22 done annually?

23 MR. HOGAN: It was my intent that they
24 would be done annually.

25 MS. LYNCH: So the other 364 days of the

1 year the fish are entrained.

2 MS. GIGLIO: Debbie Giglio, Fish and
3 Wildlife Service. The Fish and Wildlife Service
4 is concerned that the fish resources, the aquatic
5 resources in the stream, such as the fish rescue
6 versus the screens. We are concerned that our
7 resources are being minimally protected. And we
8 do not think that that is adequate for the next 30
9 to 50 years. We believe that that is minimal and
10 we want our resources protected year-round with a
11 fish screen.

12 MR. GARD: Does FERC believe or would it
13 agree that installation of fish screens is
14 generally a standard procedure for hydro projects?

15 MR. HOGAN: Generally a standard
16 procedure. That's a trick question. I think it
17 depends on what the resource is. If we are
18 looking at endangered species, if we are looking
19 -- Again, we look at the resource and it is a
20 case-by-case scenario. I don't -- Off the top of
21 my head I don't have like a checklist of, okay, we
22 have tried screens here, we tried screens there.

23 And a lot of the times that we don't
24 recommend the screens they are installed anyway
25 because Fish and Wildlife Services put it in their

1 Section 18, which you guys have here. So I mean,
2 if it's that critical how come we haven't gotten a
3 prescription for it?

4 MR. THOMPSON: Ken, I want to go back to
5 what I said earlier about establishing the
6 baseline. It seems to me we are using the
7 generally viable and healthy fish population's
8 metric as a surrogate for two things, the degree
9 of entrainment and then the mortality of the fish
10 that are entrained. We have evidence entrainment
11 is occurring in these canals because we do rescues
12 and they are in there. We don't have an
13 evaluation of what, you know, how many of those
14 fish are killed.

15 What we do is skip to -- we have
16 generally viable and healthy populations in the
17 stream. And as you know as biologists there are
18 many reasons why we could have populations of
19 varying levels in streams. It could be a water
20 quality issue, it could be a flow issue, it could
21 be a fish disease issue, it could be angling
22 pressure. Many things could occur.

23 So I think, again going back, we would
24 really benefit by having a baseline analysis of
25 what the degree of entrainment is at the intakes.

1 Secondarily, what the degree of mortality is of
2 the entrained fish in the baseline condition. And
3 then evaluate the options that the agencies put
4 forward to prevent the entrainment and/or the
5 mortality.

6 MR. HOGAN: The concern I have with
7 doing the entrainment analysis, Larry, is that you
8 get to a point where, okay, this is the level of
9 entrainment that's occurring, this is the level of
10 mortality that's occurring. How is that affecting
11 the population?

12 We don't expect every FERC project out
13 there to be a benign project, okay. But we do try
14 to limit the effects of the project on the
15 resources. And if we can make an evaluation that
16 the population, although being affected -- We'll
17 acknowledge the fishery population was being
18 affected but not to the point where it is no
19 longer viable.

20 And I think that's where we kind of, in
21 my analysis I drew the line. The project has been
22 operating, the population is still there, it's
23 viable, it's generally healthy. So there is some
24 level of entrainment and mortality that I as a
25 fishery biologist and my evaluation based on the

1 FPA, is willing to accept for the project.

2 MR. THOMPSON: I think that's the
3 analysis that -- the viable and generally healthy,
4 there's a lot of uncertainty in that analysis.
5 There would be a lot less uncertainty in the
6 degree of entrainment, the mortality. You could
7 do those studies and get pretty good information
8 about what is the degree of entrainment, of those
9 that are entrained how many are killed. That
10 could be what goes into your viability analysis.

11 But just looking at -- You know, it just
12 seems we are skipping to that conclusion. I am
13 not seeing in the EA the analysis of these
14 populations. I don't know that the population
15 level surveys were statistically rigorous enough
16 to really first of all see if there, you know,
17 what the baseline condition in and then to
18 evaluate what the options, you know, the benefit
19 of the options might be. I don't see that in the
20 present draft.

21 MR. HOGAN: I'll work on the analysis.

22 MR. THOMPSON: Okay.

23 MR. D. SMITH: Dennis Smith, Forest
24 Service. And I think you were involved. We asked
25 for statistically rigorous fish monitoring and

1 FERC actually refused that request. And so that's
2 one of the problems I think why we are here now is
3 the data that was collected wasn't sufficient
4 enough to give us a good answer on what we are
5 actually seeing out there.

6 And given the numbers in '77,
7 irrespective of fish stocking, and then the
8 numbers I think in '86 and now, there's a clear
9 trend downward. And California most likely will
10 have more severe droughts because of global
11 warming, issues like that. And so at least for
12 the resources on Forest Service lands, especially
13 downstream, given the new minimum flows we still
14 think we are going to have real problems. And I
15 think if you take that in totality and also look
16 at temperature issues in Butte Creek and the power
17 that is generated, that a fish screen is
18 warranted. I mean, to me it's a slam dunk.

19 MR. SHUTES: Can I ask a question as a
20 member of the public?

21 MR. HOGAN: Sure.

22 MR. SHUTES: Something that Debbie said
23 sort of goes to the question I would like to ask.
24 And that is, are we just looking for a level of
25 minimum protection. And it's Chris Shutes with

1 CSPA by the way.

2 What is viable? I mean, does that mean
3 that there are three fish left in the river? Does
4 that mean that there will continue to be fish left
5 in the river? I mean, part of the issue that I
6 have as someone who represents anglers is you are
7 looking at the cost but I don't understand how you
8 are analyzing the benefit.

9 And the benefit to the public, is that
10 just simply a question of making sure that there's
11 a few fish left in there or -- There doesn't seem
12 to be equal consideration given to the cost that
13 is given to the benefit.

14 And I guess it gets back to as well
15 whether or not there is a standard and how that
16 standard is met. It is just very unclear. That
17 seems to be the black box that we don't understand
18 regarding the Sierra trout population or any
19 others. Could you help me with that?

20 MR. HOGAN: I guess in a nutshell I am
21 looking at it, you know, viable, self-sustaining.
22 You know, over the term of a new license, 30 to 50
23 years, will the fish that are there today be there
24 then and in a similar population density as what
25 is there now. That is what I am looking at.

1 MR. MITCHNICK: A quick word about
2 minimal protection. I don't think that is a term
3 that, you know, ever deal with, ever look at. We
4 never sit around the table and say, well what's
5 the minimal protection that we need to provide.
6 It's all, you know, sort of based on the specifics
7 of the case. It's not a standard that we
8 necessarily look at. I just want to make sure
9 that that was clear. I mean, that certainly isn't
10 our way of looking at these things.

11 MR. HOGAN: Debbie.

12 MS. GIGLIO: Debbie Giglio, Fish and
13 Wildlife Service. are you, FERC, taking into
14 consideration global warming and the conditions
15 that may come in the future? Because it is
16 something that is happening now and are you
17 considering that trend in increase in temperature?

18 MR. HOGAN: I'm going to defer to Alan.

19 MS. GIGLIO: We're talking about 50
20 years say. Thirty to 50 years is a very long time
21 so --

22 MR. HOGAN: No, but we do have an
23 adaptive management program that we are
24 recommending here. And if there's demonstrated
25 project-related effects based on the existing

1 environment then there is an opportunity for you
2 folks from PG&E to amend the project as needed.

3 MS. GIGLIO: Does the California Council
4 of Environmental Quality require it now? Don't
5 they require that you consider the climate change
6 into future projects?

7 MR. HOGAN: I will have to defer to
8 Russ, I'm not sure.

9 MR. LAWSON: Quentin Lawson. I couldn't
10 quite hear that.

11 MS. O'HARA: Just a minute. She wasn't
12 asking about the state water --

13 MR. HOGAN: CEQA.

14 MS. O'HARA: Yes. No, the Council on
15 Environmental Quality, a federal agency.

16 MS. WOOD: Kathy Wood, Fish and Wildlife
17 Service. I sent her the note. I am really trying
18 to just listen in because this is my first
19 hearing. But the question is, does the Council on
20 Environmental Quality, which oversees NEPA for the
21 federal government, it now I believe is requiring
22 analysis for climate change in all NEPA documents.
23 And I know Department of Interior so I am asking
24 the question, are you required to analyze that in
25 the NEPA document?

1 MR. MITCHNICK: To be honest I am not
2 aware of any CEQ direction. If you have CEQ
3 direction we would like to see it. It's a very,
4 obviously it's a very difficult issue to deal with
5 and most agencies are on the very edge of the
6 learning curve as to, you know, how we are going
7 to factor in the global warming over a 30 to 50
8 year license. We just haven't gotten there yet.
9 But, you know, adaptive management is one way to
10 do that. But I think all agencies have a lot of
11 work to do on dealing with climate change.

12 MS. GIGLIO: Debbie Giglio, Fish and
13 Wildlife Service. I guess I am asking, through
14 the Fish and Wildlife Service that you do consider
15 that in your final EA because it is a situation
16 that could be critical in the future and you are
17 licensing a 30 to 50 year project. You have
18 responsibility to include that.

19 MR. HOGAN: We'll bring it back.

20 MS. MURRAY: This is Nancee Murray with
21 Department of Fish and Game. I am concerned
22 because what I have heard today is that three fish
23 agencies are saying that they believe that it is
24 not a viable population and that fish rescue is
25 not adequate to protect the resources. And I hear

1 you say you have independent judgment.

2 It concerns me, echoing Kerry's question
3 and concern, Kerry's question, which I don't think
4 was answered, about what weight is given to the
5 state and federal agencies. How can you justify a
6 finding that FERC has to make as to these two
7 things, viable and that the fish rescue is
8 adequate, when you have the weight of opinion
9 flying in the face of that finding.

10 MR. HOGAN: Okay. Well, I'm kind of,
11 I'm kind of wondering why we have two agencies
12 here with mandatory conditioning authority that
13 could put screens on this system if they wanted to
14 and yet they haven't done that. So why is my
15 analysis so lacking if they don't feel that they
16 have the information to be able to do that now? I
17 mean, I am baffled.

18 MS. MURRAY: And you have independent
19 authority, I heard you say that.

20 MR. HOGAN: What's that?

21 MS. MURRAY: And you have independent
22 judgment. So you can --

23 MR. HOGAN: Yes. If I felt that the
24 fish screens were necessary and appropriate I
25 could recommend them, yes. We have two other

1 agencies here in the room that can also require
2 them but that's not happening, or it hasn't
3 happened. So why, why is the attack on -- I mean,
4 obviously nobody has found that they are
5 absolutely imperative. I don't -- Or at least the
6 three federal agencies here in the room, we have
7 four agencies in the room that can do it.

8 MR. STEINDORF: Actually I'd like to --

9 THE REPORTER: Please identify yourself.

10 MR. STEINDORF: Dave Steindorf, American
11 Whitewater. I'd like to answer that question for
12 you, Ken, if I can.

13 MS. LYNCH: As an agency rep?

14 MR. STEINDORF: Well, not as an agency
15 but as an observer on quite a number of licenses
16 across the state. The answer to that question
17 would be the 2005 Energy Policy Act, why you are
18 not seeing mandatory condition authority exercised
19 there.

20 MR. MITCHNICK: The best we can promise
21 you is that we are going to go back, we are going
22 to look at all the information you have provided
23 to us. You know, where there are disagreements
24 over, you know, whether the population is viable.
25 And, you know, we are going to look at it real

1 carefully and take into consideration the
2 expertise of the agencies. And we will, you know,
3 take another shot at it in the final, you know,
4 based on the new argument or the resurfaced
5 arguments. And, you know, we'll do the best job
6 we can to factor in your expertise and still meet
7 our responsibilities under the Federal Power Act.

8 MS. LYNCH: One more comment, Ken. In
9 the environmental document there is a Section 5.5
10 consistency with comprehensive plans. And you
11 have a list of 14 comprehensive plans here and you
12 state that no inconsistencies were found. There
13 is in fact an inconsistency. Sorry, I have too
14 many documents open on my computer.

15 It's with the 1996 Steelhead Management
16 Plan for California. Sorry, I'm trying to get to
17 the exact citation here. On page 174 of that plan
18 it clearly states that it is one of the objectives
19 to screen diversions. Yes, I'm sorry, let me back
20 up here. On page 172:

21 "The construction of Pacific
22 Gas and Electric's Butte Creek and
23 Centerville Head dams in the
24 foothill reaches of Butte Creek
25 eliminated steelhead access to the

1 headwaters of the Butte basin."

2 And then it goes on to state that the objective is
3 that those diversions should be screened. And
4 that is an inconsistency.

5 MR. MITCHNICK: Can you repeat which
6 plan you are referring to.

7 MR. HOGAN: The Steelhead Management
8 Plan, California.

9 MS. LYNCH: 1996.

10 MR. HUGHES: Ken, I'd like to shift
11 gears just a little bit and talk about the cost
12 thresholds that FERC uses. As we talked about
13 this a little bit earlier, I am under the
14 impression that, for example, a fish screen at
15 Hendricks that a cost threshold that FERC is
16 really using to determine whether or not a screen
17 is effective is basically the value of the cost of
18 the fish rescues. So if a screen was more
19 expensive than a fish rescue then FERC believes
20 that it is excessive.

21 MR. HOGAN: No, I would say that that is
22 not entirely accurate. What we are looking at is
23 what is needed to protect the resources in our
24 view. Like I said, if the screens were less
25 expensive than the fish rescue we would recommend

1 the screens because obviously they are more
2 effective than the fish rescues.

3 MR. HUGHES: Significantly.

4 MR. HOGAN: Yes. But as Alan had
5 mentioned earlier, if we are going to get a ten
6 percent increase or -- they are significantly more
7 effective but they are also significantly a lot
8 more effective. If that cost were, you know,
9 marginal we could see going with the screens, even
10 though they were only marginally more expensive
11 than fish rescues. The costs are not marginal,
12 they are significantly more. So there is that --

13 MR. MITCHNICK: I guess here --

14 MR. HUGHES: If I could -- I'm sorry, go
15 ahead.

16 MR. MITCHNICK: I guess we have only
17 looked at two options, fish rescues and screens.
18 I mean, there are options in-between, you know,
19 sort of incremental increases in cost. That would
20 be a more fair look at sort of the threshold, you
21 know. If we threw out some intermediate measure
22 that was half the cost then, you know, that might
23 be closer to the threshold we -- Since we only had
24 one limited measure that was expensive, you know,
25 it is not a fair comparison.

1 MR. HUGHES: So it appears that the
2 Federal Energy Regulatory Commission used PG&E's
3 estimate of the cost for the screens. As I went
4 through that that's what it looked like to me.
5 And I hope you know that there is a difference of
6 opinion between the agencies and PG&E regarding
7 the methods that they used to estimate the cost
8 for fish screens on project facilities. In mid-
9 2007 the department fisheries engineering staff
10 provided, developed an estimate of the costs for
11 screens at the different project facilities.

12 I just find it -- We were actually in a
13 10(j) meeting. I'm sorry, let me step back a
14 little bit. We used a different approach to
15 estimate our costs than PG&E did. And we
16 basically based our estimates on information
17 compiled by the Washington Department of Fish and
18 Wildlife. They keep, they maintain a database of
19 fish screen costs for projects that were actually
20 installed. So the department basically used that
21 information to develop its cost estimates it filed
22 with FERC.

23 A couple of weeks ago we were in a 10(j)
24 meeting on the South Feather project and I thought
25 it was interesting that FERC staff and consultants

1 described the method that they used to estimate
2 costs for screens on that project. And it was
3 basically using a similar process and the same
4 information that the Department of Fish and Game
5 used in its cost analysis method.

6 So there appears to be kind of an
7 inconsistency within the Federal Energy Regulatory
8 Commission on its methods for calculating the
9 costs of screens. And I was just wondering if you
10 could speak to that at all.

11 MR. HOGAN: I will say that I wasn't
12 aware that Cal Fish and Game had filed any cost
13 estimates for screens.

14 MR. HUGHES: Okay. I don't know --

15 MR. HOGAN: We will certainly evaluate
16 that --

17 MR. HUGHES: Okay.

18 MR. HOGAN: -- in the NEPA document.

19 MS. LYNCH: I believe it was attached to
20 the original 10(j) letter.

21 MR. HUGHES: If you'll give us a half a
22 second here we'll see if we can find it.

23 MR. HOGAN: I totally believe you did
24 it. We're digging through almost 2,000 pages of
25 filings.

1 MS. LYNCH: We understand that.

2 MR. HOGAN: And when we used PG&E's cost
3 we used their most conservative, lowest cost.
4 They provided three different costs; we used the
5 cheapest of their three.

6 MR. HUGHES: Actually it looks like
7 there's a range of costs. There's an average of
8 the high and low. It looks like that's what the
9 Federal Energy Regulatory Commission used.

10 MR. HOGAN: Okay.

11 MR. HUGHES: But we'll go ahead and make
12 sure before we leave today we have the date of the
13 letter where we transmitted our cost estimate.

14 MR. MITCHNICK: Certainly that is
15 important information for us to consider.

16 MR. HOGAN: Yes.

17 MR. HUGHES: And that kind of moves into
18 another topic and I am not sure if there is
19 anybody from the Federal Energy Regulatory
20 Commission that is here today that can address
21 this. But as I went through and I looked at the
22 cost table that was provided in the draft
23 environmental analysis, I tried to get from the
24 capital costs that were included for project
25 improvements such as screens or ladders -- and I'm

1 sure we'll get to the DeSabra Forebay temperature
2 fix.

3 But I tried to figure out how FERC went
4 from their capital costs and created an annualized
5 cost out of that based on a 30 year term and about
6 an 8.8 percent interest rate. It should be a
7 fairly straightforward calculation but I could not
8 recreate, recreate that.

9 MR. HOGAN: If we take a break I'll call
10 our engineer and see if he can call in.

11 MR. HUGHES: That would be great because
12 it really did not make sense to me. It really
13 seemed like the annualized costs were quite a bit
14 higher than they should be. And so when you
15 consider that plus the difference of opinion
16 between the department and PG&E with regard to the
17 cost of the screens I think that that can really
18 bring the cost of the screens, the annualized cost
19 of the screens back down to a level that would be
20 more cost-effective. Thank you.

21 MR. HOGAN: So it seems like we have
22 gone around and around on fish screens and we have
23 kind of moved over from viable and healthy into
24 fish screens. Do we want to talk more about fish
25 screens or have we exhausted that or are there

1 other alternatives you want to throw out there?

2 MR. THOMPSON: I think we need to talk
3 more about fish screens. I think we talked a lot
4 about the West Branch of the Feather and not as
5 much about Butte Creek.

6 MR. HOGAN: Okay. Let me get a question
7 from the back or a comment.

8 MR. HARTHORN: This is Allen Harthorn,
9 Friends of Butte Creek. I just think it is
10 important for the record for FERC to recognize
11 that in terms of protection of the resources that
12 not all fish rescues are created equal. In the
13 case of a planned outage the troops are mobilized,
14 they are ready to go and they can do a pretty good
15 job of rescuing fish.

16 In the case of the numerous emergency
17 outages that they have on the canal systems, it
18 takes two days to mobilize the team and then
19 another day or two to get out in the field. In
20 the canal failure that happened last January it
21 was four days after the canal was de-watered
22 before a fish rescue was conducted. Many, many
23 fish were lost out shotgun gates, down steep
24 hillsides, not into stream channels. Many other
25 fish were left to dry up in the stream bed or the

1 canal bed.

2 MR. HOGAN: Okay. All right, do we want
3 to switch to Butte Creek then or do we want to
4 continue to talk about, we still haven't talked
5 about the fish ladder on Hendricks yet either. We
6 are on West Branch Feather River. Do we want to
7 stay there and talk about the fish ladder or do we
8 want to go to Butte Creek and talk about the
9 screen and come back to the fish ladder?

10 MS. LYNCH: We can finish on the ladder.
11 I think the same issues that apply to the screen
12 apply to the issues with the ladder.

13 MR. HOGAN: Obviously, you know that we
14 are of a different opinion as to what the fishery
15 needs to fulfill its life history. One question I
16 got from your comments, one issue that I noticed
17 from your comments was that all the water is
18 diverted at Hendricks into the canal and then the
19 overflow is then discharge back to West Branch
20 Feather River and loaded downstream. And I was
21 wondering, would it be better if the minimum flow
22 release were made at the Head dam instead of
23 somewhere downstream. Is that something that
24 could help to alleviate the screening issue?

25 MS. LYNCH: It wouldn't alleviate the

1 screening issue. You mean the ladder issue?

2 MR. HOGAN: No. Well, one of the -- the
3 issue was that for the fish population, it is
4 reduced right below the Head dam because all the
5 fish will be entrained into the canal. So if the
6 minimum flow release is made at the Head dam
7 instead of down the canal would that allow for
8 fish to move downstream into the West Branch
9 Feather River, kind of alleviating some of your
10 concern with the downstream migration of the fish
11 from -- through the West Branch Feather River?

12 MR. GARD: I would say --

13 MS. LYNCH: Debbie wants to jump in
14 there but I would say that that's a very difficult
15 question to answer since we don't know what the
16 minimum flows would be before they are released.

17 MR. GARD: I guess I have a question.
18 Are you familiar with the Fish and Game Code
19 section that requires that streams below dams be
20 left in good condition?

21 MR. HUGHES: Section 5937 of the
22 California Fish and Game Code.

23 MR. GARD: Thank you.

24 MR. HOGAN: No.

25 MR. GARD: Well that, that is a

1 condition. And I wonder if you could talk about
2 how leaving 300 feet of stream dry is consistent
3 with that.

4 MR. HOGAN: It's not.

5 MR. GARD: Okay.

6 MR. HUGHES: If I might just talk a
7 little bit about, about your suggestion. I think
8 that while it may improve things, and I think the
9 department would be interested in having the
10 minimum flow release point right at the Head dam
11 rather than where it is now. Because of the
12 disproportionate, the difference between the
13 diversion, the diversion rate and the likely
14 minimum instream flow, I am not sure that that
15 would alleviate the need for a fish screen at
16 project facilities.

17 MR. HOGAN: I am curious to hear from
18 PG&E if there are any structural reasons why a
19 release can't be made at the Head dam.

20 MR. BUNDY: This is Jim BUNDY with PG&E.
21 Currently the system of diverting during periods
22 of time when we have normal runoff, spring runoff
23 say and we have a natural spill occurring over the
24 dam, more water than the canal could actually use.
25 We bring additional water to the maximum of the

1 canal for that first 300 feet. And then it
2 becomes -- And then the remainder of the water in
3 excess goes over the dam. We also have an
4 operating spill that occurs downstream that
5 maintains a canal flow at our regulated point.

6 And then downstream included in that
7 system is a low water release out of the canal
8 that discharges a constant flow in respect to the
9 instream requirement. So that spill drops off in
10 the Head dam and all that, that is constantly made
11 through the side in a low level outlet.

12 The operating spill. And there's a bar
13 rack there, a trash rack right at that point,
14 takes care of a lot of heavy debris that comes
15 into the canal from, you know, huge spring flows
16 or storm flows such as that. So we are allowed to
17 collect that material and get it out of the canal
18 there initially before it ends up down in the
19 canal causing an obstruction or blockage further
20 down.

21 And I can only speak, I have been there
22 15 years at this site. And this is something --
23 There's no power there, there's -- This is kind of
24 like a system that kind of works unassisted
25 without having somebody there all the time so it

1 is pretty beneficial to have a pipe rack, to have
2 that kind of thing.

3 If you move the stuff to the Head dam,
4 which I worked in Battle Creek for about eight
5 years. And we had the ladders right off the Head
6 dam and the canal diversion was there. We had a
7 low level outlet there, a radio gate which during
8 winter we could open up and allow the main portion
9 of the water to go down, even shut the canal down
10 during that time. Those all work okay. But if
11 your ladder, say, was a source of your instream
12 release for flow and you get an obstruction in it,
13 all of a sudden you are having issues with debris.

14 So that's all I can say in respect to
15 that. The system we have works well. Is there
16 something better or something different you could
17 do? Can you move it upstream? I imagine
18 somewhere they are doing it. But with the
19 remoteness that we have and the issues we have
20 over getting in there at all times because of the
21 weather and what-not, it's a nice system and I
22 haven't seen a lot of problems with downstream of
23 our structure having issues with debris, which we
24 control at that point.

25 MR. HOGAN: Okay. So there's nothing,

1 no structural integrity with a minimum flow
2 release at --

3 MR. BUNDY: Currently?

4 MR. HOGAN: No --

5 MR. BUNDY: Into a proposal?

6 MR. HOGAN: To be done at the Head dam.

7 MR. BUNDY: Well there's nothing there
8 so it would be a totally new design to accommodate
9 that.

10 MR. HOGAN: So I guess regarding the
11 fish ladders at Hendricks. Our analysis indicates
12 that there's -- the fish that would utilize the
13 ladder don't need the ladder to fulfill their life
14 history.

15 MR. HUGHES: I was just going to
16 mention. Are you aware that on River Left at the
17 Hendricks diversion dam there's an abandoned fish
18 ladder?

19 MR. HOGAN: Yes, yes. I am also of the
20 understanding that it is in pretty much disrepair.

21 MR. HUGHES: Yes.

22 MR. HOGAN: I mean, I understand the
23 facilities were there but we haven't demonstrated
24 to us that there is the level of protection needed
25 for the resource that a fish ladder would provide.

1 So that's where we would like to get input or if
2 there is an alternative or some middle of the road
3 we can talk about. Debbie.

4 MS. GIGLIO: I would like to ask a
5 question of the Forest Service. Can you meet the
6 needs of your forest plan with the loss of
7 connectivity in the stream at Hendricks because
8 it's dried, it's 100 percent diverted and without
9 a fish ladder? Do you believe you can still meet
10 the needs of your forest plan, considering the
11 downward trend in fish populations?

12 MR. D. SMITH: Kathy is more familiar
13 with the forest -- This is Dennis Smith with the
14 Forest Service. Kathy Turner is more familiar
15 with the forest plan. But as I, my recollection
16 of the forest plan, there is nothing specific in
17 there that would allow us to make a judgment on a
18 healthy fish population from a viability
19 standpoint. Those plans are just not that
20 specific.

21 MS. TURNER: Dennis, I agree. It
22 doesn't say anything specifically, it's more
23 general policy.

24 MS. GIGLIO: But do you agree then that
25 there is a loss of resources to the forest

1 resulting from 100 percent diversion and lack of
2 fish ladder for forest resources?

3 MR. D. SMITH: I would agree with that,
4 I mean, just given the amount, you know, in the
5 canal sampling. I can't remember what it was,
6 1300 fish, whatever, average. So that's 1300 fish
7 that are not reproducing and are either being
8 taken out of Forebay or going through the
9 powerhouse. So that is a loss of fish from Forest
10 Service lands. Recognizing that Forest Service
11 lands are upstream of the diversion and downstream
12 and the diversion is not on Forest Service land.
13 But given the connectivity both with upstream
14 migration and downstream juveniles, it does affect
15 Forest Service resources.

16 MS. GIGLIO: And do you believe the
17 effect is significant to the forest?

18 MR. D. SMITH: You know, the problem I
19 had when I wrote the rationale for the 4(e)s was
20 that the data was not adequate to make a real good
21 determination on what the impact of the ladder
22 was. And we asked for more intensive sampling.
23 We were not given that sampling or we were denied
24 that sampling to take place.

25 And so given what we know today, both

1 from the amount of entrainment and the numbers of
2 fish that are found in the stream I would say, I
3 would make a determination that it is significant.
4 And especially given the trend data that we have
5 seen since I had, when I wrote the rationale for
6 the preliminary 4(e)s. It even strengthens that
7 case.

8 MS. GIGLIO: And Debbie Giglio, Fish and
9 Wildlife Service again. I guess my -- What I
10 would like to say to FERC staff is that you are
11 hearing the resource agencies tell you that we
12 believe there is a significant effect without
13 screens and ladders and there will be in the
14 future. You know, we believe from the data that
15 we have seen, and even the lack of data we cannot
16 get, that there is a risk for the future of the
17 aquatic resources and we are recommending the
18 screens and ladders.

19 MR. GARD: I had a question. I
20 understand that there is a difference in cost
21 between -- FERC had estimated the ladder was going
22 to be 940,000 and in our 10(j) letter we estimated
23 an annual cost of 287,000. Would that make a
24 difference in FERC's determination whether to
25 require a ladder or not?

1 MR. HOGAN: We have to look at that.

2 MR. GARD: Okay.

3 MR. HUGHES: Ken, the information that
4 Department of Fish and Game provided with regard
5 to the cost of fish screens also included analysis
6 of the cost of fish ladders at the project
7 facilities.

8 MR. HOGAN: And are they consist between
9 agencies?

10 MR. HUGHES: Yes, I believe that the
11 number that Mark just mentioned --

12 MR. GARD: Yes.

13 MR. HUGHES: -- is consistent.

14 MR. GARD: Yes, that was based on Fish
15 and Game's figures.

16 MR. LIBERTY: You said you provided that
17 information to us already?

18 MR. HUGHES: Yes. I am going to track
19 down the date of the letter.

20 MR. LIBERTY: All right.

21 MR. HUGHES: I'll make sure we get that
22 before we leave today.

23 MR. D. SMITH: This is Dennis Smith
24 again from the Forest Service. You know, one of
25 the things I think needs to be taken into

1 consideration, we already talked about this, in
2 the final EIS is global warming. We are seeing
3 earlier runoffs already and there is only so much
4 flexibility in this project. Cold water going
5 over to spring run is probably the highest
6 priority. That doesn't allow us to provide
7 further protection from what flows and decreased
8 temperatures.

9 So the only viable protective mechanism
10 in this project on the West Branch I think is the
11 ladder and the screen. If you do adaptive
12 management you see -- whatever happens with global
13 warming, you see fish populations plummet, you are
14 not going to have enough water because of the
15 temperature control issue up on Butte Creek, to
16 provide any more resources. There is no
17 flexibility in the system.

18 That's one reason why we lowered our
19 flows was we recognized the importance of that
20 spring run. And we made the determination the
21 best thing we could do, and we are trying to
22 negotiate with PG&E, is put that ladder in.
23 Because that is the only I think viable protective
24 mechanism on the West Branch that you can put into
25 that system that would protect the rainbow trout

1 population in the West Branch.

2 So one of the things that we have
3 considered, and we have final 4(e)s yet coming up,
4 is just what do we do. There's an opportunity to
5 gather more data. But in the end when we have
6 done this before PG&E basically has put in a
7 ladder because the cost of the studies equals the
8 cost of the ladders or is actually more and
9 consequently they decide it is more cost-effective
10 to put in the screen. I just would like you to be
11 aware of that and consider that in the final EIS.

12 MR. HOGAN: Does anybody else have
13 anything they want to say about the fish ladder?
14 I mean, I understand that there is connectivity
15 issue. I am not hearing anything really new to
16 the subject or new alternatives. So I'm just
17 wondering if there is any new information that we
18 should be considering here, new alternatives.

19 MR. STEINDORF: Dave Steindorf from
20 American Whitewater. I guess I actually have a
21 clarification question I am not sure of the answer
22 to. When the fish rescues are done, particularly
23 on the West Branch, where are those fish returned?

24 MR. BUNDY: Whiskey Flat.

25 MR. HOGAN: It is our recommendation

1 that they will be returned to locations that Cal
2 Fish and Game is recommending.

3 MR. BUNDY: And that's Whiskey Flat.

4 MR. STEINDORF: So I'm trying to
5 remember. That's about 12 miles downstream?

6 MR. HOGAN: And what I am saying is that
7 it could change depending on Fish and Game.
8 Currently I guess it's Whiskey Flat, I don't know
9 how far it is.

10 MR. STEINDORF: Well I just would like
11 to point out that that is above another unscreened
12 diversion, which is an unlicensed project that
13 currently doesn't have a minimum instream flow
14 below it. So that would be something to
15 reevaluate.

16 MS. LYNCH: And Ken, one of the things
17 that I didn't see a response from FERC on, one of
18 the issues that was raised, I believe not just by
19 Fish and Game but by Fish and Wildlife Service and
20 Forest Service also in our original 10(j)
21 recommendation letters was the issue of below the
22 diversion we have, where you have this
23 disconnection of habitat.

24 You have a very different age structure
25 above and below the diversion. You have weighted

1 usable area that is, I believe, like 13 percent
2 based on the current. And above the diversion,
3 after this 300 feet of de-watered river, you have
4 extremely high weighted usable area. You have
5 feeder tribs where trout can find refuge. And I
6 didn't see any response from FERC about how they
7 considered that in their analysis.

8 MR. HOGAN: The loss of the weighted
9 usable area because of the diversion?

10 MS. LYNCH: The loss of the connection.
11 The ability for the fish who are stuck down in
12 this very limited stream to be able to find
13 refuge.

14 MR. HOGAN: Okay. We will certainly
15 address that in our final. And I believe PG&E has
16 filed new information regarding that as well.

17 MR. LIBERTY: I don't think we have too
18 much information on those feeder creeks, do we?
19 Downstream of Hendricks? I don't recall seeing
20 much about it.

21 MR. HOGAN: MaryLisa is talking about
22 getting the fish into those feeders above
23 Hendricks, right? For thermal refuge and --

24 MR. HUGHES: Obviously there's reach
25 below the Hendricks diversion where there is a

1 minimum flow. Yes, above the diversions there's
2 more water because a lot of that water gets
3 diverted into the Hendricks canal. So having
4 access to those likely cooler temperatures and
5 tributaries upstream would be beneficial.

6 And before we leave the fish ladder
7 discussion. I was able to find the document that
8 the resource agencies actually filed that talks
9 about the cost of the project, for the screens and
10 ladders on the project facilities. It's an August
11 31, 2007 consolidated resource agency comment
12 letter on PG&E's draft license application.

13 MR. HOGAN: I'm sorry, I wasn't --

14 MR. HUGHES: The letter that included
15 the Department of Fish and Game's cost estimates
16 for screens and ladders on the Centerville
17 project.

18 MR. HOGAN: Okay, on the draft license
19 application.

20 MR. HUGHES: It's in a consolidated,
21 it's attached to a consolidated resource agency
22 comment letter dated August 31, 2007. And it's
23 providing comments on the draft license
24 application.

25 MR. HOGAN: Okay.

1 MS. LYNCH: And Ken, just one last
2 question. And this is a question that I raised in
3 our letter that requested this meeting.

4 FERC staff did have several paragraphs
5 in the draft EA where they talked about the
6 benefits of reconnecting this ecosystem.

7 And then they make a conclusion that the
8 environmental benefits of providing fish screens
9 at these facilities don't warrant the cost. I'm
10 sorry I'm misquoting there. But there was also a
11 quote very similar to that regarding the ladder,
12 it doesn't justify the cost.

13 I am still baffled as to how FERC staff
14 makes that conclusion when you have an annual cost
15 estimate that you don't know what it is. It's
16 \$247,000, \$267,000, but that is based on a 30 year
17 license. And even FERC staff doesn't know if that
18 is going to be divided by 30 or if that is going
19 to be divided by 50. And I still don't understand
20 how you make that call.

21 MR. HOGAN: Again, we'll take back the
22 idea of looking at the economics under a 30, 40
23 and 50 year --

24 MS. LYNCH: It just seems to me that a
25 reasonable person, a general member of the public

1 looking at the benefit of reconnecting an
2 ecosystem that is completely disconnected for
3 \$267,000 a year. You divide that then by 50 years
4 instead of 30 years. And it's, again, an even
5 smaller cost. And I just don't understand how
6 FERC makes that decision.

7 MR. HOGAN: And when we -- if I can get
8 Tim Looney to call in to answer your question
9 about the math on the 30 year financing maybe it
10 will answer more on how the economics or how we
11 got to where we are at the Commission.

12 MS. LYNCH: I mean, it just seems like
13 it's a big, huge black box for FERC staff too.
14 How do you make that decision? You are assuming
15 it is a 30 year license and then the Commission
16 could issue something different and it wipes out
17 every decision that you have made using your best
18 professional judgment.

19 MR. HOGAN: Would now be a good time for
20 a break? And I'll see if I can get Tim to call
21 back in to kind of talk about the economics a
22 little bit, how it is done. Okay, we are off the
23 record.

24 (Off the record.)

25 MR. HOGAN: We are back on the record.

1 Can I just get a roll call from the folks on the
2 phone.

3 MS. TURNER: Kathy Turner.

4 MR. LOONEY: This is Tim Looney with
5 FERC.

6 MR. LAWSON: Quentin Lawson, FERC.

7 MS. M. SMITH: Michael Smith, Friends of
8 Butte Creek.

9 MR. HOGAN: Okay. I asked Tim Looney to
10 join us because we had a couple of questions
11 before the break on economics. And if I could
12 have you just, Cal Fish and Game repeat their
13 economics question as far as how it calculated
14 over --

15 MR. HUGHES: Yes.

16 MR. HOGAN: You couldn't reproduce our
17 numbers or something.

18 MR. HUGHES: And it's Tim?

19 MR. HOGAN: Tim Looney, yes.

20 MR. HUGHES: Hi Tim. My name is Robert
21 Hughes, I am an engineer with the Department of
22 Fish and Game. In going through the cost
23 estimates and the cost analysis that is contained
24 in the draft EA I had a hard time actually for
25 those items --

1 MR. LOONEY: I am having a very
2 difficult time understanding Mr. Harris (sic).

3 MR. HOGAN: He's coming around.

4 MR. LOONEY: Okay.

5 MR. HUGHES: Can you hear me, Tim?

6 MR. LOONEY: Yes.

7 MR. HUGHES: Okay. Once again, it's
8 Robert Hughes with the Department of Fish and
9 Game.

10 MR. LOONEY: Okay.

11 MR. HUGHES: But as I -- I'm a hydraulic
12 engineer with the department. And I did take a
13 look at some of the cost estimates that were
14 included in the draft environmental analysis. I
15 had a difficult time understanding for those
16 conditions such as installation of fish screens or
17 fish ladders, how the FERC calculated an
18 annualized cost based on the capital cost and the
19 annual costs. I was wondering if you could help
20 enlighten us on the procedure that was used.

21 MR. LOONEY: Okay.

22 MR. HUGHES: It looks like there's an
23 interest rate of about 8.79 percent.

24 MR. LOONEY: Yes.

25 MR. HUGHES: And we understand that the

1 term of the analysis was 30 years.

2 MR. LOONEY: Yes, we did a Mead analysis
3 on the project.

4 MR. HUGHES: I'm sorry, a what kind of
5 an analysis?

6 MR. LOONEY: It's what we call a Mead
7 analysis.

8 MR. HUGHES: Okay.

9 MR. LOONEY: The assumptions in it are
10 that the economic and financial analysis should be
11 based on current economic conditions without
12 accounting for future inflation or escalation of
13 prices.

14 MR. HUGHES: You are referring to the
15 Mead decision?

16 MR. LOONEY: Right.

17 MR. HUGHES: Okay. So if you could help
18 walk us through the math part. And we could just
19 focus specifically on converting capital to an
20 annualized cost.

21 MR. LOONEY: Can you refer me to the
22 measure in the EIS that we are looking at. In the
23 EA, I'm sorry.

24 MR. HUGHES: How about, I think 53 is
25 the fish screen on Hendricks.

1 MR. LOONEY: Just one second. Okay,
2 that has a \$2 million capital cost.

3 MR. HOGAN: That's not the right one,
4 Tim.

5 MR. LOONEY: That's not the right one?

6 MR. HUGHES: That will do.

7 MR. THOMPSON: What page?

8 MR. HOGAN: Three-thirty.

9 MR. LOONEY: Okay, I am on page 330.

10 MR. HUGHES: Let's see. I'm sorry, how
11 about 62 on page 332. And all I am trying to do
12 is understand. Just to have this as an example.
13 And so there is a capital cost of \$3.3 million and
14 an annual cost of \$25,000.

15 MR. LOONEY: Okay.

16 MR. HUGHES: And the calculated
17 annualized cost ends up being \$589,800.

18 MR. LOONEY: Right. What we did is we
19 put into the spread sheet a capital cost of \$3.3
20 million and then we increased the annualized, the
21 O&M by 25,000. And then over the, you know,
22 compare it to the base case. And then that
23 difference ended up being 589,800.

24 MR. HUGHES: So I guess really my key
25 question is, how does that spread sheet go through

1 any of the math? Is that spread sheet something
2 that you could provide?

3 MR. LOONEY: That I don't believe we
4 can.

5 MR. HUGHES: And the reason for that
6 would be?

7 MR. LOONEY: That's internal decision-
8 making.

9 MR. LAWSON: That's correct. It's also
10 not part of the record.

11 MR. HOGAN: Who was that?

12 MR. LAWSON: Quentin Lawson here.

13 MS. LAWSON: Is there a way we can be
14 provided with the calculations that were used in
15 the spread sheet? Just a list of the formulas.

16 MR. HOGAN: Tim, do you have the
17 formula?

18 MS. LAWSON: The formulas should be
19 standard economic equations that were used to make
20 those calculations.

21 MR. HUGHES: It should be -- Annual
22 given present value.

23 MR. LOONEY: I am not prepared at this
24 particular moment to do it. I'm not saying -- I'd
25 have to talk with Quentin to make sure we could do

1 it, you know, pass it out.

2 MR. LAWSON: At this point if you are
3 looking for the actual formula it would be better
4 if you had a written request to staff for
5 Commission consideration.

6 MR. HUGHES: All I'm asking --

7 MR. LAWSON: I'm sorry we can't do
8 better than that right now.

9 MR. HUGHES: Question, all I'm asking is
10 for, in this case for Item 62, for the FERC to
11 explain how they calculated an annualized cost of
12 \$589,000 based on an initial capital cost of \$3.3
13 million and an annual cost of \$25,000. My math, I
14 am unable to reproduce that estimate.

15 MR. HOGAN: What estimate did you come
16 up with?

17 MR. HUGHES: I can go look at my
18 computer but --

19 MR. LAWSON: Tim?

20 MR. LOONEY: Yes.

21 MR. LAWSON: We'll confer later if you
22 want to talk about how to address the request.

23 MR. LOONEY: Okay, all right.

24 MR. HOGAN: Now there may be some other
25 considerations in this number that I am not sure

1 of. A lot of times the year in which we project,
2 the year of the license to which we project the
3 measure will actually be expended, it gets
4 implemented into the cost measures.

5 MR. HUGHES: I believe in the table 4.1
6 there is not an escalation factor. So it's
7 basically --

8 MR. LOONEY: I agree with that. You
9 know, not knowing too much about the cost right
10 now, that particular item. But if it was an old
11 cost. For instance if it was two or three years
12 old. Since we have escalation rates we could
13 update that to the, to the current, you know, to
14 the 2008 threshold that we used in our analysis.

15 MR. HOGAN: I don't think that's what I
16 was referring to. Tim, a lot of times if we have
17 a measure where it is going to be implemented in
18 years 7 and 8 and 14 and 15 of the license you
19 plug it in to your calculations to accommodate for
20 that, when that money is getting expended, right?

21 MR. LOONEY: Yes. Ken's right. I mean,
22 if something is going to come on-line you know,
23 say 15 years after the license is issued, we do
24 take into, you know, we do take into consideration
25 the fact that it is 15 years out, which will also

1 affect the value of that particular measure.

2 MR. HUGHES: Now is that calculated
3 based on the escalation rate or is that calculate
4 based on the interest rate or discount rate?

5 MR. LOONEY: Well we would -- Just say
6 if it was coming on-line, let me just look here.
7 If it was coming on-line down the road we would
8 discount it back. And then, you know, say you
9 have something that is coming on-line 15 years
10 down the road and it is going to be on-line for,
11 you know, from then on out for the license. So we
12 would discount it back and then total the present
13 worth and then come up with a levelized value over
14 the, over the license.

15 MR. HUGHES: I do have a couple of other
16 questions but it sounds like this may be as far as
17 we can go at this point in time.

18 MR. HOGAN: Okay.

19 MR. HUGHES: So I think there is an
20 interest on the part of the resource agencies to
21 better understand this calculation procedure and
22 so how can we get that?

23 MR. HOGAN: I'll bring the issue back to
24 my supervisor and talk with Tim and Quentin and
25 see if we can't have a teleconference to try to --

1 MR. LAWSON: Ken, would we be expecting
2 a written request then? Are you willing to do
3 that? That would certainly help clarify, you
4 know, what you need.

5 MR. HUGHES: You know, this is kind of
6 interesting because I think really all we are
7 asking for is to better understand the math
8 formula that FERC used to make this calculation.
9 That's really all the, all the request is. I am
10 just not able to take and reproduce the numbers.
11 It looks like it is kind of getting formal.

12 MR. HOGAN: Yes, we'll bring it back.
13 We'll just see what we can do. Maybe even in the
14 NEPA document or in another teleconference just
15 say, you know. We'll see what we can do.

16 MS. MURRAY: And Ken, if you do do a
17 written request, is the idea that that would be
18 under the Freedom of Information Act? Is that how
19 you want the written request?

20 MR. HOGAN: I think Quentin is going for
21 the written request so that we can get very
22 specific as to exactly what it is that you are
23 looking for and prepare for it. Is that correct,
24 Quentin? And then determine whether or not the
25 information that you are specifying is releasable.

1 MR. LAWSON: That is correct. And also
2 just in an effort to provide a more coherent,
3 let's say, response.

4 MS. LYNCH: And then I guess the other
5 question is, would we get that response in time
6 for consideration in the NEPA document?

7 MR. HOGAN: We will respond as promptly
8 as we can.

9 MS. O'HARA: I think -- Ken, this is
10 Kerry O'Hara for the Fish and Wildlife Service.
11 If you can't respond before the NEPA document
12 comes out I think you should tell the agencies
13 that. Because I think that might influence
14 whether to file something.

15 MS. MURRAY: Well, and I think what we
16 might do in order to help you respond before the
17 NEPA document is to maybe make that written
18 request under the Freedom of Information Act soon
19 so that you have time to consider with your legal
20 counsel whether there is any reason not to answer
21 what seems to be a simple question about how did
22 you get from an overall capital to an annual cost.

23 MR. HOGAN: Yes. Certainly the sooner we
24 get the request the sooner we can respond. And it
25 would definitely be my goal to get a response

1 before we issue the final NEPA document.

2 MS. LYNCH: I'm typing it.

3 MS. MURRAY: Yes, I think it makes sense
4 to get you that soon. And so that you are not
5 surprised and that you can even take it back that,
6 you know. As MaryLisa said, we have other FERC
7 projects coming down the line in the next few
8 years so we are interested in not just this
9 project but other projects and having as much
10 information about your decision-making process as
11 possible.

12 MR. HOGAN: Okay.

13 MR. MITCHNICK: Quentin, do we need a
14 request through the Freedom of Information Act or
15 just a request. Because that goes through a whole
16 separate process.

17 MR. LAWSON: I don't, I personally don't
18 see the need for that. Of course we will attempt
19 to respond as fully as possible. At that point
20 you can decide whether or not, how to proceed. We
21 certainly don't want to hold back on information
22 that should be publicly available. I don't want
23 to give that impression at all. At this point I
24 don't see why just sort of a regular request
25 shouldn't be sufficient.

1 MR. HOGAN: The concern is that a
2 Freedom --

3 MR. LAWSON: You are certainly within
4 your right to but I am not, I am not encouraging
5 or discouraging that FOIA request.

6 MS. MURRAY: Is there a different FOIA
7 process in your office, is that it?

8 MR. LAWSON: No.

9 MR. HOGAN: The concern is that for a
10 FOIA request it would take -- it has to be better
11 vetted.

12 MR. LAWSON: Although it would be
13 addressed to the Commission.

14 MR. HOGAN: It will take us longer to
15 generate the response.

16 MR. LAWSON: I don't want to needlessly
17 complicate this whole thing. You have expressed a
18 legitimate concern for an explanation and
19 hopefully we can provide it. But I have to make
20 sure that it is done with regards to Commission
21 procedures and protecting certain internal
22 documents.

23 MR. HOGAN: Understood, okay. So you
24 can decide whether you want to make this a formal
25 request or if you want to do it under FOIA. Under

1 FOIA it may take us a little longer to respond
2 because it has got a more lengthy vetting process.
3 But without the FOIA we'll try to get everything
4 that we can that the Commission's procedures will
5 allow us. I don't know that it is going to be all
6 that big of an issue. I don't know what all is
7 entailed on the economic decision-making process.

8 Okay. You also had a question about
9 whether or not we can look at 30, 40 and 50 year
10 terms. Tim, did you have any background on that,
11 why we just do the 30 year versus, in our economic
12 analysis looking at a 30, 40 or 50 year term of
13 the license? The thought is that if we can look
14 at a longer term in the NEPA document we may be
15 better able to balance the cost of a measure over
16 that longer term. Tim.

17 MR. LOONEY: Okay. I didn't realize you
18 were talking to me, I'm sorry. A 30 year analysis
19 is a standard analysis that we do. It's like I
20 was referring to earlier. The Commission decided
21 years ago that we would do what everyone refers to
22 as the Mead analysis and we do a 30 year analysis.
23 All I can say is that you can request a different
24 term. We can take it under advisement and we can,
25 we'll see what happens.

1 MR. LAWSON: Quentin Lawson here. What
2 was the question again, Ken? I wasn't sure we
3 heard it.

4 MS. LYNCH: I don't think that was the
5 question. This is MaryLisa Lynch from Fish and
6 Game. I think I was the one that asked the
7 question that Ken is referring to.

8 What I was talking about is as FERC
9 staff pointed out, the decision about the term of
10 the license is not in their hands, it is beyond
11 their control. So they issue an environmental
12 document that has a cost analysis in there that is
13 based on the minimum license period of 30 years.
14 And that is what they are making this preliminary
15 determination of inconsistency on. They are
16 basing it on that annualized cost over 30 years.

17 What I am saying is that it seems to me
18 that environmental analysis needs to include not
19 just a 30 year term of financing and period of
20 analysis but 35, 40, 45 and 50. Because how can
21 FERC staff even make the decision that \$267,000 a
22 year is too much to reconnect 14 miles of
23 ecosystem with another 13 miles of ecosystem,
24 versus \$160,000 it would cost if it was over a 50
25 year license period. FERC staff can't even make

1 that preliminary determination of inconsistency
2 because they don't know what the Commission is
3 going to issue for the term of the license. So
4 just laying that out in the draft document I think
5 would assist everyone.

6 MR. HOGAN: I think we'll take that
7 under advisement and bring it back and see what
8 supervisors want to do.

9 MR. MITCHNICK: Hey Tim?

10 MR. LOONEY: Yes.

11 MR. MITCHNICK: How does the license
12 term affect our analysis? Does it affect it at
13 all?

14 MR. LOONEY: It does have somewhat of a,
15 a little bit of an impact. From what I have seen
16 it hasn't been significant. I have only done a 30
17 year analysis though.

18 MR. MITCHNICK: For a new 50 year
19 license we would still do the 30 year?

20 MR. LOONEY: We would still do a 30 year
21 analysis.

22 MR. HOGAN: Debbie.

23 MS. GIGLIO: I think from the -- This is
24 Debbie Giglio, Fish and Wildlife Service. I think
25 from the Fish and Wildlife Service perspective we

1 are confused by the cost analysis in the draft
2 environmental assessment. We don't understand it,
3 it is not transparent to us.

4 And a lot of times in the determination
5 of inconsistency it appears to be, it appears from
6 the way the language is, to be inconsistent due to
7 costs. And, you know, we are involved in other
8 projects besides energy projects. We do habitat
9 restoration where we might, you know, end up
10 putting a ladder or something in and so there are
11 costs associated with that that are figured.

12 If we can't understand how the FERC is
13 assigning costs to the alternatives we can't
14 really make alternative suggestions for things
15 that might be lower cost because we don't have a
16 way to make the comparisons. If we could
17 understand that a little bit better then maybe we
18 could come up with other lower cost alternatives.

19 We just can't understand it and it seems
20 to be privileged information that can't be in the
21 DEA. And in my mind it should be because it is
22 affecting public trust resources. And if it isn't
23 one of the major factors in determining whether it
24 is consistent or not we should be privy to that
25 information so we could make decisions as a group.

1 That helps us meet our mission to protect the
2 public trust resources.

3 MR. HOGAN: And like I said, once we get
4 the request we will try to put together a response
5 as detailed as we can. When I say that, I don't
6 know that there's any limitations on it. That's
7 what Quentin is going to look into. We will
8 address that.

9 MS. GIGLIO: Okay, thank you.

10 MR. HOGAN: Okay.

11 MS. MURRAY: Ken, one other economic
12 question that was asked earlier. MaryLisa asked
13 the question about the term of financing being 20
14 years. It is again not clear to me if that makes
15 a difference in the economic analysis that the
16 period of analysis is 30 years but for some reason
17 the term of financing is assumed to be 20 years.

18 MR. HOGAN: What are you -- You're
19 looking at a page there?

20 MS. MURRAY: Yes, Table 4.1 page 313.

21 MR. HOGAN: Tim, did you hear the
22 question.

23 MS. MURRAY: Yes. And does it make, how
24 does that affect the analysis, if at all, to be
25 using a term of financing of 20 years rather than

1 30 years?

2 MS. LAWSON: This may be a standard
3 assumption that FERC is making because we noted
4 the same thing in the South Feather process.

5 MR. LOONEY: The term of financing
6 doesn't have a tremendous impact from what I have
7 seen. I have tried taking and changing it from a
8 20 year term of financing to 30 years and I
9 haven't seen a dramatic increase.

10 MS. MURRAY: And I guess it just seems
11 logically that it would be a 30 year term of
12 financing for a 30 year licensing. At least I
13 don't understand why it would not be 30 years. Is
14 it a FERC, is it in the FERC regs, is it in a FERC
15 process manual? Is this something else we need to
16 ask you in writing about?

17 MR. HOGAN: So where does the 20 years
18 come from, Tim?

19 MR. LOONEY: That has been a standard
20 from the Mead analysis. That's where I picked it
21 up and started using it.

22 MR. HUGHES: Is that a component of the
23 Mead decision then? I didn't think that that was.

24 MR. LOONEY: I would have to verify that
25 before I could say absolutely it was. Was that

1 Robert?

2 MR. HUGHES: Yes.

3 MR. LOONEY: Yes. I couldn't say with
4 any absolute certainty at this particular moment
5 without going back and pulling it out.

6 MS. MURRAY: And are you going to go
7 back to the Mead decision and make that
8 determination whether or not it is in the Mead
9 analysis or if it is just something that has been
10 done and then copied?

11 MR. LOONEY: I can do that.

12 MS. MURRAY: That would be great.

13 MS. LAWSON: And also it would be good
14 to know how that is applied in your cost
15 calculations. Where that number --

16 MR. LOONEY: I'm sorry, that I did not
17 understand, that last little bit.

18 MS. LAWSON: This is Beth Lawson from
19 Fish and Game. I am just asking that you
20 additionally include that, that we can know where
21 the term of financing is actually used in your
22 cost calculations. Because it doesn't sound, it
23 sounds like you have tried to change it and you
24 know how it changes the results. It might be good
25 to investigate that and find out how it is

1 actually used in the formulas.

2 MR. LOONEY: Okay.

3 MR. HUGHES: Ken, you asked earlier what
4 my estimate was for this. I'd be happy to explain
5 that if you'd like.

6 MR. HOGAN: Okay. Take notes, Tim.

7 MR. HUGHES: Well there's a couple of
8 things that are kind of complicated. But the
9 first thing --

10 MR. HOGAN: And we are looking at the
11 fish --

12 MR. HUGHES: The fish screen.

13 MR. HOGAN: The fish screen, the 3.3
14 million.

15 MR. HUGHES: So if we look at Condition
16 62, which is -- or Item 62 which is the Hendricks
17 fish screen. The capital cost is \$3.3 million
18 and there's an annual cost of \$25,000. Looking at
19 an interest rate of 8.79 percent and a period of
20 analysis of 30 years.

21 If I only do an assessment based on that
22 information I come up with an annualized cost of
23 \$290,000. I have not included in that estimate
24 any sort of tax rate. And because part of my
25 question is to really, part of our interest is to

1 understand where this might be applied within a
2 process.

3 MR. HOGAN: So under your analysis it
4 would actually come to 315 with the additional 25
5 annually?

6 MR. HUGHES: No, that includes it, I'm
7 sorry.

8 MR. HOGAN: So it does --

9 MR. HUGHES: That includes the 25,000.

10 MR. HOGAN: Okay.

11 MR. HUGHES: If I assumed a 44 percent
12 tax rate, which should include state and local
13 taxes, and apply that to the -- and apply that,
14 that 44 percent increase to the annualized cost,
15 then that would bump up a recalculated cost up to
16 about 418,000 per year. But as I said, I am not
17 sure that that last, that last assumption is
18 actually correct. And so that is part of what we
19 are hoping that FERC will be able to share with us
20 and explain. Any question, Tim?

21 MR. LOONEY: No, but I can tell you that
22 our analysis does take into consideration taxes.

23 MR. HOGAN: It does or does not?

24 MR. LOONEY: It does.

25 MR. HUGHES: Yes, that is reflected in

1 Table 4.1 of the draft EA. It is just where does
2 that, that tax break, where does that apply
3 within, within the analysis? Does that apply to
4 the capital costs, does it apply to the annualized
5 costs?

6 MR. LOONEY: Right now I just, I don't
7 have an answer for you right now, Robert.

8 MR. HUGHES: Okay. Well we'll work on
9 putting together our information request.

10 MR. LOONEY: Okay.

11 MR. HUGHES: And hopefully we can have a
12 conference call or whatever it takes to kind of go
13 through it to better understand this whole
14 process. I think it would be beneficial. Thank
15 you for your time, Tim.

16 MR. WANTUCK: Ken, this is Rick Wantuck
17 of NOAA Fisheries. I supervise our hydropower
18 program these days but I have been involved with
19 fish screen engineering for 15 years in California
20 so I want to make some comments.

21 The first comment I want to make is this
22 discussion is applying to the cost calculation
23 methodology that Fish and Game is asking for and
24 we would support a clarification of that.

25 And the second point is I think the base

1 cost of \$3.3 million was taken from PG&E's
2 estimate and Fish and Game has put on the record a
3 contesting estimate that we feel FERC should take
4 a look at.

5 MR. HOGAN: And we will.

6 MR. WANTUCK: Those numbers are
7 significantly different. I don't know if Robert,
8 you had that number on hand of what you thought
9 that might be.

10 MR. HUGHES: Yes actually I do. In
11 PG&E's license application I believe that their
12 cost range for a fish screen at Hendricks, for a
13 self-cleaning fish screen at Hendricks was between
14 \$2.4 and \$4.2 million. When I applied the
15 methodology using the Washington Department of
16 Fish and Wildlife cost ranges, which as I
17 mentioned earlier is the same type of process that
18 was described in the South Feather 10(j) meeting a
19 couple of weeks ago I came up with an estimate of
20 \$376,000 to \$1.1 million for a self-cleaning fish
21 screen at the Hendricks diversion.

22 MR. WANTUCK: So I want to add to that.
23 In my experience of working with many fish screens
24 in California through the anadromous fish screen
25 program of the CVPIA, what we have experienced is

1 that this program built many large fish screens.
2 I mean, orders of magnitude more diverted than
3 what we are talking about here.

4 Secondly, the irrigators that were
5 involved in these programs, they built fish
6 screens with appurtenances let's say that cost a
7 lot of money. I am talking about pumping
8 stations, canal improvements. I am talking about
9 things like trucks and maintenance. They got a
10 really good deal.

11 And when PG&E did this, and I know this
12 because I was involved in the discussions, they
13 looked at California fish screen programs and used
14 those costs. And many of those costs were, in my
15 opinion, much higher than what we would be talking
16 about for these sorts of fish screens.

17 So that needs to be considered. It is
18 just an artifact of history of the way the
19 government programs have been able to provide this
20 sort of funding and they had seen fit, I guess, to
21 offer diverters significantly more benefits than
22 just the actual cost of protecting the fish.

23 So, you know, with that perspective in
24 mind, you know. I know you have two competing
25 cost estimates, two different methodologies, but

1 you should at least think of that when you are
2 looking at the higher cost estimate. And if you
3 would like I can provide a lot more information
4 about the history of fish screen costs in
5 California.

6 MR. HOGAN: When you were saying PG&E's
7 cost estimates were higher because of all the
8 additional appurtenances on the fish screens that
9 they used to evaluate the costs?

10 MR. WANTUCK: If you look across the
11 board. And my understanding is PG&E looked at
12 fish screen, historical fish screen costs in the
13 last say 20 years in California. And many of
14 these fish screens were funded with federal and
15 state dollars that allowed the diverters to do
16 things like pump station improvements, canal
17 improvements. Lots of upgrades that really were
18 not connected to the actual fish screen itself.

19 MR. HOGAN: I just wanted to make sure I
20 was understanding.

21 MR. WANTUCK: That's my point.

22 And I have one more point. As I am
23 understanding this dialogue about FERC using a 30
24 year cost analysis. It seems to me that if you
25 use a 30 year cost analysis and then issue a 50

1 year license, you are applying these costs to only
2 60 percent of the license term and excluding the
3 other 40 percent of that time. So it does not
4 seem to be an equitable calculation to use a 30
5 year basis and then possibly go ahead and issue a
6 50 year license. If you use a 30 year cost
7 analysis I would say a reasonable determination
8 would be to limit the term of the license to a
9 maximum of 30 years.

10 MR. HOGAN: Okay. I just want to know
11 if PG&E wants to respond to their cost analysis
12 for fish screens?

13 MR. JEREB: Sure. Tom Jereb here with
14 PG&E. Yes we did provide the agencies but not
15 provided it to FERC some benchmarking information
16 from 24 different screens that were constructed in
17 California to try and bracket a range of costs per
18 cfs for these types of screens. And indeed it is
19 true that they range from very large screens to
20 very small screens.

21 I do feel that the costs within there
22 were within an appropriate range of costs. I
23 stand behind the cost analysis that we previously
24 did and the collection of these 24 different
25 screens. I can provide that information to you,

1 the 24 screen benchmarking information that we
2 provided in technical meetings with the agencies
3 and their engineers.

4 MR. HOGAN: Okay. Okay.

5 And I had one other question for you.

6 MR. HUGHES: Okay.

7 MR. HOGAN: Using the Washington fish
8 screen analysis. Those fish screens had the same
9 standard as far as spacing and velocity and things
10 of that nature that you are recommending or that
11 PG&E analyzed?

12 MR. HUGHES: That's a good question and
13 I don't know the answer to that for all of those
14 fish screens that were listed in the Washington
15 website. I am sure that they met or I strongly
16 suspect that they met the criteria that Washington
17 had at the time that they were constructed and
18 installed.

19 One point I just wanted to reiterate was
20 that using this information was, again, it was the
21 same methodology that FERC staff and consultants
22 indicated that they used when they evaluated costs
23 for fish screens on the South Feather project.

24 MR. HOGAN: Okay.

25 MR. HUGHES: I was happy to hear that we

1 were consistent in our approach.

2 MR. HOGAN: We'll take another look at
3 it.

4 MR. WANTUCK: This is Rick Wantuck
5 again. Where anadromous monitors occur in the
6 Yakima Basin these screens were constructed
7 according to the criteria, federal criteria up
8 there, which essentially was identical to the
9 criteria we would apply here.

10 MR. HOGAN: Well we will certainly
11 revisit the economics on the fish screens and
12 ladders and the additional information that
13 apparently we omitted.

14 Any other questions while I have Tim
15 Looney on the phone for Tim, economics-wise?

16 Okay hearing none, Tim, you can crawl
17 out from under that bus now.

18 MR. LOONEY: All right.

19 MR. HOGAN: Okay. Well that certainly
20 will give us some food for thought. We will re-
21 look at the economics and revisit the issue in the
22 final NEPA document. I can't say where I am now.
23 I am still not persuaded on the viable and
24 generally healthy arguments but the cost helps us
25 to balance the economics of the project versus the

1 level of mitigation we are going to get. We'll
2 look at that.

3 MS. TURNER: Ken, excuse me. Did you
4 move away from the phone? You are really hard to
5 hear now and you are breaking up a lot.

6 MR. HOGAN: I had a break, I'm relaxing
7 a little bit. I'll try to speak up some more.

8 (Laughter)

9 MS. TURNER: Thank you.

10 MR. HOGAN: Is there anything anybody
11 wants to add on the West Branch Feather River fish
12 screens or fish passage at this time? I think we
13 all currently understand where we stand.

14 Can we move to Butte Creek fish screens?
15 Again, our analysis was based on the need for the
16 fishery population and what level of protection we
17 felt was necessary.

18 In comments on the 10(j) letters we
19 received new support or reaffirmed support for
20 screening those diversions because of rainbow
21 trout populations may indeed be descendants of
22 steelhead and representing a life history anadromy
23 and trying to migrate downstream. That's
24 something we will definitely take into further
25 consideration on Butte Creek.

1 But I will note that those populations
2 that may be exhibiting anadromy life histories are
3 not listed populations so that will also weigh
4 into our consideration. But is there anything
5 people want to say about the need for fish screens
6 on Butte Creek?

7 MR. THOMPSON: I missed that last point.

8 MR. HOGAN: They are not listed
9 populations.

10 MR. THOMPSON: The ones that?

11 MR. HOGAN: The offspring of resident
12 rainbow trout that may exhibit anadromous life
13 histories. My understanding of the listing is
14 that it is up to the first natural or man-made
15 barrier and the population is downstream. The
16 anadromous populations are the ones that above the
17 barriers are not. That's my understanding of the
18 listing.

19 MR. THOMPSON: And where is the barrier?

20 MR. HOGAN: Well then just above Lower
21 Centerville there's the natural barrier. Quartz
22 Bowl?

23 MR. THOMPSON: Quartz Bowl, correct.

24 MR. HUGHES: Ken, I think it might be
25 helpful if you could kind of describe to the group

1 why the recommendation for a fish screen is
2 inconsistent with Sections 10(a) and 4(e).

3 MR. HOGAN: Again, it goes back to our
4 assessment of the population and then what was
5 needed to adequately protect that population. And
6 we didn't find that the cost of the fish screens
7 warranted the level of protection that they would
8 provide based on the impacts that we felt the
9 product was having on those populations.

10 MR. HUGHES: And can you provide more
11 detail on exactly how that is inconsistent with
12 the comprehensive planning standard of Section
13 10(a).

14 MR. HOGAN: We have to balance the value
15 of the power and the development of the project
16 and the resources. And that is what we have tried
17 to do here is making those balancing calls.

18 Our economic analysis showed that if we
19 went with all the measures as a whole we would be
20 looking at a project with a negative net benefit
21 or a loss. And not that that's something that we
22 have to avoid but it is -- but we have to look at
23 what is the need for the resource and try to
24 accommodate that need and provide for the
25 generation benefits of the project.

1 I know I am probably not giving you the
2 answer you want but it is certainly, you know,
3 based on the information we've got and judgment.
4 So that's why if you can, if there's new
5 information or if I have misunderstood something,
6 tell me, I'll revisit the issues.

7 MR. THOMPSON: Well I think the cost
8 issues that we just discussed with regard to the
9 West Branch.

10 MR. HOGAN: Certainly and we will
11 revisit the costs.

12 MR. THOMPSON: They apply over to these
13 screens as well. I think going back to what I
14 talked about earlier. I think in the EA we would
15 like to understand or have you take a better look
16 at the next draft of number one, what is the
17 degree of entrainment at the intake. And then
18 secondly, what is the extent of the fish mortality
19 of those fish that are entrained.

20 And then third, then the effect on the
21 O. mykiss populations, assuming they are all the
22 same species. And then the next level to that is
23 on what might be the anadromous form of those
24 fish. Alan earlier mentioned that there is a
25 greater value sometimes assessed for certain

1 populations than others and those fish in Butte
2 Creek can exhibit anadromy, as we assumed. So we
3 need to see that somewhere in the analysis.

4 MR. HOGAN: And do we have any
5 literature that demonstrates that those fish in
6 Butte Creek exhibit anadromy?

7 MR. THOMPSON: I think we do.

8 MR. HOGAN: That would be helpful.

9 MS. McREYNOLDS: I think we do. I was
10 looking for a paper again this morning on that to
11 see if Butte Creek was included in some of the
12 analysis. There were a number of Central Valley
13 streams that were analyzed using otolith chemistry
14 and I cannot -- Maybe somebody else could help me.
15 I can't remember if Butte Creek was included in
16 that suite of streams that was sampled.

17 MR. HOGAN: There's a gentleman behind
18 you who thinks he might have the answer.

19 MR. HARTHORN: Allen Harthorn, Friends
20 of Butte Creek. I don't believe that Butte Creek
21 was included. I know Deer Creek and Mill Creek
22 were. I just looked at that the other day and I
23 don't recall any reference to Butte Creek on
24 there.

25 MR. HOGAN: And Deer Creek and Mill

1 Creek are tributaries?

2 MR. HARTHORN: To the north.

3 MR. HOGAN: To the north, okay.

4 MR. THOMPSON: They are in the same
5 general geographic area.

6 MR. GARD: And I guess more importantly,
7 those are the three streams that have genetically
8 pure spring run. That's a commonality between
9 them.

10 MS. McREYNOLDS: I know Butte Creek
11 wasn't part of the otolith report.

12 MR. THOMPSON: It was not?

13 MS. McREYNOLDS: It was not.

14 MR. THOMPSON: But I don't think, you
15 know, we can make the opposite assumption that
16 they are -- You know, a lot of times we will refer
17 to these fish as resident fish and there is no
18 evidence that anyone has that those fish are
19 residents either, or that they will be residents
20 next year. They won't exhibit anadromy. That's
21 the way these fish with species operates. They
22 can exhibit that behavior.

23 And this Butte Creek, unlike some of the
24 other streams we have been talking about today,
25 has a clear path to the ocean. So these fish, we

1 are talking about Butte Creek and that's why I
2 bring the point up to Alan. You know, how do we
3 assess those differently? Do we place a higher
4 value on them? And I didn't see that analysis in
5 the EA, the present draft. I think that would be
6 helpful.

7 I think also -- I thought Fish and Game
8 made a good point earlier about the lack of
9 analysis in the EA of comprehensive and resource
10 management plans and the consistency of the
11 project with them. And those include steelhead
12 management plans that do call for screening of
13 diversions at the project.

14 I printed that out and it is really --
15 Your analysis in the current EA draft is a few
16 lines. There is no analysis of the plans you have
17 listed. I am not entirely sure that the list you
18 have is complete either. We are going to take a
19 look at that. And we may be able to provide you
20 some comments on that.

21 But given the ones that are listed,
22 there's no analysis except to say that you didn't
23 find any inconsistencies but Fish and Game did
24 point out at least one today. And it does have to
25 do with steelhead and screening the diversions of

1 the project.

2 MR. HILLYER: This is Steve Hillyer,
3 NOAA Fisheries. You just mentioned that there is
4 an uncertainty as to the level of anadromy with
5 the fishes. And that uncertainty is tantamount to
6 risk. The risk must not be borne by the listed
7 species. You have to, you have to err on the
8 side --

9 MR. HOGAN: But that's my issue, they
10 are not listed. If they were listed then they are
11 a higher level of consideration for us, as with
12 any ESA species.

13 MR. SHUTES: But they are only not
14 listed, Chris Shutes, because there is not a
15 screen. If there was a screen they would be
16 routed down. As I understand it, the screen will
17 take the fish from upstream, entrain them into the
18 canal a short distance and put them downstream.
19 If there was a screen then they would, as soon as
20 they passed through that screen they would be
21 listed.

22 MS. GIGLIO: Debbie Giglio, Fish and
23 Wildlife Service. Do you consider the project's
24 canal system to be a good or viable aquatic
25 habitat for these fish to end up in them? Would

1 you consider that that habitat there is good or
2 viable for the fish? And if a listed species was
3 entrained to them would you consider that good or
4 viable habitat for a potentially listed species?

5 MR. HOGAN: The answer is I don't feel
6 that the canal habitat is as suitable as the
7 stream habitat.

8 MS. GIGLIO: Would you consider fish in
9 a canal to be qualified as a good or viable
10 population of fish? That were living in the canal
11 in artificial area.

12 MR. HOGAN: I don't think that they are
13 members of the population once they enter the
14 canals, they are entrained.

15 MS. GIGLIO: Yet those were the fish
16 that were sampled to determine if it was good or
17 viable.

18 MR. HOGAN: No.

19 MS. GIGLIO: From the canals.

20 MR. HOGAN: Those were the fish that I
21 used to determine whether or not they were in good
22 condition. And being that they are in the canal,
23 which is not as good a habitat as the streams, you
24 would suspect that their condition would be less
25 than those of the fish in the streams. Because

1 they were of good condition I made an
2 extrapolation that the fish in the streams should
3 be in as good or better condition.

4 MS. GIGLIO: So you guessed.

5 MR. HOGAN: No.

6 MS. GIGLIO: But based on your
7 experience you made a call on that. But the fish
8 in the stream are not --

9 MR. HOGAN: I used your agency's
10 statements that the canals were not ideal habitat,
11 okay. You reduce habitat you reduce condition.

12 MS. LYNCH: Ken, that makes an
13 assumption about how long you think those fish
14 have been in that canal. Have the fish been
15 living in the canal for five years?

16 MR. HOGAN: That's why we use the mean.

17 MS. LYNCH: Or have those fish been
18 entrained in that canal 20 minutes ago? And that
19 also speaks to the issue of how often the fish
20 rescue occurs. And I think if you go back and
21 look at Fish and Game's original 10(j) letter we
22 did provide some information in there about the
23 amount of flow in that creek and whether --
24 excuse, me, in the canal. Boy there was a
25 Freudian slip.

1 The amount of flow in the canal and
2 whether or not we felt in our best professional
3 judgment whether or not those trout were resident
4 within the canal. And I would appreciate it if
5 you could go back and take a look at that.
6 Because that speaks directly to the issue of
7 condition.

8 MR. HOGAN: I agree with --

9 MS. LYNCH: I do have one more question
10 about the condition factor too since you pointed
11 out to PG&E's comments that they submitted. What
12 does FERC use as a Fulton condition factor?

13 MR. HOGAN: I'm sorry?

14 MS. LYNCH: What does FERC use as a
15 Fulton condition factor? What does FERC
16 consider --

17 MR. HOGAN: Good condition?

18 MS. LYNCH: -- fish in good condition?

19 MR. HOGAN: One-point-zero.

20 MS. LYNCH: Really? Okay.

21 MR. LIBERTY: What does Cal Fish and
22 Game use?

23 MS. LYNCH: Usually 1.0 is considered --
24 let me read it for you here. Zero-point-eight,
25 extremely poor fish resembling a barracuda; 1.0 is

1 poor fish, thin and long; 1.2 is a fair fish
2 acceptable to many anglers; 1.4, a good, well-
3 proportioned fish; and 1.6 is excellent condition,
4 trophy quality.

5 MR. LIBERTY: Is there any literature on
6 that?

7 MS. LYNCH: I could get that for you.
8 This was sent to me by a fishery biologist.

9 MR. THOMPSON: Going back to the ESA
10 issue. Again, we made the point that we thought
11 those fish were important to the recovery of the
12 Central Valley population. DPS steelhead, Whether
13 or not we can save those that are being entrained,
14 are listed fish.

15 And I guess that is what we would like
16 to see, maybe a little more analysis of how you
17 value those fish. Do you value them differently
18 given that Butte Creek has one of the few places
19 where there's a clear, clear run to the ocean from
20 there. Those fish could exhibit that anadromous
21 behavior and contribute to the population.

22 I agree with another thing Fish and Game
23 said about the frequency of the canal rescues. I
24 know you stated that that would be -- You know,
25 you balance that versus the screen in terms of the

1 cost. But maybe an analysis of a more frequent
2 rescue.

3 MR. HOGAN: Well what I was hearing is
4 it can only be done once a year.

5 MR. THOMPSON: By the constraint of the
6 project that would --

7 MS. McREYNOLDS: There is only one
8 period of time that you can do it because of the
9 spring run. Once you have adults in the system
10 you can't cut the supply of water or have a canal
11 outage because of the impact to the spring run.

12 MR. HOGAN: How long is that period of
13 the year when it can be done?

14 MS. McREYNOLDS: Well ideally it would
15 be, canal outages would be done in a winter
16 period, early, you know, January and February, but
17 there's weather constraints. So there is really
18 only a window of time, this time. We are
19 currently doing outages right now. But we have
20 spring run immigrating right now and it's the peak
21 immigration in April or May. So you have to --
22 After May you have got fish in the system and you
23 can't have any outage or water interruption.

24 So you have just the spring, early
25 spring is the only chance. Because then you have

1 holding fish then you spawning fish and you get
2 into dewatering redds.

3 MS. MURRAY: And Tracy, that is more
4 than a day, right?

5 MS. McREYNOLDS: More than a day?

6 MS. MURRAY: Yes.

7 MS. McREYNOLDS: Yes. So there isn't a
8 lot of flexibility. You can't add more rescues
9 per se as really a viable option.

10 MR. HOGAN: Okay.

11 MR. WANTUCK: Rick Wantuck, NOAA
12 Fisheries. Is dewatering the canal the only
13 viable way of rescuing fish from the canal? I
14 mean, are there hydraulic conditions in the canal
15 such that you couldn't, we don't feel that we
16 could pull rescues off on a more frequent basis
17 without interrupting stream flow?

18 MS. McREYNOLDS: You would have to
19 dewater. I think if you have any velocity in
20 there that it would be extremely difficult.

21 MS. LAWSON: Yes. There's 125 cfs in a
22 relatively small canal so Jim Bundy could speak to
23 that. The velocities are pretty high.

24 MR. WANTUCK: Well PG&E, you want to
25 take the question? Could you rescue fish without

1 dewatering the canal?

2 MR. BUNDY: Curtis could speak to the
3 actual rescue because we generally -- this is Jim
4 Bundy with PG&E. Curtis generally assists us,
5 either by staffing or his own personal assistance
6 in rescues. So my experience without actually
7 seeing it happen is it requires shock. You have
8 to have a shock or you can't guarantee you are
9 going to be 100 percent on extraction of the fish.
10 And volume of water and velocity I think would
11 play a part in that but Curtis might be able to
12 say something.

13 MR. STEITZ: Could somebody explain why
14 we are asking the question. Is it can we do it in
15 two or three cfs versus completely dewatering the
16 canal? Or is the question --

17 MR. HOGAN: I think the question is can
18 you do it more frequently during the year without
19 dewatering the canals so the canal has plenty of
20 water to protect the spring run.

21 MR. STEITZ: You know, we are currently
22 conducting the rescues during the annual outages
23 so the canal is dewatered and that's of course
24 when we do that. So we would want to continue to
25 do those kinds of operations for sure.

1 We could potentially rescue fish without
2 taking the canal completely out but we are really
3 essentially having to get that thing down to, you
4 know, a relatively small amount of water or flow
5 in the canal to do the rescue.

6 So I think what Tracy commented on is
7 that she would like to see, you know, the amount
8 of water that is in the canal continue during
9 those times of year when it is a sensitive
10 situation. So we are bringing, you know, 50 to
11 maybe 80 cfs from the Hendricks canal over to
12 Butte Creek. And in order for us to do a rescue
13 we would have to probably get that canal down to
14 about five cfs so we would adequately caught fish.

15 MR. JEREB: And one thing too, this is
16 Tom Jereb here. The canal velocities, Jim was
17 telling me, they are three to five feet per
18 second. So making it difficult to impossible to
19 get somebody in the canal for a fish rescue at
20 higher levels. So it's three to five cfs
21 velocity.

22 MR. HOGAN: So it's hazardous.

23 MR. WANTUCK: Okay, I have another
24 point. I want to go back to this resident fish
25 and anadromy issue. And pointed out that you

1 considered these fish not listed. Our information
2 is that in some years under some conditions
3 anadromous steelhead do and can surmount Lower
4 Centerville diversion dam, although it is probably
5 not a frequent condition. This is without a
6 ladder or anything.

7 But, you know, having made that
8 statement now I want to talk about the resident
9 fish juveniles that will migrate down. Many of
10 them are entrained in the canal. I would say
11 based on literature that I have seen we are
12 sustaining probably at least 30 percent mortality
13 through the turbines.

14 The reason why NOAA Fisheries did not
15 exercise Section 18 authority here was because we
16 do not have the stream-specific otolith analysis
17 on Butte Creek to make that connection. But we do
18 have otolith analyses on two adjacent streams in
19 the same population segment, the Northern Sierra
20 range, Mill and Deer Creek just north of Butte
21 Creek. So we stopped short of prescribing fish
22 passage facilities under Section 18 using the
23 mandatory authorities because of that reason.

24 It is likely I would say, given the
25 amount of research that is going on, that someday

1 otolith analysis will be conducted on these fish
2 in Butte Creek. At which point, because we have
3 reserved our authority under Section 18, we may
4 revisit that decision. So this is another thing
5 for the Commission to take into account.

6 We don't have exactly what we needed.
7 And recognizing that it could possibly go to a
8 hearing we stopped short. But our emphasis and
9 our 10(j) recommendation is still very strong when
10 it comes to the fish screen at Lower Centerville.

11 MR. HOGAN: Of the adult fish that have
12 made it over Lower Centerville. Do they end up in
13 the canal? Does anybody know? Have you ever seen
14 adult steelhead in the canals?

15 MR. LIEBIG: We don't have, I don't have
16 any records of adult steelhead above Lower
17 Centerville. So I know there was an observation
18 of a large salmonid and that was several years
19 ago. That's what I have. So as far as recent I
20 have nothing, nothing on that.

21 MR. WANTUCK: Well, with respect to
22 adult steelhead our analysis showed that there is
23 limited stream that could be useful for an
24 anadromous fish above Centerville before other
25 obstructions occur. Therefore we did not

1 prescribe a fish ladder for that reason. But that
2 is a separate issue from the progeny of the
3 resident fish that could exhibit anadromy.

4 MR. HOGAN: Yes, I'm aware of that.

5 MR. WANTUCK: So, you know, we didn't
6 prescribe the fish ladder, we didn't even make a
7 10(j) recommendation for a fish ladder there.
8 What we did was made a 10(j) recommendation for a
9 fish screen there because of these reasons.

10 And if the otolith connections are made
11 on Butte Creek our agency may well look at our
12 reservation of authority if the Commission decides
13 that the fish screen is not warranted.

14 MR. D. SMITH: This is Dennis Smith from
15 the Forest Service. Just anectodally, it doesn't
16 apply to this region. But on the Calaveras in the
17 '96 flood the Corps dropped the flows rapidly and
18 there were seven adult steelhead that were
19 stranded. I actually worked for NOAA Fisheries at
20 the time. We did calcium and strontium ratios.
21 Each one was sea run.

22 So I think there is evidence, probably
23 in that particular stream, that resident fish did
24 come back because they were successfully
25 transmitted through the system on those high

1 flows. You can't make that statement across the
2 valley but there is information that this
3 happened.

4 MR. THOMPSON: I'd like to ask one more
5 question. Were step otolith studies requested in
6 the study phase of this project?

7 MR. HOGAN: A genetic study was
8 requested and it was denied by the Commission.

9 MR. THOMPSON: A genetic study was
10 requested but denied.

11 MR. HOGAN: Yes.

12 MR. THOMPSON: And would that have given
13 us the kind of information that we could use now
14 in this analysis, in this EA, to determine the
15 extent of anadromy among these fish?

16 MR. HOGAN: I don't know.

17 MR. THOMPSON: Well it really seems like
18 there is a missing piece of information, and it
19 was information that was requested but denied. I
20 just want to make that point for the record. I
21 think that's an important point that, you know, we
22 need to think about. When we make these
23 information and study requests, you know, they are
24 for a purpose. And when we get to this point in
25 our analysis this is a missing, a missing piece

1 that would be very valuable information for us to
2 have now.

3 MR. LIBERTY: I know our determination
4 would have had some kind of explanation for why we
5 didn't go with that particular study, I don't
6 remember it offhand. But there would be some sort
7 of explanation with it. What that is at this
8 point I don't know, I would have to go back and
9 pull it up and look at it.

10 MR. SHUTES: It was denied on basically
11 formal grounds that the study request was not
12 formally correct.

13 MR. LIBERTY: It didn't meet the
14 criteria, in other words.

15 MR. HOGAN: That's correct.

16 MS. GIGLIO: Debbie Giglio, Fish and
17 Wildlife Service. There was a steelhead
18 management restoration plan for California. And
19 in that plan does it not ask for screens?

20 MS. LYNCH: Yes, we have already
21 mentioned that.

22 MS. GIGLIO: Okay.

23 MR. HOGAN: That's the 1996.

24 MS. GIGLIO: Okay.

25 MR. HOGAN: Any other comments on fish

1 screens?

2 Our next topic is the DeSabra Forebay
3 Water Temperature Plan. Do folks want to take
4 lunch and then come back or do we want to cover
5 this one and then come back, and then take lunch?

6 MR. LIBERTY: Break.

7 MR. HOGAN: Okay, we are going to take
8 lunch. How long do you folks want? I don't know
9 how convenient everything is.

10 MS. TUPPER: I'll be the local. If you
11 walk across Capitol Mall towards the mall over
12 here there's a La Bou. But this is Monday, there
13 could be tons of people eating there.

14 If you go into the mall and go upstairs
15 to the back there's a big food court that's
16 usually quick.

17 There's also a couple of small deli
18 restaurants a few blocks north on Capitol.

19 And there's a little deli restaurant and
20 a Mexican restaurant across N Street in the
21 apartment complex over there.

22 So the quickest place is to go beseech
23 the mall's food court.

24 MR. HOGAN: Do people prefer 45 minutes,
25 an hour, a half hour?

1 I also, I don't recall seeing any
2 comments from NMFS on that particular
3 recommendation. I don't know if their
4 recommendation still holds that they originally
5 filed with us or they also plan to revise their
6 recommendation. So I guess I would just like to
7 hear from you guys on the recommendations.

8 MS. LAWSON: We met with PG&E. We had
9 an engineering alternatives meeting on October 31,
10 2008. And I think we did submit a little bit of
11 information about that in our reply to your 10(j)
12 inconsistency letter.

13 And in that meeting PG&E had worked out
14 the initial cost and they said it was actually
15 cheaper to put a pipe through, which was sort of
16 their look at the 80 percent alternative, the 80
17 percent reduction in temperature alternative
18 through DeSabra Forebay.

19 So PG&E's take at that time was that
20 that option was actually cheaper than putting the
21 sheet baffle wall along the side of DeSabra
22 Forebay and so it would be more practical to just
23 go ahead in pursuing the pipe option for looking
24 at further alternatives. And I don't think that
25 PG&E has submitted that information yet.

1 MR. LIBERTY: So if this was a new
2 recommendation then I guess the percent thermal
3 loading wouldn't necessarily be a factor. Or they
4 are going to be off the table, if I am
5 understanding, if I read your recommendation
6 right.

7 MS. LAWSON: The pipe is just a more
8 efficient alternative. It's essentially a pen
9 stock into, into the powerhouse. And so it would
10 be more efficient and we wouldn't, we wouldn't
11 need to pursue the percent reduction because it
12 would probably be the best alternative --

13 MR. LIBERTY: Right.

14 MS. LAWSON: -- in terms of engineering
15 and getting the colder water directly through
16 their powerhouse and to Butte Creek.

17 MR. HOGAN: So just for our analysis is
18 the 80 percent what people envision it will result
19 in at this point?

20 MR. LIBERTY: It's as good as it gets,
21 basically, is what you are saying, right?

22 MS. LAWSON: Yes.

23 MR. LIBERTY: I mean, you are not going
24 to get any better.

25 MR. HUGHES: The pipe is the preferred

1 option.

2 MS. LAWSON: And it's not that, it's not
3 that we don't want to look at the percentage of
4 change anymore. It's just that once you go to
5 looking at the 80 percent it is difficult to
6 calculate exactly what that will be because the
7 upstream to downstream temperature is so dependent
8 on how long that water is sitting in the Forebay.
9 And so if the water is essentially shunted
10 straight through the Forebay there is no, there is
11 almost no heating in that water at all. Unless
12 the powerhouse trips off-line and then there has
13 to be some spill back to the Forebay.

14 And that still hasn't been worked -- how
15 exactly that works still hasn't been figured out
16 by PG&E. But we do agree that the pipe is the
17 best option through the Forebay.

18 MR. LIBERTY: What type of cost analysis
19 has PG&E done on that?

20 MR. JEREB: Tom Jereb here. Beth is
21 correct that we have, we have looked in more
22 detail at these two options. One was a wall-type
23 of structure that channeled the water and the
24 other was a pipeline. And after looking at it
25 more carefully and doing cost estimates on it it

1 appears they are almost equal.

2 And so it is PG&E's recommendation to
3 pursue the pipe because it is much more efficient
4 in getting colder water. We did do some detailed
5 cost estimates on that and I can provide those to
6 you if you care to see those.

7 MR. LIBERTY: Yes, I think that would be
8 good to have for the final.

9 MR. JEREB: There is a challenge with it
10 also, though, operation-wise and operation
11 flexibility. If something happens in the canal
12 during the summertime operation when we would be
13 using the pipe the Forebay, water going into the
14 Forebay would be -- going out of the Forebay would
15 be warm so there's some operation challenges that
16 we are going to have to work out.

17 MR. LIBERTY: I guess my next question
18 is, have you guys thought ahead to what kind of
19 impacts this is going to have to fishery in the
20 Forebay itself or what it is going to do the water
21 temperatures in the Forebay if water is allowed to
22 funneled right through.

23 MS. LYNCH: We don't know for sure what
24 that is going to be until we have some temperature
25 data that is available after they install whatever

1 the physical fix is.

2 But I think Fish and Game did recognize
3 that that would have an impact to the convenient
4 and popular fishery that goes on right there at
5 DeSabla Forebay. That is why we were very clear
6 in our fish stocking program that the fish not
7 just be stocked in DeSabla Forebay in the future.
8 That that needed to be determined by the
9 Department of Fish and Game where they should be
10 stocked.

11 MR. HOGAN: Would that fishery
12 potentially be replaced by another, more tolerant
13 species or just be left alone?

14 MS. LYNCH: I don't think anybody can
15 guess that at this point until we do have
16 temperature results from the actual physical fix,
17 which was the other part of our 10(j).

18 MR. LIBERTY: We had another comment on
19 the DeSabla Forebay. I guess it kind of speaks to
20 the first, your original 10(j) recommendation. I
21 don't know if folks want to get into that. Just
22 regarding how we came up with the costs, that sort
23 of thing. I mean, is that important? Do you want
24 to go over that? Or since that recommendation is
25 no longer on the table, it's up to you guys.

1 MR. HUGHES: I guess -- What are you
2 referring to?

3 MR. LIBERTY: Somebody had -- Fish and
4 Wildlife Service I guess had commented on they
5 didn't, they didn't understand how we came up with
6 the costs for a 50 versus an 80 percent reduction
7 in thermal loading. So, I mean, it's up to Fish
8 and Wildlife Service.

9 MR. GARD: I guess I would say if FERC
10 has now agreed to go this pipe alternative that we
11 have no more questions.

12 MR. LIBERTY: I guess we can't
13 technically agree to go with it. I mean, it's
14 something we'll analyze and look at in the final.

15 MR. HOGAN: I think what we can say is
16 that --

17 MR. LIBERTY: It sounds reasonable
18 though.

19 MR. HOGAN: We support it; we have got a
20 couple of concerns. One being we will have to
21 analyze its effects on the Forebay and that
22 fishery. And another one we will probably get to
23 is we have a recommendation for a minimum instream
24 flow at Helltown Ravine and that water is provided
25 from the Forebay. So will that water now be

1 warmer and how will that affect Lower Butte Creek?

2 So we have got to, those are things we are
3 going to have to consider but it certainly sounds
4 like we can tentatively support the pipe over our
5 original recommendation.

6 MS. LAWSON: And so your original
7 recommendation was actually that PG&E develop a
8 plan in consultation with the agencies. So does
9 this mean that you would actually be specifying
10 that they would actually do that? That you would
11 actually specify the pipe or you would still
12 specify --

13 MR. LIBERTY: I think the plan would
14 still be a recommendation.

15 MR. HOGAN: We would get specific but
16 the plan has to, it would be a plan for a pipe if
17 that's what we go with.

18 MR. LIBERTY: Rather than the sheet
19 baffle that was originally the recommendation on
20 the table, you know.

21 MS. LAWSON: And I just, I'm a little
22 confused about why you would recommend the plan
23 instead of actually recommending the alternative.

24 MR. HOGAN: Well the plan would take
25 into consideration other things such as the

1 construction activities that would need to be
2 done.

3 MR. MITCHNICK: We would recommend the
4 measure but we would recommend a plan be developed
5 on how they would implement the measure.

6 MS. LAWSON: Okay, so just
7 implementation.

8 MR. MITCHNICK: Time frames and that
9 sort of thing.

10 MR. HOGAN: Now certainly if you guys
11 can get together and get us the plan now we can
12 approve the plan in the license if that's the way
13 we decide to go. So we can evaluate the plan,
14 specific measures that are -- best management
15 practices that are going to be implemented in the
16 construction and things of that nature. And, you
17 know, evaluate that in our final NEPA document if
18 that's, we decide to recommend that. Just say,
19 implement the plan, in the license.

20 MS. LAWSON: Okay.

21 MR. LIBERTY: Does anybody have anything
22 else regarding the Forebay?

23 MR. HUGHES: Does this then resolve the
24 inconsistency?

25 MR. HOGAN: If we go along with it.

1 (Laughter)

2 MR. HUGHES: I thought that was the
3 purpose of the meeting?

4 MR. HOGAN: Well what I can tell you is
5 that we still have some concerns with the
6 potential effects of the pipe on the associated
7 resources looking at the Forebay temperature that
8 we have to analyze. The water temperature, how
9 the one cfs recommendation at Helltown Ravine, how
10 is that going to affect Lower Butte Creek?

11 MR. HUGHES: Unless I am
12 misunderstanding how the project operates the
13 water from this pipe would go into the DeSabra
14 Powerhouse.

15 MR. HOGAN: Right.

16 MR. HUGHES: Which drops in upstream of
17 the Lower Centerville diversion.

18 MR. HOGAN: Right.

19 MR. HUGHES: Which is upstream from
20 Helltown.

21 MR. HOGAN: Right. The water that --
22 And maybe I am misunderstanding how the project is
23 operating. But water from DeSabra Forebay is used
24 to meet water users through the upper canal. And
25 that is discharged, the excess is discharged into

1 Helltown Ravine and then that goes down into Lower
2 Butte Creek.

3 MR. LIBERTY: The canal comes out of the
4 Forebay, doesn't it? Is that correct?

5 MR. JEREB: Yes, yes. This is Tom
6 Jereb. That's the Upper Centerville canal where
7 we release about three cfs.

8 MR. BUNDY: Max.

9 MR. JEREB: Max, to provide water to
10 domestic users. And that then flows down Helltown
11 Ravine. And that's the water that you are talking
12 about for that one cfs release.

13 MR. HOGAN: Right.

14 MR. JEREB: And indeed it will be
15 warmer.

16 MR. LIBERTY: Allen, go ahead.

17 MR. HARTHORN: The water that is coming
18 down Helltown Ravine though comes into the
19 Centerville Canal. So it may be warmer. And it
20 does natural flow of its own beyond the three cfs
21 that they are releasing. So no matter what the
22 outflow release for Helltown Ravine is going to
23 come out of the flume, not out of the Upper
24 Centerville Canal.

25 MR. LIBERTY: Doesn't it normally go dry

1 though during the summer?

2 MR. HARTHORN: No.

3 MR. LIBERTY: It doesn't.

4 MR. HOGAN: If I may. I recognize that
5 it's coming out, the water release at Helltown,
6 okay, that will come out of the flume. But the
7 water going down the upper canal and then into
8 Helltown Ravine and then I guess it's captured at
9 Lower Centerville Canal, will be warmer than the
10 current conditions with a pipe because it is
11 warmer in the Forebay.

12 MR. HARTHORN: Right.

13 MR. HOGAN: So those are things that we
14 are just going to look at. But it may not make
15 much difference, you know, because we are getting
16 a net benefit at the pipe. So that's just, I'm
17 just putting it out there.

18 MR. BUNDY: This is Jim Bundy with PG&E.
19 Also there is a -- The canal is about five and a
20 half miles, the Upper Centerville. And we needed
21 to do a rescue here several years back. We pulled
22 out about 500 German Brown and Rainbow, mostly
23 German Brown but Rainbow out of it as well. So
24 because the cold water comes off on the lower
25 parts of the reservoir it is cold water and it

1 supports some fish in there.

2 Allen is right in respect. I mean, the
3 canal can serve Helltown Ravine. But when the
4 canal is totally dewatered, as happens sometimes
5 when we have issues up above there we have to shut
6 the canal totally down. Then it would be
7 supplemented from Helltown Ravine. Which if it is
8 warm, that whole reach from the canal, 5.7 miles
9 or 5.5 miles, all the way down through there would
10 also be warm as well. So anyway, it would be a
11 portion of the time it could be subject to that.

12 MR. LIBERTY: Just for my clarification.
13 Down in Helltown Ravine where that water is re-
14 diverted back into the Lower Centerville Canal I
15 guess. Currently all of the flow in that Helltown
16 Ravine is captured at that Lower Centerville
17 Canal, correct?

18 MR. BUNDY: Yes.

19 MR. LIBERTY: Okay.

20 MR. HOGAN: So to meet a minimum flow
21 there you are looking at putting in an orifice or
22 something there to do that?

23 MR. BUNDY: Um-hmm.

24 MR. HOGAN: Okay. Russ, you had a
25 question or a comment?

1 MR. KANZ: Just that I would expect that
2 when we have to do our CEQA work we will be
3 looking at that. What impact that change in
4 fishing opportunities will have at the Forebay.
5 And looking for maybe other opportunities that are
6 nearby.

7 MR. HOGAN: Okay.

8 MR. KANZ: Which there may be some, if
9 there are some.

10 MR. HOGAN: Okay.

11 MR. KANZ: The other thing is I would
12 expect there is, if getting cold water to Helltown
13 is an issue, I would think there would be a way to
14 do that. Put a small pipe off the other pipe.

15 MR. HOGAN: Okay. To make the release
16 from the pipe itself, okay.

17 MR. KANZ: You know, maybe there's an
18 engineering fix I don't know, we haven't talked
19 about this before.

20 MR. HOGAN: Yes.

21 MS. LAWSON: And I think the agencies
22 would be happy to meet with PG&E to talk about
23 that and provide that plan to FERC so that FERC
24 doesn't have to do that analysis themselves.

25 MR. KANZ: I would be surprised if one

1 cfs trickling down the side of that hill hasn't
2 hit ambient temperatures anyway.

3 MR. HOGAN: Okay.

4 MR. KANZ: It needs to be looked at.

5 MR. HOGAN: So I think we can call that
6 tentatively resolved. I see no reason why we
7 can't go back to our supervisors and say, this
8 seems like a really good idea. It is more cost-
9 effective than the original recommendation.

10 MR. LIBERTY: And actually a benefit.
11 Anything else on the Forebay?

12 All right, next on the agenda is minimum
13 instream flows. Everyone's favorite topic.

14 MR. GARD: I can kick it off here.

15 MR. LIBERTY: I was wondering if perhaps
16 maybe we would be better off if we started from
17 the head of the system, up Round Valley Reservoir
18 and kind of work our way down to Lower Butte
19 Creek. Does that make sense?

20 MR. GARD: Sure. So I guess, is there a
21 -- Maybe you want to start off with what are the
22 inconsistencies in the various --

23 MR. LIBERTY: Sure.

24 MR. GARD: So we can kind of get a
25 common understanding of that.

1 MR. LIBERTY: So let's start first with
2 Round Valley Reservoir. I don't think we had any
3 inconsistencies regarding minimum instream flows
4 downstream of Round Valley Reservoir. I think
5 everybody was on board with that minimum instream
6 flow and recognized the importance of storing that
7 water for release later in the summer. Is that
8 right?

9 MR. GARD: That's my understanding.

10 MR. LIBERTY: One down, all right.

11 Philbrook Reservoir. I'm trying to find
12 my notes here, sorry. So I guess there was an
13 inconsistency regarding the increase in minimum
14 instream flows in the designated wet years from
15 April to May 15.

16 And one of the agencies had commented, I
17 don't recall who, that perhaps we didn't have all
18 the information in front of us to make that
19 analysis. And if anybody else has that additional
20 information if you could tell us what that is that
21 would help me in doing my analysis for the final.

22 But I think other than that, April to
23 May 15 increase in flows, I think everyone was on
24 board with the minimum instream flows for that
25 reach. I can't remember which agency had made

1 that comment.

2 MR. GARD: I don't think it was us.

3 MR. LIBERTY: Fish and Game perhaps?

4 MS. TURNER: Ken?

5 MS. LYNCH: Was that in the original
6 10(j) letter or was that in the letter requesting
7 this meeting?

8 MR. LIBERTY: I think it was in the
9 10(j) letter. I think it's actually in our
10 comments summary here.

11 MR. HOGAN: You had a comment on the
12 phone?

13 MS. TURNER: Yes, this is Kathy Turner.
14 And I can't hear that well so I apologize if I am
15 breaking in at the wrong point here. I know you
16 are looking for the 10(j) agency that had that
17 comment. And I don't have the answer for that but
18 maybe I can provide some clarification. The
19 Forest Service was the primary party pushing for
20 that. In wet years between April and May 15 there
21 would be an additional flow.

22 And we had worked with PG&E
23 hydrologists. And we believe there was agreement
24 on that matter because it was put through the
25 water temperature model. And both -- I don't want

1 to speak on behalf of PG&E but as I understood
2 what both their hydrologists and their water
3 temperature specialists said was that under those
4 circumstances it would not affect the holding, the
5 cool water pool back in Philbrook Reservoir.

6 I just wanted to put that out in case
7 that helps start the conversation.

8 MR. LIBERTY: Yes, I do remember the
9 Forest Service had that in their 4(e)s. But I do
10 think other agencies also had recommended at least
11 a ten cfs increase in flow in that particular
12 reach. Somebody had spoken to our water modeling
13 and said that perhaps we didn't have all the
14 information on hand.

15 In our environmental document we had
16 said that perhaps releasing that additional flow
17 earlier in the year would create conditions where
18 the water downstream would warm significantly as a
19 result of providing that ten cfs.

20 MS. TURNER: I know the Forest Service
21 had that comment, Aaron. That we said that PG&E
22 had developed that information and maybe it wasn't
23 in the record. Maybe you are thinking of our
24 comment?

25 MR. LIBERTY: That could be but I

1 thought I recall other agencies.

2 MS. TURNER: Okay.

3 MR. LIBERTY: Lots of reaches and lots
4 of minimum instream flows, it's just confusing.

5 MR. HOGAN: So do the 10(j) agencies
6 have a concern with our recommended minimum
7 instream flow for Philbrook, for the release at
8 Philbrook?

9 MR. HUGHES: Which is two cfs year-
10 round, right?

11 MR. HOGAN: Right.

12 MR. HUGHES: Give us a minute here.

13 MR. HOGAN: Sure.

14 MR. LIBERTY: Yes, Cal Fish and Game and
15 Fish and Wildlife Service had also recommended
16 that increase in flow based on snowpack levels.

17 MS. LYNCH: And I'm sorry, Kathy, could
18 you repeat what you said earlier. Because I was
19 trying to look in our 10(j) letter where we might
20 have said that we didn't think they had all the
21 information. Could you just clarify what you just
22 said.

23 MS. TURNER: MaryLisa, I can barely hear
24 you but I think you asked me to repeat what I said
25 earlier.

1 MS. LYNCH: Yes.

2 MS. TURNER: Okay. At a relicensing
3 participants' meeting the Forest Service put forth
4 this idea of increasing the flows during the time
5 of spawning in Philbrook Creek from April to mid-
6 May in wet years when the snow level up at Humbug
7 Summit had I think 40 inches of snow or something.
8 Anyway, that it wouldn't adversely affect the
9 water pool up at Philbrook Reservoir for the
10 spring-run Chinook later in the summer.

11 PG&E put that through their flow model
12 and temperature modeling and determined under
13 those situations they agreed that it wouldn't
14 cause a problem. So then I believe that Fish and
15 Game and Fish and Wildlife Service then took our
16 -- proposed that as a recommendation.

17 MR. LIBERTY: PG&E, do you guys have
18 anything to add?

19 MR. JEREB: Kathy, Tom Jereb, here.
20 Kathy is correct in her discussions about this
21 request from the Forest Service for a springtime,
22 additional springtime flow during wet years.

23 Our challenge with that is getting in
24 there to operate in wet years and to make the
25 valve adjustments at Philbrook Reservoir. And Jim

1 tells me it may be very challenging, difficult.
2 It may be impossible to get in there to make the
3 valve adjustments depending upon the snow pack.
4 And so that's our challenge with that. We can do
5 it, we think we can do it, but there is a
6 challenge with it.

7 MR. LIBERTY: So in terms of water
8 levels within Philbrook Reservoir or water
9 temperatures, you guys don't anticipate any issues
10 with that?

11 MR. JEREB: Correct, yes. It's wet
12 year. We feel spill water temperatures will be
13 fine.

14 MR. HOGAN: So in wet years are you
15 spilling that flow anyway?

16 MR. JEREB: Probably.

17 MR. BUNDY: Yes, we are right now.

18 MR. HOGAN: So what is the need for the
19 release then?

20 MS. TURNER: Rainbow trout spawn in
21 Philbrook Creek.

22 MR. HOGAN: I'm sorry Kathy, what was
23 that again?

24 MS. TURNER: Rainbow trout spawning in
25 Philbrook Creek. In our assessment we talked

1 about the increase in weighted usable area. And
2 it was a significant increase.

3 MR. LIBERTY: Right.

4 MR. D. SMITH: And there is a secondary
5 effect too that right now that whole channel is
6 undergoing restoration or will undergo
7 restoration. Those high flows have been degrading
8 that spillway and causing damage to National
9 Forest Service lands. If you release partially
10 the ten cfs, that will take ten cfs out of that
11 spill channel and reduce the impacts.

12 MR. HOGAN: The release point is
13 different than where the spill channel --

14 MR. LIBERTY: That would be something to
15 look at in the environmental document. I don't
16 think we had addressed that. Did we cover that?

17 MR. HOGAN: Yes.

18 MR. LIBERTY: Okay. Yes, I do remember
19 there being a significant increase in spawning
20 habitat though providing that extra ten cfs,
21 somewhere along the lines of 40 to 50 percent
22 increase I think, if I remember right. But yes,
23 this is definitely something I can take another
24 look at in the final.

25 Does anyone else have anything to add to

1 Philbrook Creek?

2 MR. HUGHES: Does this resolve the
3 inconsistency?

4 MR. HOGAN: With the 4(e).

5 MR. JEREB: Ken, I have one request on
6 that.

7 MR. HOGAN: Yes.

8 MR. JEREB: Provided that we can get
9 there safely and safely adjust the valve. Our
10 concern is about snow overhangs at the valve house
11 there. And so -- Particularly in wet years. And
12 so if we could request that we can do this
13 provided we can do it safely for our operators.

14 MR. HOGAN: Noted.

15 MR. LIBERTY: That's a reasonable
16 request. All right.

17 MS. O'HARA: Wait.

18 MR. LIBERTY: I'm sorry.

19 MS. O'HARA: How does that, how are we
20 ending this?

21 MR. LIBERTY: I don't know if there is
22 actually technically an inconsistency since I
23 think the issue was brought up by the Forest
24 Service. Perhaps that was --

25 MS. LAWSON: It was a 10(j)

1 recommendation also.

2 MS. O'HARA: Yes.

3 MR. LIBERTY: It was 10(j).

4 MR. HOGAN: I think it sounds like the
5 water is there. There is really no additional
6 cost to providing it. There is a significant
7 benefit to the resource as far as an increase of
8 50 percent spawning habitat.

9 MR. LIBERTY: Forty to 50 if I remember
10 right, yes.

11 MR. HOGAN: I think it is something that
12 we can take back and support and recognizing that
13 there is a safety concern that needs to get
14 addressed.

15 MR. LIBERTY: My concern was just
16 drawing down that reservoir. What sort of impacts
17 that would have later on in the year. Okay.

18 MR. HOGAN: Can you we call it resolved?
19 Because we are not using water from storage is my
20 understanding. It is water that would be
21 spilling, it is just being released in a different
22 location, right?

23 MR. STEITZ: And possibly a little
24 earlier.

25 MR. HOGAN: Okay, earlier and -- Okay.

1 MR. LIBERTY: All right, moving on to --

2 MR. HOGAN: Just for the record we are
3 going to note that as being resolved.

4 MR. LIBERTY: One more resolved, all
5 right. We are making progress so far.

6 Hendricks Diversion Dam.

7 MR. GARD: So for Hendricks Diversion
8 Dam. I guess the only inconsistency was June
9 through August flows where FERC is proposing 20 in
10 normal and 7 in dry and the resource agencies are
11 proposing 30 in normal and 15 cfs in dry.

12 And I guess the first comment, just to
13 make sure I understand this. The main reason that
14 FERC rejected this is because of temperature
15 impacts on the Butte side; is that correct?

16 MR. LIBERTY: Well I think that played
17 into our analysis a little bit. I wouldn't say it
18 revolved 100 percent around that. Looking at the
19 minimum instream flows downstream of Hendricks
20 Diversion Dam.

21 Again, this is where the fish
22 population, where our analysis with the fish
23 populations kind of came into play. I'm not sure
24 we want to revisit that issue if we want to get
25 through all these inconsistencies today.

1 But that was also something we looked at
2 in our, in our analysis when we made our
3 recommendation for minimum instream flows below
4 Hendricks. It wasn't solely based on temperature,
5 I guess, is my understanding.

6 MR. GARD: Okay, all right. So it was
7 based on that as well as reduced generation.

8 MR. LIBERTY: Right.

9 MR. GARD: Okay, so a combination of the
10 two.

11 MR. HOGAN: And the need of the aquatic
12 resources below the Hendricks diversion.

13 MR. GARD: Okay.

14 MR. LIBERTY: I think everybody realizes
15 it's a balancing act and it's difficult.

16 MR. GARD: Right.

17 MR. LIBERTY: Every one cfs you put
18 downstream of Hendricks Diversion Dam is one less
19 cfs you have to put over into the Butte Creek
20 system.

21 MR. GARD: Maybe I'll ask Beth to speak
22 to what the water temperature model showed for if
23 you had a pipe going through the DeSabra Forebay
24 plus the flows we are recommending. What effect
25 that would have on the water temperatures below --

1 MS. LAWSON: Yes. I think that the
2 temperature --

3 MR. GARD: Centerville.

4 MS. LAWSON: Did you review the
5 temperature modeling? It basically showed that
6 when you put the 80 percent fix through, which
7 would be the pipe through DeSabra Forebay, that
8 temperature, that releasing some additional water
9 down below Hendricks didn't have, still was not
10 heating the water appreciably in Butte Creek.

11 So because the fix through DeSabra
12 Forebay is so effective you still do get a slight
13 amount of heating but it is not going to be
14 noticed over on the Butte Creek. I am pulling up
15 the numbers right now but it's a .07 increase.
16 And the benefit to Butte Creek is still so large
17 from the pipe through the Forebay that it won't
18 have an effect.

19 MR. LIBERTY: Are these new model runs
20 or are these the ones done previously, just
21 looking at the 80 percent?

22 MS. LAWSON: No, these are the model
23 runs that are presented in the, they were
24 presented both in PG&E's information and our
25 comments and actually in your environmental analysis.

1 MR. LIBERTY: Okay.

2 MR. GARD: And if I could maybe -- As
3 our follow-up comment or question -- I wasn't
4 clear if when you were looking at the effects of
5 water temperatures on the Butte Creek side if you
6 considered in combination the 80 percent fix plus
7 the increased flow on the West Branch Feather as
8 far as the temperature on the Butte side?

9 MR. LIBERTY: I can't remember if we
10 looked at the 80 percent or only the 50 percent in
11 our environmental document. I have to go back and
12 reference. But now that the 80 percent reduction
13 is on the table that would definitely be something
14 we would look at in the final.

15 MR. GARD: Okay.

16 MS. LAWSON: And those scenarios are in
17 your environmental analysis, the 80 percent.

18 MR. LIBERTY: At the appendix.

19 MS. LAWSON: Yes.

20 MR. LIBERTY: That we screwed up on.

21 MR. GARD: So I guess at this point then
22 the only reason not to have higher flows would be
23 to produce power generation?

24 MR. LIBERTY: Well I think that would
25 come into play. It wouldn't be the only reason

1 though.

2 MR. GARD: But there wouldn't be --

3 MR. HOGAN: Well it's reduced power
4 generation versus --

5 MR. GARD: The temperature issue on the
6 Butte side is no longer an issue.

7 MR. LIBERTY: Well if that's what the
8 models do in fact indicate.

9 MR. GARD: Right, right.

10 MR. LIBERTY: I haven't had a chance to
11 sit down and look at them.

12 MR. GARD: Assuming that that is.

13 MR. LIBERTY: Right.

14 MS. LAWSON: And we can talk about what
15 the individual statistics are but the mean
16 temperature difference is still $-.32$, which means
17 it is $.32$ degrees on average colder, Centigrade
18 colder below Centerville Powerhouse. Which is
19 where all the water from the project is combined
20 after the 80 percent fix, with the water removed
21 from Hendricks Diversion Dam.

22 MR. LIBERTY: Sorry, where was that
23 location?

24 MS. LAWSON: The temperature mark
25 location is below Centerville Powerhouse.

1 MR. LIBERTY: Okay.

2 MS. LAWSON: That's after all the
3 project water is recombined. And that data that I
4 am quoting is from a dry year. And so that would
5 be putting eight additional cfs in the river below
6 Hendricks, which would be a total release of 15
7 cfs to the West Branch Feather River.

8 And then in wet years, let's see. I'm
9 sorry, normal years. The statistics are similar
10 there. With the 80 percent fix, 20 cfs released,
11 which is an additional five cfs below Hendricks
12 Head Diversion Dam, it is $-.26$ degrees Centigrade.
13 So the benefit below, it's still cooler water
14 below Centerville Powerhouse when all the water is
15 recombined.

16 MR. HOGAN: Okay.

17 MR. LIBERTY: That's definitely
18 something we will take a look at, that 80 percent
19 reduction, since that is now the proposal on the
20 table.

21 MS. LYNCH: And also, Aaron, just to
22 remind you. One of the things that Fish and Game
23 did have in our 10(j) recommendation as part of
24 our adaptive management is that the flow
25 recommendations that we had were not to be

1 implemented until after this physical fix for
2 DeSabra Forebay was in place and then two years of
3 temperature monitoring to make sure that we were
4 making the right flow recommendation.

5 MR. LIBERTY: Now I guess perhaps if
6 this plan is worked out sooner rather than later
7 that issue will perhaps go away I guess then. If
8 we approve that plan.

9 MR. HOGAN: We still have the monitoring
10 to see that it actually results in the anticipated
11 results.

12 MR. LIBERTY: It was two years of
13 monitoring, temperature monitoring?

14 MS. LYNCH: That's what we had
15 recommended, yes.

16 MR. LIBERTY: Okay.

17 MS. LYNCH: I don't know if that would
18 still be the recommendation based on the pipe
19 instead of --

20 MR. GARD: Okay. I guess the next
21 question, it seems like from all these
22 relicensing.

23 MR. HOGAN: Before we move on we've got
24 a comment.

25 MR. GARD: Oh, something else?

1 MR. WILCOX: A point of clarification.
2 This is Scott Wilcox from Stillwater.

3 Beth, wouldn't, in addition to the
4 change in temperature resulting from a change in
5 the diversion at Hendricks, a change in
6 temperature below Centerville would also be
7 affected by the fact that you have a different
8 volume of water at that point and therefore your
9 thermal mass is different below Centerville
10 Powerhouse. And so the effects of that
11 temperature change would be different going on
12 down Butte Creek. Even though the temperature is
13 changed by X fractions of a degree. The fact that
14 it is a larger or a different volume of water at
15 that temperature has thermal effects extending on
16 downstream.

17 MS. LAWSON: So you are saying it would
18 actually warm quicker going downstream because
19 there will be slightly less water?

20 MR. WILCOX: Right. So you may have a
21 temperature change of X as a result of that change
22 in the west, in the west branch side of the
23 Hendricks diversion. However that change of X
24 will warm more rapidly going down Butte Creek
25 since you have got a smaller volume of water.

1 MS. LAWSON: I do agree with you that
2 that is the case. But if you look at the volumes
3 of water that are recombined below Centerville
4 Powerhouse I think that we are probably in the
5 range of 200 or so cfs. And so, although I can
6 pull up the hydrology and look at what is after
7 all the water is recombined but it's --

8 MR. WILCOX: I don't know how large a
9 change that would be. I just pointed out it is
10 not simply a matter of the change in temperature
11 below the Centerville Powerhouse, there is also
12 the effect of the volume.

13 MS. LAWSON: I think we also have some
14 temperature downstream at Helldown. Is that --
15 No, I'm sorry, that is not further downstream.

16 MR. GARD: Yes.

17 MS. LAWSON: I guess below Centerville
18 Powerhouse is the lowest that the temperature
19 modeling was taken because it is after all the
20 water is recombined.

21 MR. WILCOX: Right.

22 MS. LAWSON: So we don't have
23 temperature modeling to do that calculation. But
24 if we need to pull up the hydrology --

25 MR. GARD: So Beth, you did a little bit

1 of temperature modeling below Centerville
2 Powerhouse. Did that --

3 MS. LAWSON: I did some empirical
4 modeling below.

5 MR. GARD: Yes, some empirical.

6 MS. LAWSON: Yes, I can pull that up.

7 MR. GARD: Yes, I mean, maybe we can
8 just plug it into that one to get an idea.

9 MS. LAWSON: Yeah. I'll have to look at
10 that.

11 MR. GARD: Yeah.

12 MS. LAWSON: That was two or three years
13 ago that I -- So I'll have to take a quick look.

14 MR. GARD: Okay.

15 MS. LAWSON: But I do agree with you
16 Scott, although we can right now take a quick look
17 at the hydrology. But I am pretty certain that
18 Jim, when the water is recombined below
19 Centerville Powerhouse, what is the total flow of
20 the river?

21 MR. BUNDY: I was just, I was just kind
22 of leaning over to Tom and I was trying to recall
23 that. But here is when we shut down Centerville
24 Unit 1 for lack of water for the large unit. So
25 that takes 65 to keep it on-line. And so if we

1 are shutting it down that means we are at that
2 threshold to take it off. Plus we have our
3 instream release which is 50. We generally make
4 it like 45-plus, 45 to 50. So you have probably
5 110 to 125, probably at that time.

6 MR. JEREB: Below Centerville?

7 MR. BUNDY: Yes, combined.

8 MR. GARD: So that would be in a dry
9 year?

10 MR. BUNDY: It seems like it's becoming
11 more frequent.

12 MR. GARD: Yeah, I would assume, yeah.
13 So that would mean -- so you would be --

14 MR. BUNDY: In a normal year it may be
15 up another 15 or 20 or so, I don't know.

16 MS. McREYNOLDS: I was going to say, I
17 think 200 seems a little high but --

18 MS. LAWSON: Late summer.

19 MS. McREYNOLDS: Late summer. You're
20 more, you're more --

21 MS. LAWSON: Yeah okay, so late summer.
22 But even if we are at --

23 MS. McREYNOLDS: -- in the 140.

24 MR. LIBERTY: So we're losing eight to
25 ten cfs, is that right?

1 MR. BUNDY: What I look at is last of
2 August. Jim Bundy with PG&E. Last of August
3 going into September is pulling the unit off
4 pretty frequently, Unit 1 at Centerville, which
5 requires 65.

6 MS. McREYNOLDS: Right.

7 MR. BUNDY: So if I am putting that to
8 the stream, if that's in the stream and we're
9 making a release of 45 to 50, that's the total
10 water. Those two points, the two flows are the
11 total water. So I am just saying 115 to 20, maybe
12 125.

13 MS. McREYNOLDS: I think that's --

14 MR. WILCOX: So the change between
15 these, the differences between these
16 recommendations if I am understanding it
17 correctly, you are talking about anywhere from
18 eight to ten cfs change difference in flow to
19 Centerville on top of the numbers that Jim just
20 talked about.

21 And that eight to ten cfs would come in
22 at, yeah, eight to ten cfs would come in at a
23 slightly different temperature as Beth just cited.
24 And then that would have its effect on the overall
25 thermal mass in terms of how that body of water

1 heats as it goes down Butte Creek below
2 Centerville Powerhouse. Which is not something
3 that is included in the model but just to be clear
4 about how the thermodynamics work. You are going
5 to have some effect.

6 MR. GARD: Probably pretty minor. I
7 think the whole thing only goes as far, as far
8 down as Covered Bridge; is that right?

9 MS. McREYNOLDS: Where the fish hold?

10 MR. GARD: Yes.

11 MS. McREYNOLDS: Covered Bridge. But
12 typically it's upstream of that.

13 MR. GARD: All right, upstream of that.
14 So it's not --

15 MS. McREYNOLDS: They usually don't, it
16 is too warm by the Covered Bridge. By the end of
17 August we are not seeing the fish that far down.

18 MR. HOGAN: So you might not even see
19 them as far as you do now.

20 MS. McREYNOLDS: It's more like where
21 the Lower Butte Creek comes into Butte Creek,
22 where the confluences of the Butte --

23 MR. HOGAN: So it may --

24 MS. McREYNOLDS: That's probably --

25 MR. HOGAN: It may move that point

1 upstream.

2 MS. McREYNOLDS: Upstream, yes.

3 MR. HOGAN: I think it is definitely
4 something we will need to consider it. Aaron will
5 have to consider it.

6 MR. LIBERTY: Does anybody have anything
7 else for Hendricks, downstream Hendricks?

8 MR. GARD: Yeah, I guess sort of getting
9 at the other part there. A lot of, it seems like
10 a lot of these hydro relicensing, it seems like
11 FERC's standard is generally to set flows at 80
12 percent of the maximum. Is that kind of a fair
13 statement to say that's often what's -- when you
14 go and you look at flow.

15 MR. HOGAN: I'll say it's a fair
16 statement that we rarely pick the peak of the
17 curve.

18 MR. GARD: Okay. So looking at this.
19 So the resource agency flows, 30 cfs only provides
20 60.1 -- no, 61.6 percent of maximum, 15 cfs only
21 provides 40.6 percent of maximum. So then how is
22 rejecting the flows consistent with that standard,
23 assuming that that is the standard?

24 MR. LIBERTY: Well again, I think we
25 looked at --

1 MR. GARD: If the water temperature on
2 the Butte side is not an issue and we are only
3 looking at balancing power versus --

4 MR. LIBERTY: We would have to look at
5 the cost of lost generation. I think that would
6 still play an important role in our decision.

7 MR. HOGAN: And the benefits of the
8 cost.

9 MR. GARD: And I guess that's maybe some
10 of the questions that we kind of had is how is
11 that cost of generation taken into account in that
12 balancing?

13 MR. HOGAN: I think what we have done is
14 we have looked at what providing the proposed or
15 recommended minimum flow would be. What is the
16 benefit of that to the resource. What is the
17 added benefit by the agency's, the incremental
18 added benefit by the agency's recommendation. And
19 then we considered the cost of that incremental
20 benefit over what we are already recommending.

21 MR. GARD: Okay, so let's say -- Why
22 don't we just take an example. So going from 20
23 cfs, you are at 48.2 percent the maximum, going up
24 to 30 you are up to 61.6 percent. So that's, I
25 think that's another --

1 MR. LIBERTY: Fifteen or 16 percent.

2 MR. GARD: Yeah. I was thinking maybe
3 it's more like 20 percent. I don't have a
4 calculator here to help me. So that, that would
5 -- How do you weigh that off against the power
6 generation?

7 MR. LIBERTY: I think you also have to
8 look at the condition of the fishery in that reach
9 also, we also have to take that into
10 consideration. And I think we kind of discussed
11 this this morning at length with our analysis on
12 the health of the fish populations downstream of
13 Hendricks Diversion Dam.

14 MR. GARD: Okay, so that's getting back
15 to that.

16 MR. LIBERTY: Right.

17 MR. GARD: Okay. Okay, I think, I think
18 that was -- Is there Fish and Game or NMFS? Or I
19 guess Fish and Game. Any other, anything other on
20 the below Hendricks?

21 MR. HUGHES: It sounds like, Aaron, you
22 and Ken have a plan for moving forward with
23 further evaluation of the resource agency
24 recommendations.

25 MR. LIBERTY: I think so, yes.

1 Especially now that we have this pipe as a new
2 recommendation which wasn't analyzed at all in the
3 draft.

4 MR. HUGHES: Is FERC more inclined now
5 to take and adopt the resource agency
6 recommendation?

7 MR. LIBERTY: I don't think I can say I
8 adopt it here without first doing an analysis and
9 looking at everything.

10 MR. HOGAN: We have really got to
11 investigate the generation versus the benefit to
12 the resource. Recognizing that the temperature
13 issue on Lower Butte Creek may be neutralized.
14 That doesn't necessarily speak to the fact that
15 the water, the amount of water that the agencies
16 want from minimum instream flows is necessary for
17 the fishery in the West Branch Feather River.

18 And that's kind of what we have got to
19 weigh. What is the benefit of that added water
20 compared to the lost generation. And see if we
21 are better into a balance with the pipe in DeSabra
22 Forebay.

23 MR. LIBERTY: Also looking at the fish
24 populations that are kind of reevaluating our
25 analysis in these reaches could potentially also

1 play a role in our decision.

2 MR. HUGHES: So how do you do that
3 analysis? How do you make, how does FERC make
4 that decision?

5 MR. LIBERTY: What decision?

6 MR. GARD: I guess -- So say for example
7 you evaluate it and you say, this is going to
8 increase habitat by 16 percent but it is going to
9 cut power generation by ten percent.

10 MR. HOGAN: It's not that cut and dry.

11 MR. GARD: Is that how you are looking
12 at it?

13 MR. HOGAN: It's not that cut and dry.

14 MR. GARD: Okay.

15 MR. HOGAN: I wish I could tell you it
16 was.

17 MR. LIBERTY: There's no formula.

18 MR. GARD: I mean, the problem we are
19 having is trying to understand that.

20 MR. HOGAN: I mean, if it was a
21 situation where we felt that because of the
22 existing minimum flow there was no fishery, and
23 that fishery -- or, you know, it was a put and
24 take fishery and it died off every year because
25 there was just no water for them. Then maybe we

1 would look at, okay, what's needed to support a
2 self-sustaining fishery.

3 And if it's the agency's minimum flows
4 that's needed that's what we are going to
5 recommend. But if we think that something less
6 than the agency's minimum flows are needed then
7 that's what we are going to recommend. So we are
8 taking -- I don't want to dig myself into a hole.

9 (Laughter)

10 MR. LIBERTY: Back to where we were this
11 morning.

12 MR. HOGAN: So it really is what we
13 think is the best decision. I mean, it's
14 subjective, you know. And we are open to more
15 information to help inform us, you know, and to
16 help us with that decision.

17 Tell us exactly what is going to be so
18 great about this higher minimum flow. Yes, it
19 will create more habitat, create more fish. But
20 what is it about that that is so much better than
21 what is there now?

22 MR. LIBERTY: And if my analysis is
23 lacking in any of these reaches or you feel I left
24 something out or overlooked something or didn't
25 spend enough time on something, tell me and it's

1 something I can revisit.

2 MR. GARD: Yeah, yeah. I guess it would
3 just, it really would help just if it was more
4 transparent in looking at this so we can really
5 understand better. Maybe it's not possible but
6 just, okay, subjective, it makes it really hard
7 for us to try to understand where this is coming
8 from.

9 MR. HOGAN: I understand.

10 MS. LAWSON: And I think the, I think
11 the regs states that FERC will accept the
12 recommendations of the fish and wildlife agencies
13 unless they are inconsistent. And so I think we
14 are -- I think your standard is sort of the
15 opposite of the way we are viewing this. You are
16 saying, well we need to prove to you what is it
17 that is so great in our recommendations.

18 We are telling you, we feel these are
19 the best recommendations. We have weighed the
20 flow in Butte Creek, we have weighed the
21 temperature benefits downstream. The Fish and
22 Wildlife Service -- the fish and wildlife agencies
23 agree that these are the best, we feel that these
24 are the best recommendations. So unless they are
25 proven inconsistent, and we don't see that there

1 is an inconsistency there.

2 MR. HOGAN: I understand that the
3 agencies think that's the best and when we
4 evaluate it we consider it to be the best. But we
5 have a balancing of the generation that the Act
6 requires of us and the developmental resources of
7 that system. And that balancing of the
8 developmental resources is not always, is often in
9 conflict with the best. And that's the
10 inconsistency.

11 MR. HUGHES: So again, how would FERC
12 make that decision? Is there like an eight
13 percent generation loss that is too much but 7.5
14 is not, is acceptable?

15 MR. MITCHNICK: Each case is different.
16 I mean, what we need to do is sort of build an
17 argument based on, as I described before, the
18 value of the resource, the cost.

19 And to say that, you know, increasing
20 habitat by ten percent would cost, you know,
21 \$100,000, is that worth it? That is an extremely
22 difficult, you know, finding to make, you know.
23 Is \$80,000 worth it? Is \$60,000 worth it? I
24 mean, obviously there is no one right answer.

25 What we have got to do and what we try

1 to do is build a case, as transparent as case as
2 we can, based on what we feel that the resource,
3 the value of the resource, what incremental gain
4 would be, you know, would result from a particular
5 cost. And, you know, there's no standards. We
6 don't shoot for 80 percent of the curve or 100
7 percent. It is going to depend on each case.
8 And, you know, we just try to build a case, put in
9 all this information together and, you know, try
10 to find out where we end up.

11 And, you know, you probably could build
12 that same case, you know, 100 different ways and
13 come up with 100 different answers. And you would
14 come up with your balance, we would come up with
15 our balance. And, you know, we just have got to
16 do the best job we can to explain why.

17 And I think for a lot of it it's sort of
18 just, you know, sort of relative to everything
19 else. I mean, you know. If we, if we could
20 determine that 80 percent is absolutely the
21 minimum needed then we have something to shoot for
22 and it perhaps makes balancing a little bit
23 easier.

24 But, you know, we have, especially on
25 relicenses, where providing an incremental benefit

1 to the resource, well how much more benefit does
2 the resource need and is it worth paying that
3 amount of money for that increased benefit.

4 You know, this is extremely difficult
5 because it is so subjective. And I can't give you
6 a whole lot better answer than that other than to
7 sort of explain the components to our decision.

8 And, you know, I know there is going to
9 be disagreement over whether \$10,000 is a
10 significant cost or a minimal cost or is something
11 that particular cost when we just don't have the
12 information, the standards to make a lot of those
13 types of decisions. It would be easy if we had a
14 standard of, you know, peak of the curve. That
15 would sort of take away a significant part of our
16 decision-making process. But we don't.

17 You know, we just do the best job we can
18 based on the information trying to build the case
19 and it is your opportunity to show us where we are
20 wrong, where we made the wrong balance, where we
21 valued the resource incorrectly, where we
22 misinterpreted the information, things like that.
23 To try to, you know, sort of get us back into sort
24 of a different, a different range of evaluated,
25 evaluated factors.

1 MR. THOMPSON: Alan, I understood almost
2 everything you said except I think what it goes
3 back to is when you make an inconsistency
4 determination the burden is on you to explain how
5 it is inconsistent. It isn't getting more
6 information from us to make your decision.

7 MR. MITCHNICK: Agreed.

8 MR. THOMPSON: You have made this
9 inconsistency determination and I think we need to
10 get some clarification on how that came about. In
11 this process we are just talking about, I think --
12 I agree that if you take as a given the modeling
13 that the temperature improvement at 80 percent, it
14 will simplify and probably clarify the analysis of
15 these instream flow issues in the West Branch
16 versus -- You are taking away the --

17 I think before you had this full suite
18 of possibilities. And now if we are assuming the
19 maximum thermal benefit there then that is going
20 to clarify by simplifying the analysis. But I
21 still think we need to see how our --

22 Because we don't take peak of the curve
23 either and we try to balance in our
24 recommendations. But when you find them
25 inconsistent you are making that determination and

1 that needs to be clarified in the analysis.

2 MS. O'HARA: Kerry O'Hara on behalf of
3 Fish and Wildlife Service. And I guess just in
4 line with the comments that you have been hearing
5 and that Mr. Thompson just said. The agencies are
6 saying over and over again that they are not
7 understanding where you come up with your
8 conclusions and your recommendations. It is not
9 transparent in the EA and it is not in your
10 letter. And so a lot of the confusion today is
11 because it is not there. You can talk about the
12 things you do but it is not displayed.

13 And I just want to remind you, this is
14 not a new issue. It is one that we have been
15 battling for decades. And I just want to remind
16 you of in the '90s our agency Interior, Commerce,
17 Forest Service and FERC got together and tried to
18 talk about these issues.

19 And some of the recommendations that
20 they came up to, I am just going to read them
21 because they go to this very issue. This is from
22 the Interagency Task Force on improving the
23 recommendation process and the mandatory
24 conditions, for the Forest Service in this case.

25 But it said and the Commission agreed:

1 effect of the recommendation on
2 factors such as project generation,
3 overall project economics, and
4 other project purposes, as well as
5 information on the cost of the
6 measure and benefits to the
7 resource."

8 And I think we have all gone through the
9 EA and your letter and we are just not seeing this
10 stuff. And so I am citing this just to remind you
11 that this is something you guys agreed to do in
12 about 1999. And we are kind of losing track of
13 that. It has sort of falling on the wayside. We
14 are going back to just sort of, well we say it is
15 inconsistent, it is not consistent with
16 comprehensive planning, but we don't know why you
17 are saying that. So I just wanted to get that on
18 the record.

19 MR. HOGAN: Debbie.

20 MS. GIGLIO: Debbie Giglio, Fish and
21 Wildlife Service. And I agree with what Kerry is
22 saying. We want to work together to find the best
23 balance for the resources but we feel like we are
24 in the dark. We feel like we can't work with you
25 unless we can find out exactly how you are doing

1 your analysis so that we can all work together to
2 come up with the best alternatives that are
3 consistent in your determination.

4 And we have extreme difficulty because
5 these meetings and these processes go on for a
6 long time and a lot of time and effort is put into
7 them. And we write up our letters and we are just
8 in the dark as to what is consistent and how is it
9 consistent. How can we work better together to
10 come up with the best alternative.

11 MR. D. SMITH: This is Dennis Smith,
12 Forest Service. Ken, I want to ask you a question
13 here that gets to not inconsistency but how well
14 the resources are protected.

15 And I concentrate on dry years because
16 that is what we are expecting to happen more
17 frequently. And the numbers in your document say
18 the agency's proposal gives you 41 percent WUA
19 versus 27 for PG&E for adult habitat and 62 versus
20 43, it doesn't state for spawning.

21 When you consider that plus what I
22 consider fish rescue in the canal totally
23 insufficient for protection of the resource, how
24 you could justify numbers like that. And also,
25 when we are losing fish most of the water does go

1 into the canal. How FERC could even make that
2 decision with those low of numbers and a large
3 proportion of the fish entrained into the canal.
4 That's what really kind of puzzles me on how you
5 could make that decision.

6 MR. HOGAN: Okay. That decision was
7 based on, you know, the baseline is what is there
8 now and the percentages that we are looking at as
9 an increase over current conditions.

10 MR. D. SMITH: Right.

11 MR. HOGAN: And we find that under
12 current conditions the fish population is viable
13 and generally healthy. So all we are doing is
14 improving current conditions of a healthy
15 population. And that is how we have gotten to
16 where we are.

17 MR. D. SMITH: But given that you think
18 the fish population is viable and healthy at this
19 point and we haven't undergone any kind of
20 analysis on global warming. There wasn't a
21 cumulative analysis that went in on survival rates
22 of fish based on lower WUA and higher
23 temperatures. It seems to me without that kind of
24 analysis you can't make that determination.

25 MR. LIBERTY: What kind of analysis

1 would you do on global warming though? I mean.

2 MR. D. SMITH: Basically you would take
3 what we are expecting, those dry years in multiple
4 succession for long periods of time. And put
5 survival out of the literature for temperature and
6 come up with what the PVA of those fish will be.
7 I mean, that's been done for salmon for a long
8 time by NOAA fisheries.

9 MR. GARD: Yeah. And I guess another
10 example would be some of the work that USGS is
11 doing now with their Cascade model where they are
12 actually looking at what are the predictions of
13 climate models as far as flows and water
14 temperatures and seeing what effects it has.

15 I think there's a lot of work out there
16 right now that you can look at to examine that
17 kind of question. And actually I would also
18 mention UC Davis is specifically doing something
19 on Butte Creek looking at effects of climate
20 change on the fisheries there. So that would be
21 something specific to this watershed.

22 MR. D. SMITH: And just to follow-up,
23 Dennis Smith again. I would like to see the
24 cumulative analysis, an in-depth cumulative
25 analysis based on drier conditions over 30 years

1 to see what the population would be.

2 MR. STEINDORF: Ken, you were asking
3 about, you know, what can you do to better
4 evaluate the effects of climate change. And one
5 thing that the Hydropower Reform Coalition has
6 suggested is using hydrology scenarios in addition
7 to historic hydrology.

8 I mean, given that we all pretty much
9 agree that we are going to see changes out there,
10 just looking at historic hydrology probably
11 doesn't make a lot of sense. So we need to get a
12 better handle on what kind of hydrology do we
13 expect to see in the future. And thereby we can
14 not only manage the effects to the aquatic
15 ecosystem but what are the impacts on hydropower.
16 And so we have to be able to evaluate both of
17 those to be able to come up with what we think
18 that balance might be down the road.

19 MR. HOGAN: I am kind of wondering why
20 we are struggling with -- why the adaptive
21 management portion of our recommendation can't be
22 used to address these effects as they occur, you
23 know. I mean, if we are using the best available
24 information we have now, going out and predicting
25 what is going to happen in 30 years, today are we

1 going to be able to come up with a good answer for
2 that? Why not, you know, if global warming is
3 occurring and it is affecting the amount of water
4 available, using the adaptive management program
5 to adjust the project accordingly.

6 MR. GARD: Well I guess I would think we
7 need to, you need to start the adaptive management
8 with a hypothesis about what is going to happen
9 and then test that through the adaptive
10 management. And that is what we are talking about
11 here is coming up with that hypothesis. What is
12 going to be the likely effect. And then we can
13 address that through the adaptive management.

14 MR. HOGAN: Okay.

15 MR. SHUTES: I think it goes back to the
16 question of what your standards are and what your
17 thresholds are going to be. And what decision
18 points are going to be made and whether they are
19 going to be mandated within a license or whether
20 they are going to be simply left open as a
21 possibility. You know, a lot of the discomfort
22 that we have with that, with adaptive management,
23 is it seems almost impossible to get a reopener
24 from FERC.

25 And we don't have any clear point. And

1 just as we don't have a standard for what is an
2 acceptable trout population in the Sierras, we
3 don't have a clear point that says, okay, where is
4 it that we are going to say, we need to make a
5 change. And what is the process by which we are
6 going to make a change.

7 And for those of us, both within the
8 agency and the NGO communities, how are we going
9 to be involved in that process? So I think all
10 those things --

11 MR. HOGAN: I am surprised that that is
12 a concern. The recommendation is for an adaptive
13 management plan to be developed in consultation
14 with the agencies, to be approved by the
15 Commission. So anything that you want as far as
16 these checkpoints or triggers to be considered or,
17 you know, when do things get reevaluated, those
18 should be in the plan.

19 MR. GARD: Yeah. I think part of our
20 uncomfort is, and we'll get into it later with the
21 monitoring plan and the ability to actually do
22 adaptive management. To have enough monitoring to
23 be able to do it. So I think that's an issue we
24 will get into a little later.

25 MR. HOGAN: Okay. In consideration for

1 the time I would like to try and move along.

2 MR. GARD: Yeah.

3 MR. HOGAN: We will definitely look at,
4 reevaluate given the pipe on the DeSabra Forebay
5 temperature reduction and things of that. And we
6 will revisit our analysis.

7 MS. LAWSON: And I just had one more
8 comment that Aaron had brought up. And actually
9 Scott Wilcox had mentioned that the temperature
10 would increase a little in Butte Creek going
11 downstream. And so I pulled up the 2004 and 2005
12 data, which was the temperature monitoring that I
13 had from those downstream sites.

14 And from that data the average trend
15 line indicates that from Centerville Powerhouse to
16 Covered Bridge, which is 5.66 miles downstream,
17 the average temperature increase with eight cfs
18 less in the river at the lowest low, which is 101
19 cfs, between there and 108 cfs would be about
20 .027 degrees Centigrade. So 0.03 degrees
21 Centigrade over 5.6 miles.

22 MR. STEITZ: Does that mean daily? This
23 is Curtis Steitz. Does that mean daily?

24 MS. LAWSON: Yes. I mean, it's a trend
25 line taken from two years of data at the low

1 flows. So I am just giving you a ballpark of what
2 mean daily temperature difference would be from
3 eight cfs less. And actually in a dry year it
4 would be five cfs less, so this is an even more
5 conservative calculation.

6 MR. WILCOX: It would be eight in the
7 dry year and ten in the normal year.

8 MS. LAWSON: I'm sorry?

9 MR. WILCOX: Or at least between the two
10 different recommendations.

11 MS. LAWSON: Okay. So eight, that would
12 be the dry year.

13 MR. WILCOX: And so that part of the
14 volume change would be about .03 degree. And what
15 was the number you cited before about what the
16 flow change meant at Centerville?

17 MS. LAWSON: Yes, that was from, that
18 was a difference of eight degrees and that was
19 using the lowest flow, which was 101. So between
20 101 and 109 cfs.

21 MR. WILCOX: I mean that the change in
22 temperature at Centerville based on the flow
23 change at Hendricks Head Dam. You had previously
24 cited, I want to say it was like .08 or something
25 like that with the pipeline in place.

1 MS. LAWSON: Oh, that was with it taken
2 out I think in dry years. It was $-.32$ and in wet
3 years it was -- or maybe vice versa it was $-.28$.
4 So we would still have cooler temperatures all the
5 way down at Covered Bridge by $.2$ degrees
6 Centigrade.

7 MR. HOGAN: Are you going to file this?

8 MS. LAWSON: If you'd like us to I can.
9 It's a trend line analysis. So it's not a modeled
10 result, it's data trends.

11 MS. LYNCH: And Aaron, just one more
12 quick question or comment. When you are talking
13 about the determination of consistency and why our
14 minimum instream flows was rejected, one of the
15 things that makes it even more difficult for us to
16 try to figure out how you made that decision is
17 that it appears that all of the minimum instream
18 flows were lumped into one and the annual cost was
19 \$280,000. Did FERC do any analysis about bumped
20 up flows in each of the different --

21 MR. HOGAN: Trying to separate them out?

22 MS. LYNCH: Yes.

23 MR. HOGAN: No. I think we looked into
24 doing it and we didn't do it for the draft. That
25 would be a question I would pose to Tim Looney.

1 MR. HOGAN: Yes. The issue was that we
2 didn't have the cost, PG&E did not provide us the
3 individual costs of the minimum flows. I did talk
4 with Tom this morning and seeing if we could get
5 those for the final and he said yes.

6 MR. LIBERTY: I think it would be nice
7 to have for the final. To separate those out by
8 resource would probably help out a lot.

9 MR. HUGHES: I'm sorry, what is it that
10 PG&E is going to be providing?

11 MR. HOGAN: The cost of each minimum
12 flow at each diversion.

13 MR. HUGHES: Like a dollar per acre
14 foot?

15 MR. HOGAN: It's a kilowatt generation
16 cost, lost generation. If you lose it at
17 Hendricks you don't put it through three
18 powerhouses. But if it is at Lower Centerville
19 then it is only one powerhouse that you are
20 losing. So it's pretty complicated. We couldn't
21 with the information we had, couldn't decipher.
22 We had a total amount and that's what we used.

23 MS. LAWSON: But that would certainly
24 need to be run through the water balance model,
25 not just taken at face value for those costs

1 because there are a lot of times when Hendricks is
2 spilling. So if you are just looking at straight
3 value of water lost at Hendricks you need to
4 actually run the simulations to tell how much less
5 time that water would actually have to be taken on
6 at Hendricks. Because when it is spilling you
7 wouldn't want to use that in your calculation.

8 MR. HOGAN: All right. Your operations
9 model accounts for that, right?

10 MR. JEREB: Yes.

11 MR. LIBERTY: I think we have a
12 question.

13 MR. STEINDORF: A quick question on the
14 summer releases at Hendricks, the increases.
15 Would those be gathered up at Miocene or would
16 they pass down the rest of the west to Lake
17 Oroville? Jim, I think that's a you question.

18 MR. BUNDY: Oh.

19 MS. LYNCH: Actually that was a Fish and
20 Game 10(j).

21 MR. HOGAN: And we have a question on
22 that 10(j) as well. So if we can go into that
23 subject now.

24 MS. LYNCH: Sure.

25 MR. LIBERTY: Yeah. Cal Fish and Game

1 did have a recommendation dealing with that. And
2 it was hard for me to follow the recommendation
3 and get exactly what it was that you had commented
4 on. It just was unclear to me reading through
5 that. That what was number nine or number eight
6 in your letter.

7 MS. LYNCH: Well, I'll give you a little
8 bit of background. In the 50 years worth of
9 correspondence that I went back through on this
10 project to dig up the history on the fish screen
11 and when it was removed and who approved removing
12 it, one of the things that I came across was that
13 part of the 1983 agreement, shortly after the 1983
14 agreement was signed PG&E applied for a water
15 right to take that water out at Miocene. And Fish
16 and Game thought that was a little disingenuous
17 because we thought through our negotiations for
18 this '83 agreement that that water would continue
19 down to Oroville.

20 And so our concern was that the same
21 thing might happen again with increased releases
22 from Hendricks. We wanted some assurance that
23 those increase flows would not be captured at
24 Miocene by PG&E. That they would in fact be
25 released below Miocene and continue to Oroville.

1 And we believe that is within FERC's jurisdiction.

2 MR. HOGAN: Now in your comments on our
3 10(j) letter it just seemed to reiterate what we
4 said in our NEPA document but then provided us
5 with Cal Fish and Game's perspective. Or I wasn't
6 sure if you were --

7 MR. LIBERTY: It referenced some
8 additional information but it didn't appear that
9 any had been provided.

10 MS. LYNCH: Regarding? I'm sorry, are
11 you talking about the letter that we sent
12 requesting this meeting or the original 10(j)
13 letter?

14 MR. HOGAN: No, the letter sent
15 requesting this meeting.

16 MR. LIBERTY: I think there was three
17 questions at the top of each of your responses and
18 one asked if your agency had any additional
19 information and I believe the response was yes.
20 But in reading through your comment beneath it, it
21 was hard to follow. I just didn't understand.

22 MS. LYNCH: Okay, I'm sorry, I may have
23 mis-spoke when I answered yes and no to those
24 questions. I'd have to go back and look at that
25 again. But we don't have any additional

1 information regarding whether or not the water
2 should remain in the stream once it is released
3 from Hendricks.

4 MR. HOGAN: Okay.

5 MR. LIBERTY: Okay.

6 MR. HOGAN: It's comment number nine.

7 MS. LYNCH: In which document?

8 MR. HOGAN: Your letter requesting the
9 10(j) meeting.

10 MS. LYNCH: The letter requesting this
11 meeting?

12 MR. HOGAN: Yes.

13 MR. LIBERTY: February 27.

14 MR. HOGAN: Yes, February 27 of this
15 year.

16 MS. LYNCH: Hold on a second.

17 MR. HOGAN: And the language that's
18 provided --

19 MR. LIBERTY: It looks like it was cut
20 and paste almost from the document but it was hard
21 to see what --

22 MS. LYNCH: I confess, we do that a lot.
23 And that's why I say, I may very well have not
24 corrected my yeses and nos on those. I wanted to
25 make sure that each of those three questions was

1 addressed in regard to each of our
2 recommendations. And I may have made an error in
3 that so let me look and see what it says. I don't
4 think I have any additional information.

5 MR. HOGAN: Okay. And the following
6 write-up looks like it came straight from our NEPA
7 document. So we weren't sure what Cal Fish and
8 Game's position on this was at this time. Whether
9 you have adopted our conclusion or whether you
10 still want the water to stay in below Miocene.

11 MR. STEINDORF: Can you reiterate what
12 that conclusion was.

13 MR. HOGAN: I can read -- Basically what
14 we said in the NEPA document is that Miocene
15 diversion is non-jurisdictional in that we could
16 not prevent PG&E from diverting water at that
17 location under this license.

18 Additionally we found that as far as the
19 inconsistency goes the state's recommendation was
20 for us to require PG&E to seek authorization from
21 the Water Board to alter their water rights. And
22 that we found inconsistent with Section 10(j)
23 because it was requiring PG&E to go get
24 authorization somewhere else, something we
25 couldn't approve or require.

1 So that was where we are. From the
2 response to the comment --

3 MS. LYNCH: And I think I would
4 recognize that that's, that that would be a 10(a)
5 and not a 10(j). And I believe I would have to go
6 back and read that again too. But I believe what
7 I had written in our original 10(j) letter was
8 that PG&E make a good faith effort to seek a 1707
9 instream dedication for those additional flows.

10 MR. HOGAN: Okay. So we --

11 MS. LYNCH: Or in some way assure us
12 that they won't be diverting them at Miocene and
13 that they will continue on.

14 MR. HOGAN: Yes. And we said we would
15 consider it under 10(a).

16 MS. LYNCH: Okay. Then that does
17 resolve it then.

18 MR. HOGAN: Okay.

19 MR. LIBERTY: I've lost track of where
20 we are here. Are we still discussing Hendricks?
21 Anything further on Hendricks diversion dam flows,
22 et cetera?

23 MR. STEINDORF: I hate to back us up but
24 just on that question. So if some entity were to
25 file with the Water Board or state Fish and Game

1 to require a minimum instream flow below Miocene,
2 would that then require an amendment to the
3 release at Hendricks?

4 MR. HOGAN: I don't know, I don't work
5 for the Water Board. I mean, I would think that
6 they, they would require a minimum instream flow
7 based on inflow equals outflow. It can't require
8 more than inflow. I don't know.

9 MR. STEINDORF: It's just a question of
10 if that were to change then what implications does
11 that have back upstream basically is what I am
12 trying to get at.

13 MR. HOGAN: I mean, the Water Board, and
14 Russ you can correct me if I'm wrong, typically
15 when they issue a 401 water quality certificate it
16 would have a reopener within their 401. So if
17 that's what they wanted to do and they wanted to
18 exercise that reopener then yeah, they could
19 dictate a change in the flow from Hendricks down
20 through. But it is not, that's not a FERC thing.

21 MR. SHUTES: So any instream flow that
22 is set for Miocene would be set by the Board and
23 not by you all, is that right?

24 MR. HOGAN: I'm saying Miocene is out of
25 the picture in this discussion. It is not a

1 project facility. We are not licensing Miocene,
2 it is not in the project boundary. We can't
3 controls their operations at Miocene under this
4 license. Any questions?

5 MS. LYNCH: Russ, did you want to add
6 anything to that?

7 MR. KANZ: Russ Kanz, Water Board. I
8 don't know that much about Miocene other than I
9 believe it is a FERC-exempt project. Do you guys
10 know?

11 MR. HOGAN: You know, I have tried to
12 find Miocene and I can't find it in the records.
13 I don't know if it's under -- Is it a FERC-exempt
14 project?

15 MR. JEREB: No, it's not exempt. It
16 doesn't qualify for a FERC license under the three
17 criteria.

18 MR. HOGAN: So is it a hydro project?

19 MR. JEREB: Yes, um-hmm.

20 MR. HOGAN: And is it an exemption from
21 licensing?

22 MR. JEREB: It is not an exemption, it
23 doesn't qualify under the three criteria.

24 MR. HOGAN: So it is non-jurisdictional.

25 MR. JEREB: Non-jurisdictional.

1 MR. KANZ: So non-jurisdictional
2 projects, there is no FERC preemption so the Water
3 Board could regulate those using just water rights
4 authority.

5 MR. JEREB: It has B-19-14 water rights
6 also.

7 MR. LAWSON: That's correct.

8 MR. HOGAN: Was that, who was that?

9 MR. LAWSON: That's me, Quentin.

10 MR. HOGAN: Okay.

11 MR. LIBERTY: Is it safe to move on to
12 feeder creeks now?

13 MR. GARD: Okay. Let's see. I guess --
14 Let's see. So there's six feeder creeks all
15 together. The resource agencies will be deferring
16 to the Forest Service 4(e) conditions on Long
17 Ravine, Cunningham and Little West Fork.

18 Let's see. I'm not sure who from Fish
19 and Game wants to talk about the Butte side
20 diversions. MaryLisa?

21 MS. LYNCH: I thought you were going to
22 talk about the Butte side.

23 MR. LIBERTY: Let's skip it.

24 (Laughter)

25 MR. HOGAN: I think we're the only ones

1 who found that funny.

2 MR. LIBERTY: I guess I'm not very
3 funny.

4 MS. LYNCH: I think it's time for a five
5 minute break.

6 MR. HOGAN: Okay, we are going to take a
7 five minute break. Off the record.

8 (Off the record.)

9 MR. GARD: Okay, I mis-spoke earlier.
10 Actually Fish and Game's three streams were the
11 same as the Forest Service 4(e)s so we are
12 actually taking the lead here.

13 The other, the other four streams were
14 Inskip, Kelsey, Clear and Little Butte Creeks,
15 where I believe FERC was proposing a .25 to .1 cfs
16 and we are recommending one cfs. I think that the
17 main issue that we had with this, and maybe this
18 is where we needed some more information from
19 FERC, is whether the lower flows of .25 to .1 cfs
20 would result in the feeder creeks drying up or not
21 after a certain distance downstream. Is that
22 something you looked at?

23 MR. LIBERTY: No, we didn't look at
24 that. I don't believe we had any information
25 indicating that it would dry up.

1 MR. GARD: Okay. I guess that's
2 something.

3 MR. LIBERTY: Are you aware of any
4 information that says that?

5 MR. GARD: You know, we just really
6 don't have much information. I don't know if we
7 have any information really about, about these
8 streams.

9 MR. LIBERTY: That was definitely a
10 problem we ran into on these feeder creeks.

11 MR. GARD: Yeah.

12 MR. LIBERTY: I mean, there's no field
13 studies done.

14 MR. GARD: Right.

15 MR. LIBERTY: So basically we had to
16 rely upon fish population data. And that was a
17 big part of our analysis for these individual
18 feeder creeks.

19 MR. GARD: I think --

20 MR. D. SMITH: Dennis Smith, Forest
21 Service. We made our decision not based on what
22 was in the license application, because we thought
23 insufficient was available in the studies.

24 We actually sent biologists out there,
25 took a look at stream conditions, took photographs

1 and made a decision not just based on fish but
2 also foothill yellow-legged frog. Because they
3 are important over-wintering areas for those
4 frogs. And how much -- We made some basic
5 estimates on perimeter and looked at that and saw
6 that one-tenth of a cfs basically was, even in low
7 flow periods, was insufficient.

8 MR. LIBERTY: Is that data something you
9 could provide to us?

10 MR. D. SMITH: We can provide the
11 information and the photographs.

12 MR. LIBERTY: It was difficult. It just
13 appeared to be, I guess, a lack of information in
14 trying to discern the benefits, you know, of what
15 a given flow would be for each individual feeder
16 creek. But if there is additional information
17 that would, that would be helpful.

18 MR. D. SMITH: And we only did that on
19 the creeks that we jurisdiction over.

20 MR. GARD: Right. And I guess we would
21 say that without any other information it would be
22 reasonable to assume that these, that the other
23 streams would have similar relationships. That
24 would be our basis at this point.

25 I think we should probably move on given

1 the time.

2 MR. LIBERTY: Does anybody else have
3 anything else before we move on from feeder
4 creeks? Jim, go ahead.

5 MR. BUNDY: Jim Bundy. One of those I
6 am not even sure we are pursuing, Little Butte
7 Creek.

8 MR. LIBERTY: You are proposing to
9 remove it, right?

10 MR. BUNDY: Remove it, yes.

11 MR. LIBERTY: Right, I think we
12 indicated that in our analysis.

13 MR. BUNDY: Okay.

14 MR. LIBERTY: We will be taking it out.

15 MR. GARD: And of course if that is
16 taken out then that issue will be resolved.

17 MR. LIBERTY: Right, the flow issue goes
18 away I guess.

19 MR. GARD: Yes. Do you want to go on to
20 Upper Butte?

21 MR. LIBERTY: Yes, we might as well move
22 on to Upper Butte I guess.

23 MR. GARD: And I think -- Oh sorry.

24 MR. HOGAN: We have one.

25 MR. LIBERTY: Sorry.

1 MR. STEITZ: Curtis Steitz, PG&E. I
2 just wanted to point that we did do a feeder
3 stream study and that information is available to
4 everyone. And I think it might have actually been
5 -- Did everything get into the final license
6 application? It did, okay.

7 MR. HOGAN: Yes, and we reviewed that in
8 our analysis.

9 MR. STEITZ: So everything is there.
10 One of the things I just wanted to comment on was,
11 when it comes to minimum flows whether it be at
12 Hendricks diversion dam or the feeder streams or
13 Butte Creek diversion dam. You know, it is our
14 concern that we are taking water cumulatively away
15 from Butte Creek and the DeSabra Forebay. So
16 there is an increase in temperature like Scott
17 pointed out when you combine all of these
18 different releases.

19 And, you know, we kind of talked about
20 global warming here. I know Dennis has spoken
21 about it, Debbie I think had mentioned it,
22 possibly even I think Mark. And, you know, the
23 stuff that I have kind of seen written by Jennifer
24 Nielsen and other authors from NOAA is that, you
25 know, it is expected that we are going to see a

1 one to two degrees C temperature rise from global
2 warming in our streams.

3 And everybody knows here that, you know,
4 the temperature reduction device that we have at
5 DeSabra Forebay is going to give us about that
6 amount of benefit. And if we put that system in
7 we might be able to reduce temperatures in Butte
8 Creek somewhere between one and two degrees.

9 So, you know, if we have global warming
10 the way we think it is going to happen then we are
11 going to, you know, we are going to maybe maintain
12 status quo. Which is, you know, everybody is
13 concerned that we already have warm temperatures
14 down there and that, you know, we want to keep
15 them as cool as possible. So, you know, our
16 strategy in our flow releases has been to minimize
17 the additional releases, you know, from the
18 feeders and from the other diversions to keep
19 water in Butte Creek as cold as possible.

20 You know, we have studies. CSPA has
21 provided information, you know, on salmon
22 temperature needs. The Department of Fish and
23 Game in their various life history reports and,
24 you know, some of the mortality reports have
25 commented on the fact that, you know, ideal

1 holding condition for spring run is really around
2 15 degrees C if you can get it.

3 MR. HOGAN: Let me cut you off there.
4 We recognize that it is a balancing act and that
5 is something we will be considering in our
6 analysis. I understand the issue and just let you
7 know that we do understand that.

8 MR. STEITZ: Can I make one other just
9 real short comment?

10 MR. HOGAN: Short.

11 MR. STEITZ: Short. I just wanted to
12 mention that one of the things we looked at was
13 not mean daily temperature below Centerville
14 Powerhouse but it was the weekly mean maximum
15 temperatures. And in our proposal the change
16 would have been about .12 degrees C.

17 With the combined releases from the
18 different diversions and feeders we are looking at
19 about a four-tenths of a degree C change. And the
20 weekly mean maximum temperature occurs during heat
21 storm events, so we are talking about temperatures
22 getting close to half a degree C when you have
23 those.

24 MS. LAWSON: Is that including the
25 DeSabra Forebay case?

1 MR. STEITZ: Pardon me?

2 MS. LAWSON: Is that including the
3 DeSabra Forebay case?

4 MR. STEITZ: Yes, that is incremental,
5 yes. It's not --

6 MR. THOMPSON: Real quickly I'll just
7 say that -- this might be a good time to say it.
8 Within the context of the ESA consultation that is
9 going to be needed going forward it would be a
10 good idea, as Curtis said, to evaluate all these
11 things. Keeping that in mind I would also suggest
12 -- we got one letter from FERC asking us to
13 initiate formal consultation giving us a schedule
14 of where information in the EA would apply to the
15 endangered species consultation. That's one way
16 to go and you can do that.

17 But I am just suggesting there are a lot
18 of issues here that, tradeoffs between West Branch
19 flows and Butte Creek, feeder streams of Butte
20 Creek, et cetera. It is difficult for you to
21 figure out what we need to see in that. It might
22 be best to have a separate biological assessment
23 prepared. Do the cutting and pasting and moving
24 it to a separate document. But this kind of
25 information that Curtis is talking about will

1 likely be needed in a BA for us to use in a BO.
2 So that's a suggestion going forward.

3 MR. HOGAN: Well that's a mood killer.

4 (Laughter)

5 MR. SHUTES: Could I ask a quick
6 question about the -- You guys also use the WMMP
7 metric considerably?

8 MR. LIBERTY: Yes.

9 MR. HOGAN: Can you explain why you use
10 that rather than mean daily.

11 MR. SHUTES: I thought that was the most
12 important metric to use given water temperatures
13 in Lower Butte Creek and its impacts on salmon.
14 But also at the same time I don't think using the
15 other metrics would be wrong. We did provide all
16 the metrics in the back as appendices just in an
17 effort to keep it condensed. I went with that
18 metric. And that is certainly something in the
19 final I could look at the other metrics used.

20 MR. HOGAN: Do the resource agencies
21 have a preference?

22 MR. LIBERTY: I mean, they are all
23 provided in the appendix.

24 MR. SHUTES: It just wasn't clear in a
25 lot of your --

1 MR. LIBERTY: Yeah. I did see your
2 comments on that and I do intend to beef that
3 section up in the final. I think some other
4 agencies --

5 MR. SHUTES: It would be good if you
6 provide a rationale, whatever it is.

7 MR. LIBERTY: Okay, sure.

8 Upper Butte Creek, is it safe to move
9 on?

10 MR. GARD: I guess what I wanted, the
11 main question I had on Upper Butte was when we
12 looked at it we saw that, we were trying to
13 understand the balancing for wet years versus
14 normal years. And we really didn't understand how
15 there was a -- it gave equal consideration to
16 resources and power when there was more power
17 generation in dry years than in wet years. For
18 example, in October it was 11 cfs for dry years
19 and 5 cfs for wet years.

20 MR. LIBERTY: I'm sorry, I am not
21 following that.

22 MR. GARD: Sure. So if you, if you look
23 at our --

24 MR. LIBERTY: I guess first maybe,
25 perhaps just to get everybody on board. Our

1 proposal and the agency's proposal are the same
2 except for in dry years from June through February
3 the agencies have requested an additional three
4 cfs --

5 MR. GARD: Right.

6 MR. LIBERTY: -- be released downstream
7 of Butte head dam.

8 MR. GARD: Right.

9 MR. LIBERTY: So that was the
10 inconsistency that we had and we outlined in our
11 letter.

12 MR. GARD: Yeah.

13 MR. LIBERTY: But again this kind of
14 speaks to what Curtis was saying earlier. Where
15 is it, where is that water best left. I mean, is
16 it better left downstream of Butte of Butte head
17 dam or put into Butte Canal or Lower Butte Creek.

18 MR. GARD: Right. I guess the two
19 things I'd make note there is, as we said, there
20 doesn't appear to be any negative effects on Lower
21 Butte temperatures with the pipe in DeSabra if you
22 look at cumulatively all the effects of that.

23 And second, the Lower Butte temperatures
24 are only an issue in the summer so that shouldn't
25 be a consideration for the remainder of the year

1 where you get differences in flow.

2 MR. LIBERTY: But that might be a
3 consideration in June, July and August in dry
4 years.

5 MR. GARD: Yeah.

6 MR. LIBERTY: You're saying September
7 through -- or October through --

8 MR. GARD: Yeah. So that other than
9 summertime it shouldn't be an issue. I guess that
10 was part of our -- We would think a balancing of
11 power and resources. That in dry years both the
12 resources and power generation should take a hit
13 and this doesn't seem to be consistent with that.
14 So that's what we would like to understand a
15 little better.

16 MR. HOGAN: Is Fish and Wildlife
17 flexibility to our recommended minimum flows on
18 June, July and August and looking for their
19 recommended minimum flows for the winter months?

20 MR. GARD: I think we could probably be
21 flexible on that. There might be some kind of
22 adaptive management to, you know. Kind of similar
23 to what Fish and Game was saying for West Branch.
24 If it does look like higher flows in the
25 summertime are you going to have some negative

1 effects on Lower Butte. Doing some kind of
2 adaptive management and not putting them into
3 effect until the temperature control device is in
4 the DeSabra Forebay.

5 MR. LIBERTY: I guess another question I
6 have, I'm not sure anybody has looked into this
7 yet, is what kind of impacts do these flows have
8 on temperatures now that this pipe is on the table
9 as a recommendation? Downstream.

10 MS. LAWSON: It's difficult for us to
11 make that determination because there was no
12 temperature model done from upstream to downstream
13 because of the Forks of Butte project. PG&E
14 didn't model the entire Upper Butte reach.

15 So the only way that we were able to
16 assess the temperature in this stretch was to look
17 at the difference in canal temperatures and to see
18 how much hotter the water in the canal -- I'm
19 sorry. Yeah, if we took a little water out of the
20 canal how much hotter that canal water got. And
21 we presented those in our 10(j) letter.

22 On the hottest day of the year in 2004,
23 which is I dry year I think, water in Butte Canal
24 heated an additional 0.05 degrees when three cfs
25 were removed from the canal and retained in the

1 river. And an additional nine cfs, which we are
2 not talking about the water heated .17 degrees.

3 So that, that was getting at just the
4 heating in the canal. Because there would be more
5 water in the river the river would have stayed
6 cooler. And so we are not able to assess the
7 recombined temperature without that last stretch
8 of the Forks of Butte project being modeled. But
9 we didn't feel that an additional 0.05 degrees in
10 the canal would be that large when we were going
11 to be recombining with Butte Creek which would be
12 cooler because of that additional water.

13 MR. HOGAN: So for all the 10(j)
14 agencies is it something that you would like us to
15 look at? Where we provide your recommended
16 minimum flows during the cooler months and then
17 our recommended minimum instream during the --
18 sorry, the summer months. Did I reverse that?

19 MR. LIBERTY: No, you got it right.

20 MR. HOGAN: I got it right.

21 MR. LIBERTY: Too many flows.

22 MS. LYNCH: I'm not sure what you are
23 asking.

24 MR. LIBERTY: He's saying is the --

25 MR. HOGAN: Split the baby.

1 MS. LYNCH: You said for all of them or
2 just for Butte head.

3 MR. LIBERTY: Downstream of Butte head.
4 If the seven cfs would be sufficient in June, July
5 and August.

6 MR. HOGAN: Just part of our
7 consideration of the water temperature. The
8 effects of water temperature in Lower Butte Creek.

9 MR. GARD: I think the first step would
10 be to look at what is the combined effects of
11 everything. And if that really is showing an
12 adverse effect on Lower Butte temperatures then we
13 would be wanting to go there.

14 MR. LIBERTY: It's something definitely
15 to look at in the final. It's another option to
16 evaluate.

17 MR. THOMPSON: Yes, we would support
18 additional analysis. We noticed that in our
19 review of the EA too. I was concerned that there
20 is not a linear relationship between more water in
21 Upper Butte Creek and a temperature change. And
22 we may be starving that so much that it is warming
23 up excessively.

24 And there is some tradeoff between Upper
25 Butte Creek flows and the canal flow. There is

1 some tradeoff there and how do we get at it? I
2 don't think -- Do we have an analysis, any kind of
3 a tool? I don't think we have a tool because of
4 the Forks of Butte project that was in-between. I
5 don't know really how to suggest you do that
6 analysis. But again we want the combined flow at
7 the bottom to be as cool as possible.

8 MR. HOGAN: Right.

9 MS. LAWSON: One thing that we should
10 also consider too is that if additional water is
11 put in the river the Forks of Butte project could
12 run more often. And that would mean that some of
13 that water would be taken out and put into a pipe.

14 MR. LIBERTY: But we are only talking
15 three cfs here though.

16 MS. LAWSON: Yeah, but still --

17 MR. LIBERTY: I mean, it's not like it
18 is 25, 30 cfs.

19 MS. LYNCH: Good point.

20 MR. LIBERTY: I mean, I realize it's
21 more.

22 MR. HOGAN: Careful.

23 (Laughter)

24 MR. LIBERTY: Yes, go ahead, Allen.

25 MR. HARTHORN: I think Jim may be about

1 to answer the question.

2 MR. LIBERTY: Jim.

3 MR. BUNDY: Well Forks of Butte, it's
4 seasonal operation. So sometime in July they're
5 down. Maybe early, mid-July I think. So they
6 require a certain amount of water to even roll the
7 unit. And if it trips they can't re-parallel
8 because it takes a certain amount to break it
9 loose so I think they are pretty much done some
10 time in July.

11 MS. McREYNOLDS: And I know -- My
12 concern historically or up to this point has been,
13 even three cfs is, even though it minimally cools
14 in the canal, it lessens the flow going through
15 the Forebay so it would warm temperatures because
16 you are taking three to five cfs out of the
17 Forebay. But now that the pipe may be an option
18 it may be in consideration too. Because we always
19 needed the most flow going through the Forebay to
20 lessen the water increase above that. But maybe
21 not now that the pipe is in.

22 MR. GARD: Yeah. I think that is
23 definitely something that needs to be taken into
24 consideration for that overall analysis for the
25 feeder creeks and West Branch Feather. But, you

1 know, a lot of this recent, a lot of the rationale
2 for cooling is going away because of putting the
3 pipe in the Forebay.

4 MR. LIBERTY: Allen, do you have
5 anything else?

6 MR. HARTHORN: No, I was going to say
7 what Ken said.

8 I might add that there is really no
9 reason why that couldn't be modeled. when that
10 plant is not in operation there is no, no reason
11 that we couldn't model that and find out exactly
12 what the temperature changes are.

13 MR. HOGAN: But we don't have a model
14 now. We don't have interface between the model
15 for that part of Butte Creek and the temperature
16 model for the canal. So you're going to have to
17 make the best guess. And maybe Bob can clarify.

18 MR. HUGHES: I'm sorry, what am I
19 supposed to clarify?

20 (Laughter)

21 MR. BUNDY: Well couldn't we develop
22 one? Isn't that the --

23 MR. SHUTES: Well you would have to make
24 it with a daily time step interface. PG&E said
25 that would cost something on the order of a

1 quarter of a million dollars and that's why they
2 didn't want to do it.

3 It also goes to whether -- quantifying
4 the net benefit of the project temperature-wise.
5 You really haven't done that. You have, you
6 haven't quantified it precisely for your ESA
7 costing. I don't know if that is worth the
8 expense but it is something to consider.

9 MR. HUGHES: I still want to --You had a
10 suggestion for an additional analysis based
11 partially on what the resource agencies
12 recommended and partially on what was in draft EA.
13 I just want to make sure that we are all very
14 clear on what it is that is being suggested. And
15 maybe I didn't catch all of it so if you could go
16 over that. I have the flows here. Are you
17 suggesting ten cfs in a dry water year during
18 June, July and August and seven in other months or
19 vice versa?

20 MR. LIBERTY: Are you saying --

21 MR. GARD: I think it's the other way
22 around. So that they go with --

23 MR. LIBERTY: Seven during the hotter
24 months of the year.

25 MR. GARD: Right.

1 MR. LIBERTY: Ten during the winter and
2 early spring.

3 MR. HOGAN: The theory on that being
4 that the water in Upper Butte Creek warming. So
5 if you had ten cfs in Upper Butte Creek you are
6 going to have more warmer water coming into Lower
7 Butte Creek than if you do seven and cool that
8 water with canal water. Does that -- Am I missing
9 something? Put the additional three down the
10 canal, move it downstream faster so that it
11 doesn't warm in Upper Butte Creek during the
12 summer months.

13 MS. LYNCH: I hate to say this but can
14 we have five minutes?

15 MR. HOGAN: Sure.

16 MS. LYNCH: It will really only be five
17 minutes.

18 MR. HOGAN: Do you want us to leave?

19 MS. LYNCH: No, no, we'll step outside.
20 Mark.

21 MR. HOGAN: Because it's just the three
22 of us.

23 (Off the record.)

24 MS. LYNCH: Okay. I think what the
25 department would like to do is stick with our

1 original recommendation. We were pretty clear in
2 our 10(j) that these flows are not to be
3 implemented until after the two years of the
4 physical fix to DeSabra Forebay and the two years
5 of temperature monitoring. And we would like to
6 stick with that recommendation. And it is my
7 understanding from the other agencies that they
8 would be acceptable accepting that.

9 MR. GARD: And we agree with Fish and
10 Game.

11 MR. HOGAN: Okay. All right, so not
12 resolved.

13 MR. GARD: No.

14 MR. LIBERTY: Move on to Lower Butte
15 Creek? Lower Butte Creek. First of all I guess
16 I'll take the blame if I didn't do a good enough
17 job in my analysis explaining that. Obviously I
18 do understand that the more flow you provide
19 downstream of Lower Centerville diversion dam the
20 more spawning habitat that is going to open up.
21 And in doing so it will likely redd
22 superimposition.

23 However I guess my line of thinking was
24 that redd superimposition, reducing that is going
25 to obviously result in more fish returning to the

1 system at some point in the future, whether that's
2 five, ten years whatever, and then we are just
3 going to have this problem again. So it doesn't
4 seem to me increasing the instream flows to the
5 point questioned by the agencies in the long run
6 is going to result in a solution to the problem, I
7 guess. That's my line of thinking. But I know
8 people will disagree and I would like to hear
9 opinions on that and thoughts.

10 MR. GARD: Okay. Well I think that's a
11 very good start because that's like my first two
12 questions.

13 MR. LIBERTY: All right, we're on the
14 same page.

15 MR. GARD: So I guess sort of the logic
16 we were thinking is that you have eight percent
17 more spawning habitat, it results in eight percent
18 less redd superimposition, which results in eight
19 percent greater survival of embryos, pre-emergent
20 fries, which results in eight percent increase to
21 the populations every third -- three years.

22 So if you look at that over the 30 year
23 license, assuming three year population, that
24 results in a 216 percent increase in population.
25 So just making that point that a small increase in

1 habitat can have large benefits over the period of
2 a license. And I think --

3 MR. LIBERTY: And that also -- I'm
4 sorry, go ahead.

5 MR. GARD: I think some of the other
6 things that need to be considered I'm not sure
7 were considered is that this is a listed species.
8 The genetically pure stock is only present in
9 three streams, of which Butte Creek is the
10 strongest population.

11 I understand currently by my paper here
12 that currently Butte Creek chinook spring run
13 constitute over 70 percent of all Central Valley
14 spring run chinook. So one of the things to
15 consider is that the excess production from Butte
16 Creek could serve to reestablish populations say
17 in Deer and Mill Creeks if they are extirpated.
18 If you assume five percent strain rate, which is
19 fairly standard numbers, and to establish new
20 populations in other streams.

21 So we're looking at, you know, Butte
22 Creek is, this is really important population
23 there. Because if we lose Deer and Mill it would
24 be the only one left. So if you are thinking in
25 terms of recovery this is a real important source

1 population.

2 Some of the other things to consider is
3 there has been a total of almost \$18 million in
4 restoration projects for listed species in Butte
5 Creek lower down in the system. So there's been a
6 huge investment by the federal government and the
7 state and other parties in Butte Creek. We think
8 that should be taken into account in looking at
9 the balance between fish versus power generation.

10 So some of the, some of the balance I'm
11 thinking about looking at. So I looked at this.
12 So increased flows provide 78 percent increase in
13 spawning habitat. And from what I could figure
14 out, six to eight percent decrease in generation
15 at Centerville Powerhouse.

16 So the way I would think of it is that
17 spawning habitat is worth more than power
18 generation because it is listed species. So maybe
19 you can speak about how you made that balance
20 there between -- To me --

21 MR. LIBERTY: I guess --

22 MR. GARD: To me, is that the way you
23 are thinking about it or?

24 MR. LIBERTY: I guess our explanation --
25 what's that?

1 MR. GARD: Is that kind of the way you
2 were thinking about it?

3 MR. LIBERTY: I don't think our answer
4 would be any different than what we said this
5 morning or this afternoon.

6 MR. GARD: Yeah.

7 MR. LIBERTY: I think we have kind of
8 gone around and around on this issue on how we
9 balance.

10 MR. GARD: Right.

11 MR. HOGAN: I think, you know, when
12 Aaron and I discussed it we looked at, okay,
13 providing more water you get more fish and then
14 the problem repeats itself. So we haven't solved
15 the problem by putting the water in, throwing
16 water at it. So that was kind of, you know --

17 MR. GARD: So did you take into account
18 that this being a source that could reestablish
19 other, other streams?

20 MR. LIBERTY: We took into consideration
21 the importance of this run in Butte Creek. I
22 don't think we did any sort of analysis on how it
23 could be used to repopulate other creeks in the
24 area.

25 MR. SHUTES: Are you aware that San

1 Joaquin is looking, that those who are working on
2 the San Joaquin River are specifically looking to
3 Butte Creek for the source population to
4 reestablish spring run salmon. And that this is
5 the only likely possible source. And that this
6 project has just been funded to the tune of 70 or
7 80 million dollars by the federal government?

8 MR. LIBERTY: I wasn't.

9 MR. HOGAN: No. And how does that
10 relate to the Butte Creek population? Does it
11 have an affect on the Butte Creek population?

12 MR. SHUTES: Well I'm sure --

13 MR. HOGAN: Those are the things --

14 MS. LYNCH: Well it's something to
15 consider when, when you are talking about that
16 additional eight percent genetic contribution.

17 MR. HOGAN: But my question is, are they
18 taking stocks away from Butte Creek and
19 transporting -- I mean, adults and transporting?
20 Is there, is there a cumulative effect here on the
21 Butte Creek population that the San Joaquin
22 project is going to have?

23 MR. SHUTES: I don't think those details
24 have yet been worked out, whether they are going
25 to transfer adults or whether they are going to

1 transfer eggs or whether they are going to have
2 some kind of incubation factory closer to the
3 Butte Creek site. I would just note that if the
4 problem is too many fish this is going to be one
5 place where we might be able to use some of them
6 for reproduction.

7 MR. GARD: Yeah. I think that, you
8 know, overall that makes the same point as what I
9 was saying. Is that there is value in the broader
10 Central Valley with recovery of spring run salmon
11 of this increased production that really should be
12 considered.

13 MR. LIBERTY: But couldn't too much
14 increased production be a bad thing also? I guess
15 one could argue that this creek has in recent
16 years either reached or exceeded carrying
17 capacity. I think perhaps that might have been
18 seen in 2003. And I think also in the preliminary
19 BO I think NMFS also spoke and said that, that
20 very statement. That they believe it is either at
21 or exceeded carrying capacity.

22 MR. GARD: Well I think you need to look
23 at what effect, what is the incremental effects of
24 that. You also have to look at sort of the more
25 long-term cycles when you see populations

1 increasing and crashing.

2 MR. LIBERTY: Right.

3 MR. GARD: And that, you know, we need
4 to look at it in terms of yeah, not only these
5 huge boom years but what's happening in the bust
6 years too, you know. If we get back down to only
7 maybe 2,000 to 3,000 fish coming in and looking at
8 really that long-term time frame, what benefit
9 that has to the population.

10 MR. LIBERTY: Allen, you had a question.

11 MR. HARTHORN: To your point about
12 having too many fish in the stream. The one year
13 where we had an extraordinarily large population
14 of 20,000 according to the snorkel count, which
15 has generally been underestimating the total
16 population, three years later we had 17,000 or
17 18,000 fish. So if overcrowding is somehow
18 causing excessive superimposition, which is
19 causing some sort of decline in the population,
20 where is, where is the scientific evidence that
21 demonstrates that?

22 And another point. On a study that was
23 done on, I believe it was the Stanislaus or the
24 Calaveras. Stillwater Sciences looked at
25 superimposition and looked at a population that

1 they estimated at about 1,000 fish was saturating
2 the system. But they ran their extrapolation out
3 to 5,000 fish and the total number of viable eggs
4 did not drop. It maintained the same number of
5 viable eggs. Although individual fish were
6 producing or there was less success per fish the
7 total number of viable eggs remained the same.

8 So I am curious as to what research
9 anybody has been using that says that
10 superimposition is going to cause some sort of
11 decline in future populations. I have never seen
12 any research that says that.

13 MR. LIBERTY: I don't think redd
14 superimposition would necessarily cause a decline
15 in populations. But I think if you have too many
16 fish in the system that could cause a decline.
17 Disease, overcrowding. Similar to what happened
18 in 2003. I mean, I think that's a pretty good
19 example.

20 MR. HARTHORN: Hot temperatures also.

21 MR. LIBERTY: Right, I mean, hot
22 temperatures and, I mean, there's a number of
23 different factors.

24 MR. HARTHORN: Number one.

25 MR. LIBERTY: But, I mean, you can't say

1 one factor in particular is responsible for it.

2 MS. LYNCH: But if you have a stochastic
3 event like that again at some point, we lose a
4 large number of fish in any one year, wouldn't
5 that extra eight percent in all the other years be
6 all the more valuable?

7 MR. LIBERTY: Probably, yeah. I'm not
8 really following the logic. An extra eight
9 percent in habitat you're saying would be more
10 valuable?

11 MR. GARD: For production.

12 MS. LYNCH: The extra eight percent
13 production.

14 MR. LIBERTY: For production.

15 MR. GARD: Yeah. I mean, recognizing
16 that there is --

17 MS. LYNCH: Contributing to the genetic
18 component of the population.

19 MR. GARD: All right. And that's not
20 only three-year-olds coming back but it is, you
21 know, some jacks that are spawned here as well as
22 some small percentage of four and five year olds
23 that's -- So it's not just three years later you
24 are getting everything from that. Everything is
25 coming from three years before. The good years

1 are helping to compensate for the bad years.

2 MR. HOGAN: That's one way to look at
3 it. Another way to look at it is maybe that eight
4 percent would cause more frequent crashes, you
5 know.

6 MR. HARTHORN: More what?

7 MR. HOGAN: More frequent crashes in the
8 population.

9 MR. THOMPSON: But we didn't really see
10 that even after the disease outbreak. We had
11 fairly solid returns following that. But I, you
12 know, I don't follow the --

13 MR. HOGAN: Which you must recognize is
14 that carrying capacity.

15 MR. THOMPSON: But I don't recognize the
16 logic that if we put more spawning, if we created
17 more spawning habitat and increased production
18 then we would have greater crowding in additional
19 years. I think that's a leap.

20 MR. HOGAN: You don't think the
21 population will increase?

22 MR. THOMPSON: I don't know. It's just
23 that there are so many factors. I mean, look at
24 the -- I mean, the situation we are in with salmon
25 today is that the returns are so low for other

1 reasons, a multiplicity of reasons. And so what
2 we can control we should, we should control to the
3 benefit of the species and to the recovery of the
4 species.

5 So in this case continue to, I don't
6 want to say maximize but increase, at least
7 increase and alleviate the, you know. We are
8 doing this now but even more, create even more
9 spawning habitat out into the future, given that
10 we really don't know what the other factors might
11 be that might reduce those returns.

12 I don't want to say that -- I just don't
13 buy that if we increase the spawning success that
14 we would get into this loop where we would have
15 even successively greater crowding in subsequent
16 years.

17 MR. FOSTER: Fish could also stray.

18 MS. McREYNOLDS: Yes. I don't accept
19 that.

20 MR. HOGAN: Then I, then I have trouble
21 with what's the reason for doing it. If the goal
22 is not to increase the population and you are
23 happy with the population where it is today, why
24 are we talking about this?

25 MR. GARD: Well I think the goal is to

1 contribute to recovery of spring run in the whole
2 Central Valley.

3 MR. HOGAN: And how is that a project-
4 related effect?

5 MR. GARD: And that's in the stream from
6 -- the source population of Butte Creek is going
7 to contribute to that.

8 MR. HOGAN: And how is that a project-
9 related effect? How is the Central Valley
10 restoration tied to this project? Other than they
11 provide the water that allows them to be there. I
12 mean, how is an ongoing restoration project
13 somewhere else PG&E's responsibility?

14 MR. SHUTES: It goes back to the costs
15 and the benefits and what the benefits are. If we
16 have hardly any other fish then in your balancing
17 act you need to pay more cognizance, be more
18 cognizant to the benefits of these particular
19 fish.

20 And speaking just from a recreational
21 point of view, even if those 10,000 in addition
22 perhaps don't make a big difference in terms of
23 the production within Butte Creek. Ten thousand
24 fish right now that go out the Golden Gate and are
25 available if we ever get a chance to open up the

1 fishing season again, make a substantial
2 difference. I mean, when you are looking at
3 benefits to the public that is a really big one.

4 So I think that is part of the thing and
5 it doesn't just go to what PG&E's effect is
6 exactly on this. It goes to the overall
7 importance of these fish relative to the rest of
8 the situation. If we had three million fish in
9 the Central Valley I don't think we would be here
10 talking about this. But we have barely 100,000.
11 This is like one-tenth of all the salmon that
12 returned this year in the Central Valley. That's
13 really important.

14 MR. HOGAN: I agree.

15 MR. WILCOX: A point of clarification.
16 I was just wondering, this is Scott Wilcox from
17 Stillwater, how the dynamic of either overcrowding
18 and associated superimposition in that middle
19 reach of the upper portion there, how is the
20 effect of that on the utilization of the lower
21 reach below Centerville Powerhouse, being
22 considered in all of this?

23 MR. GARD: I could speak to that.

24 MR. WILCOX: Because currently there is
25 some large percentage or significant percentage of

1 the fish in that middle reach, that is overcrowded
2 based on all of the analyses, are moving down, are
3 moving downstream. So there's a question if you
4 draw, if you have more habitat upstream. And
5 there's obviously some kind of balance going on
6 there but more habitat upstream, that increases
7 potentially superimposition there. How is that
8 factored into whether more of those fish are then
9 not moving downstream where they could presumably
10 spawn successfully?

11 MR. GARD: And I guess, I think the
12 first thing to consider is the redistribution is
13 really from where fish are holding in the summer
14 to where they are spawning in the fall. And there
15 is no evidence that higher flows in the fall would
16 reduce downstream redistribution of salmon.

17 And we actually have evidence to the
18 contrary over the last five years where we have
19 increased flows 40 to 65 or 75 cfs and that hasn't
20 resulted in downstream redistribution of salmon.
21 Tracy, you were saying that there hasn't been a
22 change in the percent redds above versus below
23 over the last five years versus before the --

24 MS. McREYNOLDS: No, it varies but we
25 haven't seen a marked difference in mass movement

1 downstream. It's been relatively the same.

2 MR. GARD: Right.

3 MS. McREYNOLDS: Obviously it depends
4 where they hold or where they subsequently spawn.
5 And we do see fish that move from the upstream
6 ranges down to the lower reaches but not in mass
7 numbers.

8 MR. GARD: Okay. So really --

9 MS. McREYNOLDS: Based on our
10 observation.

11 MR. GARD: So given that evidence there
12 is really no reason to think that any further
13 increases would have any different effect.

14 And I think another thing that was
15 suggested is there needs to be something done to
16 encourage greater spawning rates below Centerville
17 Powerhouse. And there's nothing we can do down
18 there as far as flows. The flows that are there
19 is what's there, a combination of what's coming
20 over from the West Branch, what's coming through
21 the Powerhouse plus what's coming down the
22 pipehouse reach. And really the only place we can
23 look to have any effect on spawning is above the
24 Powerhouse.

25 MR. WILCOX: Except wouldn't another

1 effect on spawning be what proportion you have
2 between that middle and lower region? The more
3 you can increase the utilization of the under-
4 utilized, presumably under-utilized lower reach
5 relative to the presumably over-utilized middle
6 reach wouldn't that help your total production?

7 MR. GARD: Yeah, but as we are saying.
8 From the evidence we have, changing the flows in
9 that middle reach does not affect that. So the
10 only, the only thing you could do would be maybe
11 something like putting a barrier weir or something
12 if you want to -- if that's really your goal. It
13 doesn't seem like the flow is an effective, has
14 any effect at all.

15 MR. WILCOX: Aren't more fish attracted
16 upstream for holding though by higher flows and
17 lower temperatures in the middle reach? So more
18 of them go up there and you have the overcrowding.

19 MR. GARD: But we are not talking about
20 higher flows in the summertime. We are not
21 talking about higher holding flows, we are talking
22 about higher spawning flows. It's a different
23 issue.

24 MS. McREYNOLDS: That issue will come
25 later.

1 MR. GARD: Yes.

2 MS. McREYNOLDS: Put that one on side
3 bar. We are talking about --

4 MR. GARD: Yes.

5 MS. McREYNOLDS: We are talking about
6 August, September, October.

7 MR. GARD: We're talking about spawning
8 flows here. So it's like once the fish are there
9 where they are going to spawn, how much spawning
10 habitat is there for them.

11 MR. LIBERTY: Curtis.

12 MR. STEITZ: Yes, this is Curtis Steitz,
13 PG&E. I just wanted to make sure everybody
14 understood here that, you know, we have increased
15 flows from 60 to 70 cfs, we have never increased
16 flows up to 100 cfs in that reach. I just wanted
17 to make sure everybody knew that.

18 MR. BUNDY: This is Jim Bundy with PG&E.
19 Last year, well each year for the last couple of
20 years or so when we agreed to come up with a flow
21 for the fall holding -- or actually for spawning
22 flows for the reach from Centerville down. We had
23 to come up with a number, you know, a flow, a cfs
24 number, volume.

25 Last year I came up with actually 60 cfs

1 as kind of being a target flow with 55 being kind
2 of like the bare bones minimum. We had to have
3 something that we could say, okay, if you get down
4 here that's not -- Because we look at, you know,
5 our requirement. And that's our new requirement
6 as we see it. When we agree to that that's what
7 we say we will do. So 55 was like the bare bones
8 bottom and 60 was my target flow. And I would
9 probably generally keep like 60, 65 in the stream.

10 So last year we went into this agreement
11 and attempted to make this flow. And we got into
12 the fall. And I know it was an unusually, it was
13 kind of a crazy year in the fall where we didn't
14 have -- I mean, the flows continued to decline.
15 We didn't get the flows that we kind of
16 anticipated we would through runoff. So it was
17 all I could do -- I was actually at 58 cfs a
18 couple of times, just barely above what I said I
19 would try to maintain.

20 That was going into the end of the year.
21 And then mid-December we had freezing in the
22 canals. And I actually lost water out of the
23 Hendricks canal for a brief time. And I went down
24 to that point and I had people actually out in the
25 canal shoveling snow and ice out of the canal.

1 Not because I needed the generation, it was
2 basically to make the minimum.

3 So before we get, before we start
4 picking out a flow that is a solid number saying
5 -- You know, I don't have a crystal ball. I am
6 just trying to forecast what we are going to go
7 into the fall with and something that I can
8 guarantee we are going to carry. There is no
9 guarantee that I can keep the Hendricks canal in
10 service during late fall or going into winter when
11 we have weather conditions and, you know, issues
12 that I don't have control over. So we need to --

13 I am trying to speak from the part of an
14 operator saying, be real careful about where you
15 go with that because I can't even -- You know, it
16 was a poor year maybe, it was an unusual year.
17 But in the good years we pick -- Last year we
18 picked 70, 75 and in the good years we can try to
19 achieve that. We may find ourselves in the same
20 thing. We continue to go up with that flow for
21 trying to spawn fish and I end up with 10 or 15 or
22 20 less than what I agreed to, you are going to
23 have fish in the margins.

24 And the way I understand it, you will
25 probably end up drying up these redds or you will

1 subject them to some kind of issues. I know they
2 stay in the gravel a long time. So that's just my
3 point. From an operating standpoint, you just
4 need to know that there's a limit on that where we
5 can go with that and it's a moving target year to
6 year.

7 MR. GARD: And I know that was something
8 we looked at in our 10(j). What effects, you
9 know, decreases like that would have. And our
10 analysis didn't show dewatering of redds.

11 You know, and so maybe that gets at what
12 the actual terms or conditions are. Maybe it's
13 something like 100 cfs or combined flows coming
14 from above Butte and over from West Branch Feather
15 or something. Something like the -- A lot of
16 times they'll have conditions where it's, you
17 know, X flow or full natural flow. Well that's
18 not exactly what we have here because we have
19 water coming over from the West Branch Feather.

20 But maybe it's how you craft that flow
21 to that condition to be able to look at, capture
22 that kind of thing where it's like, okay yeah, you
23 are going to have, maybe you aren't going to be
24 able to make that flow all the way through but at
25 least you're saying, yeah we are going to do the

1 best we can.

2 MR. HOGAN: To alleviate the compliance
3 issue.

4 MR. GARD: Right, yeah. And besides, I
5 think there's ways to deal with that kind of
6 compliance issue while still getting the
7 biological benefits of the higher spawning flows.

8 MR. HOGAN: Okay. We'll take that into
9 consideration.

10 MR. LIBERTY: Anything else on Lower
11 Butte? To be honest, I don't see us coming to a
12 resolution on minimum instream flows in Lower
13 Butte Creek today. I don't think anybody thought
14 we probably would. But, I mean, if anybody has
15 any additional information or alternatives to
16 recommended flows.

17 MR. HOGAN: I would like to see some
18 information filed on the San Joaquin restoration
19 project and Butte Creek being used as a source.
20 That may influence our cumulative effects
21 analysis.

22 MR. GARD: I don't know if NMFS has
23 filed or where the draft recovery plan for the
24 Central Valley salmonids is. Is that something
25 that -- I mean, that seems like that sort of would

1 be an additional piece of, of information that
2 would be, would probably be useful.

3 MR. WANTUCK: Yes. Yes, we can
4 supplement the record with that information.

5 MR. LIBERTY: Any information that you
6 guys have would be helpful in doing this analysis.
7 Obviously it is not easy doing it for Butte Creek,
8 there's so many different factors, temperature,
9 flows, the salmon. It's a difficult issue to wrap
10 your arms around, as you know. So any additional
11 information would be appreciated.

12 MR. HOGAN: These are large documents.
13 Pointing us to the information will be
14 appreciated.

15 MR. HUGHES: Within the document you are
16 saying?

17 MR. HOGAN: Yes, yes. I mean, if you
18 are filing a 500 page document tell me where the
19 pertinent information is.

20 MR. WANTUCK: I'll just add to the San
21 Joaquin restoration issue. There is also the
22 matter of fulfilling the Oroville-Feather River
23 habitat expansion agreement. There is a target
24 population of 2,000 to 3,000 spring run chinook
25 that is purported to be expanded somewhere else in

1 the valley. And the source stock of those fish is
2 a good question. With so few spring run fish, you
3 know, eyes may be looking to Butte Creek as well.
4 So there's another reason to believe that these
5 fish are all the more important. This is a
6 commitment of an existing licensing settlement.

7 MR. HOGAN: Oroville?

8 MR. WANTUCK: Oroville.

9 MR. JEREB: And PG&E.

10 MR. WANTUCK: PG&E is now working with
11 the Department of Water Resources to try to
12 identify where an expansion could happen in the
13 Sacramento watershed. Where the source stock
14 would come from for such an expansion is still in
15 question but Butte Creek is likely to be looked
16 at.

17 MR. GARD: Yeah, I think it definitely
18 is. If you keep looking at it there's more
19 reasons why the Butte Creek stock is, should have
20 a very high value when you are looking at this
21 balancing power versus resources.

22 MR. HOGAN: Is there a time frame for
23 these restorations to come on-line and when they
24 actually need a source stock?

25 MR. GARD: In the next couple of years.

1 I think they are, I think they are starting next
2 year with flows and the year after that with --

3 MS. McREYNOLDS: For the San Joaquin?

4 MR. GARD: -- putting fish to the San
5 Joaquin.

6 MS. McREYNOLDS: I don't, I can't quote
7 it, I'll have to look through my documentation.
8 But there is a date that they were given to have
9 restoration but I can't quote it right now.

10 MR. GARD: Yeah, it's something like
11 that. I mean, it's definitely near-term.

12 MS. McREYNOLDS: It's on a lot of
13 people's radar though.

14 MR. GARD: Yeah.

15 MR. HOGAN: Okay.

16 MS. McREYNOLDS: It is being seriously
17 considered. I know they have a lot of hurdles and
18 need to deal with obviously flows as a first step.
19 But it's on --

20 MR. WANTUCK: For the habitat expansion
21 agreement the discussions have centered around
22 actions that could provide expansion in the near-
23 term are favored over those that could be realized
24 in the long-term. And the numbers that are being
25 suggested to NMFS right now is within five years

1 to try to fulfill the habitat expansion agreement.

2 MR. LIBERTY: Anything else? Allen.

3 MR. HARTHORN: I would just like to have
4 a, try to have a fairly short superimposition
5 discussion since we are fortunate to have Mark
6 with us today.

7 Most of the analysis of superimposition
8 has been based on the carcass surveys that Fish
9 and Game does, relative to extrapolation of the
10 available spawning area that Mark did in his
11 report, which he conducted the research in '99 and
12 2000. And my understanding has always been that
13 the area of spawning that he estimated was simply
14 an estimate and was not actually a measure of the
15 actual spawning area that is available to these
16 fish.

17 MR. GARD: It was an extrapolation from
18 our study sites to the entire reach based on the
19 percentage of spawning that was in our study site
20 for the whole reach. And that's something that
21 could indeed change over time and that is
22 something we need to look at. So it's, you know,
23 I think what you are saying is correct.

24 MR. HARTHORN: And my experience has been
25 that it does change quite dramatically. And that

1 actual redd superimposition is really quite
2 limited. I live right on the stream. I have got
3 hours and hours of videotape of salmon spawning.
4 And I have seen virtually zero redd
5 superimposition. When the fish are crowded they
6 make smaller redds. And that's pretty much my
7 experience in the bypass reach.

8 Now there is a section down below Quail
9 Run below Centerville Powerhouse where there is
10 extraordinarily good gravel. I think Mark did
11 part of his study in that area. And in 2007 I had
12 dinner with some friends who have a deck right
13 over that and I saw more redd superimposition in
14 that section below the powerhouse than I have ever
15 seen up above the powerhouse.

16 So if we are going to be making very
17 important decisions about this incredibly
18 important population, I think we need a lot more
19 information about how much spawning area is
20 actually available and how much actual redd
21 superimposition takes place and if in fact there
22 is a problem with that. Because redd
23 superimposition isn't necessarily a bad thing.
24 And I think that the decisions are being made on
25 very limited information at this point in time.

1 MR. LIBERTY: But it seems that -- I
2 mean, we have to use the best information at hand.
3 I am not aware of any more recent studies. I
4 mean, if there is I'd love to see them.

5 MR. HARTHORN: Well they were requested
6 as requested study plans and once again they were
7 rejected. There was an opportunity to do these
8 things. And it's not like we can't do them now.

9 MR. THOMPSON: I think it is also fair
10 to say increased flow probably has more benefit
11 than just increased area. I mean, that's a real
12 rough way of, you know, estimating the benefit of
13 an increased flow during spawning season but there
14 are other benefits as well.

15 MR. GARD: Yeah.

16 MR. LIBERTY: I think we perhaps should
17 move on if we want to cover all the issues today,
18 we still have a lot left to cover. I'm not sure
19 what is next on the agenda. Fish monitoring
20 maybe.

21 MR. HOGAN: Are we done with minimum
22 instream flows?

23 MR. LIBERTY: Yes sir.

24 MR. HOGAN: Do we want to take a five
25 minute break or do we want to --

1 (Responses in the negative)

2 MR. LIBERTY: Let's keep going and get
3 it done.

4 MR. HOGAN: All right, resident fish
5 monitoring. Our recommendation there was that
6 many of the agencies were recommending long-term
7 monitoring throughout the duration of the new
8 license term. In our recommendation we found that
9 it wouldn't be necessary to monitor the entire
10 duration of the license term. We felt it would be
11 more appropriate to monitor the effects of any
12 changes in project operations and how the fishery
13 population responded.

14 So our recommendation was five years
15 after the last change in project operations.
16 Originally we were looking at changing the minimum
17 flows based on the adaptive management plan.

18 But based on comments from the 10(j)
19 agencies, I think Fish and Wildlife Service or
20 perhaps NMFS or one of the others, also
21 recommended that it be based on changes in project
22 operations that may result in water temperature
23 changes. And we agreed so we will incorporate
24 that. But it was for monitoring for two
25 consecutive years after five years following a

1 change in project operations. We have heard that
2 that is not adequate based on the comments.

3 So I don't think monitoring for the
4 duration of the license is going to get me to
5 where I need to be. But is there some other
6 monitoring that makes you feel warm and fuzzy that
7 I can feel warm and fuzzy on?

8 MS. GIGLIO: Well I don't think that --
9 Debbie Giglio, Fish and Wildlife Service. I don't
10 think that we feel that the level of fish
11 monitoring that you are proposing would give us
12 enough information to make judgments as to how the
13 fish indicator species are responding to the
14 changes in project operations. I think that's the
15 main issue here.

16 MR. HOGAN: So the two years after five
17 years of a change taking place is not enough?
18 Would two years and two five-year consecutive
19 terms, meaning two out of five and another -- say
20 Years 5 and 6 and then Years 10 and 11?

21 MS. LYNCH: Can I ask a question first?

22 MR. HOGAN: Yes.

23 MS. LYNCH: I don't know that we ever
24 really got a clear answer, again, about why you
25 decided that our recommendation was inconsistent.

1 MR. HOGAN: My vision of the purpose of
2 the monitoring is to evaluate the effects of the
3 change in the project operations. And I think
4 that is appropriate. Continued monitoring after
5 we know what those effects are, I did not see a
6 purpose behind that.

7 MS. LYNCH: And you don't think that --

8 MR. HOGAN: And the cost associated with
9 doing it.

10 MS. LYNCH: -- today's discussion is
11 maybe a little more reason why we would want to
12 continue beyond that? How many hours did we spend
13 today talking about fish populations and whether
14 or not they were viable and in good condition?

15 MR. GARD: Yeah. I guess one of the,
16 one of the issues we had was whether you are
17 considering what -- how much monitoring was needed
18 to look at trends over time, given global warming
19 and all these other sorts of things.

20 MR. HOGAN: What our recommendation is
21 that in five years, based on the adaptive
22 management and the monitoring results you decided
23 that there needed to be a change in the minimum
24 flow it would reset the monitoring clock. So you
25 change it so now you have monitoring again five

1 years later. Once you felt comfortable that
2 wherever you are at that it was satisfying the
3 needs of the fishery population, and you made no
4 changes to project operations, the monitoring gets
5 discontinued. That's our recommendation.

6 MS. LYNCH: Well I guess I would ask the
7 question back to FERC staff, and Deb is going to
8 hand out the graph that Beth together for me very
9 generously. Thank you, Beth. How many extra
10 points would you have wanted to see on this graph
11 to decide whether or not you had a declining
12 population? Two years, two years, two years.

13 MR. HOGAN: Yes. And if we change flows
14 so we have another point that goes up, what does
15 that tell you? You know, I mean.

16 MR. THOMPSON: Well Ken, I think one of
17 the concerns NMFS had was that there are going to
18 be probably a number of changes occurring. If you
19 waited until five years after the last change it
20 is going to be a long time out before we get any
21 more monitoring data.

22 Because we have the temperature
23 improvement that is going to go in and that is
24 going to take a few years to get in. From my
25 understanding maybe three, four years to get in.

1 And then there has been discussions about altering
2 holding flows in Butte Creek.

3 MR. HOGAN: I think you are
4 misunderstanding the recommendation. Okay we
5 install -- let's say the minimum flows and the
6 temperature devices are put in by five years.
7 Monitoring would then occur in years 10 and 11,
8 okay.

9 MR. FOSTER: So you're off two years.

10 MR. HOGAN: How quickly do you expect
11 the fishery population to respond to the change?

12 MR. FOSTER: Well you wouldn't know if
13 you didn't look at it.

14 MR. GARD: Well and, I mean, and
15 initially you are going to have changes in Year 0
16 with the change flows already from the existing
17 devices. So you are going to, you are going to be
18 monitoring at least in --

19 MR. HOGAN: In Year 5.

20 MR. GARD: -- Year 5 and 6.

21 MR. HOGAN: Year 5 and 6. And I would
22 hope -- Now I said we agree that temperatures
23 should be a consideration but I would hope that
24 those can be combined so it is not just
25 reiterated. I am trying to work here, you know.

1 For simple math: Flows are implemented
2 in Year 0. There's got to be a period of time for
3 that fishery to respond in order to be able to
4 evaluate whether the flows are functioning as
5 intended, right? So it doesn't make sense to go
6 in and monitor in Year 1 or 2. We adopted the
7 Forest Service's recommendation for a Year 5.

8 If at Year 5, based on our monitoring,
9 it doesn't seem like the fishery is responding and
10 it is determined that a change in the minimum flow
11 is appropriate, then from that change two more
12 years would follow. Two more years of monitoring
13 would follow in Years 10 and 11. And that cycle
14 would continue provided there was a change being
15 made.

16 But once everybody was comfortable that
17 we are providing the best available habitat and
18 meeting the resources' needs for the generation of
19 the project and everything is taken into
20 consideration, once that is set I see no reason
21 for monitoring ongoing. That's where I am at.

22 MR. GARD: And you don't want to look at
23 trends over time then?

24 MR. HOGAN: How long?

25 MR. GARD: Over the period of the

1 license. I mean, that's -- I mean, ultimately
2 that's what you are looking at here is a 30 year
3 or more year license where I think we need to see,
4 you know, what is the long-term response of the
5 population, taking into account everything else
6 that is going on. And to be able to separate out
7 the effects of project operations from year to
8 year variation and everything else that is out
9 there. How do you do that without looking at
10 long-term trends?

11 MR. HOGAN: So you want to go through
12 the entire duration of the license?

13 MR. GARD: Yes. I mean, I think that is
14 what you need to be able to look at that sort of,
15 you know.

16 I think one thing we wanted to hand out,
17 maybe hand out now. There is a paper that came
18 out recently that I don't know if FERC staff is
19 familiar with. It's really, I mean, looking
20 globally at, I mean, truly globally. This was an
21 international group of folks looking at what needs
22 to be done as far detecting biological responses
23 to flow management. And I think this is probably
24 something that would be good to look at.

25 MR. HOGAN: Okay. We'll take this into

1 consideration.

2 MR. D. SMITH: Dennis Smith, Forest
3 Service. We obviously don't have any authority
4 over in Butte Creek. Our original Condition 19
5 has monitoring for the term of the license. One
6 reason we did that was a screen was not
7 prescribed.

8 We think there's continuing effects from
9 the project due to entrainment. And also that
10 given the information Fish and Game has provided
11 that there seems to be a decreasing population
12 trend. We want to continue to monitor that. The
13 only benefits on the West Branch are the increases
14 below Hendricks and that will provide some
15 temperature and habitat improvements.

16 We still want to determine what the
17 effects of the project are continuing throughout
18 the license, given that what I would call 100
19 percent full, protective measures are not being
20 implemented. So at least for the West Branch we
21 intend on filing a 4(e) for population monitoring
22 with six monitoring sites and to track the
23 population trends. Continuing what Fish and Game
24 has done over the life of the license.

25 MR. THOMPSON: Ken, if you think about

1 the different combinations or permutations of what
2 occurs over the license term in terms of water
3 year types, changes that we are doing to the
4 project in terms of temperature, changes at
5 DeSabra, flows.

6 First we start out, like I you say in
7 Year 0 we have a different instream flow regime.
8 Then we change temperatures. Then we may be
9 changing flows again. In addition we have
10 different water year types and meteorological
11 conditions. And then you have the inherent
12 variability in monitoring data to take into
13 account.

14 I agree with Mark, you need -- to get
15 any kind of reasonable trend with any statistical
16 validity, not validity but rigor to it, you need
17 longer term monitoring. Not five years after the
18 last change, one time. You might hit that year.
19 You just don't know, you know, what that data, how
20 believable is that data.

21 I am not sure what, you know, the
22 balance is but it did seem like the monitoring
23 that FERC asked for was a little thin.

24 MR. GARD: And I think the resource
25 agencies are willing to look at some balancing

1 requests. For example, we are okay with the long-
2 term reservoirs. So, you know, we'll look at some
3 tradeoffs and some monitoring over a long time
4 period. But really trying to focus more on what
5 we consider the more important habitats out there,
6 the marine habitats. I think that's something
7 that we would be okay with.

8 MR. HOGAN: Is there an alternative
9 frequency to that monitoring? Meaning, where we
10 get a trend analysis but we are not doing it every
11 three to five years.

12 MS. GIGLIO: I think it is dependant on
13 what happens next with temperature and the flow
14 changes that we might make as to when we would
15 want to monitor.

16 For example, this paper is talking about
17 monitoring from a more adaptive management
18 approach. And it has a template in it that
19 discusses, you know, how we really need to do
20 better in our monitoring so that we can manage the
21 watersheds better. It actually helps guide us in
22 managing those watersheds.

23 So this paper does have a suggested
24 method of doing that but I am just wondering if
25 maybe our monitoring needs to be adaptively

1 managed because we don't know exactly when we are
2 going to have our next studies, temperature
3 studies in place to make the next decision.

4 MR. HOGAN: My concern is monitoring for
5 monitoring sake. If the monitoring is going to
6 result in a change in project operations or
7 evaluating the effect of global change on project
8 operations then I think that's fine. But just to
9 monitor to have more data just so we have more
10 data.

11 MR. GARD: And I fully agree with that.
12 And, I mean, that's the whole point of this paper
13 is not just monitoring for monitoring's sake.

14 MR. HOGAN: Okay.

15 MR. GARD: It's monitoring to be able to
16 learn something so that in the future, maybe not
17 this project but other projects -- or this project
18 as well that when this comes up for relicensing
19 again that we have got enough information at that
20 point that now we are -- maybe we are able to, to
21 have a better handle at that point about what's
22 happening in terms of population that we don't
23 know now because we have so little data.

24 MR. HOGAN: Okay. Let me review this.

25 MR. GARD: Yeah.

1 MR. HOGAN: And then, like I said, the
2 10(j) process doesn't end until the Commission
3 issues an order. So if I come up with another
4 alternative that I want to bounce off you I'll
5 maybe outline and throw it in an e-mail to the
6 10(j) agencies and just get some feedback.

7 MR. HUGHES: I hate to belabor this
8 point but it is still a little unclear why our
9 recommendation is inconsistent with the Federal
10 Power Act.

11 MR. HOGAN: This is a cost issue. And
12 again, if the monitoring is going to result in
13 information that is going to inform a change in
14 the project operations that needs to be evaluated,
15 I'm okay with it. But just to monitor long-term
16 with no rhyme or reason beyond that, I, you know.

17 MR. GARD: Yeah. And I think what we
18 are saying is, to be able to have some kind of
19 evaluation of project effects, operations'
20 effects. You need that long-term monitoring. So
21 I think that's, that maybe that's kind of the
22 disconnect there.

23 MS. LYNCH: And didn't even PG&E suggest
24 in their alternative 4(e) conditions that they
25 would monitor out to the 30 year period?

1 MR. HOGAN: Yes it did. And I didn't
2 find that that was necessary. I will take a look
3 at this and -- Right now I am flexible on the
4 frequency, I am flexible on the duration. But
5 until I find that this is telling me or other
6 information is telling me that it has to be for
7 the duration of the license, I am not prepared to
8 go there today.

9 MR. D. SMITH: Ken, this is Dennis Smith
10 again. So we have been talking to PG&E and we
11 have agreed that if a screen is put in on the West
12 Branch we would greatly reduce the monitoring.
13 But we feel that that monitoring is going to
14 provide the evidence we don't have now from the
15 standpoint of populations in the West Branch to
16 make a good decision on a screen, given that that
17 information we don't think was collected during
18 the license period.

19 And we basically stated that the
20 information was insufficient and that's one of the
21 reasons we couldn't fully recommend a screen. But
22 we intend to get that information so we can tell
23 you whether we think a screen is warranted or not.
24 And given -- And again, I didn't have the
25 information Fish and Game had when we wrote our

1 preliminary 4(e)s.

2 But given that additional information
3 and the uncertainty of the stocking program on
4 that information, I think it is vital for us to
5 make a decision in the future to have that
6 intensive monitoring until such time that the fish
7 ladder is put in because either PG&E agrees or the
8 401 states it has to have, you know, the board
9 needs a screen, whatever, we are willing to
10 reconsider that.

11 MS. GIGLIO: Debbie Giglio, Fish and
12 Wildlife Service. I think what we are trying to
13 say is that due to the uncertainties in the
14 future, also in some of the information we have
15 gathered that shows a downward trend in abundance,
16 that we are trying to, with global warming also,
17 monitor the health of ecosystems so that we can
18 forecast if there is going to be any adverse
19 changes we need to -- In order to fulfill our
20 mission to protect the resources with these
21 projects we have to be able to forecast any
22 significant changes that might occur during the
23 term of the license due to project operations. So
24 to provide some planning data so that we can
25 protect the resources.

1 MR. HOGAN: Okay.

2 MR. HILLYER: Steve Hillyer, NOAA
3 Fisheries. Given the absence of data that we have
4 and the trends that we are seeing prudence
5 dictates that we should monitor more. Because
6 again, this is an uncertainty.

7 MR. HOGAN: And again, I wouldn't say no
8 monitoring. Just I don't see a need at this time
9 to monitor the entire duration of the license.
10 Especially if it is decided that, you know, once
11 minimum flows are set, they're working great, you
12 know. Why would we expect that to change?

13 MR. D. SMITH: Dennis Smith again. I'm
14 not going to speak to the Butte side but at least
15 with the West Branch we did not ask for
16 alterations of those flows from Philbrook Creek
17 down to DeSabra Hendricks complex because of the
18 power generation issue and the salmon temperature
19 issue. And the only I think viable mitigation
20 there is a screen.

21 And because we did not ask for any
22 alteration in the flows we intend to monitor
23 intensively over the next X number of years to
24 make a decision on a screen. Because given the
25 minimum instream flows downstream to Hendricks

1 that are prescribed, and the fact that we are not
2 changing anything really in power generation other
3 than the feeder tribs and what's coming out for
4 the minimum instream flows below Hendricks, again
5 we think it is reasonable to ask for that
6 monitoring.

7 MR. HOGAN: And you are saying that you
8 are going to be prescribing it in your boards and
9 it will become part of the license.

10 So can we agree that I'll take a look at
11 this, see if I can come up with an alternative
12 that tries to meet both sides? None of you look
13 hopeful.

14 MR. LIBERTY: Benthics.

15 MR. HOGAN: Benthics. Can we agree
16 whenever we come up with a frequency, in addition
17 to years 1, 2, 3 and 4, whatever we come up with
18 for frequency for fish will apply for benthics?

19 MS. GIGLIO: As long as it is more than
20 what you --

21 (Laughter)

22 MR. HOGAN: Whatever we, whatever comes
23 up for fish is appropriate for benthics?

24 MR. GARD: Yeah we -- I mean that was,
25 that was probably our main point about benthics is

1 that the benthics monitoring frequency needs to
2 match the resident fish frequency.

3 MR. HOGAN: Resolved?

4 MS. LYNCH: Resolved. To the extent
5 that --

6 MR. GARD: To the extent that we agree
7 on the fish.

8 MR. HOGAN: Okay. So for the record,
9 benthic monitoring is resolved to the extent that,
10 as far as frequency goes, to the extent that we
11 have an agreement on the frequency of fish. But
12 it should be matched to fish monitoring plus years
13 1, 2, 3 and 4.

14 MR. LIEBIG: Ken.

15 MR. HOGAN: Yes.

16 MR. LIEBIG: This is Russ Liebig with
17 Stillwater Sciences. Could I get some
18 clarification on that. Are you intending to match
19 years, two years out of every five? For example,
20 5/6, 10/11, 15/16. Or is your intent 1 through 4,
21 5, 10, 15?

22 MR. HOGAN: It's the first four years of
23 license, two of which would be one water year type
24 and two of the other year. Not more than two of
25 any one water year type. Does that sound right?

1 It was your recommendation.

2 MR. LIBERTY: Yes, yes.

3 MR. HOGAN: And then, and then in
4 addition to it would occur concurrently with the
5 fish samp monitoring.

6 MR. LIEBIG: Okay. I guess Dennis has
7 4(e)s. I'm assuming the bugs would match on that
8 one. So this would be non-4(e)?

9 MR. HOGAN: If he prescribes it.
10 Otherwise I may prescribe whatever we do on Butte
11 Creek.

12 MR. LIEBIG: Okay, I understand.

13 MR. HOGAN: Okay. So you got it? Did I
14 describe it correctly?

15 MR. LIBERTY: Nobody is even listening
16 at this point.

17 MR. HOGAN: All right, stream flow gages
18 and remote operating --

19 MR. LIBERTY: Stream flow gages. Cal
20 Fish and Game had a 10(j) recommendation
21 recommending three additional stream flow gages
22 and we had originally said it was inconsistent.
23 However, Cal Fish and Game provided some
24 additional information, or I guess a proposed
25 alternative perhaps to roll these gages into the

1 adaptive management plan. And after looking at it
2 we think that's acceptable so we consider that
3 issue resolved, I guess.

4 MS. LYNCH: We agree. A nice way to end
5 the day.

6 MR. LIBERTY: We have a few more things
7 to go over. We can end there if you want.

8 What's next on the agenda?

9 Does anybody have anything else
10 concerning remote operating equipment? That was,
11 I believe, a 10(j) submitted by the National
12 Marine Fisheries Service.

13 And I guess I had a question for NMFS.
14 I guess there just wasn't enough information on
15 the table for me to see the need for these, to
16 have this remote operating equipment at both of
17 the reservoirs. Is there some sort of additional
18 information that I could use, or if you had
19 something somebody else wanted?

20 MR. THOMPSON: I think we wanted to ask
21 PG&E a question on that. We would be willing to
22 withdraw that if we -- I mean, response at the
23 time of the year we are concerned about, which is
24 in summer, in these heat storm events. You guys
25 can respond and get up there to those reservoirs

1 relatively quickly. It isn't -- Obviously we
2 talked about access, it's difficult in winter.
3 But in the summer you can respond relatively
4 quickly. Get up there. So is that -- you don't
5 see a need to have any remote operation?

6 MR. BUNDY: No. You know, I would say
7 that probably the benefit, because in most cases
8 that I have had in the last few years it has been
9 you know kind of a trend of heating that is going
10 on. There is a lot of discussion going on and
11 there is forecasting that is predicting continued
12 heating. So the discussion goes on and that goes
13 on for, it might go on for a day or so.

14 MR. JEREB: Because the discussion is
15 part of the operating plan which we have
16 discussions with Fish and Game and NOAA Fisheries
17 generally.

18 MR. HOGAN: You could have it at the
19 valve, right? Just crank it as you decide.

20 MR. BUNDY: Yes. We can send someone up
21 there at any time. But what we generally do is we
22 make a plan to go up late evening to make the
23 adjustment so the adjustment is there the
24 following day and we work the water through the
25 system in daylight. But through the night we have

1 made the adjustment. And it takes about 12 to 14
2 hours to get that adjustment to us. Like I said,
3 it generally happens over a few days of
4 consultation.

5 MR. JEREB: Tom Jereb speaking. So
6 Larry, I think to answer to your question is,
7 within two hours we can make an adjustment on that
8 valve in the summertime.

9 MR. THOMPSON: I think we could withdraw
10 our recommendation based on that.

11 MR. LIBERTY: Two in a row resolved.

12 MR. THOMPSON: Hey, there was a good
13 segue on the operations plan. You guys mentioned
14 annual ops plans. And I just want to say, I think
15 we want to talk about that a little bit here
16 before we adjourn, annual operations plan and the
17 long-term operations and how the two, the two work
18 together. We made some comments on that. The
19 agencies have talked among ourselves about some of
20 those. I don't know if this is the time to talk
21 about it or not.

22 We made that particular recommendation
23 inside of a long-term operations plan, that's why
24 I brought it up. But are there other, still some
25 other issues we need to --

1 MR. LIBERTY: I have one -- Let's get
2 through this next one real quick then we can.

3 MR. THOMPSON: Okay.

4 MR. HOGAN: Revised drought plan.

5 MR. LIBERTY: Regarding the revised
6 drought plan. Cal Fish and Game pointed out in
7 our Commission's preliminary determination of
8 inconsistency an error in that letter and they
9 were right. They said they did support the slight
10 modification which was it should have read:

11 "Commission staff recommends
12 that PG&E notify the resource
13 agencies of drought concerns by
14 March 15 of the second or
15 subsequent dry year. That
16 consultation with the resource
17 agencies occur by May 15 of the
18 same year."

19 Somehow in our letter we got things crossed up.
20 So I believe that one is also resolved.

21 MS. LYNCH: Resolved.

22 MR. LIBERTY: So it's three for three.

23 MR. HOGAN: Okay.

24 MR. LIBERTY: Now we can go ahead.

25 MR. HOGAN: Long-term and annual

1 operations plans.

2 MR. THOMPSON: I guess I can just ask a
3 straightforward question. Do we see that we will
4 preserve the annual operations planning as it is
5 occurring, as Tom described it occurring, in Year
6 1 of the new license, for example?

7 MS. LAWSON: And do you guys know what
8 that entails?

9 MR. HOGAN: This is my understanding of
10 it and Aaron probably has a better understanding
11 of it. But if you look at snow pack, available
12 water, and decide how to best manage that water
13 for the chinook or the spring run. I'm not sure
14 what level of detail to get into.

15 MS. LAWSON: And I think -- I don't know
16 if Jim wants to explain it in a little more detail
17 but the agencies all get together and basically
18 are able to look at how much water that is and
19 when they will spend it during the summer. I
20 mean, it really is only two weeks of cold water
21 that they are able to bring from Philbrook. Maybe
22 Jim wants to detail a little bit more.

23 MR. JEREB: I'll start it off. Tom
24 Jereb here with PG&E. And Larry, it's a written
25 plan that we instituted several years ago and we

1 update it annually. It's a plan of procedures
2 for, as Beth said, managing water during the
3 summer essentially.

4 MR. LIBERTY: It gets filed with us on
5 an annual basis, right?

6 MR. JEREB: Yes. And so it's a written
7 plan. And within that plan, Jim you can kind of
8 say how it works with the meteorologic
9 information, the telephone conversations we had
10 with the resource agencies, and then finally
11 implementation.

12 MR. BUNDY: Jim Bundy with PG&E.
13 Basically we have our meeting. I think this year
14 Bill Zemke is our license coordinator. Bill sets
15 it up with the various interested groups, agency
16 and PG&E. We use past data. We are kind of
17 looking at what we feel the water year is going to
18 be like. We use as close to any kind of snow
19 surveys that we can get. Which Humbug Summit is
20 about the only one we have that gives us any kind
21 of indication locally there.

22 And then we kind of put together a plan
23 of response for that year and it may or may not
24 deviate too much from the previous year pending.
25 But we get -- During a water year, once we

1 progress into the summer we start looking at once
2 the criteria is met for monitoring, which is in
3 exceedance of 100 degrees, you know, anything that
4 exceeds 100 degrees. And then the likelihood of a
5 heating event occurring over a long period of
6 time.

7 With the Cohasset, I think Chester
8 Cohasset weather stations and the forecast for
9 winds and different things that go together to
10 predict this event. And then discussions start
11 taking place amongst the agencies. Generally it's
12 Bill Zemke. Generally once a decision is made to
13 make a change or to do something with the water
14 and I receive that, I am looking at the same
15 information.

16 So we are already talking that the
17 actual decision is made amongst the resource folks
18 and then Bill Zemke passes it on to me and then I
19 make a water adjustment based on the intensity of
20 the event and looking at the possible duration of
21 the event. What kind of water that we are going
22 to have to make an influence on that.

23 And I think it is generally about, we
24 have about 1600. I think it was what, 1600
25 acre/feet of stored cold, what they consider cold

1 water that would actually have a benefit for that.
2 So we look at that. Hopefully we don't have two
3 events in a row. But we generally try to take
4 care of the event and hold some reserve water in
5 care we have an additional event. But once the
6 event has subsided we go back to somewhat, you
7 know, of a previous drafting or draw regime. That
8 generally occurs into August, the early part of
9 August.

10 Then we start looking at the changes
11 that are naturally occurring in the water
12 temperatures throughout. And then we take the
13 water that is left as we get into August, close to
14 September, and I try to proportion that water out
15 to have, to get us into the mid-September point.
16 That's generally when the temperatures in Butte
17 Creek start getting down close to 15C, an average
18 of around 15C or somewhere close, 15, 16, 17.

19 If we can get the draft water to go into
20 that then we shut our draft down and try to
21 remain, try to keep around six to seven hundred in
22 Philbrook to hold us through the fall for our
23 instream requirement in case we get a dry fall.
24 That's pretty much it.

25 MR. HOGAN: So your cold water pool is

1 about 16,000 acre/feet?

2 MR. BUNDY: Sixteen hundred.

3 MR. HOGAN: Sixteen hundred acre feet is
4 held at Philbrook?

5 MR. BUNDY: Yes.

6 MR. HOGAN: I'm curious if we should be,
7 we're making recommendations for increased minimum
8 instream flows and stuff. Should we be
9 considering preserving that 1600 acre/feet and
10 sacrificing minimum flows so they don't tap into
11 that storage except for the spring run?

12 MR. BUNDY: Well I think we have looked
13 at the stratification issue and I think other than
14 abnormally dry years, you know, we may be -- you
15 know, I think the suggestion was that we could
16 release some additional water in the spring. Is
17 that what you are getting at?

18 MR. HOGAN: I was just wondering if we
19 should maintain a minimum of 1600 for a heat storm
20 at all times and not using that water to make up
21 minimum instream flows if --

22 MR. JEREB: Ken, we looked at that with
23 the agencies and tried to look at optimum levels
24 for cool water storage. And I believe our flows,
25 summertime flows pretty much balance and maximize

1 that cold water pool at the same making
2 deliveries.

3 MR. GARD: Actually one thing I forgot
4 to say back going on the Lower Butte flows is
5 that --

6 MR. HOGAN: Too late, too late.

7 MR. GARD: Well actually no, this is
8 good for you. The resource agencies agreed to
9 have, that the spawning flows should start
10 September 15th instead of September 1st.

11 MR. HOGAN: Okay.

12 MR. GARD: That was something.

13 MR. HOGAN: That's Lower Butte?

14 MR. GARD: Lower Butte.

15 MR. JEREB: Ken, wrapping up on this
16 operating plan. PG&E intends to continue, we
17 proposed that in our application, this annual
18 operating plan. One thing too. I feel, and maybe
19 the agencies can chime in here. I feel we have it
20 pretty well dialed in as how to operate with the
21 minimum amount of cold water we do have. I think
22 we have a good practice going, we'll continue
23 that.

24 MR. THOMPSON: Well I guess what I was
25 getting at then, is there a license article that

1 we are contemplating to have this in there? Do we
2 need, do we need one? Is there one? Have we
3 overlooked something here? See what I am getting
4 at? We have in here a long-term -- development of
5 a long-term operations plan but in year 1 we won't
6 have that developed. Maybe not in year 2, et
7 cetera.

8 So going forward do we need a condition
9 in the license that has this annual operating
10 planning in it? I believe that evolved out of a
11 situation, you know, post-disaster, didn't it?
12 Maybe it was before that, I don't know. But, you
13 know, I'm thinking, does it need FERC approval?
14 All of these sorts of questions arise and I really
15 don't know the answer.

16 MR. HOGAN: I have no problem putting in
17 the annual operations plan into, into the license.
18 I think that is consistent with our intents in the
19 NEPA document.

20 I was under the impression but I am a
21 little confused now that the long-term operations
22 plan was going to be replacing the annual
23 operations plan. But I am hearing PG&E saying
24 that you are going to be doing both?

25 MR. JEREB: They are both, I envision

1 that they are both the same thing.

2 MR. HOGAN: Okay.

3 MR. FOSTER: The annual plan over the
4 long term.

5 MR. JEREB: Yes, it's the annual plan
6 over the long term. Bill said it very well.

7 MR. HOGAN: Okay. So it is still an
8 annual operations plan but you are going to be
9 doing it for the term of the license.

10 MR. JEREB: Yes.

11 MR. LIBERTY: Just a different name.

12 MR. HOGAN: Okay. So yes, it will be
13 effective with the new license in year 1. I am
14 not sure what the long term of it will be. We
15 could just get rid of the requirement to file a
16 long-term plan and just require you to file annual
17 operations plans based on the available water. I
18 mean, does that make sense?

19 MR. THOMPSON: It seems like it does to
20 me. That if you did annual ops plans over the
21 term of the license you would have -- with
22 adaptive management, you know, incorporated.

23 MR. HOGAN: This is what I see a long-
24 term operations plan saying. We will file annual
25 operations plans. I mean, if everybody is okay,

1 if the intent was to sit down -- I misunderstood
2 when I was reading the recommendation in the
3 proposal. I thought long-term was going to be
4 replacing annuals because you didn't want to meet
5 on an annual basis to deal with it. And I thought
6 you guys were going to sit down and try to figure
7 out how to look at it -- But if the intent is to
8 do it annually that's fine with us.

9 MR. THOMPSON: Mark, have you been on
10 this planning, annual planning?

11 MR. GARD: A little bit peripherally. I
12 mean, you know, it seems like that is really how
13 you have to do it to be able to -- because you
14 can't really, you can't set up a long-term
15 operations plan to be able to figure out every
16 little scenario that might happen. I think you
17 have to do it every year.

18 MR. JEREB: I agree with Mark too, it is
19 routine now for us to do this.

20 MR. HOGAN: Okay.

21 MR. JEREB: The process is routine. But
22 the nuts and bolts of it for each annual year they
23 deal with.

24 MR. HOGAN: Okay.

25 MR. BUNDY: This is Jim Bundy again with

1 PG&E. I didn't mention, I heard somebody say
2 something about Round Valley. And Round Valley
3 basically, the use of Round Valley as earlier in
4 the year we generally draw from it. So we do hold
5 Philbrook reservoir at a later period as late as
6 we can and augment as much as we can with Round
7 Valley. During a heating event we have found it
8 beneficial to take Round Valley down the draft and
9 augment the flow with Philbrook, you know, for the
10 temperature issue. And then once the event is
11 over we try to go back and get that water, move
12 that water out of Round Valley as soon as we can.
13 But anyway, that's pretty much it.

14 MR. HOGAN: All right.

15 MR. WANTUCK: I had a comment on this,
16 Rick Wantuck, NOAA Fisheries. Am I understanding
17 then that the agencies and the licensee are in
18 agreement about filing an annual operating plan
19 and then FERC will authorize adjustments to be
20 made during these heat events without further
21 contact? You will authorize the licensee to come
22 to an agreement about how to change flows during
23 heat events?

24 MR. HOGAN: How is it done how? Do you
25 get approval by the Commission or?

1 MR. BUNDY: I think that -- I am not
2 sure. Bill probably notifies.

3 MR. HOGAN: And actually if it is
4 increasing flow they are always, they are going to
5 be in compliance to the minimum flows. It is only
6 going to be if it approves decreasing the minimum
7 instream flow that it would come into an issue
8 with the Commission. So I don't think you ever do
9 that, do you?

10 MR. BUNDY: No.

11 MR. STEITZ: It's a decision between
12 PG&E and the resource agencies. FERC isn't
13 involved in those kinds of --

14 MR. HOGAN: So do you see that as a
15 problem if it is just increasing flows not getting
16 Commission approval? I think we just wanted to
17 know what you are going to be doing. However, if
18 you want to hold PG&E to the operations plan we
19 would need to approve it and make it a
20 requirement. Right now it's voluntary.

21 MR. WANTUCK: I think that is what we
22 are seeking.

23 MR. HOGAN: And that's fine with us too.
24 Just recognize that approval can take some time.
25 We may be able to handle -- the window of time is

1 of the essence so we will look at how to address,
2 address that.

3 Are we done on aquatics?

4 Terrestrial Resources. Alan, been
5 waiting patiently all day.

6 MR. MITCHNICK: Okay, finally something
7 interesting.

8 (Laughter)

9 MS. LYNCH: Spoken like a wildlife
10 biologist.

11 MR. MITCHNICK: Okay, the issue is again
12 the frequency of monitoring that we talked a lot
13 about. The Fish and Wildlife Service provided an
14 alternative monitoring regime that we are
15 appreciative of. It will reduce the total number
16 of years where monitoring would occur. And we
17 will take a real close look though at whether that
18 makes sense.

19 One issue that I did want to discuss is
20 that Fish and Wildlife Service's monitoring regime
21 is inconsistent with the Forest Service's
22 monitoring regime for the west branch of the
23 Feather River. The Forest Service requires
24 annually for the first ten years, which is
25 consistent with the Fish and Wildlife Service's

1 recommendation.

2 But then every five years thereafter,
3 which is a little bit inconsistent with the Fish
4 and Wildlife Service recommendation which calls
5 for monitoring, after the initial monitoring ever
6 roughly three to five years depending upon the
7 license term and then four years at the end of the
8 license term.

9 So that is an inconsistency that we need
10 to deal with and whether the Fish and Wildlife
11 Service would be willing to adopt the Forest
12 Service regime for West Branch. I am not exactly
13 sure how to deal with this if you have any
14 suggestions on how to sort of deal with the
15 inconsistency.

16 MS. GIGLIO: We are flexible to adopting
17 the Forest Service to make it, you know,
18 consistent. We hope you will seriously consider
19 screens because we think that that will help with
20 all the monitoring that we are requesting. It
21 will help reduce costs for monitoring if you
22 seriously consider the screens. So yes, we would
23 be willing to be flexible and make it consistent
24 with the Forest Service to meet our needs also for
25 monitoring for Foothill Yellow-legged Frog.

1 MR. MITCHNICK: Okay, the other part of
2 that question. Is there an issue of having
3 different monitoring on the different creeks? Is
4 there a need to be consistent or is that something
5 that everybody could live with?

6 MS. GIGLIO: We just want to make sure
7 that it captures the way the populations are,
8 their life cycles. So as long as it is capturing
9 the life cycles then we are happy with it being
10 consistent on each creek.

11 MR. D. SMITH: Dennis Smith, Forest
12 Service. So we looked -- You probably don't know
13 but it looks like Foothill Yellow-legged Frog
14 populations have a maturity age of three from what
15 the monitoring says. So we considered doing it
16 every three years but then we looked at the cost
17 of that and decided that given a five year
18 monitoring schedule we still could determine PVA
19 from that.

20 MR. MITCHNICK: Okay. Anything else to
21 add on Yellow-legged Frogs? We will look at your
22 recommendation and we will figure out what it
23 would take to make it consistent with the Forest
24 Service and sort of work something out. But we
25 have another alternative to look at so it does

1 reduce the cost a bit so I think that's good.

2 We'll take a real hard look at it.

3 MR. HOGAN: Any comments, questions?

4 Okay.

5 MR. HILLYER: Steve Hillyer, NOAA
6 Fisheries. Can we expect a copy of the transcript
7 from this?

8 MR. HOGAN: The transcripts will be
9 filed in the e-library on the Commission's website
10 where they are available to all. Typically I can
11 release the transcripts in ten days. I send them
12 to the e-library and then they are usually in
13 within five to ten days.

14 MR. HILLYER: Thank you.

15 MR. HOGAN: More than likely I'll e-mail
16 everybody a copy of them as well. But in case I
17 don't.

18 Any other issues folks would like to
19 raise or discuss? This is where the annual
20 operations plan falls.

21 Summary of meeting. This is what I
22 have, correct me if I am wrong.

23 As far as resolved versus unresolved.
24 Annual fish stocking I have as resolved.

25 Fish screens and ladders I have, not

1 resolved, and that Commission staff will be
2 revisiting our analysis on those issues.

3 DeSabla Forebay water temperature
4 improvement plan I have, tentatively resolved,
5 based on our analysis of any other impacts that
6 may result as a pipe in the DeSabla Forebay.

7 Minimum instream flows. On Butte Creek
8 I have, not resolved, West Branch Feather River
9 below Philbrook Reservoir I have, resolved. And
10 feeder creeks I have, not resolved. And the
11 remainder of Butte Creek -- West Branch Feather
12 River I have, not resolved.

13 MR. HUGHES: For Philbrook?

14 MR. HOGAN: Philbrook downstream of
15 Philbrook Reservoir with a ten cfs recommended
16 minimum instream flow. Clarification on that said
17 that it was to be used -- water that would be
18 typically spilling is being proposed to use to
19 make up that minimum flow, not water from storage.
20 That resolved our issue so we agreed with it.

21 MR. HUGHES: Okay.

22 MR. HOGAN: Under the condition that it
23 is safe to access to turn the valve or that you
24 would allow for consideration of safety.

25 Resident fish monitoring. I have got

1 that I will review the data filed, the information
2 filed and come back with another proposal for your
3 consideration.

4 Benthic macroinvertebrate monitoring.
5 It will be years 1, 2, 3 and 4 and consistent with
6 -- and it should be consistent with fish
7 monitoring, whatever that is.

8 Stream flow gages and remote operating
9 equipment. The need for three additional stream
10 gages, I've got that as resolved. And also remote
11 operating equipment is resolved.

12 Revised drought plan, resolved.

13 And that's all I have got. If you just
14 count them we got more resolved than unresolved.

15 MS. O'HARA: You need to put the frog
16 one on there.

17 MR. HOGAN: Oh, I'm sorry.

18 MR. GARD: Yes, the foothill yellow-
19 legged frog resolved.

20 MR. HUGHES: So Ken, how does FERC plan
21 to address some of these follow-up issues? You
22 talked at one point about --

23 MR. HOGAN: That's a good question. I
24 have to find out whether I have to do it in a
25 formal letter or if I can just do it on an e-mail.

1 Maybe a teleconference. Maybe a teleconference.

2 MR. HUGHES: I think that there's -- You
3 know, I think what you have heard today is that
4 there's still quite a bit of question about the
5 process and how the Federal Energy Regulatory
6 Commission makes their decisions with regard to
7 some of these items and having that be more
8 transparent in a document. I think we all have an
9 interest in that.

10 MR. MITCHNICK: And we certainly have an
11 interest in that. I mean, we need to be able to
12 communicate to everybody, you know, how we came up
13 with our decision.

14 Also with the economics, I mean, we need
15 to convince everybody that it is not a black box,
16 it actually is, you know, a methodology that is,
17 you know, based on current economic practices. So
18 we will make sure that we get some information to
19 you that shows how we did the analysis in some
20 fashion. We need to figure out the best way to do
21 that.

22 MR. HOGAN: We are going to be looking
23 at getting a request kind of just detailing the --

24 MR. HUGHES: Yes, we will -- The
25 Department of Fish and Game will submit a letter

1 to the Federal Energy Regulatory Commission
2 describing what it is that we would hope that the
3 Commission could take and share with us with
4 regard to their economic analysis and their
5 procedures that they used to go through and do
6 that.

7 MR. MITCHNICK: Okay.

8 MR. HUGHES: I'm sorry, it is not just
9 the economic analysis but also actually the very
10 fine points of the math on how to go from capital
11 costs to annualized costs, et cetera. So we are
12 going to work on doing that in the near-term so
13 please expect to see that here very soon. You
14 know, if we could -- there's a number of options
15 for taking and addressing that. I think you
16 suggested a conference call. So anyway, there are
17 a couple of options for addressing that.

18 MR. HOGAN: Yes. My biggest concern is,
19 you know -- for the economics, yes.

20 MR. HUGHES: Yes.

21 MR. HOGAN: For some of those follow-ups
22 I am not sure if I can just send it around in an
23 e-mail or if I have to notice it, issue it.

24 MR. HUGHES: That kind of leads me to
25 kind of the next item that I was going to request.

1 Since there is quite a few important issues that
2 are still kind of out there with regard to this
3 project I think we would like to request that the
4 Federal Energy Regulatory Commission consider
5 issuing a revised draft environmental analysis.

6 MR. LAWSON: Ken?

7 MR. HOGAN: Yeah.

8 MR. LAWSON: I didn't hear that last.
9 The suggestion was what?

10 MR. HOGAN: That we issue a revised
11 draft.

12 MR. LAWSON: A revised NEPA, a draft
13 NEPA document.

14 MR. HOGAN: Yeah.

15 MR. LAWSON: Okay.

16 MR. LIBERTY: Somebody else had that
17 comment too on the 10(j)s.

18 MR. HOGAN: They wanted it as an EIS.

19 MR. SHUTES: And considering the
20 importance of this, of this run of fish and the
21 context of the existing condition of the salmon
22 and steelhead populations in the Central Valley --

23 MS. TURNER: Whoever is speaking, we
24 really can't hear that.

25 MR. SHUTES: Sorry, I'll speak up.

1 Considering the condition of the fishery
2 in the Central Valley in general and the
3 importance of this fishery we think that that
4 would appropriately be an EIS. That this is an
5 ecologically critical area. That meets one of the
6 criteria of an EIS.

7 That it is likely to have a significant
8 effect -- It is a major federal action
9 significantly affecting the quality of the human
10 environment. We think it meets that standard.

11 And even the pre-spawn mortality of a
12 thousand spring run chinook in Butte Creek in 2008
13 might rise to a level of a significant effect.
14 The threshold for an EIS would be whether or not
15 there is possibly or potentially a significant
16 effect. So I would ask that the Commission
17 consider all of those.

18 MR. THOMPSON: We threw our hat in the
19 ring as far as the biological assessment, trying
20 to break that stuff out. So again another reason
21 maybe to, you know, throw a new draft together
22 that consolidates the information that will be
23 used in a biological assessment.

24 Again, the regulations say you don't
25 have to do that and we understand and we

1 understand that. But when you give us an index to
2 where the information is in a big document, if you
3 cut it out of there and pasted it together and
4 then started doing your own effects analysis, et
5 cetera, you usually would find that there were
6 some things -- Oh, there's a few other things back
7 here we forgot to point to.

8 So if you want to get that -- if you
9 want to expedite that process it is always best to
10 have a separate, I think a separate document.

11 MR. LAWSON: A separate?

12 MR. HOGAN: Biological opinion, Quentin.
13 Assessment, sorry.

14 MR. LAWSON: A supplemental BA or?

15 MR. HOGAN: No, rather than using our
16 NEPA document as our biological assessment they
17 want to have us prepare a stand-alone biological
18 assessment.

19 MR. LAWSON: Okay.

20 MR. THOMPSON: I think it works better.

21 MR. HOGAN: If we did that do we get a
22 BO in 135 days?

23 MR. THOMPSON: Probably. It just
24 expedites the process, I can say that. It is a
25 lot slower when you are looking at it. It seems

1 to me you have to do, you have to point to the
2 information when you set up that table. It is
3 easier to do your own cutting and pasting in your
4 own sections. And then the reviewer has a more
5 consolidated view of the, of the baseline, of the
6 facts. Your analysis, your conclusions, your
7 effect determinations are all laid out.

8 MR. HOGAN: We'll take it under
9 consideration. I can't make the call.

10 So any other questions or comments?

11 Well I appreciate everybody staying late
12 today. I think we had a fairly productive meeting
13 so thank you everybody. We are off the record.

14 (Whereupon, at 5:05 p.m. the 10(j)
15 meeting was adjourned.)

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CERTIFICATE OF REPORTER

I, RAMONA COTA, an Electronic Reporter,
do hereby certify that I am a disinterested person
herein; that I recorded the foregoing Federal
Energy Regulatory Commission 10(j) Meeting, that
it was thereafter transcribed into typewriting.

I further certify that I am not of
counsel or attorney for any of the parties to said
meeting, nor in any way interested in the outcome
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IN WITNESS WHEREOF, I have hereunto set
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