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YUBA RIVER DEVELOPMENT PROJECT

P-2246-058

P-2246-063

TECHNICAL MEETING

"SHOT-ROCK" AND FISH HABITAT

Held at:

HDR
2379 Gateway Oaks
Sacramento, California

Tuesday, October 28, 2014

9:22 a.m. - 1:00 p.m.

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Reported by: CAROLE W. BROWNE
RPR, CSR NO. 7351

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APPEARANCES

FEDERAL ENERGY REGULATORY COMMISSION

Ken Hogan

NATIONAL MARINE FISHERIES SERVICE

Larry Thompson

John Wooster

YUBA COUNTY WATER AGENCY

Curt Aikens

Geoff Rabone

Tom Johnson

CALIFORNIA DEPARTMENT OF FISH & WILDLIFE

Anna Ewing

Beth Lawson

Sean Hoobler

U.S. FOREST SERVICE

Cheryl Mulder

Amy Lind

Dan Teeter

U.S. FISH & WILDLIFE SERVICE

Beth Campbell

Alison Willy

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APPEARANCES (CONTINUED)

HDR

James Lynch

Paul Bratovich

FEDERATION OF FLY FISHERS/SIERRA CLUB

Allan Eberhart

Frank Rinella

FOOTHILL WATER NETWORK

Traci Van Thull

Allan Eberhart

SOUTH YUBA RIVER CITIZENS LEAGUE

Gary Reedy

Peter Burnes

SWRCB

Parker Traler

Susan Monheit

PG&E

Jennifer Skobrak

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Tuesday, October 28, 2014, Sacramento, California

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9:22 a.m. - 1:00 p.m.

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PROCEEDINGS

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MR. HOGAN: I'll just get started. Welcome.

8

My name is Ken Hogan. I'm with the Federal Energy

9

Regulatory Commission.

10

Jim Lynch wanted to go through some

11

housekeeping items before we really started the meeting

12

off.

13

So Jim, if you want to do that now?

14

MR. LYNCH: Sure. Thank you.

15

I think most of you have been here before, but

16

I'm not sure if all of you have. The restrooms are out

17

through the door. Due to security, we have a key up

18

there -- used to have a key up there. So you have to go

19

through a locked door and come back in through. So I

20

assume people can just -- you're going to take a formal

21

break sometime?

22

MR. HOGAN: Yeah.

23

MR. LYNCH: Okay. And if there's an emergency,

24

we go out through this door, down the steps, and meet

25

out in the parking lot.

1 And then, lastly, is anyone certified here for
2 health and stuff like that, in case of emergency? Not
3 anymore? Okay. We have people in the offices, so we'll
4 get somebody if something comes up.

5 And there's drinks over there. Help yourself.
6 And coffee. If you need anything, please feel free.

7 If you want to use the Internet, there's a way
8 to get on over there. Just put a password in. So help
9 yourself.

10 MR. HOGAN: Okay. Thank you, Jim.

11 Let's go ahead and go around the room and do
12 introductions. I do have a court reporter here today
13 that's recording the meeting. I've given her explicit
14 instructions if she can't hear something or needs some
15 clarification, she can stop the meeting and ask.

16 So it's Carole, and then . . .

17 MR. THOMPSON: Larry Thompson, National Marine
18 Fisheries Service.

19 MR. WOOSTER: John Wooster, NMFS.

20 MR. RABONE: Geoff Rabone, Yuba County Water
21 Agency.

22 MS. CAMPBELL: Beth Campbell, U.S. Fish &
23 Wildlife Service.

24 MS. WILLY: Alison Willy, U.S. Fish & Wildlife
25 Service, Renewable Energy Branch, Bay Delta Field

1 Office.

2 MR. TRALER: Parker Traler, State Water Board.

3 MS. EWING: Anna Ewing, California Department
4 of Fish and Wildlife, Regional FERC coordinator.

5 MR. RINELLA: Frank Rinella, Federation of Fly
6 Fishers and Foothill Water Network.

7 MR. EBERHART: Allan Eberhart, Sierra Club,
8 Foothill Water Network.

9 MS. LAWSON: Beth Lawson, California Department
10 of Fish and Wildlife.

11 MR. LYNCH: Jim Lynch, HDR.

12 MS. MULDER: Cheryl Mulder, U.S. Forest
13 Service, Region 5, hydropower assistance team leader.

14 MR. REEDY: Gary Reedy, South Yuba River
15 Citizens League, SYRCL, and Foothill Water Network.

16 MR. JOHNSON: Tom Johnson, consultant for Yuba
17 County Water Agency.

18 MS. SKOBRAK: Jennifer Skobrak, license
19 coordinator with Pacific Gas & Electric.

20 MR. BRATOVICH: Paul Bratovich, HDR.

21 MS. MONHEIT: Susan Monheit, State Water Board.

22 MR. HOGAN: Thank you.

23 So the purpose of today's meeting is, we've got
24 study requests and requests for study modifications,
25 study requests from National Marine Fisheries Service

1 and request for study mods to the channel morphology
2 downstream of Englebright from the Foothill Water
3 Network. Those requests dealt with shot-rock.

4 In reviewing the information that had been
5 filed by both entities, it seemed that there may have
6 been some differences in what shot-rock were, and we --
7 Commission staff was trying to understand what the
8 issues were in trying to deal with both types of
9 requests and trying to figure out -- okay.

10 Bottom line is, we felt we didn't have enough
11 information to make an informed decision on those
12 requests, and that's why we're here today, just to allow
13 all the stakeholders an opportunity to teach me -- give
14 me a lesson and teach me what the issues are and things
15 of that nature.

16 Now, the requests from National Marine
17 Fisheries Service also included an effect on species
18 type study requests, and the Commission has been -- our
19 division of hydropower administration compliance is
20 dealing with that directly as far as fish strandings and
21 project operational effects on the individual anadromous
22 species that are present.

23 So our topic today is not specific to that type
24 of effect; it's more of the habitat associated --
25 concerns associated with the shot-rock and having an

1 understanding of that.

2 So I want NMFS to understand that, you know,
3 the Commission is taking the species effect and dealing
4 with that now, under the current license, and that's
5 pretty clear. That's contained in our letter that was
6 issued just recently, on October 8th.

7 So, with that said, Jim, you said that there
8 were some things that you're going through now to deal
9 with that October 8th letter. You want to kind of brief
10 folks?

11 MR. LYNCH: Sure.

12 The October 8th letter from FERC was from the
13 compliance group. And it -- by our reading of the
14 letter -- and we're still working on it -- they require
15 us to develop two plans, in consultation with the
16 agencies, and file them with FERC by January 6th.

17 One plan deals with prioritized operation of
18 the Narrows 2 facilities, and by those I mean full
19 bypass, partial bypass. And the second one is a
20 sediment-monitoring plan that deals with habitat
21 downstream.

22 The prioritized plan really includes -- it's a
23 very gross summary. It requires us to say -- do a
24 feasibility analysis on how we would operate the full
25 bypass and partial bypass, if we propose any changes to

1 the protocols and operations to propose those, and then
2 to monitor the -- when we operate those, on fish
3 stranding, and also to do a schedule.

4 FERC said specifically that this work should
5 cover the period from when FERC approves the plan until
6 the time that a new license is issued, including annual
7 licenses.

8 And then, the second plan, the sediment-
9 monitoring plan, deals specifically with the habitat, if
10 you will.

11 It has generally two components. The first one
12 is, FERC would like an update on where we are on that
13 gravel bar across from Narrows 2, on removing that,
14 or -- or mitigating impact from fish stranding at that
15 gravel bar, and then also on how we -- how we would
16 handle other -- identifying other areas where fish
17 stranding could occur during operation, how we would
18 handle mitigating that stranding potential, and the same
19 thing, a schedule in there for -- to implement things
20 and taking it through the new license. The letter says
21 that this information is expected to inform relicensing
22 as well.

23 We're in the process of reviewing the plan,
24 developing -- reviewing the letter, developing the
25 plans. We expect to get something out to all the

1 agencies as an initial draft for comment, and we have to
2 file this with FERC by January 6th.

3 Those are very general characterizations of
4 what's in the letter, but generally correct.

5 MR. HOGAN: Okay. As Jim said, the division of
6 hydropower licensing has been working with our division
7 of hydropower administration and compliance to make sure
8 that they got the information -- or that they get the
9 information they need to act under the current license,
10 but we're also working with them to make sure that we
11 get the information we need for the relicensing. But
12 because of the importance of the issue and the timing of
13 it, it was appropriate to move it through our division
14 of hydropower administration and compliance now rather
15 than waiting for relicensing to occur for the necessary
16 changes to take place.

17 MR. LYNCH: Ken, if I could just add one thing?
18 On that gravel bar across from the Narrows 2 powerhouse,
19 we had applied for permits to take care of that
20 isolation pool back in August. We -- they were moving
21 along. We had -- some discussions we need to have with
22 Fish and Wildlife on the 1601. We had very productive
23 discussions last Friday and submitted a letter to them
24 yesterday and which hopefully will accelerate getting
25 that permit. And we'll be talking to the Corps and to

1 the State Board on picking that process back up so we
2 can do that work in dry, when conditions allow us to do
3 that, as soon as they do.

4 MR. HOGAN: Okay. So any questions about that
5 component and how it differs from really the topic of
6 today?

7 MR. WOOSTER: A little bit, but they're working
8 on a couple plans, and you said you're working on making
9 sure you get what you need for the relicensing, so what
10 does that mean? You're reviewing their plans to make
11 sure they meet --

12 MR. HOGAN: When the -- when the plans come in,
13 DHAC and licensing staff will review those plans to make
14 sure, and we will talk to DHAC to make sure that the
15 information is appropriate for licensing needs.

16 More than likely, if it's appropriate for DHAC,
17 it's going to meet our needs as well. But we just want
18 to make sure that something's not overlooked that, you
19 know, is unique to licensing that's not necessarily
20 unique to DHAC. So we're working in tandem.

21 MR. THOMPSON: Would it help if FERC had staff
22 involved in the development of these plans and separated
23 staff if ex parte is an issue?

24 MR. HOGAN: Is that a request, Larry?

25 MR. THOMPSON: It would probably avoid having

1 to have informational meetings like this on several
2 issues and several studies if FERC were directly
3 involved.

4 MR. HOGAN: I'll bring that back. I actually
5 raised the question to my boss this morning and he said
6 let's see if it comes up, so -- okay?

7 MR. THOMPSON: Okay. Thanks.

8 MR. HOGAN: But yeah, the ex parte is
9 definitely a concern. But separated staff would
10 alleviate that. And so yeah, I'll bring that back. I
11 assume NMFS feels it would be beneficial?

12 MR. THOMPSON: Probably on that study and
13 others. I know we don't want to talk about all the
14 other -- you know, there was a communication from Alan
15 that we weren't going to talk about other outstanding
16 requests at this meeting, but there are other studies
17 that are in -- either in progress and probably would
18 need -- I think -- my personal opinion -- I'm thinking
19 acoustic tracking studies and others.

20 MR. HOGAN: Okay.

21 MR. THOMPSON: The fish-tracking studies that
22 NMFS requested --

23 MR. HOGAN: Right.

24 MR. THOMPSON: -- that are delayed, and the
25 other requests that we made, both new studies and study

1 modifications, and others have made. I know the
2 Forest Service has some.

3 MR. HOGAN: Yeah. And the ex parte issue can
4 be alleviated with notifications. So even if it's not
5 separated staff, I mean, it can have the actual
6 licensing staff, as long as we have a sufficient
7 heads-up where we can provide our notice requirements
8 and our -- meet our notice requirements.

9 Regarding the other study requests that aren't
10 related to -- or study mods that have been made that
11 aren't related to shot-rock, on those subjects
12 Commission staff felt that we had sufficient information
13 to go ahead and make a ruling and make a study plan
14 determination on those.

15 That determination is very soon, so that's
16 partly the reason why it was said we're not going to be
17 discussing those items requested at this meeting because
18 it's already written.

19 So the other part of that is our ex parte
20 rules, we didn't notice that as being a topic of this
21 meeting.

22 MS. EWING: Do you think before the end of the
23 year we'll see those -- or see that letter?

24 MR. HOGAN: I don't know. You might want to
25 check the library at break.

1 MS. EWING: Okay.

2 THE REPORTER: Could I have a name, please?

3 MR. HOGAN: Name. Sorry.

4 MS. EWING: I'm sorry. Anna Ewing.

5 MR. HOGAN: Okay. And actually, for the first
6 few times that we speak, it's probably going to be
7 beneficial if we announce name and affiliation just so
8 we can keep our -- the record straight and clear.

9 The reason for the court reporter today is
10 because the Commission can only make decisions based on
11 what's in its record, so this is a good way to make sure
12 that everything that's said is captured in an accurate
13 and fair way rather than relying on my notes, because,
14 well . . .

15 MR. WOOSTER: This is John Wooster.

16 I'm a little confused. I'm now understanding
17 that you're taking this meeting and the information you
18 get here to basically finish off the determination that
19 this is sort of the outstanding element; and if so, it
20 seems like you kind of need to see these two plans that
21 they're making to finish your determination.

22 MR. HOGAN: As far as shot-rock goes, it's not
23 going to be covered in the letter that's going to be
24 coming out from the Commission on the study plan
25 determination for the updated study report. We'll deal

1 with it as a separate -- under separate cover.

2 And whether or not we feel it's appropriate to
3 wait for the plans or to handle it in two other covers,
4 habitat versus species, then we'll do that.

5 But we didn't -- we're not holding up the
6 determination on all the other study requests and
7 modifications for shot-rock. Okay? Does that make
8 sense to everybody? Okay.

9 So, like I said, I mean, we got the questions
10 on -- requests for information on shot-rock, and in our
11 review of the study requests and the study
12 modifications, it appeared that there may be differences
13 in the definition of what shot-rock is.

14 I think FWN defined it as large, angular rock.
15 I'm not sure if NMFS had actually provided a definition.
16 And, you know --

17 MR. WOOSTER: We did.

18 MR. HOGAN: -- I started Googling it, and it
19 looks like there's all kinds of different opinions what
20 shot-rock is in the Yuba River below Englebright. So I
21 was hoping that we could get some clarification on what
22 you guys think it is.

23 And it's important for us, because once we have
24 an idea of what we're talking about for shot-rock, then
25 we need to -- I need to look at the study criteria as

1 far as nexus and Commission baseline policies and things
2 of that nature. And so a definition will help me to
3 make those calls.

4 So if NMFS or FWN wants to go first, I'm happy
5 to hear it.

6 MR. REEDY: Yeah. As you mentioned --

7 MR. HOGAN: Gary Reedy.

8 MR. REEDY: -- FWN -- we didn't actually choose
9 to define shot-rock in our file comments, but are happy
10 to offer what we think would be a good definition for
11 any, you know, formal investigation of shot-rock in this
12 reach. And as you mentioned, Ken, there are a variety
13 of descriptions.

14 I think there -- I don't see that any of the
15 descriptions of shot-rock that have been put forward on
16 Yuba River documents, such as those by Dr. Greg
17 Pasternack, are in conflict or inconsistent, but I think
18 that for the purpose of a -- an adequate investigation,
19 it may be necessary to make sure we have a definition
20 that is comprehensive and inclusive enough of what we
21 need to know more about.

22 MR. HOGAN: Okay.

23 MR. REEDY: And so I wouldn't want it to be
24 interpreted that we defined it as just angular -- you
25 know, large, angular rock.

1 MR. HOGAN: Okay.

2 MR. REEDY: And to quote one of the first and
3 most thorough studies on shot-rock, I mean, there hasn't
4 been any focused studies on shot-rock in Englebright Dam
5 reach, but Dr. Greg Pasternack has several publications
6 that discuss it. And he has some credentials as a
7 geomorphologist to offer a definition. But I don't see
8 any evidence that he has taken the task of defining it
9 for the purpose of a focus study. So again, I think
10 that this is the first time that a group's embarked on
11 doing that, defining that comprehensively.

12 But Pasternack's definition was shot-rock is
13 irregular shaped, angular cobbles and boulders blasted
14 from surrounding hillsides.

15 MR. HOGAN: Okay.

16 MR. REEDY: And that's from his 2010
17 peer-reviewed article about rehabilitation of the
18 Englebright Dam reach.

19 MR. HOGAN: So in FWN's opinion, what's the
20 geographic scope of that blasting? Is it just
21 construction of the dam and Narrows 1 or 2 or is it -- I
22 mean, like it said in my Google search, hydraulic
23 mining?

24 MR. REEDY: You asked what's the scope, and I
25 don't know if you mean geographically or temporally or

1 historically.

2 MR. HOGAN: Well, geographically, what's the
3 range of -- for this project -- concern of the location
4 of shot-rock, I guess, and its source? I mean, I think
5 YCWA, in your opinion, of the source.

6 MR. REEDY: I think the appropriate geographic
7 scope is the Englebright Dam reach, and there are seven
8 reaches of the lower Yuba River that are consistently
9 described throughout the study plans, if you were just
10 to say in the Englebright Dam reach, that, you know, ask
11 anybody to tell me if that's not comprehensive enough of
12 an area, but I don't think it's any area less than the
13 entire reach that we're considering when we want to
14 consider the potential impacts of shot-rock or the
15 sources of shot-rock.

16 Do you have a difference in . . .

17 MR. WOOSTER: No. EDR and -- where's the
18 downstream of EDR?

19 MR. REEDY: Deer Creek; right?

20 MR. WOOSTER: At Deer Creek? It doesn't
21 include that next bar downstream?

22 MR. LYNCH: Actually, John, the map I handed
23 out, Deer Creek is at the downstream and coming in.
24 That's the -- that's the Englebright Dam reach.

25 MR. WOOSTER: Is at Deer Creek?

1 MR. LYNCH: Deer Creek coming in. Yeah. It's
2 about 8/10 of a mile.

3 MR. REEDY: It's Deer Creek. And so there --
4 there is -- I think it's worth noting -- maybe this is
5 what you were going to say, John -- but because
6 shot-rock is known to mobilize as far down as the end of
7 the reach, there may be shot-rock impacts to habitat
8 into the narrows reach as well.

9 MR. WOOSTER: I think that the next rapid down,
10 which is the S -- called the S turn or something?

11 MR. THOMPSON: Narrows gateway.

12 MR. REEDY: Yeah.

13 MR. THOMPSON: It's narrows gateway.

14 MR. WOOSTER: That's kind of often referred to
15 as being armoured with shot-rock.

16 MR. REEDY: Yeah. And, you know, citing or
17 paraphrasing Greg Pasternack, that narrows pool at the
18 lower end of the narrows reach would likely capture any
19 shot-rock to prevent mobilization there beyond. So --

20 MR. WOOSTER: Yeah.

21 MR. REEDY: -- I think, yeah, the most
22 appropriate geographic scope would include the narrows
23 reach as well as the Englebright Dam reach.

24 MR. WOOSTER: Or at least the top half of the
25 narrows reach.

1 MR. REEDY: Yeah. About the definition, I want
2 to, again, noting that in Pasternack's definition he
3 wasn't working on a study plan about shot-rock, and
4 maybe that's where we're going. I think it's important
5 to note that shot-rock differs from native bed material
6 in geology, size, roughness, or angularity, that there
7 are characteristics of native bed material, and
8 shot-rock -- a complete shot-rock definition should
9 allow for any material that differs in those
10 characteristics, differs in those -- in any of those
11 characteristics and is the result of some human
12 activity.

13 Pasternack's definition is that it's blasted
14 from surrounding hillsides. He doesn't elaborate on
15 that, but I know that for that definition to work
16 blasting needs to include not just, you know, explosives
17 but high-force machinery that may have dislodged angular
18 material, as well as hydraulic forces from operations of
19 dam, outlets.

20 MR. THOMPSON: Larry Thompson.

21 I'd like to add that in one of Dr. Pasternack's
22 publications he also refers to angular rock that's torn
23 off the canyon walls during high flows, so it's not just
24 blast rock, is my understanding. But I was going to try
25 to find his publication on my computer here, if I might

1 be able to do that. But that's my best recollection.

2 And we did define it. I just wanted to add
3 that NMFS did define it. Page 6 of our request, we do
4 define it as angular material that is much larger cobble
5 to large boulder. We say this larger angular rock
6 downstream of Englebright Dam has been commonly referred
7 to as shot-rock, and we say it's thought to be derived
8 mostly -- that's the key word -- from dam construction
9 activities, but also from the erosion of bedrock.

10 And I think if we were to elaborate on that
11 further, it's not simply dam construction but also
12 powerhouse construction, power tunnel construction,
13 full-flow bypass construction, road construction, to
14 access the powerhouse in the area downstream of the dam.

15 MR. HOGAN: Yeah. And I apologize, Larry. I
16 was familiar with that characterization, and I guess
17 the -- what we were struggling with, it seemed like
18 there was two different characterizations, from what we
19 interpreted NMFS's characterization was spoils from that
20 type of construction that you just described versus what
21 we thought may be all sources that FWN was describing.
22 When we did our Google search, it was, you know,
23 historical gold mining and all kinds of things, and it
24 wasn't clear from our perspective. So that's probably
25 why we're -- you know, we want to talk.

1 MR. THOMPSON: And really, that's why we asked
2 for a study. You know, the definition of shot-rock, the
3 sources of the shot-rock, the effects of the shot-rock
4 would all be part of the study.

5 So this is -- it's good to have this discussion
6 here, but we won't -- I don't think we'll solve it here.
7 It'll require a study to fully understand it. That's
8 NMFS's view.

9 MR. HOGAN: Okay. Well, I think the reason
10 we're having the discussion is we're trying to figure
11 out, you know, is it our licensee's responsibility to
12 look at the issue. And, you know, right now we're an
13 open book and we're trying to -- we're just trying to go
14 through the criteria, go through our baseline policies
15 and seeing if shot-rock fits and if a study is warranted
16 or if it's not. And that's why we're really here today,
17 because we need the information to help us make that
18 call.

19 So I am -- between FWN and NMFS, I'm hearing a
20 difference in, you know, source. NMFS says that most of
21 it, primarily, in your opinion, is spoils. And I'm
22 going to use the term "spoils" here just for
23 clarification. And there's some erosional issues that
24 may be project-related in -- with flows and -- is that
25 fair?

1 MR. WOOSTER: I don't think we characterized it
2 as mostly one source or the other.

3 MR. HOGAN: Oh, I thought that's what Larry
4 just said, "mostly."

5 MR. THOMPSON: We said "mostly," but I
6 clarified the other possible sources would be not only
7 dam construction but, again, Narrows 2 powerhouse
8 construction --

9 MR. HOGAN: Mm-hmm.

10 MR. THOMPSON: -- perhaps Narrows 1 powerhouse
11 construction, the Narrows 2 full-flow bypass
12 construction, the road construction, to access the area
13 downstream of the dam, at least those sources or ones
14 that come to mind, just viewing historical photographs,
15 visiting the site, and, I guess, common sense that when
16 you take a power tunnel and construct a power tunnel,
17 you have to put the waste rock somewhere, as well as
18 when you build a dam.

19 MR. REEDY: I'm not hearing any difference or
20 any conflict between the way NMFS is describing
21 shot-rock or positing a starting definition and the way
22 that FWN is here today. So I think you're hearing that,
23 and that might be worth exploring.

24 I know I was offering a definition for the
25 purposes of potentially shaping a study that was

1 comprehensive enough to not exclude something important.
2 But let me say, we don't want to use a definition of
3 this material that is not narrow enough to focus on the
4 material that was put into the river channel or is
5 available to go into the river channel as a result of
6 either Englebright Dam or the construction or
7 maintenance of facilities at or below Englebright Dam.

8 MR. HOGAN: Okay. So you're happy with the way
9 NMFS has couched it?

10 MR. REEDY: Yeah.

11 MR. WOOSTER: I feel like it's the same. I
12 mean, I support that, Gary. If there's erosion from
13 flow running around Englebright, if there's erosion due
14 to anthropogenic forces shoving flow where it's not
15 supposed to be, where it wasn't naturally, you know,
16 over the sides of Englebright, full bypass throws the
17 water into the cliff across the way.

18 MR. HOGAN: Okay.

19 MR. WOOSTER: Those are -- those are mechanisms
20 for creating shot-rock as well.

21 MR. HOGAN: Okay.

22 MR. WOOSTER: We're not denying that or . . .

23 MR. HOGAN: And I guess if we added a
24 geographic scope to continuing sources, it's immediately
25 within the project area where flows are against the

1 banks from the full bypass or creating active erosion
2 and -- meaning three miles downstream you don't have
3 that effect, but you're interested in understanding the
4 movement of the shot-rock three miles downstream that
5 came from --

6 MR. REEDY: Two miles.

7 MR. HOGAN: -- the vicinity of the Narrows 2
8 powerhouse.

9 MR. REEDY: Well, we just discussed the
10 geographic scope of a potential study, and it would be
11 from Englebright Dam down to approximately midway in the
12 narrows reach or the top of the narrows pool, and I
13 think that's two miles, at most, and --

14 MR. WOOSTER: Less than two.

15 MR. REEDY: Yeah. Or less.

16 MR. HOGAN: I think what I'm getting at is I'm
17 trying to separate geographic scope of the study versus
18 geographic scope of the source. Okay? So -- because I
19 think that there's -- like I said, if I'm wrong in my
20 understanding, there's other inputs of shot-rock
21 downstream that are resulting from, you know, historical
22 gold mining and things of that nature that aren't
23 project-related or . . .

24 MR. REEDY: Well, maybe there are and maybe we
25 should have a study that's thorough enough to address

1 that. But that's not the driving interest of Foothill
2 Water Network when we look at shot-rock in the channel
3 and we have questions about its source and habitat
4 impacts. There are multiple potential sources. There
5 are multiple likely habitat impacts.

6 Yeah, we all know the Yuba River was
7 dramatically impacted by hydraulic mining, but that is
8 outside the scope of this interest.

9 MR. HOGAN: That's what I'm trying to get at.
10 I'm trying to put some bounds on what we're really
11 talking about and what we're wanting to look at and
12 whether it's appropriate for the applicant to be doing
13 that or not. And, you know, looking at all the
14 potential sources of shot-rock to the system, I can tell
15 you, probably not.

16 MR. REEDY: What if we just looked at the
17 sources of shot-rock that may be associated with the
18 YRDP and its construction and maintenance --

19 MR. HOGAN: And that's --

20 MR. REEDY: -- and operation.

21 MR. HOGAN: That's what I was wondering, if
22 that's what we want to say. If that's what we want to
23 say is the definition --

24 MR. REEDY: I'd be fine with that.

25 MR. HOGAN: -- we can move forward and . . .

1 MR. WOOSTER: Yeah. One thing I wanted to add,
2 though, as far as the geographic source related to the
3 project, you saw the 1968 photo that we filed that came
4 from Jim Butler, it certainly looks like there's a haul
5 road going downstream from where Narrows 2 was
6 constructed in that photo, and that road now is being
7 eroded. And you can see -- I brought pictures of it --
8 it's kind of collapsing, and lots of coarse material
9 from the side cap for that road falling towards the
10 channel. So I think there is a project source that goes
11 downstream with the powerhouse.

12 MR. REEDY: And -- yeah. And this is your
13 meeting, however you want to run it, I think this is a
14 useful discussion about definition, but I'm feeling like
15 the discussion of definition and scope is lacking in --
16 particularly I'm concerned for everybody in the room who
17 may not be privy to these pictures and attachments.

18 Could I have permission to give a ten-minute
19 presentation that addresses the background of shot-rock
20 as I know it's been discussed in the information that is
21 out there -- again, as I'm aware of -- and some of these
22 photographs that are being referred to?

23 MR. HOGAN: Yeah. Jim, do we have that
24 capability?

25 MR. LYNCH: Sure.

1 MR. REEDY: It'll take a few minutes to set
2 that up, but, you know, John just referred to a
3 photograph that --

4 MR. LYNCH: May we comment on it during the
5 presentation or do you want to wait?

6 MR. HOGAN: Yeah, I think, you know, this is a
7 technical meeting, so if there's any questions or
8 comments throughout, it's wide open, so . . .

9 (Pause.)

10 MR. REEDY: I think I've got about a dozen
11 slides or more. Some are just photos. But I mainly
12 wanted to do this just to give, you know, my personal
13 knowledge of background information regarding shot-rock
14 and its reach. And then I do end with a list of
15 questions that I think need to be addressed, whether
16 through, you know, what follows FERC's determination or
17 just for the purposes of planning effective habitat
18 enhancement in the lower Yuba River. I mean, this is my
19 interest.

20 And, you know, I want to say, before taking up
21 any more bandwidth here this morning, that, you know, I
22 know that Yuba County Water Agency has been really
23 forthcoming in taking actions to plan for habitat
24 improvements in the lower Yuba River, and I think we
25 have other venues to discuss how to do that. And I know

1 Yuba County Water Agency has always been willing to have
2 those discussions and even take big actions.

3 So here we are. And, Ken, you convened this
4 meeting, but this isn't the only place we can discuss
5 this and lead to what is my biggest interest, the
6 interest of SYRCL and I know many in the Foothill Water
7 Network, which is actually to improve habitat for
8 particularly species like spring-run Chinook salmon.

9 We talked about the definition of shot-rock,
10 and again, my interest in expanding on Pasternack's,
11 it's just to make sure that if there is to be a focused
12 study of shot-rock, the first such exercise for the
13 Yuba River, that it's appropriately comprehensive, and
14 now, I realize, not too comprehensive to lose the focus
15 on what we're talking about, which is material that
16 really was put in the river no earlier than 1941, and
17 would include material more directly associated with
18 this project.

19 This map is from the habitat expansion plan, so
20 a lot of those working on enhancing habitat in the lower
21 Yuba River, including members of the river management
22 team, commented and helped to shape what Department of
23 Water Resources and PG&E put forward as a habitat
24 expansion plan for the Central Valley. And really one
25 of the main actions of that plan -- you know, it was

1 going to cost 5 to 15 million dollars -- was to enhance
2 habitat in this reach that we're talking about.

3 And those are the three mapped areas of
4 shot-rock deposition. The mapping goes back to the
5 first publication about shot-rock, scientific
6 publication -- that was Dr. Greg Pasternack, in 2008,
7 who was doing a lot of habitat descriptions and
8 geomorphic modeling in this reach, and he mapped these
9 three areas of shot-rock deposition. And that mapping
10 got carried forward in this habitat expansion plan in
11 2010.

12 But, of course, we've talked about, like, does
13 shot-rock go further down into the narrows reach, and
14 that's a possibility. I think it would be a mistake to
15 exclude that as part of the examination just because
16 Pasternack's map only went here, this far.

17 MR. HOGAN: So Gary, on this photo, it's not in
18 the channel. Is this supply of shot-rock or . . .

19 MR. REEDY: Shot-rock is in the wetted channel.
20 That's documented. Why these areas bound along the
21 wetted edge I don't know, Ken. I think it has more to
22 do with who was delineating these main deposits and not
23 taking into account that it's underwater surface, too.

24 MS. MULDER: It's flow dependent, too. You can
25 tell by the different -- the picture you've supplied to

1 us and then that one, that's, you know, totally flow
2 dependent.

3 THE REPORTER: Could I have a name, please?

4 MS. MULDER: Cheryl Mulder.

5 Because there's a black line drawn around those
6 things, it makes it look like it's up on a bank or
7 something. It's the geometry of the -- of the polygon
8 that's been drawn.

9 MR. HOGAN: Yeah. Okay. I just saw that
10 that -- or my recollection is that first polygon, that's
11 a pretty steep bank, so a lot of that's above even a
12 wetted perimeter.

13 MR. REEDY: Let me repeat, there hasn't been a
14 focus study on shot-rock in this reach, its
15 distribution, its --

16 MR. HOGAN: That's fine.

17 MR. REEDY: -- is not known other than these
18 very coarse level identification of three deposits.

19 MR. HOGAN: So I have a --

20 MR. REEDY: Three main deposit areas.

21 MR. HOGAN: So I have a question for YCWA,
22 particularly with that first bank, that first area. Is
23 that spoils that was laid there from construction of
24 either the facilities or the dam or is that something
25 that was deposited by the river?

1 MR. AIKENS: This is Curt Aikens.

2 Simply don't know, Ken. We haven't looked at
3 the origin of the source of the material.

4 MR. REEDY: We can come back to this map.

5 MR. AIKENS: I would say that there is one
6 exception to that. There was some rock from the
7 Narrows 2 tunnel that was used to widen the road, and
8 that's pretty well documented up in the area where the
9 pointer was. But that's a small portion of that whole
10 area that's shown in that polygon one.

11 MR. WOOSTER: Okay. Curt, was that the tunnel
12 for the original -- I mean, the original tunnel or the
13 full bypass?

14 MR. AIKENS: The bypass, the full bypass.

15 MR. WOOSTER: The full bypass tunnel.

16 MR. REEDY: Again, we can come back to this.

17 This photo is kind of meaningful to me because
18 this was taken by Jim Butler, who lives at the
19 confluence of Deer Creek and, to my knowledge, was the
20 first one to be vocal about shot-rock as a habitat
21 impact. I mean, maybe people were vocal about it
22 earlier, but, you know, these photographs that he took
23 in 1999 were passed on to many people working on the
24 river at that time or everyone he knew, and even Yuba
25 County Water Agency. So it's just a photo of shot-rock

1 on the bar, Landers Bar at that time.

2 Go ahead.

3 MR. AIKENS: Curt Aikens.

4 If I could make a comment on that?

5 Jim Butler's primary interest in the area is he
6 has a family history of gold mining Landers Bar. His
7 belief was the shot-rock covered up the gold area. He
8 had made proposals in the past to remove the shot-rock
9 so he could go mine the gold underneath.

10 MR. REEDY: Yeah. Thanks, Curt.

11 MR. LYNCH: Gary? This is Jim Lynch.

12 Just for context, what's the size of that
13 material, would you guess, generally, that we just saw
14 in that photograph?

15 MR. REEDY: Well, I would refer to
16 Tech Memo 1.2.

17 MR. LYNCH: So it's primarily --

18 MR. REEDY: Although shot-rock isn't mentioned
19 in the tech memo, it describes that 62 percent of the
20 Englebright Dam reach is composed of large cobble and
21 boulder.

22 MR. LYNCH: I think it's boulder and then it
23 goes into cobble and larger rock. But I agree with you.
24 So it's large material.

25 MR. REEDY: Yeah.

1 MR. LYNCH: Thanks.

2 MR. REEDY: Yeah. Mostly boulder, I believe,
3 but in the large cobble category.

4 MR. LYNCH: Thank you, Gary.

5 MR. REEDY: I am not, by these bullets, trying
6 to say where the shot-rock comes from in any final or
7 comprehensive way. I'm just putting forward that there
8 are likely multiple sources of shot-rock. And
9 descriptions that have been put out that shot-rock
10 results from the construction of Englebright Dam I think
11 are missing the full view and thus the need for some
12 more formal investigation.

13 And I know the context of this meeting and thus
14 I'd be willing to focus a little bit on the possible
15 sources related directly to construction of Narrows 2
16 access road and subsequent maintenance or improvements
17 to that road, as Curt just mentioned.

18 And this is the photograph that John described
19 a few minutes ago. September 1968 is what Jim Butler
20 has attributed this photograph to in date. And this is
21 taken up near Englebright Dam, possibly on the upper
22 left buttress, looking downstream, of course, looking
23 downstream the canyon.

24 To help with the context, I would -- well, this
25 road here, I don't really understand why that's there,

1 although I'm sure the engineers dealing with all these
2 spoils had a reason for this. There's remnants of it
3 that are visible today, still, especially down in this
4 area, that can be walked, not in this area (indicating).

5 And this is -- this is the path of the access
6 road to Narrows 2.

7 And then, before going on to the next one, I'll
8 just reference this kind of landing here and this lower
9 road. Going to the next photograph, there's the same
10 landing and the lower road. And again, September 1968.
11 Sorry this photograph's not as high quality. But this
12 would be the Narrows 2 facility in construction.

13 And I could only be interpreting what's going
14 on in terms of the movement of material, so I won't.
15 But I'm sure we can come back to that kind of stuff.

16 I've been working on the Yuba River since 2006.
17 And the lower Yuba River fisheries technical working
18 group was discussing shot-rock as a habitat issue in the
19 lower Yuba River since at least as far back as 2007,
20 before any actual scientific publication came out
21 describing shot-rock. And that was, as I mentioned,
22 Greg Pasternack's work, and some of his graduate
23 students, in 2008, was that first publication describing
24 shot-rock deposits.

25 And interestingly enough, that work was about

1 how to rehabilitate or how would rehabilitation in the
2 Englebright Dam reach occur. And right in that first
3 document Dr. Pasternack said that a rehabilitation
4 action should involve, first, shot-rock removal, and
5 then gravel augmentation.

6 Later that same year the Yuba County RCD
7 proposed a project to plan for the removal of shot-rock,
8 what we called a pilot project. Teichert Industries had
9 offered some volunteer time. That wasn't funded. I'm
10 not aware of any other formal proposals to address the
11 shot-rock in that way for rehabilitation plan, but, of
12 course, the Army Corps of Engineers has proceeded with
13 planning for gravel augmentation. That gravel
14 augmentation was produced in 2010. That year they
15 placed 5,000 tons. They proceeded with that plan. At
16 this point they've added more than 15,000 tons of
17 spawning gravel, but we don't have a plan to deal with
18 the shot-rock.

19 MR. HOGAN: Quick question for you, Gary. What
20 is Yuba County RCD?

21 MR. REEDY: Resource Conservation District.

22 MR. HOGAN: Okay. I wanted to make sure we got
23 that.

24 MR. LYNCH: Gary? On the lowest -- I'm not an
25 expert on that lower section, but my understanding was

1 there was a lot of gold mining that also occurred just
2 upstream of Deer Creek, in the Deer Creek area?

3 MR. REEDY: Yeah. I have a picture of a
4 tractor in there. And I'm not skirting that current,
5 but --

6 MR. LYNCH: Thanks.

7 MR. REEDY: -- I'm not trying to leave that out
8 entirely.

9 And by the way, I mean, this is background.
10 This is -- there's a lot more to write on the history of
11 all that's happened in that river channel. I'm just
12 trying to focus on the rehabilitation context, you know,
13 and the idea that that shot-rock hasn't been planned to
14 address. We still have a lot of questions about the
15 shot-rock. Meanwhile, the gravel augmentation that was
16 supposed to happen subsequent -- at least, according to
17 some experts' opinion -- is getting on. The Army Corps
18 of Engineers, you know, put in another 5,000 tons.

19 MR. LYNCH: Gary, my only point -- if you don't
20 mind?

21 MR. REEDY: Yeah.

22 MR. LYNCH: When we're talking about the source
23 of the shot-rock, and we mentioned the geographic scope
24 before, down a couple miles, we didn't mention the gold
25 mining activity that occurs about 9/10 of a mile

1 downstream of the Englebright Dam. I think that's also
2 worthy of mentioning. I understand you're going to
3 mention it, but I wanted to bring that up.

4 MR. REEDY: Well, as a historical --

5 MR. LYNCH: It's still there.

6 MR. REEDY: The activity?

7 MR. LYNCH: The debris is still there, the
8 shot-rock. Could be a potential source as well.

9 MR. REEDY: Yeah, there's gold mining debris
10 everywhere in the lower Yuba River.

11 MR. LYNCH: Thanks, Gary.

12 MR. THOMPSON: Could I interrupt just briefly?

13 MR. REEDY: Yeah. Sure.

14 MR. THOMPSON: To add one other source to the
15 previous slide that you had, Gary, because we were
16 talking about the publication earlier I was referring
17 to, I found it. It's a published article. Gregory
18 Pasternack is the first author. It's named "Yuba River
19 Analysis Aims to Aid Spring-Run Chinook Salmon Habitat
20 Rehabilitation." It was published in California
21 Agriculture in 2010.

22 And it deals with the mining, Jim. It also
23 talks about the various sources, refers to historical
24 aerial photographs, discusses the substrate sizes and
25 defines them. It's Volume 64, No. 2.

1 So if we just add that. That was in 2010. And
2 it is not an unpublished report. It is a published
3 article.

4 Thanks, Gary.

5 MR. REEDY: Yeah. Thank you.

6 MR. RABONE: Geoff Rabone, YCWA.

7 And it is available on the relicensing website.

8 MR. REEDY: Great. Thanks. And -- yeah. And
9 it was actually published for this really nice edition
10 of California Agriculture that celebrated the Sierra
11 Foothill Research Extension Center, which we were
12 thinking of meeting at today. But there's the actual
13 article.

14 MR. HOGAN: Oh, thank you.

15 MR. RABONE: Gary, as long as we're
16 interrupting the flow, is there a particular reason why
17 you picked 1941 as the beginning of the shot-rock issue?
18 Since the dam obviously was constructed around 1941 to
19 impede the further flow of sediment into the --

20 MR. REEDY: So we were talking about the
21 definition of shot-rock, and I think we should probably
22 return to that. I want to get through here, make sure
23 that, you know, we get new ideas. But let me table that
24 and we'll come back to that. There is a reason.

25 MR. AIKENS: Just a clarification. I mean,

1 technically, the dam was completed in 1941. I suspect
2 it took two or three years to construct it. So maybe
3 the appropriate time frame would be the beginning of
4 construction, unless there's some other activities that
5 would have produced shot-rock before then.

6 MR. REEDY: I wholeheartedly agree. And that's
7 what I thought you were going to call me on. I was
8 going to say ignorance, because I don't know when they
9 actually started carving into the canyon, you know, and
10 sounds like, yeah, years before 1941.

11 Oh, I have in there 2010, the habitat expansion
12 plan. It's monumental I don't think because it is going
13 to be implemented on the Yuba River, but monumental just
14 in terms of describing the rehabilitation opportunities,
15 and again, the important role of addressing shot-rock
16 and likely shot-rock removal for rehabilitation of the
17 reach.

18 Just real quick, I mean, this was our comment
19 on the study report that the goal of the channel
20 morphology tech memo was to characterize the river form
21 and process and potential impacts due to the operation
22 of the project.

23 So there was no mention of shot-rock, but the
24 description of the substrate in the reach is there to
25 learn from, 62 percent of this very large coarse size,

1 but there's -- yeah, there's -- so I'll get to --
2 there's some questions yet to be addressed, in my
3 opinion.

4 The habitat expansion plan makes these
5 statements about the importance of -- well, of the role
6 of shot-rock and habitat, that the salmon spawning
7 habitat has been significantly reduced by the deposition
8 of large consolidated rock fragments, shot-rock --
9 there's another definition -- and that gravel
10 augmentation would provide minimal benefits to
11 spring-run Chinook salmon and steelhead until the
12 channel is rehabilitated, and their proposal is
13 shot-rock removal.

14 Here's the mining activity that has occurred on
15 the -- downstream, most of those three shot-rock
16 deposits that were mapped previously. In fact, it's a
17 very long bar, and this photograph only shows the bottom
18 portion of this -- oops. Sorry. Go back there.

19 This is probably just the downstream third, at
20 most, of the very long bar that's been variously
21 described as Landers Bar or Sinoro Bar. It's that third
22 shot-rock deposition area.

23 And this is basically straight across from the
24 mouth of Deer Creek, and perhaps some of the most recent
25 mining activity, using large machinery. I'm not sure.

1 I don't know.

2 MR. WOOSTER: Do you know the date of this
3 photo?

4 MR. REEDY: It was in -- around 1968. That
5 photo was not dated itself, but it was in the same
6 collection of those other photos of 1968.

7 If the photo is paired with this photo, because
8 I don't know that they created that kind of vertical
9 scarp bank many times, although they could have -- it
10 looks like this very one. And again, the photos were
11 together. But this photo is illustrative of shot-rock
12 on top, armouring material below, that has at least two
13 different strata.

14 And this one labeled "Debris," labeled by a
15 miner, is his classification of older hydraulic mining
16 debris and then large material inside this strata he's
17 calling shot-rock. All I know is this is shot-rock up
18 on top and --

19 MR. WOOSTER: I think your perspective -- I
20 think he's mapping the subsurface there and then that
21 top part's the surface layer. The thickness is kind
22 of -- you know, you're looking at an oblique photo, so
23 you're not getting just -- I think doing the excavated
24 surface, the vertical profile.

25 MR. RABONE: Geoff Rabone, YCWA.

1 It looks like they deliberately excluded that
2 top layer. I believe it would be difficult to
3 determine, if you took a rock from that top layer and a
4 rock from that middle layer, which layer it came from.

5 MR. REEDY: I don't -- I don't think the line
6 ending here was an attempt to -- in talking to this man
7 who labeled this photo, this is shot-rock, too, to him
8 and to me. I think he's just looking at the substrata
9 in labeling it that way. I mean, let's not read into
10 his attribution.

11 MR. HOGAN: Well, that's what we're here to
12 talk about. So I don't care what the photo says.
13 Everybody agrees that the top layer is shot-rock?

14 MR. LYNCH: Depending how you define it, yes.

15 MR. REEDY: Oh, see, we are coming back to the
16 definition. Okay. These are the questions that I think
17 need to be addressed running through this process, or
18 through any process, looking to, you know, both
19 mitigating any impacts and ultimately rehabilitating
20 this reach of the lower Yuba River.

21 And we don't need to focus on these now.
22 Perhaps we can come back to these. But, you know,
23 although the distribution of shot-rock in
24 Englebright Dam reach has been mapped at a very cursory
25 level and there's description of shot-rock in the wetted

1 channel and so forth, there really has been no study of
2 the actual distribution and volume of shot-rock in the
3 reach.

4 And then, the rest of these questions, starting
5 with the history of shot-rock introduction, as we've
6 already, I think, confirmed by our discussion today, is
7 largely unknown. How are the project operations
8 contributing to deposition and mobility? What is the
9 likelihood of additional shot-rock entrainment?

10 Some have discussed -- the river management
11 team -- we've discussed very briefly, you know, looking
12 at all the projects in the lower Yuba River that may
13 benefit fish, would -- would some kind of securing of
14 the material, shot-rock that hasn't yet got to the
15 channel but has a risk of coming to the channel, would
16 that be an appropriate action to plan and implement.
17 But that hasn't been thoroughly discussed, but it
18 relates to this question of what is the likelihood of
19 additional shot-rock entrainment.

20 And there's certainly more to be known about
21 the impact of shot-rock on fisheries habitat and the
22 assertion that you need to remove the shot-rock in order
23 to allow for the Army Corps of Engineers' gravel
24 augmentation program to be fully effective.

25 So that's my last slide. I mean, I have some

1 other photographs in here, but I think we should move
2 on.

3 In Google Earth, the oldest photograph is '98,
4 and it's pretty poor quality. I think, looking at that
5 historic record, I think all we can really see is that
6 there have been road improvements, as Curt mentioned.

7 And this gullying of the, you know, the former
8 slope that we saw in that 1968 photograph, I think
9 anyone can see today the large gullying of that material
10 is worth noting.

11 MR. WOOSTER: You can see the road -- the lower
12 roadbed in the bottom part of the photo, the mouse over.

13 MR. REEDY: Oh, yeah, yeah, yeah. Remember in
14 that 1968 photo I pointed out that road that went way
15 down there. Here's the remnants of it. It's really
16 just trail width. Most of that roadbed has sloughed
17 off, and it's not even apparent here.

18 Yeah, Curt mentioned the road improvements.
19 Here's one. You can see the landing. You know, and I
20 don't know that this was -- you know, maybe this helps
21 stabilize some of the shot-rock below that landing, or
22 maybe it introduced more. I don't know. But it's
23 getting at that, I think, the kind of analysis that
24 would answer some of the questions, at least with regard
25 to source in this area.

1 MR. HOGAN: Okay. So the previous photo you
2 showed gullying, but I don't see gullying here.

3 MR. REEDY: Actually, this is later, isn't it?
4 Oh, no. Yeah. This is the latest, most recent. This
5 is a 2005 photograph.

6 MR. HOGAN: Okay.

7 MR. REEDY: And it's just -- I think the sun is
8 not at an angle, so there's no shade.

9 MR. HOGAN: Oh, okay.

10 MR. REEDY: And here, this is before the full
11 bypass was constructed. I believe it's a 2005
12 photograph. Let's see if I got that wrong. This would
13 be the most recent photograph, 2007 or '8 -- sorry, I
14 can't remember -- after the full bypass was constructed.
15 Maybe even 2009. I'll have to refer to my notes. I'm
16 sorry. It says 2013. So sorry. 2013, going back in
17 time, 2005, and 1998.

18 MR. TRALER: You can see it on the photograph.

19 MR. HOGAN: What's the age of this photo?

20 MR. LYNCH: 2008.

21 MR. REEDY: I'll go back to this one unless
22 anybody requests another slide.

23 MR. HOGAN: Any questions for . . .

24 MR. RABONE: Geoff Rabone. Yeah. Can we get a
25 copy of your presentation, Gary?

1 MR. REEDY: Absolutely.

2 MR. HOGAN: Actually, I was going to ask if you
3 wanted to file a copy in the record.

4 MR. REEDY: We can do that. Yeah. If you
5 want, I'll just email you a PDF, along with everyone
6 else whose email I have today, or those who request it.

7 MR. HOGAN: Yeah, I'll put it in the record.

8 MR. REEDY: Oh, thanks.

9 MR. LYNCH: One question on that lower road.
10 What's the date of this photo?

11 MR. REEDY: 1968 is what . . .

12 MR. LYNCH: Do we know if that lower road was
13 there previously?

14 MR. REEDY: No. I'd really like to know. It's
15 very interesting to me. And surely there was shot-rock
16 or material there from Englebright when the Yuba County
17 project was, you know, begun. And maybe this has to
18 deal with moving that material in conjunction with
19 providing an access road.

20 But I also know that, you know, putting the
21 powerhouse in required, you know, new shot-rock to be
22 available.

23 And, Curt, do you understand what happened to
24 the material from the actual tunnel? I'm sure that
25 would be an easy calculation of what the volume of that

1 would be and if that was taken out through that bottom
2 outlet. So I -- yeah, how the former shot-rock was
3 incorporated into what we see in this photograph,
4 anybody's guess.

5 MR. LYNCH: Well, I was just wondering, when
6 they constructed the dam, it's possible that road had
7 been there before and they moved it up. I don't know.

8 MR. RABONE: They were mining that bar and it's
9 on that side of the river.

10 MR. LYNCH: I just don't know if it was there
11 before.

12 MR. HOGAN: It's kind of jumping into the next
13 topic of conversation, but is -- from what I'm hearing
14 from folks, is that generally what we're interested in
15 is spoils associated with the construction of the
16 Narrows 2 facilities in general, road maintenance
17 associated with the -- and road construction associated
18 with the Narrows 2 facility and then operational
19 erosional effects that may contribute shot-rock into the
20 Narrows 2 vicinity. Is that . . .

21 MR. REEDY: Yeah. That's a good statement of
22 the issues.

23 MR. THOMPSON: How about the Narrows 2
24 full-flow bypass facility? That also goes through the
25 abutment of the dam --

1 MR. HOGAN: Yeah.

2 MR. THOMPSON: -- right?

3 MR. AIKENS: No.

4 MR. WOOSTER: No, not the full-flow bypass.

5 MR. THOMPSON: It doesn't?

6 MR. AIKENS: It extends from the penstock to
7 the bypass.

8 MR. HOGAN: And I'm referring to all
9 construction associated with Narrows 2 facility.

10 MR. THOMPSON: Okay.

11 MR. HOGAN: So that would include the bypass,
12 the powerhouse, roads, things of that nature.

13 MR. THOMPSON: Power tunnel.

14 MR. HOGAN: What I'm trying to eliminate is
15 downstream gold mining, that type of stuff, as far as a
16 scope of concern at this point.

17 MR. THOMPSON: To parse that out, the Corps of
18 Engineers likely has a lot of historical photographs.
19 I'm looking at some in a report. It's a historic
20 report, Hagwood, 1981. It's a report that was done for
21 the Corps, so it's based on the original sources, but I
22 don't have the original sources.

23 But looking at this, it answers some of the
24 questions, I think. It has pre-1939 photographs, for
25 example, which, to answer Curt's question, the report

1 says excavation of the -- for the dam started in the
2 spring months of 1939. The dam was closed in 1940, not
3 1941. So you get a little more specific when you get
4 into the historical sources.

5 And the water first flowed through the outlet
6 that was constructed when the dam was constructed, which
7 is interesting, because common knowledge is there was no
8 outlet or it was built as a debris dam with no outlet,
9 which is false, if you look at the reports.

10 MR. HOGAN: Okay.

11 MR. THOMPSON: So anyway, I suggest we look at
12 some of those photos.

13 I have attempted to get the original sources
14 from the Corps. You've been copied on some of those
15 emails, Ken. I have not had success.

16 The FERC coordinator for the Corps has informed
17 me that I would have to use a FOIA to get that
18 information. I don't think that's correct. But at that
19 point I dropped it.

20 I've even considered trying to track down
21 Mr. Hagwood, because he's probably still alive. He
22 wrote this paper in 1981. He may have the original
23 sources.

24 But the Corps, the debris commission had
25 reports that were quite regular. And this paper --

1 Hagwood 1981 -- is based on all of those original Corps
2 reports and photographs and dates of when construction
3 occurred.

4 It might say more about where the sediment was
5 placed, because there's no question that a great deal of
6 sediment was moved in the construction of Englebright
7 Dam. In fact, this report discusses a figure of --

8 MR. WOOSTER: 50,000.

9 MR. THOMPSON: -- some 50,000 cubic yards.

10 MR. HOGAN: Okay.

11 MR. REEDY: They probably put it on the down
12 side of the dam. I'm just guessing.

13 MR. LYNCH: Probably back then.

14 MR. REEDY: Some of it was not . . .

15 MR. HOGAN: So my next item on the agenda was,
16 you know, nexus to the project. And I think we've kind
17 of established, you know, we're looking at spoils and
18 erosional issues associated with the construction or the
19 operation and maintenance of those facilities.

20 So with that said, I -- you know, I have a
21 question for YCWA: Is there continuing maintenance that
22 YCWA employs, whether it be road maintenance or
23 riprapping or anything like that, where, you know, you
24 are using shot-rock for riprap or any type of thing
25 where it may be made available to the channel or -- not

1 intentionally, but --

2 MR. AIKENS: I'm not aware of anything. I
3 mean, one thing you can look at, Ken, is the photo is
4 pre-1997 flood and post-1997 flood. You can see
5 significant erosion of the channel bank to the point
6 where it eroded into the blacktop of the road going down
7 to Narrows 2. So there was probably some work that
8 restored the road.

9 Other than that, I'm not aware of any
10 maintenance activities that are using, you know,
11 shot-rock.

12 We talked about the tunnel debris from the
13 Narrows 2 bypass tunnel. That would be the only other
14 item.

15 I do know that to help armour the bank what we
16 did is hired a contractor to go down and take the big
17 rock that was down there in the -- on the bank or on the
18 wall of the channel there and place it over the
19 Narrows 2 bypass tunnel rock to help armour that.

20 MR. HOGAN: When you say over . . .

21 MR. AIKENS: So there's -- some of the
22 Narrows 2 tunnel material was used to widen the road,
23 and then placed over the top of that was larger rock,
24 with the concept that that larger rock wouldn't move.
25 It's angular, and it was just taken from the existing

1 rock in the area and then put on the side of the bank to
2 stabilize the bank during high flows.

3 MR. HOGAN: Okay.

4 MR. LYNCH: Ken? I'm sorry. If I could, also,
5 in our application we filed the transportation
6 management plan. As part of that plan we did a study on
7 the condition of all the roads, including this road, and
8 both the banks, and we also have a plan, if there's any
9 problems on how to maintain it, how to monitor it, and
10 that's one of the plans we filed with FERC in our
11 application. The resource plan includes this road.

12 MR. HOGAN: And can you elaborate on the
13 maintenance of that?

14 MR. LYNCH: Yeah. It's periodic maintenance of
15 the culverts if we need to, any site clearing of the
16 surface road, of the drainage structures between the
17 culverts, that sort of thing. So it's to keep the road
18 in proper functioning condition so it doesn't lead to
19 significant erosion. That's the whole point.

20 MR. HOGAN: And it doesn't get into a --

21 MR. LYNCH: Historical --

22 MR. HOGAN: -- source of materials --

23 MR. LYNCH: No.

24 MR. HOGAN: -- for restoration or --

25 MR. LYNCH: No. We treated it as baseline.

1 MR. HOGAN: Okay. And that gets to our other
2 concern is the Commission's baseline policy, which is,
3 you know, existing condition, if there's no new sources
4 of shot-rock, but I think we've identified potential for
5 one, which would be still operational erosion, is
6 there -- does anybody have an understanding of other
7 sources that are project-related that are ongoing other
8 than -- that aren't historical?

9 MR. WOOSTER: A lot of this road cut is still
10 available for erosion, particularly the downstream end
11 of it.

12 MR. THOMPSON: The lower road.

13 MR. WOOSTER: The lower road. Remnants of it
14 are still there.

15 MR. AIKENS: So the question is, is that lower
16 road --

17 MR. HOGAN: But is that project-related?

18 MR. AIKENS: -- a project road or not.

19 MR. RABONE: And are the flows that would
20 move -- that would mobilize that material related to the
21 project, because the project capacity is 3400 cfs, and
22 you have occasionally flows through that channel in
23 excess of 100,000 cfs.

24 MR. WOOSTER: I think the question that's
25 germane is whether that road is project-related. I

1 mean, if you have project rock near the powerhouse there
2 and you don't relieve the flow that put it into the
3 river doesn't make it, you know --

4 MR. LYNCH: If I could, if it's
5 project-related -- we don't use that road. All of our
6 project facilities we described in our application. So
7 whether it was historically used by the project or
8 another party, built by someone --

9 MR. HOGAN: Is it in your project boundary now,
10 Jim?

11 MR. LYNCH: Probably -- I think the project
12 boundary, Ken, only goes down to probably around there,
13 is my guess (indicating). I'd have to look specifically
14 at the map. It does not go down much farther than that.
15 It doesn't include -- it doesn't go down past this bend,
16 for instance. It's upstream of that.

17 And it's really -- the project boundary is set
18 just so we can maintain that outlet, but -- so it's --
19 it's not a project facility that we're proposing. It's
20 a facility that we use or have used at least for the
21 past -- I don't even know when -- 20 years, during the
22 project operation.

23 MS. MULDER: Who owns it?

24 MR. LYNCH: That's probably -- PG&E?
25 U.C. Davis?

1 MR. RABONE: I think that's Army Corps of
2 Engineers.

3 MR. LYNCH: Is that Army Corps of Engineers?

4 MR. RABONE: At the turn -- approximately at
5 the hairpin turn of the upper road there begins
6 U.C. Davis land. It was formerly PG&E land, but it was
7 transferred to the -- U.C. Davis and the Bear-Yuba Land
8 Trust.

9 MR. REEDY: It's not transferred yet. It's
10 stewardship council land that is formerly PG&E land, to
11 be conveyed, and there is LCCMP, whatever the
12 stewardship council's plan for conveyance. It's been
13 finalized, reviewed. It's going through the Bear-Yuba
14 Land Trust to the U.C. -- Sierra Foothill
15 Experimentation Center.

16 And I was out there looking at that boundary,
17 and that's what I get, too. It's right about this area.

18 MR. RABONE: The ownership of the other is
19 U.S. Army Corps of Engineers, and we have an easement on
20 the road.

21 MR. LYNCH: We also have in Exhibit G a
22 detailed map of this area with land ownership and FERC
23 project boundary.

24 MS. MULDER: But you have an easement for the
25 road, so, therefore, you are using it.

1 MR. LYNCH: Existing road. Existing road.

2 MS. MULDER: That road right there.

3 MR. RABONE: No, not that road. Access to the
4 powerhouse.

5 MR. AIKENS: That lower road really doesn't
6 exist anymore.

7 MR. LYNCH: We don't use that.

8 MR. AIKENS: I mean, that's a 1968 picture. If
9 you were to go to, like, the 2005 picture, Gary, you'd
10 see that that road does not exist.

11 MR. REEDY: Yeah. Although somebody made a bit
12 of a trail.

13 MR. AIKENS: The trail going down is the trail
14 that's used to reach the USGS Smartsville gauge
15 that's reached by foot at this point in time.

16 MR. REEDY: Yeah.

17 MR. RABONE: It's a -- it's a pretty narrow
18 trail.

19 MR. HOGAN: Yeah. I've walked that trail.

20 MR. REEDY: Yeah, here's a -- here's a remnant
21 of the road. This is a flat area. It's completely
22 blown away upstream of there.

23 MR. AIKENS: And, Ken, to add to your question,
24 you know, now that I think about that, that trail, there
25 could be some possible maintenance to that trail to

1 improve the safe access to the gauge, and so that could
2 be a project-related activity in the future or a
3 USGS-related activity in the future. I don't know that
4 it's YCWA's, but --

5 MR. LYNCH: We actually -- we actually proposed
6 the trail -- it's like a ten-foot right of way within
7 FERC project boundary -- in order to maintain that gauge
8 with the stewardship council, but until it gets close to
9 the stream, it's pretty far away from the stream. And
10 we would only maintain it for foot access.

11 MR. RABONE: Probably with hand tools.

12 MR. LYNCH: With hand tools. That's all.

13 MR. HOGAN: So in that maintenance there would
14 not be -- you wouldn't anticipate an addition of or
15 utilization of shot-rock --

16 MR. LYNCH: No.

17 MR. HOGAN: -- to do that?

18 MR. LYNCH: No. Absolutely not.

19 MS. MULDER: The road self-decommissioned
20 itself. The bench filled in, all that material.

21 MR. LYNCH: Don't know.

22 MS. MULDER: Looking at this photo here.
23 That's what we call it, Forest Service land, when we --
24 when roads disappear, we just call it
25 self-decommissioning.

1 MR. WOOSTER: I have a photo here, standing on
2 the road. It's not very decommissioned. It's still
3 actively eroding pretty well. I'm standing on that
4 right there.

5 MR. REEDY: Yeah. That's a good one.

6 MS. MULDER: Yeah.

7 MR. WOOSTER: I wouldn't say it's
8 decommissioned.

9 MR. HOGAN: And where are you standing? Down
10 in here somewhere?

11 MR. WOOSTER: No. Up higher, where you can
12 first see it. Yeah. There-ish. No, no, no. I'm on
13 the road.

14 MR. HOGAN: You're on the road?

15 MR. WOOSTER: I'm standing on the remnant.

16 MR. REEDY: This is -- this little line right
17 here is a scarp face. It's hard to see, but --

18 MS. MULDER: But we don't let them sit above a
19 river like that.

20 MR. AIKENS: Just one clarification on the
21 gauge. I'm not sure if the gauge is owned by USGS or
22 PG&E, but it's used for both the operation of PG&E's
23 narrows Y and YCWA's Narrows 2.

24 MR. REEDY: When was it installed? Do you know
25 that, Curt?

1 MR. LYNCH: At least -- at least 1941. At
2 least that far back. I suspect longer than that.

3 MR. REEDY: I'm wondering if -- I'm wondering
4 if -- you know, and again, there could be a variety of
5 reasons when trying to stabilize a slope across material
6 like this that you would have that feature, but it's
7 more likely that somebody required that that be
8 maintained at least at that time. Might have been for
9 the gauge at that time.

10 MR. LYNCH: That was pre-project if it was for
11 that.

12 MR. REEDY: Putting in a new tower down there,
13 I mean, because there is, you know, the concrete
14 abutment, so somebody might have asked.

15 MR. LYNCH: At least 1941.

16 MR. HOGAN: So I'm going to say one thing, just
17 from my observations that I'm looking for someone to
18 challenge it. Okay? So looking at the photo that John
19 has provided, on that road, what I'm struggling with is
20 still a baseline issue and now project nexus as far as
21 this location. Clearly, there's erosional issues. But
22 I suspect that project operations, you know, within
23 the -- within the capacity of the project, 3400 cfs, are
24 not --

25 MR. THOMPSON: Well, that was my point, Ken.

1 And there's a new flood-control outlet proposed on
2 Bullard's with a capacity -- a maximum -- roughly
3 66,000 cfs. So looking at the project capacity of the
4 Narrows 2 plus Narrows 1 I don't think is the range I
5 would look at. A FERC facility on a FERC dam will allow
6 the release of 66,000 cfs.

7 Now, we know that Englebright Dam is operated
8 close to full pool, the reservoir. With that kind of a
9 release, of course, it's not all project-dependent
10 because there's water coming from other projects and
11 down the middle and south forks as well of the Yuba, but
12 would 66,000 cfs plus press up against that bench in the
13 photograph you have?

14 MR. HOGAN: Well, let me --

15 MR. THOMPSON: I think a more accurate --

16 MR. HOGAN: And I see where you're going with
17 that, and I'm going to -- I'll counter that, just by
18 that release, if that facility was not available at
19 New Bullard's Bar, wouldn't it overtop Bullard's Bar and
20 you'd still have that release naturally?

21 MR. THOMPSON: Possibly.

22 MR. HOGAN: So I'm looking at it from what is
23 within the applicant's control.

24 MR. THOMPSON: That's what I gave you, the --

25 MR. AIKENS: So, Ken, I can provide some 1997

1 figures. This is from memory. I think they're pretty
2 accurate. What I recall is the north Yuba flowed at
3 about 113,000 cubic feet per second maximum in the 1997
4 flood event; we had a maximum release of 55,000 out of
5 the New Bullard's Bar spillway.

6 And typically, when you look at -- well, in the
7 1997 event, if it's 150,000 coming out of -- past
8 Englebright, you know, you're looking at two-thirds of
9 that was flow from, you know, the other part of the
10 watershed, primarily the middle Yuba and the south Yuba
11 that would make up the flow, that peak flow of about
12 150,000 at Englebright.

13 MR. HOGAN: Without Bullard's Bar?

14 MR. AIKENS: New Bullard's Bar, 113 coming in,
15 max, 55 going out. And then on the -- about 150,000
16 going over Englebright. So the other sources of water
17 were the flows out of the middle and south Yuba. So
18 approximately two-thirds of the peak flow was coming out
19 of the south Yuba and middle Yuba.

20 MR. HOGAN: And your operations at
21 New Bullard's is -- you would want to capture as much of
22 that as you can and maintain integrity of the reservoir;
23 right? So you're --

24 MR. AIKENS: We had -- in 1997, there was more
25 water than we needed, and so it was a matter of metering

1 it out for flood protection purposes for downstream.

2 MR. THOMPSON: There's no question that the
3 flood flows tear into that. There's absolutely no
4 question about that.

5 MR. LYNCH: Can I also add? In our channel
6 morphology tech memo, the modeling that was done, the
7 2D modeling we did at different flow ranges, and we
8 actually have maps at inundation areas at different
9 flows that show what would be inundated in this reach at
10 various flows.

11 MR. HOGAN: Right.

12 MR. LYNCH: I think they start as low as
13 probably around 800 cfs, which I think we said
14 calculate 880 as the base flow and they go up well over
15 150, as I recall. So that can be -- we already have
16 information that we looked at to determine that.

17 MR. HOGAN: Right now I'm trying to get to
18 project nexus, you know. And Larry brought up an
19 interesting point about release of the New Bullard's Bar
20 that could overtop Englebright to provide higher flows
21 downstream. But I need to understand those operations
22 at New Bullard's Bar and is it discretionary or not
23 or . . .

24 MR. AIKENS: No. Those flows were to be
25 consistent with the Corps' Section 7 flood control

1 manual for New Bullard's Bar. I think it's very safe to
2 say but for New Bullard's Bar the flows over Englebright
3 would have been significantly higher.

4 MR. HOGAN: Do you have a thought? Or do you
5 agree?

6 MR. THOMPSON: Well, I agree. I mean, the
7 unimpaired runoff is about half out of the north Yuba
8 and the other half out of the south and middle combined,
9 so no argument there.

10 MR. HOGAN: Okay.

11 MR. THOMPSON: Nevertheless, I just want to
12 point out, we do have another request for the effects of
13 the flood-control outlet that's pending, and that's why
14 we asked for it, partly because of what happens here and
15 what happens to flood plain inundation downstream, not
16 necessarily releasing 66,000, but what the range is and
17 the duration of the inundation, what the capabilities of
18 that new structure will be. We don't see those
19 evaluated at this time.

20 MR. LYNCH: If I could? In our application we
21 included that information. Also, the modeling we did as
22 our proposed project included operation at that lower
23 flood-control outlet as proposed by the applicant.
24 That's in the application now.

25 MR. THOMPSON: So I guess you can look at that.

1 MR. HOGAN: And I know that we have
2 addressed -- or we're working on addressing that
3 request.

4 MR. THOMPSON: Okay.

5 MS. LAWSON: This is Beth Lawson.

6 To be clear, the modeling that includes the new
7 flood-control outlet just always has the ability to have
8 it open, so there's no controlling it. There's no
9 thoughtful process about doing pre-release other than
10 fully open the valve, in the modeling.

11 MR. LYNCH: That's how we proposed it in the
12 application, within the constraints of modeling.
13 Absolutely.

14 MS. MULDER: I have a question. I'm a little
15 confused in how -- where this discussion is going --

16 MR. HOGAN: Okay.

17 MS. MULDER: -- because you're trying to
18 determine whether to approve of the study; right? We're
19 not negotiating terms of a license hearing?

20 MR. HOGAN: That's correct.

21 MS. MULDER: And so I'm having a hard time kind
22 of following where you're leading us.

23 MR. HOGAN: Well, I'm trying to figure out --
24 you know, I'm trying to address the study criteria in my
25 own head, can we sit down at this table and address that

1 criteria or not. And part of it is nexus to the project
2 operations. And so, as these issues come up, the
3 outlet -- the new proposed outlet at New Bullard's Bar,
4 we're kind of, okay, talk about that. And what I heard
5 is, well, any way you look at it, New Bullard's Bar
6 attenuates a natural flood event with or without that
7 outlet, which would create less of an impact on the --
8 on this road that's a current active erosion, because I
9 have a baseline issue, and I have to look at, okay, the
10 road exists and it's currently eroding, but what are the
11 causes of that erosion? Is it project-related or is it
12 just natural flow-related?

13 MR. REEDY: Can we -- I know we're talking
14 about nexus, but it feels like we skipped over the
15 baseline pretty quickly. And maybe that's because you
16 and others here are so familiar with the baseline
17 definition of FERC and how that has --

18 MR. HOGAN: Okay.

19 MR. REEDY: -- promulgated through these types
20 of proceedings. But I'd certainly benefit from some
21 clarification on that baseline.

22 MR. AIKENS: And I was just going to say, just
23 before we go there, one clarification. Larry mentioned
24 66,000 cubic feet per second for the new outlet. In the
25 section that Jim talked about, you'll find the exact

1 figures, but I believe the new outlet is 40,000 cubic
2 feet per second.

3 MR. HOGAN: Okay.

4 MR. REEDY: Yeah. And I understand the
5 importance of nexus when it comes to the study plan
6 criteria, but again, the -- how baseline definitions may
7 apply to the circumstance I think is very important and
8 I don't want to skip over that.

9 And, you know, let me just ask this question.
10 If, you know, material is put in place during project
11 construction, at least in part to provide an access
12 road, and then that material is intermittently eroded
13 into the channel during the term of the license, are you
14 suggesting that the existence and thus erosion below the
15 access road is somehow part of the baseline of the
16 project constructed and therefore not associated with
17 the operation?

18 MR. HOGAN: No. That will be a continuing
19 impact that we would be looking at.

20 MR. REEDY: Oh.

21 MR. HOGAN: But -- and that's why I was asking,
22 you know, is there also a maintenance component where
23 new material -- shot-rock would be deployed. But if we
24 were talking about spoils piles that were already there,
25 not associated with road or anything like that, that

1 natural flood events were eroding, then that probably
2 would fall under baseline, where it's not project
3 operations that are making that spoil pile go away; it's
4 that these high flows, high flood events that are
5 eroding it and not -- nothing that the applicant's doing
6 on in the future.

7 MR. REEDY: Okay. So what you just described
8 was, like, okay, covered under baseline, and what I
9 described you said no, it would not be covered. But it
10 sounds like the difference was really just about whether
11 the spoil pile or slope there, however you want to
12 describe it, was part of the access road --

13 MR. HOGAN: Is it being used.

14 MR. REEDY: -- versus the erosion or whether it
15 was somehow just a spoil pile sitting there since the
16 construction of the project.

17 MR. HOGAN: Yeah. And I'll be honest with you,
18 some of it I'm going to have to take back to the
19 Commission and we'll debate internally as well. So I'm
20 trying to get information that will help us.

21 I don't expect to leave this meeting today and
22 say, okay, this is what we're going to do, you know, but
23 I'm going to -- I have to tease out the information that
24 we need so we can make those calls.

25 So, you know, one of my earlier questions was,

1 are there ongoing sources; is YCWA actively using this
2 material to armour the banks or do things, you know,
3 whether it be every five or ten years or after a flood
4 event or something like that. And I heard that, you
5 know, maybe.

6 MR. AIKENS: Normal -- normal, after a major
7 flood event, I mean, we have to approach that to say
8 what's the most appropriate way to do this, go through
9 all the permitting process. So I think that's an
10 unknown question of how that would be handled in the
11 future.

12 MR. HOGAN: Okay. And that would have its own
13 proceeding before the Commission, and --

14 MR. AIKENS: Yeah.

15 MR. HOGAN: -- if shot-rock were not to be
16 used, we could say that at that time. But -- so yeah,
17 the baseline issue is -- you know, it's -- if it's --
18 like I said, if it was a spoils pile and it's material
19 that's already there and then project operations aren't
20 mobilizing it, it's a natural event that's mobilizing
21 it, probably doesn't fall under the baseline concern.

22 But if there are project operations -- for
23 example, we heard about the operation of the full bypass
24 eroding the far bank, contributing to -- you know, this
25 is where I'd like to bring the discussion to next --

1 contributing to erosion of that bank and contributing to
2 a source of shot-rock, then that's ongoing and that
3 wouldn't be within a baseline condition.

4 MR. REEDY: So, this comment that -- yeah, I
5 get that. Thank you for that clarification. You know,
6 we don't know what this area looked like when they
7 turned the water on in, what was it, 1971, and I
8 don't -- I mean, to me that alone is a gaping gap in
9 being able to determine nexus in terms of, okay, so if
10 that all gets deemed spoil piles, sorry, instead of
11 somehow part of the road system -- and I'm sorry I don't
12 have the photograph -- I knew I had one somewhere of
13 what that looks like in recent times, because -- with
14 all the gullying and everything, and it's just like,
15 wow, you know, no one's quantified the volume of
16 shot-rock in the channel, but it's -- you know, all this
17 material, I mean, there's now like a bedrock flood plain
18 of the larger stuff only down here. You know, it's
19 just -- it's just a lot of material that came out here.
20 So if that gets deemed as not -- as more spoil piles and
21 not part of the road, it's not for me to determine,
22 but . . .

23 MR. HOGAN: For baseline issues, from what I'm
24 hearing is that this road no longer serves a project
25 purpose. Okay? It's a path now down to a USGS gauge.

1 MR. AIKENS: Actually, it's a path from the
2 hairpin turn of the road going on down.

3 MR. HOGAN: So regarding that road and the
4 spoils, if I had to make a call -- which I'm not at this
5 meeting -- I would be really questioning -- the only
6 thing that I would be looking at is, okay, these spoils
7 existed, it was a road, it's not a project road anymore,
8 it's not part of the project; project operations, do
9 they or do they not mobilize that material. And that's
10 how I would be making a call on that aspect.

11 MS. MULDER: You wouldn't look at that entire
12 little road system there? Because they are using the
13 higher road.

14 MR. HOGAN: I would look at -- I would look
15 at --

16 MR. REEDY: Gravels the road.

17 MR. HOGAN: -- the upper road.

18 MS. MULDER: Yeah. So how that whole thing is
19 constructed and how the upper road is actually held up
20 by the material below. I mean, I don't know how they're
21 connected. That's what I would want to know is --

22 MR. HOGAN: And, well, what I'm seeing, and
23 from the photo that John had -- again, I'm here -- I'm
24 on a fact-finding mission -- is that it's this lower
25 road that is --

1 MS. MULDER: The problem.

2 MR. HOGAN: -- what's eroding. There's still a
3 bench here. The upper road hasn't -- I'm assuming that
4 this is a bench. It hasn't spilled over, you know.

5 MS. MULDER: Yet.

6 MR. HOGAN: Yeah.

7 MS. MULDER: Yet. In my opinion.

8 MR. HOGAN: In the event that this does erode
9 and it cuts into this bank, this is in the project. And
10 the maintenance on that is -- is required. And that
11 would be a future --

12 MS. MULDER: Issue.

13 MR. HOGAN: -- proceeding. And how to do that
14 maintenance would be before the Commission on a public
15 proceeding, so . . .

16 MR. WOOSTER: Real quick, on the baseline
17 thing, is the construction of the full bypass, the
18 mobilization of that rock, and also the new tunnel, is
19 that a different baseline issue than the original
20 construction of the project?

21 MR. HOGAN: No. It's baseline current
22 conditions. So we're looking at, okay, the material's
23 there; how is project operations affecting that material
24 today. The fact that it's there, it's already existing.

25 Now, if there was -- if there was constant

1 material coming out of the bypass, let's say, because
2 it's eroding from inside the tunnel, that would be --
3 that would be a new source or supply.

4 So that's what I'm trying to get at, is there a
5 new source. And I've heard, potentially, for one, can
6 anybody -- which is the erosion on the opposite bank
7 from the operation of the full bypass -- does anybody
8 know that that's occurring that can say that or . . .

9 MR. WOOSTER: The pool, it's part of what we
10 want to study, but the -- I don't know if you want to
11 call it the isolation pool, I think, where the fish have
12 gotten stuck a couple times, that feature seems to
13 change with time. It seems to come at times, disappear
14 at times, and then grow again, if you're looking at air
15 photos.

16 And whether that is caused by erosion of the
17 opposite bank or kind of pushing of substrate that's
18 either on the bed already or coming around from
19 Englebright is not clear. But that feature doesn't seem
20 static, if you look through air photos.

21 MR. HOGAN: In the DHAC letter, in your
22 response, are you looking at the source of that material
23 for the development of that pool? Is that part of the
24 requirement?

25 MR. LYNCH: No. Where we're proposing to put

1 large material into where the isolation pool is now, in
2 order to -- so it doesn't continue to erode, we're also
3 looking at grading the bar so that it doesn't -- other
4 isolation pools don't create when we do the initial work
5 there. And that's what we're hoping to get all the
6 permits to accomplish as soon as we can. We didn't look
7 at the source of the material -- although, Curt, I'm not
8 sure if you have.

9 MR. AIKENS: So here's my understanding is,
10 before the Narrows 2 bypass was selected, there was what
11 we've defined as shot-rock in that area where the
12 Narrows 2 bypass outflow would go.

13 When the Narrows 2 bypass was started up and
14 tested, there was -- the force of the bypass flow moved
15 that rock, you know, downstream in the direction of the
16 flow of the bypass.

17 And my sense is that the bypass flow doesn't
18 hit very high up against the other bank, so my sense is
19 that's probably not a source of that.

20 In the construction of the bypass -- I checked
21 with our project manager, consulting engineer -- he said
22 that all the tunnel muck that was created in building
23 that end of the tunnel and the bypass was lifted out of
24 the area. So I'm fairly certain that none of the rock
25 that's forming that isolation pool was part of the

1 construction of the bypass. I believe it was all
2 existing material. Probably a good source of it was the
3 1997 flood and the water flowing over the abutments of
4 the Narrows 2 -- or of the Englebright Dam and bringing
5 that large rock down in the area and then the bypass
6 moved it over across the channel and it helped form that
7 isolation pool.

8 MR. LYNCH: If I could, Ken? Also, the DHAC
9 letter says that once we do the work for that isolation
10 pool, we're going to monitor it and report if the -- if
11 the restoration is effective and propose anything if
12 it's not working. That's part of the DHAC letter.

13 MR. AIKENS: I've got a suggestion. Your
14 stenographer's been going for quite a while. She might
15 appreciate a break. And I think a few of us.

16 MR. HOGAN: Okay. Why don't we take a break
17 and come back to continuing project operations and
18 nexus. Fifteen minutes? 11:15.

19 (Recess taken, 11:03 to 11:18 a.m.)

20 MR. HOGAN: Before the break we were talking
21 about project operational contributions to -- that may
22 contribute to shot-rock, particularly the operations of
23 the -- possible operations of the full bypass and
24 erosion of the far bank.

25 Jim had mentioned that as part of the

1 compliance directive that there is a monitoring program
2 required for the pool on the opposite side, the pool
3 that's contributing to a possible stranding issue with
4 the salmonids there.

5 Is there a possibility in that monitoring plan
6 that you're developing to monitor for erosional sources
7 on that far bank?

8 MR. LYNCH: I think we -- we weren't going to
9 plan to include that, but we -- as we're looking at that
10 gravel bar, if we saw changes in it, that's one of the
11 things we're supposed to document. So if there was
12 erosion occurring and contributing to that gravel bar,
13 we'd have to note that as part of the reporting to FERC.

14 MR. HOGAN: Okay.

15 MR. LYNCH: Also, I would add that that plan
16 also requires that we do other channel sediment
17 monitoring down to Smartsville gauge.

18 MR. HOGAN: Right. For other potential
19 stranding areas and changes in channel --

20 MR. LYNCH: Isolation bars as well as stranding
21 on the bank.

22 MR. HOGAN: Right. So -- before the break it
23 sounded like folks thought that the -- a possible source
24 of shot-rock was that far bank eroding during operations
25 of the full bypass, but nobody -- I didn't hear anybody

1 say, yes, we know it's actively eroding every time they
2 operate it or something of that nature. Is that a fair
3 characterization? But it is a concern or is it not?

4 MR. WOOSTER: It's a concern.

5 MR. HOGAN: Okay.

6 MR. WOOSTER: But no, I haven't stood there
7 during -- when it's cranking 3,000 and seen it peel
8 rocks off the site. I mean, is that the kind of
9 evidence you're looking for? I mean, that's kind of why
10 we're asking for the study.

11 MR. HOGAN: Well, no, I get that. So yes, I
12 mean, if you knew that, that would be great to know.

13 MR. WOOSTER: And I would have put it in the
14 study request, here's what I know.

15 MR. HOGAN: So with the monitoring requirement
16 that DHAC is already monitoring, if that component is
17 captured, and it seems like it's a legitimate component
18 because you've got to monitor that gravel bar, I think
19 basically the sources of material that are coming there,
20 does that address that aspect of the study request as
21 far as new sources, considering the other topics that
22 we've discussed today already?

23 MR. WOOSTER: They are monitoring erosion --
24 you're saying if they monitor erosion on the opposite
25 bank?

1 MR. HOGAN: Yeah, during operation of the --

2 MR. WOOSTER: Yeah.

3 MR. HOGAN: And that monitoring my
4 understanding is to go until a new license is issued.

5 MR. LYNCH: Or until otherwise terminated by
6 FERC. But just to be clear, so what I'm hearing is,
7 because we're in the process of doing this, so when the
8 full bypass is opened up or it hits that bank across the
9 way, which is kind of vertical -- I call it bedrock
10 wall, but it might be something else -- I'm not a
11 geologist -- so what we're looking at is, when we're
12 hitting that, is that causing erosion on that wall.
13 It's a vertical wall right now. That's kind of what
14 you're looking for, John?

15 MR. WOOSTER: I'm kind of losing the train of
16 thought here. But would that determine if that's a
17 source? It sure sounds like it.

18 MR. LYNCH: Well, I'm not objecting; I'm just
19 trying to understand. That's the area we're looking at.

20 MR. HOGAN: Yeah. And I -- Jim, you said full
21 operation.

22 MR. LYNCH: Well, sure.

23 MR. HOGAN: I'm just trying to tease out
24 information for the development of your plan.

25 MR. LYNCH: Sure.

1 MR. HOGAN: I'm not making any decisions
2 here --

3 MR. LYNCH: I understand.

4 MR. HOGAN: -- today, but it sounds like
5 there's a question there. It sounds like it's a
6 feasible question.

7 MR. LYNCH: Sure, mm-hmm.

8 MR. HOGAN: You're already going to be doing
9 the monitoring of that, so it may be appropriate to
10 incorporate that into the plan. And I can certainly
11 talk to DHAC. But it may be any operation. Maybe
12 there's undercutting even at a lower -- not full
13 operation.

14 MR. LYNCH: Sure. I understand what you're
15 saying. Yes.

16 MR. HOGAN: So looking at what is the
17 contributing source of that gravel bar across from the
18 full bypass.

19 MS. MULDER: So -- I just want to ask a -- sort
20 of a process question. If this monitoring -- you're
21 calling it monitoring -- that's going to be done
22 replaces a study request, then I guess it would have to
23 be a question of how the data would be made available
24 for the relicensing, how it would become usable for
25 actually writing terms and conditions for the new

1 license and become a part of the relicensing process
2 versus just in ongoing operations. You know, I'm a
3 little confused on how that would move forward.

4 MR. HOGAN: Sure. There is a timing issue.
5 Sure. Right now studies are delayed. In the next year
6 anyway, we've got -- so we'll have a year of monitoring
7 in place.

8 MR. LYNCH: I think the -- that telemetry study
9 is due to be filed with FERC in April of 2016.

10 MR. HOGAN: Okay. So almost two -- let's say a
11 year by the time the plan's approved and everything.

12 MR. LYNCH: Yeah.

13 MR. HOGAN: That information -- but that
14 monitoring is ongoing and the reports that are going to
15 be required by the Commission of that monitoring will be
16 getting filed periodically. I don't know if it's going
17 to be an annual thing or -- that's going to be defined
18 by the plan and stakeholder's input to that plan. So
19 bottom line is that information will be available in the
20 Commission's record so when we -- you know, for the
21 licensing process. And I know what you're saying, how
22 does it affect our writing of terms and conditions and
23 timing that way, and . . .

24 MS. MULDER: And having that in a format that's
25 usable by agencies who are writing conditions as well.

1 MR. HOGAN: Yeah. Yeah. You know, in response
2 to the REA notice and things of that nature. I see what
3 you're saying. I think at that point we'll already have
4 a couple years of data, and I'd have to sit down with a
5 calendar and look at it; but as new data becomes
6 available, certainly Commission staff would look at it.
7 I don't know how it opens up the door for, say,
8 4(e) conditions or something of that nature.

9 Maybe we can do something internally with that,
10 too. I'll take a look, you know, at the DHAC plan and
11 when it comes in and see if there's, you know, how many
12 years of data we would get before we anticipate doing an
13 REA and look at, you know, requiring a special report on
14 that.

15 But that's a legitimate question and concern.
16 So I'll bring that back and say, okay, this was kind of
17 the approach, you know, DHAC's handling this issue,
18 there's a monitoring requirement, and folks want to know
19 how and when -- they're concerned about the delivery of
20 that information for licensing in terms and conditions.
21 Is that fair?

22 MS. MULDER: Yeah. I mean, if that's the
23 decision. I'm just asking a process question. I don't
24 know if it's still going to be determined that that
25 would be sufficient and replace a study that was

1 requested, but if FERC determines that that's -- makes
2 that determination, then part of that decision has to
3 also include that, how it can become --

4 MR. HOGAN: Available.

5 MS. MULDER: -- usable as -- basically as a
6 study, because I don't see why you want to have
7 redundant studies.

8 MR. HOGAN: But that monitoring is a study.
9 You know, all we're doing is not duplicating effort.

10 MS. MULDER: Right. But I just want to make
11 sure it's available for people to use. That's all.

12 MR. HOGAN: But now what you're raising is --
13 well, there's two components here: The long-term that
14 DHAC has required and there's also the near-term that
15 needs to be, you know, at least the -- an interim report
16 somewhere along the lines that would inform terms and
17 conditions in the relicensing.

18 And actually, that can be built into the plan
19 when you develop. You know, this is the appropriate
20 time to provide, you know, all the data to date on that
21 monitoring. Does that make sense?

22 MS. MULDER: (Nodding head.)

23 MR. RABONE: My review of the Foothill Water
24 Network's comments and the NMFS new study request,
25 basically we're not asking for a whole lot of new data.

1 We're asking for a review of historical aerial
2 photographs and examination of the rock in the reach
3 from a site visit.

4 MR. HOGAN: Yeah.

5 MR. RABONE: There's not a whole lot of new
6 data. And this stuff that we're talking about is, would
7 it be considered resistant to erosion, almost by
8 definition, the size of the material. Large, angular
9 rock is sometimes referred to as riprap, which is used
10 to prevent erosion in channels, so . . .

11 MR. REEDY: If I could add on?

12 MR. HOGAN: No, and Geoff, I think what we've
13 narrowed it down to is we're looking at large, angular
14 rock that's resistant to erosion that may be eroding as
15 a result of the project operation.

16 MR. RABONE: Right.

17 MR. HOGAN: And that's, you know, in this
18 particular topic of conversation, the bank across from
19 the full bypass and during its operation, so . . .

20 MR. RABONE: Right.

21 MR. THOMPSON: Well, I would just say
22 there's -- Ken, you seem to be focusing on the erosion
23 of this rock, but there's some interaction of the
24 project with the habitat that's currently there, for
25 example, for holding of spring-run salmon downstream of

1 Englebright Dam and downstream of Narrows 2 powerhouse
2 and also for spawning, on shot-rock, bedrock.

3 MR. HOGAN: And I'm not there yet.

4 MR. THOMPSON: Okay. Good.

5 MR. HOGAN: Okay? Right now I'm just getting
6 at source and nexus. Okay?

7 MR. THOMPSON: Okay. Well, that's nexus. I'm
8 trying to get at that, too.

9 MR. HOGAN: Yeah. And I understand -- you
10 know, kind of next topic of conversation is shot-rock
11 within the channel that's already existing. Okay?
12 So -- but right now I just want to understand -- part --
13 one of the study requests was understanding the sources
14 of it and the volume of that source and future sources
15 of it, and I needed to get to, well, what's the project
16 nexus for those sources before we can talk about whether
17 or not the applicant's responsible for collecting that
18 information.

19 MR. THOMPSON: Okay. But I'm not hearing you
20 mention the flood-control outlet that I mentioned.

21 MR. HOGAN: I heard you mention that.

22 MR. THOMPSON: Okay. Even if the release is
23 40,000 cfs.

24 MR. HOGAN: What I also heard you say was that
25 without the project or those -- the attenuation of those

1 releases, the effect will be worse under a natural
2 condition.

3 MR. THOMPSON: No, I think I said that it would
4 also -- floods would certainly overwhelm the project,
5 and do, and would cause erosion, but that doesn't mean
6 that the erosion would not cause -- be caused by a
7 release from a FERC facility, like the flood-control
8 outlet. And I think Jim Lynch said we have transect
9 information --

10 MR. HOGAN: Yeah.

11 MR. THOMPSON: -- in Englebright Dam reach, so
12 we have stage discharge relationships, so I'm suggesting
13 that you might want to take a look at those and look at
14 what flows might get up into the shot-rock and cause new
15 sources if the flood-control outlet were operated within
16 its range.

17 MR. LYNCH: If I could just clarify? I didn't
18 say that. We have the model, the 2D model that was used
19 to model that reach as well as all the reaches, I think,
20 except the narrows reach. And that 2D model doesn't
21 have transects, per se, with it, because it's a
22 2D model. But as part of that 2D model, the study plans
23 require that we generate maps and information regarding
24 different flows and how elevation -- what would be
25 wetted.

1 We did that as part of the -- I think that's
2 all in geomorphology -- as well as we also reported what
3 flows would be required to move different size material,
4 primarily in this reach, boulders and cobble, what kind
5 of flows we need. That's all in there as well.

6 And the entry flow study really used that
7 2D model as well as the -- we did the determination of
8 the particle sizes, and that's in the instream flow
9 study below Englebright.

10 So we have -- all that information is available
11 to do exactly what you said. I just wanted to clarify.

12 MR. THOMPSON: It's 2D model, not transects.

13 MR. HOGAN: Would that model encompass the bank
14 erosion that's -- I don't know if you saw the photo
15 that --

16 MR. LYNCH: I can't tell you for sure. I think
17 we went up as high as -- John, do you recall? I think
18 it was like 150, 160.

19 MR. WOOSTER: The flow?

20 MR. LYNCH: Yeah. What we modeled up to. I
21 forget the top level. It was above a hundred.

22 MR. WOOSTER: Yeah. Like 110, 115.

23 MR. LYNCH: But, I mean, if it covers that, we
24 have maps there in the tech memo right now that would
25 show that. I know we also have the 34 and 5,000. I

1 think it started -- John, do you recall? I think it
2 started like down around 2,000, 3,000, and then went up
3 in increments. So we have that information -- habitat
4 information available for everybody to take a look at.

5 So we can -- we can map the highest -- we can
6 look at the highest inundation and see where it comes
7 to.

8 MR. HOGAN: So what's the maximum hydraulic
9 control YCWA has, including Englebright? Or not
10 Englebright. New Bullard's Bar.

11 MR. LYNCH: During a flood? Or when we're in a
12 flood control?

13 MR. HOGAN: If you wanted to release, at your
14 control, the maximum amount of water, what is that cfs?
15 At any time.

16 MS. LAWSON: At Englebright or New Bullard's?

17 MR. HOGAN: New Bullard's. I'm just trying to
18 get at Larry's . . .

19 MR. AIKENS: It would be the full spillway
20 capacity.

21 MR. LYNCH: Yeah, the full spillway capacity.

22 MR. AIKENS: 160,000, 180, somewhere in there.

23 MR. HOGAN: But that's outside your control.

24 MR. AIKENS: That would -- I mean, to get there
25 is -- we're going to be in a mandatory Section 7

1 flood-control operation to get that high.

2 MR. HOGAN: Okay. So --

3 MR. AIKENS: Regulated by the Corps.

4 MR. HOGAN: Otherwise, other than the spillway,
5 it's this new 40,000 cfs outlet or is there --

6 MS. LAWSON: To be clear, it's -- 66,000 is the
7 number that's in the FLA. The top of the curve is
8 66,000.

9 MR. LYNCH: Okay.

10 MR. HOGAN: So 66,000.

11 MR. LYNCH: Which we would propose only to use
12 going into a flood.

13 MR. HOGAN: But that's the -- so other than --
14 I understand that that's the proposal, but if there
15 was -- you would have discretionary use of that, if you
16 wanted to, for other reasons, if it was allowed in the
17 license. I don't know. I don't know why, but I'm
18 just . . .

19 MR. LYNCH: I don't know why, either.

20 MS. MULDER: Emergency repair work.

21 MS. LAWSON: Can I show a graph quickly? I
22 just wanted to show the new facility.

23 MR. HOGAN: But what I'm getting at is the
24 model captures . . .

25 MR. LYNCH: Our proposed operation. We did not

1 model that we're opening the full thing to put flow down
2 there, because that's not what we're proposing.

3 MS. MULDER: Also, we don't know what flow
4 would actually touch that site that we're looking at.
5 We don't have a cross-section.

6 MR. HOGAN: And that was my second question,
7 regarding that lower road that's no longer a project
8 facility and where the erosion is occurring.

9 MR. AIKENS: So that picture, just for clarity,
10 is downstream of Narrows 2.

11 MR. HOGAN: Right. So I'm just wondering if we
12 know at this bench what flow is needed to hit that
13 bench.

14 MR. LYNCH: Well, we -- probably that 2D model
15 might go up that high. I would say also on that
16 flood-control outlet that what we also have to know is
17 what's coming down the middle Yuba and the south Yuba
18 River and where Englebright is to say how that release
19 in New Bullard's Bar would affect . . .

20 MR. HOGAN: You're jumping way ahead of me.
21 I'm just wondering if we know what the cfs is, what the
22 flow is that would actually inundate to create an
23 erosional issue at this bench.

24 MR. LYNCH: Probably.

25 MR. HOGAN: Probably. Okay.

1 MR. LYNCH: I'd have to take a look at it and
2 the maps.

3 MR. HOGAN: You're jumping to nexus, the next
4 step.

5 MR. WOOSTER: I'm a little confused why you're
6 setting that as the threshold for something going on. I
7 mean, in the whole area that used to have the road fill
8 there, you know, there's large, angular rock all the way
9 down to the water's edge --

10 MR. HOGAN: Mm-hmm.

11 MR. WOOSTER: -- that didn't get picked up at
12 lower flows. I'm missing the point why it seems to be
13 we hit that road cut, then you have -- see something,
14 whereas, as you move up to that, there's not other --

15 MR. HOGAN: No, I'm just -- I'm just wondering
16 if -- I'm okay with moving up to it. I'm wondering --
17 it's two components: 1, what is the capacity of the
18 project to move it; and 2, does the -- would the model
19 actually give us data that high. That's -- that was my
20 question is, can we get the data that far up the bank.
21 And that's determined by how much flow the model is
22 designed for and what the stage is on that bank.

23 MR. WOOSTER: Sure.

24 MR. HOGAN: As far as the material and
25 movement, the cfs component is the New Bullard's Bar

1 proposed discharge and what's within the applicant's
2 control. That's the nexus to the project.

3 If we find that -- and this is my thought
4 process at this point in time -- and you guys can
5 correct my thought process -- that the flow to get to an
6 erosional point -- the project capacity might be the
7 extent of the -- what we look at.

8 MR. WOOSTER: Mm-hmm.

9 MR. HOGAN: Okay? Anything above that, outside
10 of the project's control, how do I justify even looking
11 at that?

12 MR. WOOSTER: Well, my point is, there's
13 shot-rock near Narrows 2 there that's able to be
14 entrained below, from right down to the river's edge,
15 that can get ripped off that bar right there and plunked
16 down onto spawning gravel rehabilitation projects
17 downstream.

18 MR. HOGAN: Yeah. And looking at that as a
19 flow that's from project capacity down may be
20 appropriate, but above project capacity -- and I wasn't
21 even considering New Bullard's Bar until Larry mentioned
22 it -- you know, looking above that capacity is probably
23 where we would have to draw the line.

24 And I'm not even sure if, you know, when we --
25 when I take the issue back to FERC, if looking -- you

1 know, if we consider New Bullard's Bar, and we'll have
2 to consider the operations and the intent of the
3 operations of that facility, if it's purely past flood
4 flows and there's no other component to it, that
5 introduces another layer of uncertainty.

6 So I'm not here to give you guys this is what
7 we're going to do; I'm here to get information as to
8 what I need to be looking at to make a decision.

9 Geoff?

10 MR. RABONE: This is Geoff Rabone.

11 And remember that that north Yuba and New
12 Bullard's Bar is not operating in isolation. At the
13 point where Curt gets to start opening that flood --
14 release the flood gates on New Bullard's Bar, the middle
15 and the south Yuba rivers are already probably flowing
16 pretty hard. And we're already in the -- in the area
17 where they're moving things around, whether we do
18 anything or not.

19 MR. HOGAN: And so you're making the condition
20 worse. Sorry.

21 MR. RABONE: We're reducing the flows on the
22 north while the middle and Yuba are continuing unabated.

23 MR. HOGAN: Okay. So it's more complicated.

24 MR. RABONE: Yeah.

25 MR. LYNCH: John, your recollection is correct.

1 It's 110,400. 110,400 was the top model that we did on
2 the 2D model.

3 MR. HOGAN: So forgive me, because I haven't
4 even been looking at the Bullard's Bar outlet or that
5 part of the application, but is there a detailed
6 description on how that would operate in relation to
7 inflows and when it's going to be operated?

8 MR. LYNCH: Yes.

9 MR. HOGAN: Okay. And that takes into
10 consideration flows in the middle and south Yuba?

11 MR. LYNCH: It's keyed towards flood
12 operations, yes.

13 MR. HOGAN: So, I mean, would we know, like,
14 what the flows at Englebright have to be before you
15 start to open up New Bullard's Bar?

16 MR. LYNCH: I don't believe it's tied to the
17 flows at Englebright.

18 MR. HOGAN: Or where is the decision point?
19 Where are the decision points made?

20 MR. LYNCH: New Bullard's Bar.

21 MR. HOGAN: New Bullard's Bar.

22 MR. LYNCH: (Nodding head.)

23 MR. AIKENS: So the overall objective is to
24 reduce the peak flows downstream, and so the
25 flood-control process for the Yuba and Feather rivers,

1 they're connected because there's a common control
2 point, the 300,000 cubic feet per second on the Feather
3 below the Yuba.

4 MR. HOGAN: Right.

5 MR. AIKENS: And so it would be a, you know,
6 coordinated effort that we would be directed, authorized
7 by the Corps to move ahead with that.

8 MR. HOGAN: So it's going to open in advance of
9 the Feather; right?

10 MR. AIKENS: It depends.

11 MR. HOGAN: Okay.

12 MR. AIKENS: You know, it's a complicated
13 question. There's no simple answer to it.

14 MR. HOGAN: Okay.

15 MS. LAWSON: And I just wanted to show this
16 graph. It's a little bit confusing because this shows
17 two different things. This shows what's happening when
18 a big flood flow event comes.

19 And this is a graph. This red line shows a
20 spill at New Bullard's. That's a 50,000 cfs event.

21 So I just wanted to show here where the zone of
22 the new spill -- or the existing spillway is and then
23 the zone of the future flood-control outlet.

24 And so this shows you the elevation on the
25 reservoir that's accessible to the new -- to the old

1 spillway and to the new outlet.

2 And so what I wanted to show here is when
3 you're coming up on a big storm event, if you know
4 that's coming, we haven't talked -- we have not talked
5 through this detail in relicensing, but hypothetically,
6 you know, this is two weeks in advance, you can see that
7 a big spill event's coming, you can see that you're
8 getting up near the top of the reservoir, and
9 hypothetically do a pre-release so that you can reduce
10 the spills in the New Bullard's Bar reach, which you
11 would pre-release a week or so in advance. But we
12 haven't talked through all those details. And I'm not
13 sure how practical it is, because we just haven't got
14 there yet.

15 MR. HOGAN: I think that was what Joe
16 understood -- Joe Hassell, my engineer -- is working on
17 the release, was understanding the operation to be for a
18 pre-release, but you're saying that is not
19 necessarily --

20 MR. AIKENS: Oh, yeah, it's going to be a
21 pre-release to the peak flow coming in to Bullard's.

22 MR. HOGAN: To try and spread it out.

23 MR. AIKENS: Mm-hmm.

24 MR. THOMPSON: Just one comment.

25 MR. HOGAN: Yes.

1 MR. THOMPSON: Back to nexus for a minute. My
2 understanding that, when we talk about flood control and
3 Corps requirements, that those will be incorporated in
4 the license.

5 MR. HOGAN: (Nodding head.)

6 MR. THOMPSON: That an agreement between Yuba
7 County and the Corps will be required by FERC, and that
8 will be placed in the license, and that will deal with
9 things like flood control and how operations -- and
10 they're very necessary -- to prevent floods. But that
11 is the nexus. That will be in the license. So to say
12 that that gets beyond our control, the Corps dictates
13 that. I just --

14 MR. HOGAN: That's not the nexus I'm trying
15 to --

16 MR. THOMPSON: Okay.

17 MR. HOGAN: -- trying to draw. I'm trying to
18 draw, you know, project operations nexus type.

19 MR. THOMPSON: But the Corps --

20 MR. HOGAN: Not license.

21 MR. THOMPSON: But the Corps may require
22 certain project operations in an agreement that will be
23 placed as an article in the license. That's how I
24 understand it. It's in the existing license. It's in
25 the Narrows 1 license.

1 MR. HOGAN: I guess what I'm -- but the Corps
2 can only dictate within the applicant's control. So I'm
3 talking about --

4 MR. THOMPSON: Sure.

5 MR. HOGAN: -- within the applicant's control,
6 not whether the Corps dictates it or not, just what
7 is -- what lever or gate or button can the applicant
8 push that's going to create X flow that we need to be
9 looking at.

10 MR. THOMPSON: Right.

11 MR. HOGAN: Okay?

12 MR. THOMPSON: And what I'm getting at is then
13 you need to consider what's going to happen downstream
14 of Englebright in terms of interactions of those flows
15 with shot-rock.

16 MR. HOGAN: And I'm not dis --

17 MR. THOMPSON: I think you're agreeing with me.

18 MR. HOGAN: I'm not disagreeing on the
19 magnitude issue.

20 MR. THOMPSON: Okay. Thanks.

21 MR. RABONE: What FERC will consider the
22 potential effects of -- FERC will not typically dictate
23 the terms of an agreement between the licensee and the
24 Corps, the flood control --

25 MR. HOGAN: No, no. Again, I'm just trying to

1 get to the nexus for what do I need to look at for data
2 information to evaluate what's within the control of the
3 applicant on the habitat, not -- not at this stage
4 talking about how you're going to operate. That's
5 not -- I just want to know what are your potential
6 operations and what -- you know, what does that
7 translate to a magnitude downstream, and then what does
8 it translate to the issue of shot-rock. But I don't
9 know, so I'm trying to get to the nexus.

10 And I think, Larry, you know, identifying that,
11 hey, it's not just Englebright releases, because project
12 operations upstream can contribute to a release at
13 Englebright even if it's overtopping of Englebright Dam,
14 so that's -- that helps me.

15 Jim, you pointed out that we've got data on
16 what, the 2D model as far as magnitude of flows
17 downstream up to 110,400 cfs.

18 MR. LYNCH: Yes.

19 MR. HOGAN: Does that capture the full
20 hydraulic release of -- within YCWA's control, plus,
21 let's say, how does the -- how does that incorporate
22 middle and south Yuba downstream of Englebright? Would
23 that be -- if you sum it all, is it there?

24 MR. LYNCH: Yes, I believe so, because we also
25 have the hydrology model, the operations model, that

1 Corps 40 years, which say basically these are the flows
2 that would occur below Narrows 2 based on baseline and
3 on what the YCWA has proposed in its application.

4 And I am pretty sure we haven't proposed any
5 flows that are greater than 110,000 cfs. So I believe
6 we have, between the hydrology information, the
7 2D model, the instream flow, which I believe you have
8 all that there, Ken. I can't think of anything beyond
9 that.

10 MR. HOGAN: Okay.

11 MR. LYNCH: As well as the substrate --
12 substrate mapping that was done as part of it.

13 MR. HOGAN: Right. So as far as nexus to the
14 project, you know, I'm pretty comfortable with the bank
15 across from the full -- full bypass. I need to look
16 closer in understanding the downstream bank along the
17 original road and things of that nature and what are
18 potential project effects on that.

19 MR. THOMPSON: I mentioned the flood control
20 requirements. That would be a nexus.

21 MR. HOGAN: Well, yeah. When I say hydraulic
22 control, I mean, like I said, the -- you know, when I
23 look at it, what I'll use is the number of the maximum
24 cfs the applicant can discharge through that lower
25 outlet. I'll consider whether or not it's appropriate

1 to do the spillway gate, because at that point I think
2 if you go in the spillway, I think that's outside of
3 their control and they have to open that gate, you know,
4 but the -- and if you disagree, let me know.

5 MR. THOMPSON: Well, the Corps, I think that's
6 what I'm getting at is there will be some agreement
7 between Yuba County and the Corps on that and then
8 you'll incorporate that in the license, so I'm pointing
9 out that when they open the gate, it does -- all this is
10 dependent on when these things happen as well, because
11 there are life stages of salmon downstream, and
12 steelhead, and so I would say get into that.

13 I'm suggesting you get into that simply because
14 any kind of flood control requirements, my understanding
15 is there will be an Article 402, a new Article 402 that
16 FERC will require in the license, so you require the
17 agreement, and then that agreement's placed in the
18 license so it's under your purview. That's my
19 understanding, based on a national MOU between FERC and
20 the Corps and past experience with the Narrows 1 license
21 and the existing.

22 MR. HOGAN: And I'm not sure that we have that
23 agreement in place at the time of license issuance.
24 Usually the license requires that they come up with that
25 agreement and file it afterwards.

1 MR. THOMPSON: How would you be able then to
2 issue the license and do a review on the articles you
3 place in the license?

4 MR. HOGAN: Because it's not normal project
5 operations. It's a safety issue. It's not -- and
6 admittedly, Larry, I'm not -- I haven't done a lot of
7 Corps projects, so -- or projects at Corps facilities,
8 so . . .

9 MR. THOMPSON: Understood. I haven't either.

10 MR. AIKENS: So just one clarification, Ken.
11 On the operation of that new outlet, should it be
12 installed, I can't conceive of a situation that it would
13 be other than flood control. Flood control only.
14 You're not going to put water down and lose generation,
15 water supply, and all that type of stuff. If I did
16 that, I probably wouldn't have a job anymore.

17 MR. HOGAN: Okay.

18 MR. REEDY: So, Ken, thank you for reviewing
19 the three areas sounds like you're considering for
20 project nexus. I understand the third one about flood
21 control is -- you know, we just had a little discussion
22 again about that one, so -- but the first two, you know,
23 one was full bypass.

24 MR. HOGAN: Yeah.

25 MR. REEDY: That has its own big story. But

1 just that middle one, the access road, I just want -- we
2 haven't talked about that, just for, you know, an hour
3 for now -- I'd be interested to hear more about the
4 questions that you're hearing as you look into the
5 project nexus there.

6 I appreciate Curt mentioning that there has
7 been road improvements, that there's been work done on
8 that road. Of course, you're not familiar with the
9 details of that. But it seems that that's necessary to
10 get more facts about that access road's maintenance
11 activities, because it relates to all -- could relate to
12 all the shot-rock beneath it that has eroded since the
13 project came on line.

14 And I would even say that it didn't seem
15 conclusive to me from the discussion this morning that
16 the lower road did not serve a project purpose, you
17 know, going back as far as 1968, when this license was
18 active.

19 MR. HOGAN: And that's where we get into the
20 baseline issue, does it serve a project purpose moving
21 into the future and is there going to be ongoing
22 maintenance in that road.

23 MR. REEDY: Yeah. Well, I mean, no doubt about
24 it, the baseline issue is huge here when it comes to
25 whether we're going to learn more about the when and how

1 much of shot-rock was introduced to this channel from
2 those deposits from the --

3 MR. HOGAN: And things that I need to look at
4 is -- and it goes to the flood issue -- is, okay, what
5 flows are within the control of the applicant that could
6 get to that bank and mobilize that material. And so I
7 still have to draw -- determine a nexus or not. This is
8 the information that I'll need to determine that.

9 MR. REEDY: Okay. Well, here's where I
10 actually really would like to drill in, because what I
11 heard you say is that when it comes to the shot-rock
12 material below the access road, the nexus is either that
13 there's project operation flows under the control of
14 discretion that are causing erosion and then the
15 entrainment or activities associated with the
16 maintenance of that road.

17 MR. HOGAN: I would say yes. Go ahead.

18 MR. REEDY: Well, so, just to clarify that, I
19 don't think it's an "and." It's an "or." Right?
20 Like -- so there's things about --

21 MR. HOGAN: It's an "and/or," you know, if it's
22 both, "or." Yeah. Yeah.

23 MR. REEDY: Yeah, so . . .

24 MR. HOGAN: But what I heard was, on the
25 maintenance activities, that there is no planned or

1 continued maintenance abuse of shot-rock into the future
2 or anything like that, so that kind of component's been
3 taken away, as far as I'm -- you know, but it's -- so
4 now it's really down to operational entrainment of it.
5 Make sense?

6 MR. REEDY: So you're saying -- I mean, I'm
7 speaking hypothetically -- I don't know that this has
8 occurred or seen any evidence that it did -- but if at
9 some point in the road improvements, you know, that are
10 evident, a landing got, you know, wide, and the section
11 of the road got, you know, material brought in for,
12 you're saying, just hypothetically, if some shot-rock
13 were moved into a position for maintenance of the road
14 that was then eroded, contributing more shot-rock to the
15 channel, that that action, during the project history
16 here, is covered by baseline?

17 MR. HOGAN: No. What I'm saying is that my
18 understanding is that there is no planned future
19 activity, hypothetical or not, that we can say, hey,
20 this is -- this is an imminent action that's going to,
21 you know, that's going to be done and we need to
22 evaluate it in the new license.

23 MR. REEDY: Yeah. No, I get that. I just
24 didn't realize that the focus was that narrow in terms
25 of planned future activities. I do understand how

1 important those are for relicensing. But I thought in
2 the study plan phase it was also important to understand
3 conditions such as habitat conditions as affected by
4 project operations during the current license term.

5 MR. HOGAN: And we haven't gotten to habitat
6 conditions yet in our topic. And we're still talking
7 about sources and -- and nexus. Next we're moving to
8 habitat.

9 So if part of YCWA's proposal was we're going
10 to widen the road and it's going to require X amount of
11 new material, I would need to know what that material is
12 and then, you know, we would evaluate what the potential
13 of that material to be eventually moved into the system
14 would be. That's not any part of the proposal.

15 Granted, I know there's going to be ongoing
16 maintenance, but if in our habitat evaluation we
17 determine that, you know, shot-rock is a really bad
18 thing and we could have put a license condition that
19 says you can't use it. Okay?

20 I don't need to know -- once I know that it's a
21 bad thing, you know, we can say, no, you're going to use
22 concrete instead, or something, you know.

23 Maybe our analysis says just the opposite and
24 it's not a bad thing. I don't know. I'm not trying to
25 prejudge anything here. I'm just -- there's two sides:

1 the effects of it on the habitat -- the first side is,
2 you know, a lot of the questions that we're getting
3 asked are sources, volume, and things of that nature,
4 and I want to get to a project nexus first.

5 And I think I've got kind of the information
6 that I need to at least make an evaluation on project
7 nexus, you know, initially, you know. It may be that,
8 you know, as I digest some of this and look at the
9 transcript some more that I'll come up with more
10 questions and may have an AIR for YCWA. We'll need --
11 we really need to hear both sides of all the
12 stakeholders' input on the issue. The big thing is
13 defining it and potential sources.

14 And now I'm hearing, you know, potential
15 operational concerns that may contribute to the
16 mobilization of it and I'm thinking I may have some more
17 detailed information I'm going to need. But I have
18 to -- I have to dig into it at the office first.

19 Now, regarding habitat -- it's a good segue.
20 It is noon.

21 MR. WOOSTER: Go.

22 MR. HOGAN: Go?

23 MR. WOOSTER: Go.

24 MR. HOGAN: Go. Okay.

25 One of my observations was that the licensing

1 materials provided by YCWA, the Tech Memo 1.2, final
2 license application, essential fish habitat assessment,
3 draft biological opinions don't use the term
4 "shot-rock," or if they do, it's here and over there.
5 And I'm sure that was by design, simply because we -- I
6 don't think anybody had a good definition to rely on.

7 In review of the Tech Memo 1.2, it does appear
8 to me that shot-rock is encompassed with the use of
9 "boulder," 256 millimeters and larger, and I'm wondering
10 if folks disagree with that.

11 MR. WOOSTER: I would. A boulder -- a boulder
12 that's alluvial in nature is -- looks like this. This
13 is below New Bullard's Bar Dam. Those are alluvial
14 boulders.

15 What we're dealing with here in Englebright Dam
16 reach are big, angular chunks that have been broken up
17 from various construction activities.

18 MR. HOGAN: Because they haven't eroded over
19 time yet.

20 MR. WOOSTER: Right. They're -- exactly. And
21 at the time right now they're big, angular --

22 MR. HOGAN: Okay.

23 MR. WOOSTER: -- things that are very --
24 generally, very negative to habitat.

25 MR. HOGAN: But I guess what I'm asking is, why

1 is the data that -- and, you know, I'm asking of
2 everybody -- the data that's already been collected
3 under the alluvial geomorphology work, why wouldn't that
4 inform or answer the questions folks are looking for
5 regarding, you know, this material in the Englebright
6 Dam reach?

7 MR. WOOSTER: What data are you talking about
8 in the EDR that you think informs habitat?

9 MR. HOGAN: Well, as far as the material, how
10 it's mobilized and what flows it takes to be mobilized,
11 the locations of it.

12 MR. WOOSTER: I don't think that's in tech memo
13 one, two, eight, a map of where the angular material is.

14 MR. HOGAN: Well, it's 90 percent I think was
15 the -- was that correct?

16 MR. LYNCH: No. The tech memo says that the
17 same -- the same information developed for every other
18 reach as far as modeling. So in the Englebright Dam
19 reach, 60 percent -- 62 percent of the substrate is
20 boulder to 65, 512 millimeters, 24 percent large cobble,
21 14 percent is cobble in the size class, as it did for
22 every other reach where the 2D model was done.

23 And then it also developed competence levels at
24 different levels for every reach, including this reach,
25 which would be required to move this size material that

1 is in the channel and other size material in the channel
2 as well. So you have both the size and you have the
3 competence. No different than any other channel where
4 it was modeled.

5 MR. REEDY: The difference is that those
6 boulders are comprised perhaps predominantly by
7 shot-rock material, which differs from native bed
8 material in a variety of characteristics and that
9 distinction isn't made. So we don't know, you know, is
10 it all of those boulders that are shot-rock, is it some.
11 There's no integration with work done of, like, deposits
12 of shot-rock that have begun to be mapped out.

13 You're looking confused.

14 MR. LYNCH: I am.

15 MR. REEDY: John makes a point. We started off
16 with the point that shot-rock is not the same as
17 alluvial boulders. They're different, technically. And
18 1.2 treats them the same. So that right there just
19 starts off --

20 MR. LYNCH: Are you saying that the amount of
21 flow to move an angular boulder of a certain size is
22 different than the amount of flow to move another type
23 of rock?

24 MR. REEDY: It may be. But more significantly,
25 the habitat benefit or effects of the angular boulder,

1 the shot-rock boulder, is different than the native
2 boulder.

3 MR. LYNCH: So what we -- at least in the
4 Englebright Dam reach, what we didn't find, whether you
5 call it round rock, angular rock, or whatever type of
6 rock, is very little between narrows -- between
7 Englebright and where FERC is injecting 5,000 short --
8 not FERC -- the Corps was injecting 5,000 short tons
9 three times so far, and I think they plan to continue to
10 do it down through Narrows 2, we didn't find very much,
11 if at all, salmonid-spawning-size gravel.

12 So -- and when we did do a transport to figure
13 out what flows would be necessary to move that, I think
14 it came out around 30 percent for the flows around
15 8,000 cfs. So we have that information, to go back to
16 what Ken asked earlier.

17 If the concept is that the shape of the rock,
18 the analysis isn't good enough because the rock is
19 shaped differently, that's a different issue, but we
20 have different size shape rock in every single reach we
21 have in the Sierras, so I don't know how we're going to
22 handle that.

23 MR. HOGAN: Yeah. I guess I'm --

24 MR. WOOSTER: The point -- I mean, to answer
25 your question, yes, angular rock does mobilize slightly

1 different flows than rounded rock, but that wasn't the
2 gist of what we were driving at.

3 From what we have right now in the EDR reach is
4 we don't have a percent coverage of the bed in this
5 angular shot-rock. You've got, as you said, 62 percent
6 boulders. But we don't have a mapped-out distribution
7 of where there's angular rock that fish cannot utilize
8 to spawn.

9 MR. LYNCH: Do we have anything different than
10 what we have besides where we've found -- I mean,
11 obviously, you've read surveying in this region because
12 there's not spawning-size gravel, but do we have that
13 information in any other reach in the Yuba River that
14 you know of?

15 MR. WOOSTER: No.

16 MR. LYNCH: So --

17 MR. WOOSTER: Because we're not really worried
18 about shot-rock in the reaches downstream, we think.

19 MR. LYNCH: If you're talking about
20 spawning-size gravel in the information available, it's
21 not there.

22 MR. HOGAN: So let me back up. Help me to
23 understand what the significance is between shot-rock
24 boulders and boulders and why it's important to treat
25 them differently in an analysis.

1 MR. WOOSTER: Let me take one -- add one
2 other -- it's not just the angularity of the material;
3 in some ways it's how it's deposited in the reach. So
4 you have -- if you look across from the full bypass
5 where it's kind of shoved rocks into a weird formation,
6 you've got deposits throughout the reach that haven't
7 been distributed alluvially and have been created from
8 various construction activities, erosion of road fills
9 where things fall into the river, so you don't have a
10 natural depositional pattern of the material in the
11 reach. So there's that added layer to it, other than
12 just that it's a bunch of chunky, angular debris.

13 MR. HOGAN: So -- okay. But that's --

14 MR. WOOSTER: I'm adding to the -- the
15 distinction here with the shot-rock deposits throughout
16 isn't just the fact that it's angular boulders versus
17 alluvial boulders. That's not the only issue at hand.
18 So you have a destruction of your natural pool riffle
19 morphology in the reach, because you've got angular
20 boulders scattered everywhere.

21 MR. HOGAN: Okay. So is your question more of
22 you want substrate mapping versus teasing out round
23 boulder, square boulder?

24 MR. WOOSTER: It would be both. I think I --
25 yeah. I'm interested in detailed maps that would have

1 sizes, and it would also identify whether it's angular
2 shot-rock stuff versus alluvial deposits.

3 MS. WILLY: Alison Willy, U.S. Fish & Wildlife
4 Service.

5 I'm going to try and answer your question from
6 a slightly different perspective.

7 The difference between a round boulder in the
8 river -- or I should say the ecological function of a
9 round boulder in the river and the ecological function
10 of a block-shaped rock is that the round boulders have
11 interstitial space in them where, when salmon spawn on
12 spawning gravel, the juveniles then have habitat in that
13 interstitial space. And the -- there's more prey that
14 can live in the interstitial space in the round
15 boulders.

16 When you have square boulders that block up
17 together, you lose the ability of the juveniles to rear
18 and forage in the interstitial space and you lose the
19 food availability both in numbers of prey items and
20 bioavailability to the juvenile fish.

21 So the two shapes operate differently in the
22 system in their ability to support fish population.

23 MR. REEDY: And if I can try and synthesize
24 this, it sounds like John, Alison, and I are the only
25 ones that have spoken, but here's the common thing I

1 hear. And this is a response to Jim.

2 Yes, shot-rock warrants -- the existence of
3 shot-rock in the reach warrants special mapping in
4 detail due to the different function of that material
5 than boulders from other sources and in other reaches.

6 And the different habitat function warrants a
7 special mapping to know the -- how it has deposited, and
8 then that could be used for a variety of interpretations
9 of habitat implications as well as rehabilitation.

10 MR. HOGAN: You're going to have a couple of
11 questions.

12 Alison, do you want to add first before I --
13 did I see your hand up?

14 MS. WILLY: Yeah. Well, Geoff also had his
15 hand up.

16 MR. HOGAN: Okay. Geoff.

17 MR. RABONE: Well, I would point out that we're
18 not really generally talking about juvenile rearing in
19 this reach when we're talking about interstitial spaces.
20 We're mainly talking about adults holding in this reach,
21 and large fish.

22 And I would point out that large rocks, whether
23 they're angular or round, provide certain benefits to
24 the habitat in terms of velocity refuge, in terms of
25 providing a lee and a velocity refuge which also help to

1 trap whatever gravel is available in that reach. So
2 that's where you find the little gravel patches, in
3 reaches that are generally low-end gravel.

4 And so I think it's a very difficult study
5 that's being proposed and it's going a lot farther than
6 what the original study comments were asking for or even
7 the new studies asked for. We're delving down into
8 microstudies of what the difference of an angular
9 boulder as opposed to a round boulder would be.

10 MR. HOGAN: Okay.

11 MR. REEDY: No, no, no. All we want --

12 MR. RABONE: It's going to be a very difficult
13 study and determining -- I'm not even satisfied with our
14 definition of "shot-rock," because there are other
15 sources and historically were other sources of shot-rock
16 above and below Englebright, because there were miles of
17 tunnels dug for mining in the -- in all those reaches,
18 and they were the source of a lot of shot-rock as well,
19 so . . .

20 MR. REEDY: You're saying shot-rock in the
21 upper watershed made it over Englebright Dam and
22 that's --

23 MR. RABONE: And below. If you visit, you'll
24 see that miles of tunnels were dug through bedrock to
25 get debris to the river and also to bring --

1 MR. HOGAN: Yeah, I think he's talking it's --
2 it pre-existed Englebright Dam.

3 Okay. Alison.

4 MS. WILLY: Thank you.

5 I wanted to get back to an earlier comment at
6 the beginning of the meeting that Gary had said about
7 the restoration potential.

8 The shot-rock does have a tendency to harden
9 and lock in the -- the substrate of the river. And so a
10 question I have -- and I'm not sure whether the study's
11 designed to answer or not, but I believe that's what
12 we're trying to get at, is that if supplementation
13 spawning gravel was put on shot-rock, are they just
14 going to glide past or are they -- would they sit there
15 and allow the spawning gravel to be maintained, and
16 would there be someplace for the juveniles to go?

17 So I don't think of them as the same, because I
18 think we're trying to see how the existing baseline of
19 the river and the operation interfaces with these
20 enhancement programs and go back to the original place
21 where they started.

22 And I'm curious about that, because I have one
23 mind thinking, well, maybe the shot-rock holds the
24 gravel better, and the other is, maybe it doesn't. But
25 I -- so I just don't know the answer, but I am very

1 interested in there being a substrate for the juveniles
2 to persist underneath the spawning gravel that we're
3 putting in.

4 You've got that curious look on your face.

5 MR. HOGAN: We're back to nexus.

6 Geoff.

7 MR. RABONE: The Army Corps has been augmenting
8 gravel in the reach immediately below the narrows
9 powerhouse.

10 MR. LYNCH: Narrows 1.

11 MR. RABONE: Narrows 1. Right. And they have
12 done reports, and the MME, the RFT has looked at either
13 verbal or written reports of the, you know, Army's
14 gravel augmentation injection program, and there is
15 evidence that salmon spawning has already been occurring
16 on the augmented gravel deposit. So in a sense, the
17 experiment that Alison is asking for is already
18 occurring and it's been looked at. There is existing
19 information on that.

20 MS. WILLY: I get it that there's spawning on
21 it. It's that -- it's that --

22 MR. HOGAN: What's the retention value?

23 MS. WILLY: -- the spawning gravel should have
24 something under to support the juveniles. I would like
25 to know where it's shot-rock and where it's river

1 boulder, because it takes, like, 10,000 years for one of
2 those blocks to get round, and we don't really have that
3 luxury of time now.

4 MR. HOGAN: And I -- from a biologist's
5 perspective, I understand the question. From a FERC
6 perspective, I have a hard time understanding why that's
7 the applicant's responsibility to evaluate. So, you
8 know, you can --

9 MS. WILLY: Well, I was just responding to a
10 point made --

11 MR. HOGAN: Yeah.

12 MS. WILLY: -- that there's no difference, when
13 biologically there's quite a noticeable difference.

14 MR. THOMPSON: There's no question, Ken, that
15 it's difficult. And the licensee is not solely
16 responsible. I mean, that's clear. But in your NEPA
17 analysis, you do have to analyze cumulative effects, the
18 incremental effect, and that's not easy.

19 But to do that I think you have to see the big
20 picture. You have to look at all this rock that's in
21 there, these deposits, try to look at historical
22 photographs, try to look at all sources. Again, it's
23 not easy.

24 And if you can't order the licensee to study
25 all of that, then I think FERC might have to do that on

1 their own. If that's -- if that's a difficulty you're
2 grappling with -- I think it might be -- your policy is
3 to order studies of project effects where it's pretty
4 clear that the licensee is responsible.

5 And that's very difficult here. I'll
6 acknowledge that. I mean, I think -- I think NMFS
7 definitely acknowledges that. I think Foothill Water
8 Network does as well.

9 But you still have to look at the cumulative
10 effects. And there certainly -- I mean, I can't believe
11 we're going to take too much time to talk about adverse
12 spawning effects. I mean, Dr. Pasternack has laid that
13 out in some of the publications we talked about earlier.

14 It's pretty well-known, fish don't spawn well
15 on this kind of -- salmon --

16 MR. HOGAN: Yeah.

17 MR. THOMPSON: -- and steelhead don't spawn
18 well on large, angular boulder like this.

19 MR. HOGAN: So I guess my next question is,
20 okay, understanding that the movement of the angular and
21 round rock is very similar, given the size -- you said
22 it may be a little bit different, and that makes
23 sense -- but the geomorphology study does capture that
24 movement, whatever it takes to mobilize that material.
25 Can we basically agree to that?

1 MR. THOMPSON: I thought John said there was a
2 difference, but --

3 MR. WOOSTER: It's not so much the friction
4 angle, but in this case I worry about -- so the
5 mobilization study that's done there is just kind of
6 backed out of a model, and in this case I'm not sure how
7 applicable the kind of generalized sediment transport
8 approaches that were taken there really work with
9 mobilizing this stuff that may be locked in and cemented
10 in. And it's also -- it's not deposited in the natural
11 way right now. It's left in weird spots, sediment
12 transport models, assuming certain levels of mean
13 velocity here and there, and it's not left like it
14 should be.

15 MR. HOGAN: So is there more concern with the
16 model then? And the approach?

17 MR. WOOSTER: No, I think it's too difficult of
18 a problem probably to really pin down better with just
19 an empirical model. We didn't ask for additional--

20 MR. HOGAN: Right.

21 MR. WOOSTER: -- sediment transport modeling.
22 That wasn't part of our request. That's not the big
23 concern here.

24 MR. HOGAN: Okay. So the big concern for NMFS
25 is where it's deposited?

1 MR. WOOSTER: Yeah. I mean, you know, what --
2 I'm just looking at right now what's supposed to be a --
3 what you would expect to be a riffle crest right below
4 Narrows 2 in my photo and the channel's scattered with
5 angular chunks everywhere. It looks nothing like a
6 riffle where you would expect to have one.

7 And I wouldn't begin to propose to try to put a
8 gravel augmentation right there without scalping and
9 cleaning those first. It's full of kind of nasty
10 angular chunks.

11 And I'll use this as kind of a reference here.
12 Looking below New Bullard's Bar, also a very coarse
13 reach, full of kind of rounded cobbles and rounded
14 boulders that can hold stuff. I think you could go
15 ahead and put gravel in here without first doing
16 something to the channel, which, what I'm looking at,
17 this riffle crest right here, I think you need to do
18 something first before you could try to restore it with
19 gravel.

20 MR. REEDY: Well, I don't know how you --

21 MR. HOGAN: But you're jumping to --

22 MR. WOOSTER: I'm jumping to -- I'm jumping to
23 information that might inform a PM&E measure, yes. I'm
24 asking for information that could inform a potential
25 PM&E measure.

1 MR. HOGAN: But the question is, you know, what
2 you're asking for is information that will inform how a
3 PM&E measure is implemented as opposed to whether or not
4 a PM&E measure is needed; meaning, if you say, hey, we
5 need to do gravel augmentation because the habitat here
6 is just not suitable for spawning and we need spawning
7 habitat, the condition is, okay, go out and do gravel
8 augmentation for spawning habitat, and if, A, you need
9 information on, you know, do we need to scalp this area
10 first, as you put it, that's part of that
11 implementation, that's not part of the NEPA analysis
12 that I need to do to determine whether or not the
13 augmentation is needed.

14 MR. REEDY: But in this case, Ken, it's
15 well-documented that gravel augmentation is needed in
16 this reach. And the Army Corps of Engineers has begun a
17 program. And for, if nothing else, a cumulative effects
18 analysis, it seems really important to understand not
19 only that the shot-rock depositions in this reach are
20 limiting habitat, especially under those future results
21 of the augmentation, but how, due to its
22 configuration -- amount and configuration, and that's
23 just the detail we lack, how the shot-rock is impacting
24 habitat through that -- that future involving gravel
25 augmentation.

1 And that's really what it comes down to that
2 we're looking for is a way to move forward in improving
3 the habitat that is being impacted by the shot-rock
4 depositions, depositions which are not like other gravel
5 bars, not just because of the characteristics of the
6 individual particles, but because of the way that
7 they've been deposited, and they most certainly impact
8 the future of habitat spawning.

9 MR. HOGAN: And, Gary, that brings me to my
10 next -- and Jim, I'll get to you in a second.

11 I'm going to assume, okay, and this is -- let's
12 say there's a project nexus to all the shot-rock in that
13 reach. Okay. We have reams of data on habitat. We've
14 got bugs. We've got flows. We've got temperatures.
15 We've got -- you name it. So what does -- I mean, so we
16 know what that habitat is and how it differs from other
17 habitats that may be not as impacted by shot-rock. So
18 what more --

19 MR. WOOSTER: Do you know how much spawning
20 habitat is in EDR?

21 MR. HOGAN: Did you do habitat mapping?

22 MR. LYNCH: Yes. And we also have EDR includes
23 from Narrows 1 downstream. As you say, Pasternack has
24 looked at it, and certainly down to the Sinora bar.

25 MR. HOGAN: What I'm getting at is, what

1 information don't we have that we need to evaluate that
2 that's -- you know, when you consider the -- all the
3 other data that's been collected, outside of just the
4 geomorphology study. I mean, there's, like I said,
5 reams of material here to assess the habitat on the
6 fishery resources in that reach. So that's the other
7 part that I'm struggling with.

8 MR. THOMPSON: Well, Ken, then, in your study
9 plan determination, it would really be helpful if FERC
10 went through sort of a white-paper review of all of that
11 information that you said is there, in your explanation,
12 either yea or nay on these study requests, so we don't
13 get some one paragraph about a nexus, for example, but
14 you explain where it is, how you used it. I mean, that
15 would really be helpful.

16 I mean, this is a comment I made on how to
17 improve the FERC licensing process in -- nationally, in
18 DC. I was on a panel. It was, do a better job with the
19 FERC study plan determinations and explain yourselves.

20 So I would just urge you to try to do that if,
21 indeed, you believe that information is there, and then
22 we can take a look at it in our response. If we agree
23 with you, then we'll agree with you.

24 MR. HOGAN: And I guess what I'm saying is
25 that, you know, when I was reviewing the request, and

1 here, you know, I was struggling with -- I understood
2 what you were asking for as far as the mobility and
3 deposition of the material. Didn't necessarily
4 understand beyond a stranding issue why that was
5 important. We're handling the stranding issue outside
6 of this meeting concurrently through DHAC.

7 The issue of interstitial spaces and habitat
8 for juveniles and food supply, I did not -- maybe I
9 overlooked it, but I didn't grasp that from the paper
10 filings. But I'm -- now that you've raised it, I'm
11 wondering how do we not already have that information?

12 MR. THOMPSON: Well, off the top of my head, it
13 seems like there are stranding effects potential. We
14 know about those. We know something about those.

15 MR. HOGAN: And they're getting addressed.

16 MR. THOMPSON: Spawning, rearing -- the
17 juveniles are in the reach. If they're spawning, what
18 you call a juvenile, but a swim-up fry is the juvenile
19 fish, so you have spawning, rearing, you have the
20 interaction between flow changes that currently are not
21 detected by FERC, because we measure things at
22 Smartsville gauge, not up below those various outlets.

23 MR. HOGAN: Okay.

24 MR. THOMPSON: But you have an interaction
25 between flow and these habitats that occurs during

1 project outages for various reasons.

2 The picture John showed us was during one of
3 those outages, where you can see the angular shot-rock
4 peeking out of the wetted channel as well as all of the
5 exposed shot-rock.

6 Invertebrate production, you say there's
7 invertebrate data from that reach. You know, take a
8 look at that, tell us what you think that means.

9 MR. HOGAN: Well, the analysis that you're
10 asking for will come in our NEPA analysis. All I'm
11 pointing out is that there's data available to do that
12 analysis and where the data holes are.

13 MR. THOMPSON: I'm not sure there is data
14 available, but I'd like you to tell us where it is and
15 how you interpreted it. If you make a study plan
16 determination, that is a FERC order.

17 MR. HOGAN: Mm-hmm.

18 MR. THOMPSON: That's a FERC action. So you
19 should explain how you came about it, not simply say
20 there's a lot of information out there.

21 MR. HOGAN: Well, again, my interpretation of
22 the request was movement and deposition and largely for
23 stranding purposes.

24 MR. THOMPSON: Well, certainly. But you can
25 request your own --

1 MR. HOGAN: I can.

2 MR. THOMPSON: -- study. It isn't simply is it
3 NMFS, yes or no.

4 MR. HOGAN: The other part --

5 MR. THOMPSON: It goes beyond that.

6 MR. HOGAN: The other part of this is, you
7 know, we went through a year of study plan, you know,
8 development to get at these questions and answers. How
9 is it that the original study plan that was prepared and
10 required overlooked such a huge issue if it's such a
11 huge issue?

12 MR. THOMPSON: We explained that in our
13 request. You might want to take a look at it again. We
14 talked about the new information that came out in terms
15 of stranding.

16 MR. HOGAN: Right.

17 MR. THOMPSON: We talked about --

18 MR. HOGAN: And we're dealing with it.

19 MR. THOMPSON: We talked about aerial photos we
20 did not know existed.

21 And some of them, Gary, you have the same ones,
22 some of the same ones.

23 MR. REEDY: Yeah.

24 MR. THOMPSON: So, new information came up.

25 MR. HOGAN: But I don't -- I'm not -- I'm not

1 being argumentative; I'm trying to figure out or
2 understand -- I understand we're dealing with stranding.
3 The aerial photos, I'm not understanding how -- where
4 the data gaps are for the Englebright reach that weren't
5 or haven't already been addressed through the studies
6 that have been done. That's --

7 MR. THOMPSON: Well, I encourage you also, go
8 back to the PAD. Start there and tell us if you can
9 find places that document sources of the shot-rock to
10 the reach, current, active sources, historical sources,
11 how much is there, where it's there, how it's mobilized,
12 how it affects fish spawning, how it affects stranding.
13 Go look at it. If you can produce it, then NMFS will
14 stand corrected.

15 MR. REEDY: Yeah. You know, when the study --
16 studies were implemented, the Corps was just beginning
17 to add spawning gravel, and here they may have added
18 20,000 tons by this time, which is a fifth of the
19 deficit of spawning gravel to achieve, you know, a
20 higher end of enhancement of spawning in that reach,
21 because it's very, very important for endangered species
22 in using that reach.

23 And here -- this is my answer to your
24 question -- we don't know anything more as a result of
25 the studies done for this relicensing about how the

1 shot-rock in the channel is limiting the habitat
2 benefits of that Army Corps gravel program than we did
3 four years ago. There's nothing new that helps
4 understand that. And I realize that this may not help
5 the nexus issue that you're talking about, but I hope
6 you can understand how dissatisfying it is to have this
7 much study of the river.

8 And, you know, for me, I've gotten over my
9 naivete of reading the study goal that talks about
10 characterizing the river form and process to assess
11 potential impacts to river form and process.

12 I understand why it didn't help answer these
13 questions that I've put up, but I do think that they're
14 important to answer.

15 And I think it's very dissatisfying to others
16 than myself that we don't know anything more about how
17 to, for example, address the need for treating shot-rock
18 in order to not limit the habitat improvements in this
19 reach. And if this isn't the forum for it, well, so be
20 it.

21 MR. HOGAN: Well, let me -- let me approach it
22 from a different perspective.

23 Gary, you cited in your letter and I believe
24 you mentioned it as well the study from the Army Corps'
25 work on gravel augmentation and identified shot-rock as

1 being a detriment to the reach.

2 MR. REEDY: Should be removed first, then add
3 gravel. It's out there.

4 MR. HOGAN: So what more study do we need?

5 MR. REEDY: Well, no one has mapped the
6 depositions in any detailed way. There's just been the
7 rougher identification of deposits, knowing the
8 distribution of shot-rock in the reach. Knowing how
9 it's interacted with the gravel that's been added so far
10 would be very beneficial.

11 MR. HOGAN: Okay.

12 MR. REEDY: Yeah.

13 MR. HOGAN: I think where I'm struggling with
14 is the questions you're -- you want answers to are to
15 design a better PM&E.

16 MR. REEDY: If you want to call enhancing the
17 Englebright Dam reach endangered species of PM&E, that's
18 fine.

19 MR. HOGAN: But, I mean, to me, the questions
20 you're asking are to make a better PM&E or better
21 enhancement than without one.

22 MS. MULDER: Better inform.

23 MR. HOGAN: Better inform that PM&E. Where --
24 you know, where I'm looking at it is I need the
25 information to determine if the PM&E is needed. Once

1 that PM&E is needed, the information to inform it is
2 developed. So it's a timing issue, from my perspective,
3 if I'm understanding the information request correctly.

4 MR. REEDY: Okay. Well, it sounds like it
5 comes back to your cumulative effects analysis in order
6 to understand how the project has been involved in the
7 shot-rock getting there, so . . .

8 MR. HOGAN: We've still got to look at the
9 nexus clearly and figure that out.

10 MR. WOOSTER: Can I ask, Jim, a question real
11 quick? This is going off my memory of Tech Memo 1.2 as
12 well as PM&E. Again, what I see are breakdowns
13 of percent of morphologic units for all the reaches. I
14 see average particle sizes of the units, of the reaches
15 and units. I'm not finding a quantification of the
16 amount of suitable spawning habitat. Am I supposed to
17 be looking somewhere else?

18 MR. LYNCH: I think in the instream flow study
19 there's quite a bit of information on looking at redds.

20 MR. WOOSTER: Yeah.

21 MR. LYNCH: And that might be a little bit more
22 useful. In the reach at least downstream of Narrows 2,
23 and actually in that entire reach, short of the Corps'
24 injection of gravel, make a determination whether there
25 was spawning based upon the geomorphology. So I'm not

1 sure I'm answering your question, John, but I don't
2 think the geomorphology study has a goal to identify
3 spawning gravel.

4 MR. WOOSTER: I didn't think it did, either.
5 That's why I was surprised when you said that was -- I
6 said that was lacking and you said it was available.

7 MR. LYNCH: Oh, no. I'm sorry. What I meant
8 to say was in the -- that Narrows 2 reach the amount of
9 the substrate based on geomorphology study is larger
10 than spawning-size gravel. It's cobble boulder and
11 large cobble. They didn't identify, if you look at the
12 pie charts and stuff, much suitable size gravel for
13 salmonid spawning. Is that . . .

14 MR. WOOSTER: I think -- I think you're saying
15 by inference then that other than the Corps' injection,
16 there's not any spawning habitat there.

17 MR. LYNCH: We didn't find any. We didn't find
18 any substrate.

19 And, Paul, did you want to add anything?

20 MR. BRATOVICH: Paul Bratovich, HDR.

21 I mean, that's generally correct, John. I
22 mean, I think there's a paucity of appropriate spawning
23 habitat, primarily due to lack of suitable substrate in
24 the Englebright Dam reach. A lot of that is either
25 bedrock-dominated or large boulder-dominated, some of

1 which is angular.

2 MR. LYNCH: John, did I address that?

3 MR. WOOSTER: Yeah.

4 MR. HOGAN: Geoff.

5 MR. RABONE: Also, going back to the issue of
6 nexus, this is also an area where a dam was constructed
7 primarily because it was a -- it was a deep, narrow
8 canyon, and those kinds of reaches are typically where
9 you see less gravel riffle and things like that. And
10 every reach does not have to be equal in terms of
11 spawning habitat, and in general, the lower Yuba River
12 would not be considered spawning habitat limited.

13 MR. LYNCH: Also, the whole purpose of
14 Englebright Dam was to capture sediment. That was its
15 point.

16 MR. WOOSTER: So the main -- the whole point of
17 Dr. Pasternack's HEA is that when he looks at -- shows
18 you historical photos of what the reach looked like
19 pre-Englebright Dam, that his whole hypothesis is that
20 it was spawning habitat previously and it could be again
21 with restoration.

22 MR. LYNCH: And the proper temperature and the
23 future of Englebright Dam. Yeah. I agree, John.

24 MR. THOMPSON: I don't think he went to
25 temperature. I don't think Pasternack talked about

1 temperature.

2 MR. WOOSTER: Yeah.

3 MR. HOGAN: Okay. So, Jim, understanding the
4 habitat questions that were raised today, is there
5 anything you'd like to fill in the blank as far as how
6 you think the answer -- the questions are answered
7 regarding the studies that were done or . . .

8 MR. LYNCH: I think -- I think we developed the
9 information, whether it's packaged to address this
10 specific question, no more differently than it's
11 packaged to answer a specific question on the powerhouse
12 dam reach.

13 You can do a lot of hair-splitting and you can
14 focus all your analysis on answering questions and
15 collecting data in specific areas, collect general data
16 and then apply it, but I think we have all the data. We
17 have -- we have a -- no different than we have in any
18 other reach downstream of Englebright for the general
19 morphology, particle sizes, the transport from the
20 fisheries, we've got the hydrology study, we've got
21 information regarding high flows in that reach and how
22 much flow you need to move the water, to move the
23 substrate. I can't think of anything we don't have, but
24 I'd certainly respect other people who differ from that.

25 And I think also that the one thing I've heard

1 over and over again is the stranding issue. And I think
2 between the DHAC issue -- I will say we have looked at
3 stranding. We've done studies that FERC ordered, and
4 we're building on that and what DHAC is ordering now as
5 well.

6 MR. HOGAN: Based on the DHAC order, does
7 that -- that requires the -- looking at other areas
8 within that reach that are --

9 MR. LYNCH: Downstream to Smartsville gauge.

10 MR. HOGAN: To Smartsville gauge.

11 MR. LYNCH: Yes.

12 MR. HOGAN: And would that work effort -- I
13 mean, given that the -- sounds like the stranding issue
14 is really tied to -- correct me if I'm wrong -- but the
15 interstitial spaces in shot-rock? Or is it just -- or
16 is it gravel bar formation?

17 MR. LYNCH: I think the DHAC is both. If
18 there's isolated pools besides just that one that's been
19 identified in that section of stream, supposed to
20 identify them also and determine whether they have
21 potential -- whether they're causing stranding. So it
22 will authorize later pools as well as when flows recede
23 or when you use the partial full bypass if there's any
24 stranding specifically related to those actions. So
25 it's -- it's broader than just on the banks, Ken.

1 MR. HOGAN: Okay.

2 MR. LYNCH: But, again, it goes down to
3 Smartsville.

4 MR. HOGAN: Okay.

5 MR. LYNCH: Does that answer your question?

6 MR. HOGAN: It does.

7 MR. LYNCH: Paul, you want to add anything?

8 MR. BRATOVICH: Not really.

9 Paul Bratovich, HDR.

10 I'd like to remind everyone that, following up
11 on my statement, there's a general paucity of suitable
12 spawning substrate in the EDR reach, but in 2007 the
13 Corps did a pilot study and put 500 tons below
14 Narrows 2. They've since abandoned putting it up that
15 high, and they've been injecting the gravel augmentation
16 below Narrows 1, 2010, '11 -- excuse me -- '11, '12,
17 '13, and '14, so regarding spawning habitat, you know,
18 associated with gravel augmentation downstream of
19 Narrows 1.

20 MR. HOGAN: So my next agenda item was, does
21 anybody have anything that they want to comment on or
22 discuss further as far as -- are there questions that
23 I'm not asking that I should be? Any stakeholders? No?
24 Okay. I'm doing a really good job then?

25 Now, I think, regarding the last bullet on the

1 agenda, you know, today's discussion influences the
2 study requests, I think the answer, and correct me if
3 I'm wrong, is, in part, but really take a look at the
4 available data that's been provided in -- as far as in
5 the rest of the application.

6 And from Larry's perspective, you'd like to see
7 me dig through it and say, well, this is a data gap now
8 and needs to be addressed, or it's not a data gap and
9 this is why.

10 MR. THOMPSON: I'd like to see a study plan
11 determination that evaluates the existing information.
12 And if it's there and we've overlooked it, we'll -- we
13 may even withdraw our request if there's enough
14 information there in the PAD, in the technical memos.
15 We don't think there is, and so that's why we issued a
16 request.

17 MR. HOGAN: Right. And I --

18 MR. THOMPSON: If you think this meeting is
19 long on should we do a study or not, seems to me that
20 the quicker way to do it would be to do a study and get
21 the answers to the different questions.

22 MR. HOGAN: Quicker for who?

23 MR. THOMPSON: For all of us.

24 MR. HOGAN: And I guess what I -- what I said
25 is, what I'm struggling with is -- and the reason for

1 the meeting was to help me with my struggles -- is nexus
2 to the project and Commission baseline. I think that
3 that was really the root of my concerns.

4 I mean, certainly if there's a nexus and it
5 satisfies the baseline requirement, we're interested in
6 the data and the information. If there's no nexus and
7 it's more of a research project because, hey, this would
8 be great information to look at and understand, you
9 know, what's going on in the Englebright reach, you
10 know, whether or not the project's there, then that's
11 less of our information. We really need to look at the
12 project's relationship to that data need.

13 So I will say that, you know, given the
14 discussions at today's meeting, if there's anything
15 anybody wants to add in writing to the record, please do
16 so.

17 I'm not going to be able to turn something
18 around within two weeks because the transcripts probably
19 won't be ready or public, so -- but if, you know, I
20 would say, you know, if you want to put more data into
21 the record around the topics today and supporting
22 information, whether it be YCWA supporting their
23 position or NMFS supporting why the additional
24 information is needed, please do so. Feel free to make
25 an argument -- or FWN, anybody.

1 I would do so probably within 30 days. The
2 sooner the better. I wasn't authorized to give a
3 deadline, so I'll be told, okay, start working on it,
4 and if the information comes in before I'm done with
5 working on it, then it'll get incorporated. If we issue
6 something before the information comes in, obviously, it
7 won't. So I'll leave it at that.

8 And if my supervisor wants to give a defined
9 deadline, I'll probably put some type of notice into the
10 record for that. But the record's always open, so
11 you're always welcome to file something.

12 I did find this very helpful today. I
13 appreciate everybody's time to help educate me and a
14 allow me to do a better job, so I really appreciate the
15 effort that you folks have made to come out today.
16 So -- and hopefully we'll get a good product out of it.

17 Any questions for me?

18 MR. LYNCH: Thanks for coming out.

19 MR. THOMPSON: Maybe just one. Did we get a
20 commitment from you to contact the Army Corps of
21 Engineers' FERC coordinator for information? Because
22 there were a lot of stakeholders here today, but that
23 was one stakeholder, and --

24 MR. HOGAN: Not here.

25 MR. THOMPSON: I know. They were invited. And

1 that's not your fault, Ken. But I do think that they
2 probably have significant information that you might
3 want to consider. They have a FERC coordinator.

4 MR. HOGAN: Rachel.

5 MR. THOMPSON: And -- yes. And we reached out
6 to her. Apparently she was not able to come.

7 MR. HOGAN: Do you have an idea in your head
8 what information you think the Army Corps -- actually
9 reaching out to the Army Corps for?

10 MR. THOMPSON: I would try to get the original
11 source documents cited in Hagwood 1981, because there
12 were photographs, for example, taken prior to
13 construction of Englebright, during construction,
14 accounts of when the dam was closed. There's even an
15 account in there that -- they did this in a very wet
16 year. 1939-40 was very wet. There was deposits of
17 large material downstream of the dam that occurred.
18 They might have a lot of additional photographs that
19 were not in those original reports.

20 But the debris commission, I think they did --
21 might have been monthly or, I don't know, yearly
22 meetings. And like I say, I've attempted to get those
23 out of their archives. I just haven't had any luck.

24 I think they told me to ask FERC for them --
25 and I passed it on to you, Ken -- or issue a FOIA, which

1 I just didn't get a -- I just didn't think was
2 appropriate, as I said earlier.

3 But they might have a lot of resources they can
4 bring here to bear, even though they weren't here today.

5 MR. HOGAN: So if I made a call to Rachel,
6 would you be willing to be on the phone to help me --

7 MR. THOMPSON: Sure.

8 MR. HOGAN: -- walk through that information?

9 MR. THOMPSON: Sure.

10 MR. HOGAN: Okay.

11 MR. REEDY: I would, too. And I would do it in
12 good spirit, despite, you know, I have to say one short
13 statement representing some local stakeholders who
14 really want to see conditions improve in the section of
15 river, but to have, on one hand, the Army Corps of
16 Engineers not address the limitations to their program
17 imposed by the existence of the shot-rock, and then, on
18 the other hand, FERC potentially not warrant studies
19 that help us advance our opportunities to enhance
20 habitat for greater understanding of the condition.

21 That's -- that kind of would be two federal
22 inactions regarding this problem in the river. And I
23 understand the rationales on both sides, but, you know,
24 fortunately there are other stakeholders that can help
25 gather the information needed to ultimately improve the

1 habitat.

2 MR. RABONE: YCWA would like to participate in
3 the call, too.

4 MR. WOOSTER: Sounds like a party.

5 MR. HOGAN: It's just going to be an
6 information request and what's available and what's not.
7 And Larry seems to have a pretty good idea of what he
8 thinks will be helpful and -- much better than I do. So
9 that would be -- he would be my guide. But I'm not
10 against creating a call, so . . .

11 MR. THOMPSON: In the short-term, Ken, I
12 would --

13 MR. HOGAN: Just to be clear, though, there
14 would be no merits talked about. It's just, do you have
15 this information, can you provide it, and that's it.
16 We're not going to talk about the merits of the
17 information or anything like that, so I don't want to
18 have to notice a meeting or . . .

19 MR. RABONE: Let us know the outcome.

20 MR. HOGAN: Geoff, you're welcome to sit on the
21 phone.

22 MR. THOMPSON: In the short-term, Ken, I mean,
23 I have emails in my record where I sent emails to the
24 FERC coordinator with the Corps asking for the
25 information. I could just forward those to you and

1 then --

2 MR. HOGAN: That would be another approach, and
3 then I can eliminate the whole ex parte issue.

4 MR. THOMPSON: Sure. Sure. Okay. I'll do
5 that.

6 MR. HOGAN: All right. Thank you, everybody.

7 (Time noted: 1:00 p.m.)

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