1 BEFORE THE
2 FEDERAL ENERGY REGULATORY COMMISSION
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4 - - - - - - - - - - - - - - - - -x
5 IN THE MATTER OF: : Project Number
6 KLAMATH HYDROELECTRIC PROJECT : P-2082-027
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12 Resighini Rancheria
13 158 Klamath Beach Road
14 Klamath, California
15
16
17 Thursday, December 16, 2004
18
19 The above-entitled matter came on for tribal
20 consultation meetings, pursuant to notice at 10:05 a.m.
21
22
23 REPORTED BY:
24 PATRICIA E. SENGER, CSR #8351
25

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25 -- continued --

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11 PacifiCorp
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13 TRIBAL COUNCIL MEMBERS:
14 Rick Dowd, Chairman
15 Kathy Dowd, Member
16 Gary Dowd, Member
17 Frank Dowd, Member
18 Susan Gordon, Member
19
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1 KLAMATH, CALIFORNIA; DECEMBER 15, 2004
2 10:05 A.M.
3 . . .
4 DR. MUDRE: My name is John Mudre with the
5 Federal Energy Regulatory Commission. We're here today
6 to speak with the Tribe here, the Resighini Rancheria.
7 We have a court reporter here today, and the
8 purpose of having her here is so that she can record
9 what we talk about, your concerns and everything. The
10 point is we need to get this information into the
11 record. We put it into the record so that the
12 Commission can rely upon this information, look at it
13 and use it in the licensing decision. So that's why she
14 is here, just to make sure that everything is accurately
15 reported.
16 So that she knows who said what, please state
17 your name. It's a little inconvenient to have to say
18 your name and maybe to speak slowly, but it is very
19 important that we capture accurately the information.
20 That's why she is here.
21 And from my standpoint, why we're here is to
22 basically get to know the Tribes, your concerns, what
23 your interests are in this proceeding. We'll tell you
24 as much as you want to know about ourselves, the
25 Commission, what they do in this process and sort of

1 schedule how this is going to play out so you understand
2 the proceeding and, thus, are able to participate fully
3 and, you know, so your concerns are taken into account
4 as this process moves forward.
5 MR. SMITH: I'm the director for the Resighini
6 Environmental Protection Authority. This meeting, under
7 the Tribe's constitution, has to be a regular business
8 meeting of the Tribal Council since it's a government-
9 to-government meeting between the Federal Energy
10 Regulatory Commission and the Resighini Rancheria
11 Business Council; so, therefore, the chairman has to
12 conduct it more or less like a regular business
13 meeting. And so I guess, with that, we can go ahead and
14 commence to conduct it as such.
15 MR. RICK DOWD: Rick Dowd. I'm the chairman of
16 the Resighini Rancheria and calling the meeting to
17 order, and I guess everybody is here.
18 I'll introduce our host here, Phil Smith. He's
19 the EPA director doing most of the talking for us.
20 MR. SMITH: Thank you, Rick.
21 Basically the main purpose of this meeting, so
22 that the Council and everybody can understand, it's to
23 discuss the Commission's relicensing process of the
24 Klamath Hydroelectric Project. The Resighini Rancheria
25 can participate to the fullest extent possible and

express your interests and concerns in the affected area.

And I want to thank you, John, for helping to arrange this meeting, and I thank you for coming down to the Resighini Rancheria. We're happy to have you here as our guests. I don't know that you're among friends, but you're among people that won't hurt you.

DR. MUDRE: That's all I can ask for.

MR. SMITH: We'll go around the table and introduce ourselves. I'm going to start with Pat Higgins over here.

MR. HIGGINS: I'm Patrick Higgins. I'm with Kier Associates. In this capacity, I'm the fish biologist. I helped write the long-range plan to restore the Klamath River. I'm been doing this for about fifteen years.

MR. ASARIAN: My name is Eli Asarian. I'm also with Kier Associates working with Pat in the environmental science.

MR. HOUGH: My name is Sam Hough. I'm an attorney with the California Indian Legal Service. H-O-U-G-H. I'm also a member of the Morongo, M-O-R-O-N-G-O, Band of Mission Indians.

MR. SMITH: I'm Phil Smith. I'm the director of the Resighini Rancheria Environmental Protection

1 Authority and hosting the meeting.
2 MR. WILSON: My name is Rollie Wilson. I'm the
3 Federal -- R-O-L-L-I-E W-I-L-S-O-N. I'm the Federal
4 Energy Regulatory Commission Tribal Liaison. It's a new
5 position that we established about a year ago, and I got
6 hired in August. My job is to help facilitate these
7 meetings, help with conversations between tribes and the
8 Commission and always to be a contact point for you and
9 your staff.
10 My phone number is (202) 502-8787. This is,
11 we'll explain later, for the Commission, a contested,
12 on- the-record proceeding; and so given that we've got a
13 formal status like that, it can be difficult for us to
14 talk about substantive issues except in public forums
15 like this one. In the future, if you call and talk on
16 the phone, I can help you out a lot. When we talk
17 substance, we need to do it in an open forum like this.
18 Feel free to call us.
19 DR. MUDRE: I'm John Mudre, M-U-D-R-E. I'm on
20 the staff of the Federal Energy Regulatory Commission.
21 I work in the Office of Energy Projects. I am the
22 project coordinator for the relicensing of the Klamath
23 Project.
24 MR. WINCHELL: My name is Fred Winchell. I'm a
25 contractor with FERC. I'm a fisheries biologist. I'm

1 working on the aquatic resources portion of the project.
2 MR. RICK DOWD: I'm Rick Dowd. I'm the
3 chairman of the Resighini Rancheria.
4 MS. DOWD: My name is Kathy Dowd. I'm a vice
5 chairman of the Resighini Rancheria. I'm a Klamath
6 River Yurok Indian. I've lived on this river for
7 fifty-one years.
8 MR. GARY DOWD: Gary Dowd. I'm a council
9 member and fisherman.
10 MR. FRANK DOWD: I'm a council person,
11 Resighini Rancheria.
12 MS. GORDON: Susan Gordon, Resighini Rancheria
13 Tribal Council and Yurok Indian.
14 MR. HOWISON: I'm Russ Howison. H-O-W-I-S-O-N,
15 and I work for PacifiCorp in the licensing department,
16 and I'm here as an observer.
17 MR. SMITH: John made some opening remarks,
18 but, John, if you want -- if you have anything further
19 that you would like to say to us at this time, go ahead
20 and open the meeting.
21 DR. MUDRE: I can give you an overview of who
22 the Federal Energy Regulatory Commission is, you know,
23 what it does and that sort of thing if you're interested
24 in some background fairly briefly.
25 MR. SMITH: Yes, we would like that.

1 DR. MUDRE: The Federal Energy Regulatory
2 Commission is composed of five commissions appointed by
3 the president of the United States and confirmed by the
4 senate. Among other things, the Federal Energy
5 Regulatory Commission has authority under the Federal
6 Power Act to regulate nonfederal hydroelectric projects,
7 so the Commission issues licenses for terms from thirty
8 to fifty years to entities to construct and operate
9 hydroelectric facilities.
10 In addition to licensing the facilities, the
11 Commission oversees the projects once they are licensed
12 to make sure they are being operated according to the
13 terms and conditions of the license.
14 We also have a fairly aggressive dam safety
15 program to make sure that the licensed projects are safe
16 for the public so in earthquakes they're not going to
17 fall down and public safety is protected. So those are
18 the three components of the hydroelectric program.
19 With respect to licensing hydroelectric
20 projects, that process starts when an applicant files a
21 license application that describes the project they want
22 to operate; if it's unconstructed, you know, what it's
23 going to look like, how it's going to work; if it's
24 already constructed, any plan they have in the
25 construction operations, you know, that type of

1 information.
2 So a licensee files their application with the
3 Commission. In this case PacifiCorp filed an
4 application for a relicense of the Klamath Project in
5 February of this year. Once we get an application for a
6 license into the Commission, we issue a public notice
7 that we received this application and to let people know
8 that we have it, and then we go about processing that
9 application. We review the application to make sure all
10 the components that are required by our regulations are
11 in there. If it contains all the information about the
12 project that's required, we issue another notice saying
13 that we accept the application and then request if
14 anybody wants to intervene or become parties in the
15 proceeding, that notice requests them and tells them how
16 to do that.
17 Just because we have all the information that's
18 required by our regulations to accept the application,
19 that doesn't mean we have all the information we need to
20 conduct our environmental analysis because for the
21 Commission to license a project, we have to perform an
22 environmental analysis under NEPA. So typically we do
23 an environmental analysis and Environmental Impact
24 Statement, an EIS. What that looks at is the
25 environmental effects of the proposed project, and we

1 also look at alternatives to the project that maybe
2 other people come up with or staff comes up with that
3 would basically accomplish the same purpose perhaps but,
4 you know, maybe do it in a better way.
5 So we look at alternatives, but we need a lot
6 of information to do that analysis, and sometimes we
7 don't have all the results of studies and things, or we
8 need more information than what's been provided in the
9 application in terms of potential environmental impact.
10 So what we do is we send out one of our notices, ask
11 different parties, people, if there are any studies that
12 they think haven't been done that should be done to let
13 us know about those.
14 When we get those in, we look at those and the
15 application. We might see some things based on what was
16 sent to us, and we would request more information from
17 the license applicant if we think we need it. And
18 that's -- the other thing that we do as the first part
19 of the preparation of the environmental document is to
20 hold scoping meetings and take scoping comments. The
21 purpose of that is to make sure from everyone what the
22 important issues are that we need to be looking at in
23 our environmental analysis. That sort of feeds into the
24 initial information process as well.
25 Once we -- once the licensee provides us all

1 the information we need from the environmental
2 standpoint, then we'll issue what's called a "Ready for
3 Environmental Analysis Notice," which means we think we
4 have all the information we need now to go ahead and
5 begin preparing our environmental statement or EA, and
6 that notice also requests recommendations from agencies
7 and tribes as to what conditions they think should be
8 put into a new license. And so we have those so we can
9 look at those in our environmental assessment or EIS as
10 well. So there is opportunity for tribes and the public
11 at numerous points along the way to inform us of what we
12 need to consider or how the project should be run.
13 At this stage in this process, we are -- we've
14 got -- I think we have a hundred and eighty or so
15 additional study requests that people requested that we
16 have to do. We're looking at those deciding which of
17 these we need to have conducted.
18 We're also putting together additional
19 information requests in a letter that says, "This is
20 what we think other additional information is that we
21 need that we haven't got yet." We'll be sending that
22 out and a schedule for getting that information back to
23 us, and we're also working on what is called "Scoping
24 Document 2," which is basically the Scoping Document 1
25 plus the comments that we received. We respond to the

1 comments. We say, "These are the things we are going to
2 look at in our EIS based on what we thought originally
3 and the comments we got."
4 That is a good outline of the things we are
5 going to consider in our EIS. We're in the process of
6 putting that document together as well. With any luck,
7 we'll have all three of those, the initial study request
8 responses, the additional information request and
9 Scoping Document 2 issued within about a month or so.
10 At that time we'll also put out a revised schedule for
11 processing the application.
12 As to when the draft EIS is going to come out,
13 there is a comment period on that. When that comment
14 period will end, when we'll have the final EIS put
15 together is sort of a tentative date for the license
16 issuance. We don't have complete control over when that
17 issuance occurs because we need to have the water
18 quality certificates from the states. We can't issue a
19 license until we get those. Sometimes those come a bit
20 after the EIS is in.
21 The EIS is important because it's used to form
22 the Commission's decision on whether and under what
23 conditions they should issue a license, a new license
24 for the project. So the Commission relies upon what is
25 in the EIS, which is based on things that are in the

1 public record. So, again, that's why we have the court
2 reporter here today, to make sure that your concerns are
3 put into the record so they can be relied upon in the
4 Commission decision-making process.
5 Two more things real briefly: Once the
6 Commission issues a license, the applicant either --
7 they have a choice. They don't have to take it if they
8 think it's going to be too expensive to do these things,
9 the way it's licensed won't make enough power to make it
10 economically feasible.
11 The other thing that can happen is that parties
12 to the proceeding, those who have filed motions to
13 intervene, can request a rehearing of the Commission's
14 order if they didn't like certain parts of it. They
15 give us more information. The Commission reviews that
16 information, and they can decide whether they need to
17 change the license a little bit in response to these
18 rehearing requests or they feel they had considered that
19 information and they want to leave the license how it
20 is.
21 That's pretty much the process in a nutshell;
22 and if you have any questions, I'll be happy to answer
23 them.
24 MR. RICK DOWD: Is that a dam?
25 MR. SMITH: Could you review the project --

1 give us an overview of the project.
2 DR. MUDRE: The project itself starts right
3 now. It starts basically at the Link River Dam on Upper
4 Klamath Lake near or in the town of Klamath Falls,
5 Oregon. There's two small powerhouses east side and
6 west side that take water out of gates that are attached
7 to Link River Dam. They're very small and PacifiCorp is
8 proposing not to include those in the new license, so
9 they would -- that dam will stay there because that's a
10 Bureau of Reclamation dam, but the two powerhouses that
11 feed that will be decommissioned and taken out of
12 service.
13 They're also proposing to take their next dam
14 downstream out of the project. It's called Keno,
15 K-E-N-O, Dam, and it doesn't have any generating
16 facilities associated with it. I think when they built
17 it, they thought that someday they might, but they never
18 developed any. One thing about Keno Dam, there was a
19 dam there before Keno Dam. Floods washed it out, and
20 they wanted the irrigators -- people in the area wanted
21 it rebuilt fairly quickly because the impoundment of
22 Keno Reservoir established there serves as a source of
23 water for the irrigation deliveries, so that dam is not
24 -- according to PacifiCorp, that does not serve any
25 project purposes; therefore, they want to take it out of

1 the project boundary, but their proposal is to leave it
2 in place so as not to impact irrigators in the area.
3 But other people suggested that the water quality would
4 be a lot better if that dam is taken out. That is one
5 of the things we need to look at in the environmental
6 assessment, whether that dam should be in the project,
7 or if not, should it be removed or left there.
8 Going downstream from there, the next dam is
9 the J.C. Boyle Dam which has canals. The J.C. Boyle
10 Powerhouse is pretty much the heart of the project.
11 It's the biggest generating development of the project.
12 Downstream from J.C. Boyle, which is in Oregon,
13 the first California dam that you come to, I think, is
14 Copco, C-0-P-C-O, Number 1, and then right downstream
15 from that is Copco Number 2, and about eight miles below
16 that is Iron Gate Dam.
17 The project right now spans about, I think,
18 sixty miles of the Klamath River. The lowest part of
19 that project is River Mile 180, and it's just sort of
20 northeast of Yreka, California. So that's -- there is
21 one other small powerhouse on it, Fall Creek, which is a
22 tributary to the Klamath River, and it's a very old one,
23 and the water from it flows into Iron Gate Reservoir.
24 MR. WILSON: I'll point out particular places
25 where the Tribe can get involved in our process. As

1 John just described, it's a hydropower project that
2 ranges in the Upper Klamath River from Oregon down to
3 California. The last dam is a hundred and eighty miles
4 from where it enters the ocean. It is a dam that is
5 upstream from you all. It provides water storage for
6 irrigators up in Oregon and California. It provides
7 electricity --
8 MR. HIGGINS: That's incorrect, sir. It
9 provides no water storage for agricultural whatever.
10 DR. MUDRE: Unless you want to include Keno
11 down --
12 MR. HIGGINS: That's not water storage.
13 DR. MUDRE: It's not storage in the normal
14 sense.
15 MR. FRANK DOWD: All the facilities take the
16 water different directions.
17 MR. WILSON: I'm sort of new to the project
18 myself. Your consultants could do a better job telling
19 you. It primarily follows the Klamath River path.
20 There are diversion pipes where they channel the water
21 to produce the electricity. I was under the impression
22 that there was a couple of places where irrigation water
23 was taken out.
24 MR. HIGGINS: That is Upper Klamath Lake. It
25 does regulate the storage capacity of Upper Klamath Lake

as well as the lake levels. The other have no water storage capacity like the Trinity Dam does where the major portion of the Central Valley -- the water stored there is shipped and then used. In this case, the water availability in the Keno reach is greater for the farmers there because they don't have to pump the six feet up from the water in the fields, but storage implies that there's depth and capacity in that reach to have water for several months, for instance, when, in fact, the river is six feet deeper than it was and not flowing.

DR. MUDRE: It facilitates irrigation but doesn't provide great long-time storage of the water.

MR. WILSON: All this is about a hundred eighty miles upstream from you. The water that goes to those processes is running past your homeland here, so we are concerned in the licensing of this project, both with providing things in the larger public interest, but also in taking your concerns into account as to how this upstream project may, in your view, impact your fisheries, your water quality or other river activities.

Another big part of your own interest is ensuring that the project itself is mitigated for any impacts it has on cultural resources you have. When we talk about the cultural resources, according to the

1 Preservation Act, there are ways to keep that
2 information confidential. If something is submitted to
3 us, it's out of the public eye.
4 But I wanted to highlight some points where the
5 Tribal Court can interact in your process. John
6 mentioned we are considering additional study requests.
7 This comes at a good time because it gives you an
8 opportunity to put your feelings behind your words you
9 filed with us. Tell us about the requests you filed and
10 why and how that information will help the Tribe's
11 interest. We're getting ready to do the environmental
12 analysis documents, so any issues that you raise here
13 can be included in those documents later on when we do
14 your ready environmental analysis.
15 One of the authorities that tribes have in this
16 process because of our government relationship with you
17 is the opportunity to file recommendations under Section
18 10(A) of the Federal Power Act. So you can provide to
19 us recommendations for conditions that would actually go
20 in the license and govern how the project operates.
21 That's something you can do later on.
22 I thought there was a third thing.
23 DR. MUDRE: Comments to the draft EIS.
24 Once we prepare our draft environmental
25 statement, we send it out to all the parties to get

1 their comments as to whether or not we did a good job of
2 analyzing the impacts, if we forget to look at
3 something, if we made mistakes. So we ask for those
4 comments. There's usually a forty-five-day comment
5 period on that. We get those, we look at them, and we
6 make revisions as appropriate so that you know our final
7 EIS is a very good document that you can rely on for the
8 licensing decision.
9 MS. GORDON: Are comments and recommendations
10 -- is the comments and remarks included the same in
11 your process?
12 DR. MUDRE: I mean, they can be in the same
13 letter. Recommendation is, you know, we want the
14 licensee to have to do this, this should happen like
15 this. Comments can be sort of more general types of
16 things. If you call it a recommendation, "We want to
17 see this in the license," or "The license should look
18 like this. This is our recommendation for it."
19 Comments, you know, can be a little more general or
20 broader.
21 MR. WILSON: Comments tend to be more about how
22 good a job we did analyzing on particular issues. Maybe
23 we should have gone further in something, maybe we
24 missed an area altogether. Recommendations tend to be
25 directly about what the licensee's responsibilities are

1 going to be.
2 MS. GORDON: Is this recommendation or comment?
3 MR. FRANK DOWD: When was the last license
4 issued and what governments were involved?
5 DR. MUDRE: That's a good question. The
6 existing license for the Klamath Project was issued, I
7 think, in 1952, '52, '54, somewhere in there. It's been
8 changed a few times since then. In 1961 it was amended
9 to allow for the creation of the Iron Gate Dam. That
10 was put in because the upstream projects at Copco,
11 they're a peaking project, so they release a lot of
12 water for part of the day when the electricity is
13 needed, and then they shut off pretty much the rest of
14 the day. The problem that they were seeing in the river
15 downstream was very high flows and very low flows. Iron
16 Gate Dam was put in, called a rereg facility. It
17 created an impoundment that basically catches this water
18 that's coming in very fast or very slow, and it let's
19 the water out at a constant rate downstream so the
20 downstream Klamath isn't fluctuating up and down, you
21 know, every day all the time in large amounts. It
22 reregulates the flow of the river. It also has some
23 generation capacity, sort of provides electric energy as
24 well.
25 The main purpose it was put in there was in

1 response to the concerns of the state of California and
2 maybe the Department of the Interior was that these
3 flows, they change too much, too fast through the course
4 of the day. You need to smooth that out.
5 MR. SMITH: If you fished before Iron Gate was
6 put in, you had to watch it. You could almost see it
7 coming. As a fly fisherman, you had to run up and get
8 out of there real quick when it started coming up. You
9 might remember some of your netting the same way.
10 DR. MUDRE: As to the rest of your question,
11 I'm not sure what tribes may have been involved in the
12 relicensing of that project.
13 MR. GARY DOWD: Probably not too many.
14 DR. MUDRE: In those days, the environmental
15 wasn't considered as much as it is now. You know, that
16 wasn't as developed as it is today.
17 MR. SMITH: The tribes really didn't have
18 organized governments in those day either.
19 DR. MUDRE: It's a lot better license.
20 MS. GORDON: Is this with PPL for the energy?
21 DR. MUDRE: PPL and PacifiCorp are two
22 divisions of the same corporate animal.
23 MR. HOUGH: PacifiCorp owns Pacific Power, so
24 the short answer is yes. The applicant in this case is
25 Pacific Power's parent company.

1 MS. DOWD: Are you guys the ones that control
2 like the dam safety to make sure the dams are safe?
3 We're the ones at the end that get flooded out every
4 time because when I was born in '53, there was a flood,
5 and I've been in about four of them. So you guys
6 control those things? Will we have a say as to what
7 effect how you're releasing the waters will have because
8 we're the ones get affected by whatever you do up there
9 to what comes down here? We're at the lowest point, and
10 we get flooded out a lot right here. Now we're
11 developing our facilities here. You guys let us know
12 when you put water out.
13 DR. MUDRE: The project -- the responsibility
14 for operating the project in the safest manner is the
15 licensee, although we make sure we keep a close eye to
16 make sure they are operated safety and -- but the point
17 here with respect to floods is that this project doesn't
18 really have any flood control capabilities or very
19 little. As we said before, it's a hundred and eighty
20 miles upstream. There are a lot of tributaries that
21 come in below the dam that they would have no control
22 over stopping that water from coming down. I don't
23 think that, you know, there's any way that they could
24 cause floods or anything like that with their project a
25 hundred and eighty miles downstream. I think the floods

1 you get down here, they're a result of the flows.
2 MR. HOUGH: Result of everything.
3 MS. DOWD: The years, you said '53 and '61 when
4 you talked about dams, floods happened down here, so
5 that's why I'm seeing the correlation.
6 MR. HIGGINS: If I might, the lack of water
7 storage capacity, the issue that came up earlier also
8 means that these things cannot be operated for flood
9 control. Trinity Dam when first constructed actually
10 caught the '64 flood. They never let any water out from
11 the '64 flood and coming in was a huge amount, so they
12 could catch that whole flood, and all of those
13 reservoirs on the Klamath side, it rains hard, they fill
14 up. Still they can't say, "Let's catch this water so it
15 doesn't flood." You guys don't have that capability.
16 Trinity Dam and how they operate has a lot to do with
17 it.
18 MR. WILSON: Is Trinity Dam BOR?
19 MS. GORDON: That's one of our biggest concerns
20 here, flooding.
21 MR. HIGGINS: Trinity Dam too.
22 I don't want to get in the way of your
23 questions with the council. What if they walk away from
24 this dam? What happens to the structures and who's
25 responsible for it if they turn down their license?

1 DR. MUDRE: They can't just walk away from it.
2 The Commission would ensure that the public safety was
3 protected throughout the process.
4 MR. HIGGINS: Even if they abandon the project,
5 then you still have some authority for them to dismantle
6 and bear the costs there too? The license can't be
7 abandoned once the project is in place?
8 DR. MUDRE: Right.
9 MR. WILSON: To get to your flooding issue,
10 this project we're talking about relicensing might not
11 have that much impact on floods. If it's a concern of
12 the Tribe and maybe it impacts the economic development
13 that you're considering or housing or community
14 development, to whatever extent that this project might
15 be able to add in that, you should talk to your folks
16 and write these comments up and make sure that gets into
17 our records so we can consider maybe this project has
18 only a little bit. That's something we can figure out
19 in our environmental analysis. It could be a small
20 component of what comes out of this licensing.
21 Some additional control on the river release,
22 it sounds like the reregulation dam has done some of
23 that. If that's a concern of the Tribe, be sure to
24 raise that as the environmental process goes forward.
25 MR. SMITH: I want to give you a little

1 orientation on Resighini and where we are and why we're
2 so impacted by this river and everything that takes
3 place in the Klamath Basin Watershed.
4 This isn't a great photograph, gentlemen, but
5 it's all we have right now. But this is north up here
6 (indicating). This is Highway 101 that you traveled
7 over today, and this is the bridge going across the
8 Klamath River. This is Resighini Rancheria. It runs
9 from here, and our property actually goes up like this
10 to here and down, so we own there and this area in
11 here.
12 This is the Klamath River here. As it comes
13 down from the northeast, it makes a big turn here, then
14 comes down and goes around approximately one mile to the
15 mouth from here. We get tidal influence up to here,
16 about this spot, on a daily basis. In the wintertime,
17 it's less because you have a greater volume of water
18 coming down, so the tide will influence it down to
19 here.
20 And our wells, our water wells, are located
21 right in here. Our homes are along here in this higher
22 area here. Our water wells are located right here. We
23 get all of our wells -- we have a public water system
24 from groundwater. This whole thing is impacted,
25 influenced by this river. They have very little water

1 coming off this hill here. It's mostly just springs and
2 a couple of streams. We have one stream down here, and
3 it runs down here and into the river. It's a surface
4 drain we don't access for water. The rest is seasonal
5 streams and seasonal springs.
6 We have a major concern over the quality of
7 water that is coming down to the river because we bathe
8 in it and do everything in it at one time.
9 This is what is called an overflow channel. We
10 have river water ponds here, big one here, big one here
11 and then a smaller man-made, beaver-made pond down
12 here. Studies have shown that we have lamprey in these
13 ponds. We don't have any salmonids in the ponds, so
14 there's access to the ponds undergoing --
15 MR. HIGGINS: An activity from the river to the
16 ponds.
17 MR. SMITH: This used to be farmland, all this
18 in here, and there were homes out here. We're located
19 right here. Where the office is here, this area used to
20 be -- before the '64 flood in 1963, there was a little
21 tiny channel that ran through these ponds, and water
22 would flow through here, one here.
23 We have Terwer Creek over here, and it comes in
24 and just acts as a dam. As it flows into the river, it
25 slows this river down up here; and as you can see what's

1 going to happen hydrologically, it's going to take the
2 path of least resistance. It came right through here
3 and created the overflow channel where we have an
4 economic development here of processing rock, sand and
5 gravel as it fills up every couple of years with high-
6 water events.
7 After the '64 flood, the members of the Tribe
8 tried to get the BIA to fix this and put their land back
9 to where it was. BIA refused to do that, though they
10 did come over to the glen that flooded, and they built
11 this dike around Klamath Glen to protect it. They
12 didn't do anything for us over here. There was very
13 little. Back in '65 when this thing was constructed,
14 the environmental studies were minimal, at best, if
15 any. They just built the dike. As a result of that, we
16 have even greater impact from high-water events.
17 Now we have this dike here that forces it right
18 through here, and then you still have this creek.
19 There's a wild creek every year. It still creates this
20 dam, so we really can't do any economic development out
21 here anymore because of the dike and things that have
22 happened since then. So, of course, that comes down
23 this river, hits us. We drink the water, we eat the
24 fish, we eat the eel. We fish all along the reaches
25 that are within the Resighini territory.

1 Subsistence fishing: The state of California
2 recognizes Resighini's right to fish. We fish under
3 that state regulation. We have two fishermen who are
4 present today who are councilmen. Gary Dowd has been
5 fishing all his life, and Frank all his life since he
6 was a little kid, and Rick has fished -- fishes too.
7 Then we gather basket-weaving materials from the willows
8 and other natural flora that we use in basket making.
9 There are cultural issues on the flat that I
10 don't want to discuss today and that we're concerned
11 about preserving and protecting.
12 Everything that takes place in this watershed
13 slams into Resighini. I mean everything, the entire
14 reach of it, and we're real concerned about the quality
15 of water.
16 You hear from our fisherman a lot of times
17 during August and September when the fish are returning
18 and the water is warm, they'll set a net and pull up a
19 net. It will be a wall of moss. The fish can't get in
20 it. They see it and go around it. They spend hours
21 cleaning that net; so oftentimes to avoid that, rather
22 than set the net, they drift with the net to try to
23 minimize the moss on their net, which creates a hazard.
24 It's more dangerous to drift at night, and you don't
25 catch as many fish. It's a lot tougher work.

1 Anyway, that's Resighini Rancheria.
2 In our motion to intervene, we talked about the
3 Tribes's interest, but I've also listed them. I just
4 want to put them in the record. Here's the interests
5 that we expressed in our motion to intervene:
6 "1. The project's impact on tribal
7 member's ability to engage in
8 traditional and contemporary
9 subsistence and religious practices.
10 2. The project's impact on fish and
11 game, traditional foods and basket-
12 making materials.
13 3. The project's impact on our water
14 quality and related environmental
15 issues, such as watershed health,
16 riparian habitats, erosion, sediment,
17 turbidity, nonpoint sources of
18 pollution and temperature changes,
19 algae blooms, low dissolved oxygen,
20 high pH and un-ionized ammonia." After all we
21 do drink this water and have to treat and test for all
22 of those things.
23 "The project's impact on our
24 drinking water quality, including
25 cumulative impacts that may result in

1 health problems," not just our members who live
2 here, but the tourists that come in and camp with us
3 every year, plus the people that use the water for
4 business purposes and are employees.
5 "The need to have the Resighini
6 Rancheria and the entire downstream
7 reach of the Klamath River included in
8 the Project's area of Potential
9 Effect," or APE.
10 We understand that it's usually up to FERC to
11 determine what the APE does. We also understand that
12 it's PacifiCorp's position that the APE is usually
13 within the project boundary that is defined by FERC.
14 We're asking you to extend the APE to include us because
15 we can show through testimony and through science that
16 we are, in fact, impacted by the project even though
17 we're a hundred and eighty miles from its furthest
18 project.
19 MR. HIGGINS: One ninety actually, Phil.
20 MR. SMITH: "As an alternative to the
21 relicensing of the project, the need
22 to consider the no-dams alternative." We
23 certainly want that considered.
24 And with that, if the council has anything else
25 they want to add to that -- if not, what I would like to

1 do is -- do you have anything else? What I would like
2 to do, then, is introduce Sam Hough who is with
3 California Indian Legal Services, our attorneys in this
4 matter. Even though we're not represented by them in
5 the motion to intervene, we're pro per, that's because
6 of money, but we do hire them to assist us, and they are
7 looking at it and helping us with the legal issues here.
8 MR. WILSON: The Area of Potential Effect that
9 you talked about, I got confused for a moment there.
10 Were you talking about for cultural resources Section
11 106 or for NEPA analysis?
12 MR. SMITH: How about all of them.
13 MR. WILSON: Because they are a little
14 different. I'm curious which one we're talking about.
15 I guess you were talking in both contexts.
16 MR. SMITH: Yes.
17 MR. WILSON: I'll explain a little bit.
18 Cultural resources under Section 106 is different than
19 considering the environmental impacts of the project.
20 They define an area, and folks go out and do surveys and
21 understand how to mitigate the impact of the project on
22 cultural resources, if necessary, move items and maybe
23 protect items in certain ways. There is a whole process
24 for doing that.
25 MR. SMITH: The 106 concern has been every

1 tribe all the way down the river by every tribe because
2 so many of our cultural foods or traditional foods and
3 basket-making materials grow right along the river.
4 MR. WILSON: What we do under the National
5 Environmental Protection Act is, for example, we will
6 assess the environmental impact of the project. That
7 can start to bleed into cultural issues like fishing
8 because making supplies, which is an economic resource
9 for the Tribe, flood control things like that, but the
10 process for understanding those impacts is different.
11 For example, under Section 106, you're likely to get
12 protection or mitigation for resources in the ground,
13 for fishing if the water impacts fish, algae bloom. If
14 that's the case, we can do things in terms of our
15 environmental analysis to try to decrease those algae
16 blooms.
17 So there are different kinds of analyses even
18 if the Area of Potential Effects gets defined more
19 narrowly or the culturally environmental impacts can be
20 considered over broader areas.
21 MR. SMITH: Susy.
22 MS. GORDON: I think NEPA is pretty important
23 in the assessment.
24 MR. SMITH: Okay. Thank you.
25 MR. HOUGH: Sam Hough, H-O-U-G-H.

1 What I would really like to impart to FERC
2 today is three things: Basically the concept of social
3 justice, the concept of environmental justice and the
4 trust responsibility that federal agencies and the
5 federal government as a whole owes as a duty to the
6 Tribe and the way that those three things bear upon the
7 relicensing of the project itself and how you define the
8 area of potential effects for cultural resources and the
9 area of effects for environmental resources along the
10 entire stretch of river and especially here in
11 Resighini.
12 To begin, as I think of social justice, I think
13 of an idea you have. Here we sit in the aboriginal
14 territory of the Yurok people. We have descendants of
15 the Yurok people here today still practicing their
16 culture, and their peoplehood. Their sovereignty arises
17 from that.
18 Within that sovereignty, you have four spheres:
19 You have the people, the community, you have their
20 culture, you have the land, and you have their history,
21 and those four things are so interconnected you cannot
22 pull one thing out without affecting the individuals
23 that you see sitting here today, without undermining the
24 full picture of their sovereignty and social justice as
25 it applies to them. They're a unique group because of

1 those things within American society. And if you take
2 one of those things away from them, they are no longer
3 that unique group, and you have destroyed social justice
4 as it would apply to them.
5 You can take fish away from other Americans.
6 You can take the river away from other Americans. Other
7 Americans will continue to be a people united under a
8 constitution that sees water in a river solely as a
9 resource. Take it away from the Yurok people of
10 Resighini, you take away their very peoplehood, you take
11 away who they are and the full picture of themselves as
12 Yurok.
13 I want to impart to you that neutral
14 application of laws then -- supposedly neutral laws that
15 are laid down by the Congress that apply to protection
16 of the environmental effects on the cultural resources
17 applied neutrally across the board without regard to the
18 unique characteristic of the Yurok people will not
19 result in the same amount of justice, and it's because
20 of this understanding that you have, this notion of
21 environmental justice, and you have to guarantee
22 policies on environmental justice, and environmental
23 justice plays into a federal agency application of the
24 National Environmental Policy Act, of the National
25 Historic Preservation Act, of the Endangered Species

1 Act.

2 I want you to take this charge very seriously.

3 You have an Executive Order 12989 from 1997 President

4 Clinton, signed, still in force today, that requires

5 that federal agencies look at these impacts upon

6 populations such as Resighini Rancheria, requires that

7 you consider fully the way that the impacts of the

8 project may have a different effect upon them than it

9 has upon the rest of society. And I think that is a

10 very important charge, and it's one that needs to be

11 taken seriously and needs to be included in scoping

12 documents, any environmental impact statement or

13 environmental assessment.

14 Moving on to the trust responsibility: The

15 trust responsibility arises out of this unique

16 relationship that the federal government has with

17 tribes. The federal government basically took the

18 land. In some instances, there's payment; in some

19 instances, just the result of war or decimation by

20 disease.

21 But, anyhow, the reality of the present day

22 picture is the federal government is sitting on the

23 land, states are sitting on the land that they got in

24 turn from the federal government. Because of this,

25 there's a trust responsibility to the tribes that lost

1 that land. You got a benefit. The benefit that they
2 receive in exchange is the trust responsibility to look
3 after their peoplehood, to look after their interests.
4 This trust responsibility has been applied in numerous
5 situations for the northern Kiowa, and in Montana it was
6 applied to stop the approval of the coal mining project
7 that was adjacent to the reservation because of the
8 unique effects that coal mining project would have upon
9 the people of that reservation similar to the way that
10 this project has an effect upon the people of Resighini
11 in poor berry quality, loss of fish, just the very water
12 that they drink, the very river that they live right
13 next to that's a part of their culture, that hosts the
14 salmon as it hosts the lamprey and eels they rely upon
15 for food. Without those things, their sovereignty is
16 undermined.
17 It's your charge to make sure that this doesn't
18 happen, to make sure their interests are reflected in
19 this relicensing process. I want to drive that point
20 home to you, and I expect to see it addressed in any
21 documents from this point forward.
22 And another instance of that trust
23 responsibility showing up in court cases under the APA
24 is right here with the Yurok and the Hoopa Tribes. I
25 think -- the name is not coming to me, but I would be

1 happy to supply it to you. And the state was required
2 -- the federal government required the state to look
3 after their interests when it started to set standards
4 on how much fish could be taken from the river. The
5 federal government required the state to abide by the
6 treaty rights and the reserved rights to fish that are
7 present within these tribes because of their location
8 here in the aboriginal territory.
9 I really want to drive the point home, that the
10 trust responsibility, the executive order on
11 environmental justice, the very statutes themselves and
12 their regulations, NEPA the ESA and the National
13 Historic Preservation Act require that you take these
14 things very seriously and address them seriously. This
15 includes not only in scoping documents to determine what
16 to discuss when it comes to mitigate -- if they're going
17 to cause so much harm from this project, then their
18 needs, their interests need to be fully considered in
19 any mitigation measures that are discussed and any
20 conditions that are put on the license for PacifiCorp.
21 MR. WILSON: Sam, I apologize. I didn't do my
22 homework before coming out here. Can you explain to me
23 sort of how the Resighini Rancheria got established as
24 opposed to the Yurok Reservation across the river and
25 what the relationship is and the history behind that.

1 MR. HOUGH: I have a fair concept of the
2 history, but if you will, Phil.
3 MR. SMITH: The Yurok people have, of course,
4 been here forever. In the '30's the federal government
5 recognized a need to establish a home place for the
6 homeless Indians of Del Norte and Humboldt County. A
7 man by the name of Augustus Resighini owned this
8 property, and he had sold portions of it off. But he
9 had this two-hundred-and-thirty-eight-acre parcel that
10 he owned, and the federal government bought that from
11 him in 1939 thereby establishing what they called the
12 Resighini -- because it's Gus Resighini's name, the
13 Resighini Rancheria for the homeless Indians of Del
14 Norte and Humboldt County. That's what it was
15 established for.
16 Of course, it's Yurok homeland so Yurok Indians
17 settled in it. They were settled here. They were
18 living here then, and they built homes on places --
19 there were homes out there in the floodplain before the
20 '64 flood, and they did ranching and farming and just
21 lived generally on the place. And then the Rancheria
22 was formed as the Coast Indian Community of the
23 Resighini Rancheria, and it became federally -- was that
24 in '73, I believe?
25 MS. DOWD: The constitution was formally

1 recognized --
2 MR. SMITH: 1975.
3 Did you have a Tillie Hardwick issue?
4 MS. DOWD: No.
5 MR. SMITH: There was no Tillie Hardwick issue
6 here. This Resighini Rancheria was never terminated as
7 some of the rancherias were. It's been in existence as
8 a federally recognized tribe since 1975, and they had a
9 governmental council since 1975.
10 In 1988 the Hoopa/Yurok Settlement Act came
11 about passed by Congress, and the rancheria at that time
12 was given the option of either remaining independent and
13 autonomous from the Yurok Tribe or joining the Yurok
14 Tribe. The membership was quite large at that time,
15 much larger than it is today because some of the people
16 opted to go with the Yurok Tribe. And the people that
17 you see here today plus those that have been born since
18 1988 or their children opted to maintain the Resighini
19 Rancheria independently, and they have since that time
20 till now, and they will for the foreseeable future. So
21 far as I can see, we're the only reservation within a
22 reservation in the state of California.
23 MR. WILSON: I saw the sign on the highway.
24 MR. SMITH: The Resighini Rancheria is older
25 than the Yurok Reservation because it was established in

1 1988 by an act of Congress, and the Resighini Rancheria
2 was established in 1939 by purchase and approval.
3 MS. GORDON: There is other Indians involved
4 with the Yurok -- other Indians included in the Yurok
5 Tribe. We're aboriginal Yurok Indians.
6 MR. SMITH: It's the longest existing
7 reservation of the Yurok people. Some of the other
8 rancherias were terminated under Tillie Hardwick or
9 under the Termination Act. They got reestablished under
10 Tillie Hardwick. That's what we're all about.
11 MR. WILSON: You mentioned state recognition of
12 fishing rights.
13 MR. SMITH: The state of California passed
14 under its fish and game laws -- I'll be happy really to
15 provide you with those statutes, sections. The Fish &
16 Game Code recognizes rights as follows:
17 "That any recognized Indian tribe
18 within the Yurok Reservation can fish
19 using traditional methods of fishing."
20 That's right in the law. We had a case here
21 involving Councilman Dowd -- Councilman Gary Dowd last
22 year. The court said, "No. The state of California
23 recognizes the local law. The state of California
24 recognizes your right to fish, so there can be no
25 violation. You can fish using traditional methods."

1 MS. GORDON: We need help in developing that.
2 MR. SMITH: Not really. There is so much case
3 law on it. Traditionally they used gill nets.
4 Traditionally they dammed the river and took the fish by
5 hand out of the river. The state recognizes those
6 rights, and so we're very comfortable with having the
7 state law since it's -- the only thing they can
8 prosecute you here is state law.
9 We take the position based upon the Hoopa/
10 Yurok Settlement Act, even though they opted to stay
11 with Resighini and not become a part of the major tribe,
12 they didn't lose anything that the government didn't
13 specifically take from them. Well, the government
14 didn't say what you were going to lose; they just said
15 what you couldn't do. You couldn't participate in any
16 exclusive resource of the Yurok Tribe. The river is not
17 an exclusive resource of the Yurok Tribe.
18 You can buy a license from the state of
19 California. You can come down from Oregon, buy a
20 license in California and fish the river. The river is
21 not exclusively any tribe's, and the fish in the river
22 are not an exclusive resource of any tribe. As a
23 nonIndian, I can buy a license and go catch those fish.
24 So they can continue to do everything that they
25 did before unless Congress specifically took it from

1 them. Congress did not specifically take their fishing
2 rights from them. Had they wanted to -- if Congress
3 wants to do something, they do so very easily by simply
4 putting the words in the statute to say what they're
5 going to do. Congress can terminate a tribe like that
6 (indicating) if they decide it's in the tribe's best
7 interest. You can take it through the courts, of
8 course, but the Congress has that power.
9 The Supreme Court of the United States
10 recognized that. The Supreme Court of the United States
11 said time and time again, "You can't assume when it
12 comes to rights what Congress did or didn't do."
13 Congress tells you what it does or doesn't do when it
14 comes to rights, and they do it in words, and words have
15 their plain meaning. There is nothing in the Hoopa/
16 Yurok Settlement Act that says the people who elect to
17 remain with the Resighini Rancheria lose their right to
18 fish or hunt. It doesn't say that at all.
19 MR. WILSON: This two-hundred-and-thirty-acre
20 parcel became the Resighini Rancheria. From the way
21 you're drawing on the map there, it looks like part of
22 it extended into the riverbed.
23 MR. SMITH: This used to be Taylor Island, this
24 area here; and through the eluvial process, it still
25 did. The river used to run down into this area here, so

1 through accretion and riparian laws, that becomes
2 Resighini land, period; and under riparian laws, it goes
3 to the bed of the stream or river.
4 MR. WILSON: And California is a riparian
5 state?
6 MR. SMITH: In California, that's how it's
7 interpreted. This being the center, we own -- we bought
8 this land here, and we're in the process of turning it
9 into trust and bought this thirty-four acres down here.
10 We're negotiating now to buy this fee land here and turn
11 it into trust and this fee land over here and turn it
12 into trust. The little piece here belongs to the Yurok
13 Tribe. It's all gravel bar, and that belongs to the
14 Yurok Tribe. So that's our situation. And when we're
15 fishing along here -- this is our reservation. When
16 we're fishing along here in this part of the river, we
17 can fish that. That's our position, and that's what the
18 court said: "You're fishing on your reservation along
19 this river." The state of California recognizes that
20 right.
21 MR. WILSON: Seems like if we're within the
22 Yurok Reservation, at least for a portion of it, the
23 Klamath River is entirely encompassed within the Yurok
24 Reservation.
25 MR. SMITH: A portion of the Klamath River is,

1 and it flows through our reservation. To do our gravel
2 mining, we have to get a 401 permit in the overflow
3 because it's considered the Klamath River right through
4 the middle of our reservation. The Army Corps of
5 Engineers is lead agency on that, and they issue the 401
6 permit. You don't need a 401 permit unless you're
7 working in the river -- 404 rather. You don't need that
8 permit, but we get it because they consider that the
9 river.
10 MR. WILSON: Just an additional thing to think
11 about. An important part of your licensing process is
12 the 401 water quality certification process. I don't
13 know if any of the tribes are thinking about this, but
14 Hoopa has it.
15 MR. SMITH: They're the only tribe.
16 MR. WILSON: They have the authority under the
17 law to give us conditions that we must put into your
18 hydropower license unless I'm hearing somebody wrong
19 here. Because of the Tribes' jurisdiction around the
20 river, both the Resighini Rancheria and the Yuroks,
21 those tribes would be in the position to go through the
22 401 process, get treatment as a state authority from EPA
23 and one day issue 401 certifications that would then
24 have to be included.
25 MR. SMITH: That is the goal for us. There are

1 an awful lot of conditions to that process. You have to
2 have a pretty good department in place, you have to have
3 the qualified people in place to do that.
4 MR. HIGGINS: The Hoopa do have -- they have
5 part of the Klamath River. Hoopa very clearly extends
6 to the Klamath. Pine Creek is contained in the Hoopa
7 Square. They have recognized water quality authority,
8 then the Hoopa could file a 401 too along with the
9 state.
10 MR. WILSON: The Hoopa own a piece of the
11 river?
12 MR. HIGGINS: Their square actually --
13 MR. SMITH: It doesn't encompass Klamath River.
14 MR. WILSON: You can have more than one state
15 tribe entity filing a 401 certificate for inclusion in
16 the power license.
17 MR. HIGGINS: Would Hoopa have to be physically
18 located --
19 MR. SMITH: I don't want to go there yet.
20 MR. WILSON: I maybe should caution what I
21 said. I can't recall, and, John, maybe you know. If a
22 401 certificating entity is downstream from a project
23 and not within the project boundary, do they have --
24 DR. MUDRE: Typically 401 is related to
25 discharges; so if it discharges into a state water, then

1 that state would have 401 conditioning authority. Now
2 I'm not sure what happens -- I mean, say, the discharge
3 is a hundred miles upstream, I'm not sure how that
4 works.
5 MR. WILSON: There is in Arizona, Albuquerque,
6 one of the pueblos in the city of Albuquerque got into a
7 fight over a 401. The pueblo established the 401 water
8 standards that the city of Albuquerque had to meet
9 because the water coming down was not clean enough.
10 MR. SMITH: We have a very rigid water quality
11 ordinance here, the Resighini Rancheria, that I don't
12 know that the Klamath can ever meet, okay, but that's
13 what we apply, and we apply and enforce that ordinance
14 here on this reservation. And it has both qualitative
15 and quantitative requirements, so it's a good ordinance,
16 and there's good science behind it. So we do have that,
17 but there's more to getting approval, and we're just not
18 ready to go there.
19 The Yurok Tribe is in the process of doing that
20 right now, but, you know, they've got more money than we
21 have, and they can do that, and they will do it, and I'm
22 sure they will succeed. It took the Hoopa years to get
23 it.
24 MR. ASARIAN: I'd just like to say something
25 about the case that Rollie mentioned earlier, City of

1 Alburquerque vs. Browning, and part of their water
2 quality that they enforced against the city of
3 Alburquerque had to deal with the aesthetic appearance
4 of the stream. It was not just based upon drinking
5 water quality. It was based on the appearance of the
6 stream as it passed through their pueblo, and they
7 organized with people on both sides. It had deep
8 spiritual implications and cultural implications for
9 them. Part of that ordinance they enforced against the
10 city of Alburquerque was for the appearance of the
11 stream flowing through the pueblo to be clear water, and
12 I think that applies here when we talk in a few minutes
13 about algae blooms and the moss or algae that's clogging
14 the water during the warmer months.
15 MR. WILSON: Phil makes a good point. Becoming
16 a water quality certifying tribe is a long process, and
17 I can only think of it in this context to sort of help
18 you think of ways you can get involved in our process
19 and be a part of this licensing process. It's a choice
20 among resources, and it's a long process to entertain.
21 MR. SMITH: Is there anything else in the area
22 that Sam brought up? If not, if we'd like to take a
23 short break perhaps and come back, and get into Kier's
24 presentation for us. Let's be back here -- I mean short
25 too. Let's be back here at eleven-thirty, okay?

1 (A brief recess was taken.)
2 MR. HIGGINS: My name is Pat Higgins. I'm a
3 fish biologist, and I'm here on retainer to the
4 Resighini Rancheria, and I also work with Kier
5 Associates with four other tribes in the Klamath Basin,
6 the Hoopa, the Karuk, the Yurok, and yesterday I was at
7 Quartz Valley Indian community.
8 And so today I'm going to give a presentation
9 that is actually somewhat different than the one I gave
10 yesterday in terms of the FERC folks. We're going to
11 stress this area of the project's effect because we
12 think clearly the scientific evidence indicates that the
13 APE extends down to the mouth of the river, and we will
14 reiterate in some cases some of the information that you
15 guys saw yesterday for the information of the Resighini
16 Rancheria council. So with that, I will get underway.
17 Eli, that's you.
18 So we're going to talk about the status of the
19 fish populations. I helped write an endangered species
20 paper regionally for the American Fishing Association in
21 1992. There are impaired fish populations on the
22 Klamath that are essential to the tribe. I will touch
23 on that. It is actually more the domain of the Fish and
24 Water Commission, which is really the Fisheries
25 Department of the Indian tribes. It's a different

1 subset of tribes, but they work on the flow and fish
2 package issues, but I will touch on those today. But
3 the project's water quality is where Kier Associates has
4 spent most of its emphasis. We have been studying this
5 now for almost a year.
6 I have been a student of the Klamath River and
7 its fish for fifteen years. There is nutrient
8 spiraling, so the effects to the Klamath River ecosystem
9 from the dam and Klamath Hydroelectric Power Project are
10 not just within the project themselves but prevail all
11 the way to the mouth. We are talking about the
12 aphanezomenon flos-aquae. It grows in the lakes or
13 wherever the Klamath becomes stagnant.
14 This is a critical time for the Klamath. It
15 overlaps with our discussions yesterday, but it's
16 certainly the case. You have to consider this project
17 not just in its location, but in it's chronological
18 timing because the Klamath River has always been an
19 important artery for the tribes along it, and its fish
20 are their mainstay, and it was the case ten thousand
21 years ago, and it remains the case today.
22 The Klamath Tribes of Oregon have been deprived
23 -- Sam was talking about the treaty rights of these
24 tribes and their identity with the resources upon which
25 they rely. The suckers are endangered. The salmon no

1 longer return, and tourism related to sports fishing has
2 been important since the white man came, and it hasn't
3 supplanted any of the fisheries, but it's a very, very
4 important economic factor to the communities along the
5 river and to white communities.
6 So let's get into it with the fish. Klamath
7 salmon and steelhead are famous around the world and are
8 trending toward extinction. Spring chinook, pretty hard
9 to say how many spring chinook were in the river before
10 the miners decimated spawning tributaries, but today
11 they are a shadow of their former self. Half a million
12 is the number there used to be, and there's fewer than a
13 thousand in all the tributaries of the Klamath above the
14 Trinity, and probably that's one-five-hundredth of its
15 former abundance.
16 Fall chinook, some years there's two hundred
17 thousand in the last two decades. Some years it's fewer
18 than fifteen thousand. Some of the lowest returns in
19 the history of the river are within the last decade.
20 Coho salmon are on the verge of extinction.
21 They were never the dominant species in the river, but
22 there were tens of thousands of them.
23 Steelhead populations, they show more
24 variation. They are relatively resistant to some of the
25 environmental stressors. The river is in such poor

1 shape, they require protection under the Endangered
2 Species Act.
3 Spring chinook, this is the egg basket for the
4 spring chinook. This is the least well-known population
5 of wild fish. You can see in the years 1989 to 1992 or
6 '91 in here, this population was at critically low
7 levels. If these gene resources for spring chinook are
8 lost -- it is still a very popular fishery in the lower
9 river here. If these building blocks are lost, then
10 they're lost forever.
11 Fall chinook, this is the floor that's
12 recognized by harvest management. The Indian
13 communities were deprived from any commercial fisheries
14 in 1990, '91 and '92 because fall chinook fell below
15 thirty thousand, and these wild populations, in fact,
16 were about ten thousand. So now in 1915, they put their
17 nets in the river, and they had to shut the cannery
18 after fifteen minutes, and the capacity of the cannery
19 was six thousand. In fifteen minutes, they got half the
20 run. In 1990 as opposed to 1915, I couldn't give you
21 the number of fish in the river. In 1915 they caught
22 the equivalent of the entire run in those days. That
23 was the catch, not the escape.
24 This is Shasta, and the Shasta is interesting
25 because it's very close to Iron Gate, so the same things

1 that effect the fish coming out of the Iron Gate
2 Hatchery in terms of stress on the fish are coming out
3 of Shasta. They have to run pretty much the whole
4 length of the river and suffer the full effects of the
5 project. They put a dam in the Shasta River in 1928,
6 and the fish were still trying to find the headwaters,
7 and there was eighty thousand of them.
8 In 1931 Copco is in but no other dams. They
9 put the J.C. Boyle and Iron Gate in this period here.
10 We have thirty thousand coming back to the Shasta in
11 1964, and then you've got three hundred or five hundred
12 from 1991 to 1993. This is a population that almost
13 went extinct in this period, and the dams essentially
14 are one of the causal mechanisms for the water quality
15 stressors.
16 There is something that I'm going to touch on.
17 During these cycles of abundance, it was good ocean and
18 wet climate. From 1950 to 1975, it was poor ocean and
19 unfavorable climate up to '95. We're not in good ocean
20 and good climate till 2015. We don't see these
21 populations going gangbusters. There was still a lot of
22 fish, ten thousand fish in the Shasta. We're down to a
23 couple of hundred. If we lost these production limits
24 in here, we would be zero forever.
25 This is the Scott River coho salmon migrant

1 trap. You can see that in some years there are almost
2 none, and then in other years much more. The life cycle
3 of the coho which spawns at three years of age, one good
4 year class and two bad year classes, this is a signal
5 for extinction. You lose that last year class, you're
6 out of the coho salmon business. It's likely, unless
7 major changes are made in the river, the coho salmon are
8 going to be extinct.
9 This is Iron Gate Hatchery steelhead. You see
10 very similar trends in the wild summer steelhead
11 population. In '86 it began a drought cycle that
12 extended to '93. That drought didn't really start to
13 set in in terms of its effects till 1991. Essentially
14 the fish could not survive its journey to the ocean.
15 The summer steelhead on the Klamath side: Major
16 decline. On the Trinity side: No decline. So what's
17 up with that exposure to the Klamath River and inability
18 to live in the second year in the mainstream climate?
19 MR. SMITH: I used to catch average eight-
20 pound, ten-pound steelhead during the '60's. Was it
21 ten? I never took ten, but these fish were huge, the
22 steelheads. We used to be able to count -- I was
23 telling Pat earlier I used to take my son, who is now
24 twenty-one, down to the beach behind Bluff Creek Resort,
25 and you could count the fish. I would show him the

1 difference between salmon and steelhead. You can go
2 down there now and wait an hour and don't catch
3 anything.
4 MR. HIGGINS: The Martins Ferry Bridge, in 1966
5 I got ten-and-a-half pounder sturgeon; magnificent
6 critter; been returning to the Klamath River since
7 before the Klamath Mountains were raised; came back to
8 the Klamath when it was draining out. This fish isn't
9 mitigated by Iron Gate Hatchery, and its population
10 status is uncertain. It's been requested for protected
11 status. It relies on main stem river environments and
12 water quality.
13 The lamprey with the face that few could love,
14 I guess, prehistoric creature, one that has a great deal
15 of nutritional value and very important to Native
16 Americans. I saw these fish in the '70's in such great
17 abundance coming in at the mouth of the Klamath that the
18 sea lions would sit on the point of the bar and wait,
19 and it was like spaghetti coming out of their mouth.
20 Today you might get a bag of lamprey if you work all
21 day. There's no mitigation for these yet. They're
22 still stressed by the project.
23 And the main stem Klamath water quality. The
24 main stem Klamath is the nursery for all these fishes,
25 and there is strong indications that the nursery is

1 impaired.
2 This is where Iron Gate is. People have a
3 different view of the Klamath River depending on where
4 they live. They don't understand that half the basin is
5 above the dams. So we're talking about huge amounts of
6 salmon and steelhead production capacity. All that area
7 in this is former anadromous fish habitat. It's a good
8 third again as much as is open today. This is the
9 project at Upper Klamath Lake, one of the five nutrient
10 richest lakes in the world. They want to abandon the
11 powerhouses here and leave the dam. I would have to
12 agree. Unfortunately, that dam should not come out.
13 They want to walk away from it. It creates tremendous
14 water problems. If we have time, I'll show the video.
15 PacifiCorp wants to walk away from that. There will be
16 no mechanism for anyone to call its license, and it will
17 be there forever. It was a severe nuisance and built as
18 a part of the hydroelectric project.
19 Here is Copco Dam built in 1918. You notice
20 they chose the location very carefully. They put it in
21 California because California didn't require fish
22 ladders. Copco 2 is immediately below it, then the Iron
23 Gate Dam and Keno Dam. Iron Gate has more storage
24 capacity, so that's where the project is.
25 But these are salmon at Klamath Falls, Oregon.

1 This is the head of the Link River. This flat area
2 behind these guys is the end of the Upper Klamath Lake.
3 These are likely spring chinook. They had a gene
4 resource and understood how to get through the lake.
5 Although Upper Klamath Lake was nutrient rich, it wasn't
6 in balance.
7 National Marine Fisheries Service shows us
8 blocked salmon habitat. So from Iron Gate upstream,
9 this is the area that is expected to be reopened to
10 salmon. So there are the problems. It's likely if
11 these dams were removed that it might be some time
12 before conditions were habitable upstream, but there are
13 reaches of the river in the canyon below that would be
14 completely changed in terms of their water quality, and
15 salmon habitat capability. And it's quite likely salmon
16 and steelhead would explore and colonize those areas.
17 Copco Dam 1918. I love the architecture. I'm
18 going to have get out there and take some more
19 pictures. It's kind of art nouveau, but unfortunately
20 it is a very bad thing for the rivers and the tribes.
21 It's blocked salmon runs since 1918; never had a ladder
22 and never fully mitigated. This is the new wall that
23 stops the river. This is the power production cap gate.
24 The hatchery that offsets that was built for mitigation,
25 and, you know, this causes major, major problems for

1 water quality in the Klamath River below, and it also
2 blocked access to canyon springs in the middle Klamath
3 or Klamath reach above Iron Gate. There is three
4 hundred cubic feet per second popping out of there. It
5 comes off snow fields and lava country. The access to
6 those spring areas was thought to sustain chinook and
7 steelhead. They tried to culture spring chinook at the
8 hatchery, and it failed.
9 This is the fish ladder up in Oregon, and J.C.
10 Boyle, Keno and Link River had fish ladders, but they
11 don't work very well. Oregon Department of
12 Environmental Quality has found that the trout
13 populations have declined, and it may be a function of
14 them trying to get to the lakes, but they also think
15 that the ladders are not what they need to be.
16 National Marine Fisheries Service estimates a
17 hundred and thirty million dollars in cost for
18 installing fish ladders at Iron Gate and Copco Dams and
19 improving passage at other dams. PacifiCorp says,
20 "That's too much. It doesn't really pay, besides it's
21 really dirty out there." That's the summary of their
22 arguments. The cost of removing the dams has been
23 estimated at forty million. It does not include Keno.
24 It's a recent study. This does not include the removal
25 of sediment upstream of the dams. You're still breaking

1 even in terms of taking them out versus laddering them.
2 The precedent for endangered salmon is that projects
3 that cannot recover costs necessary for full mitigation
4 are to be removed, and that is Edmonds Dam on the
5 Kennebec River for Atlantic Salmon.
6 But the big thrust in my discussion today is
7 that the water pollution from these dams is very, very
8 serious, and not just within the project reservoirs
9 themselves, and you'll see some photos in a minute that
10 bear witness to that. Klamath Lake was always kind of
11 tea-colored like a little creek that runs through the
12 bog. Humic is what you call it.
13 After World War II, you can see it here, the
14 wetlands surrounding the lake, they created acidic
15 conditions. They filtered nutrients, but once you dike
16 those and you turn them to agriculture lands, the
17 marshes trap nutrients like phosphorous. There is no
18 buffer. All the nutrients go into the lake, and it's no
19 longer a marsh. Here we have a super-rich lake without
20 buffering capacity, and that's when there was a hostile
21 takeover.
22 There it is. Aphanezomenon flos-aquae, a blue
23 green algae. From samples of the lake's bottom from
24 hundreds of thousands of years ago, they don't find this
25 algae, yet today it's ninety-nine percent of the flora.

1 So that indicates nature hates a vacuum. The original
2 species -- dozens of species that used to basically form
3 the floating algae in this lake are now supplanted by
4 this one because the water quality has been so changed.
5 But what's really unfortunate is that this species kind
6 of also creates the conditions on which it thrives. So
7 it takes nitrogen from the air and carbon from the air.
8 There's no species of plant in a river that does that.
9 Taking that carbon and nitrogen from the air and adding
10 it to the water creates chemical actions which create
11 alkaline conditions. The pH in Upper Klamath Lake can
12 go to ten five, and this species loves that. This is
13 one of five places in the world that are hypertrophic.
14 It's not the way a river works.
15 So this is what Iron Gate Lake or Copco Lake
16 looks like when the algae bloom get going. The local
17 folks tell you it can look like the Jolly Green Giant.
18 MR. SMITH: Where I live at Mile 26 to 27 in
19 the Klamath, it's in the eddies in the summertime.
20 September and October you can see that in the flowing
21 river.
22 MR. HIGGINS: Actually there's a slide, and
23 scientists in 1960 were trying to figure out how to fix
24 Upper Klamath Lake. Your trained observation as an
25 eyewitness was confirmed by the science every time the

1 river slows down.
2 MR. FRANK DOWD: Maybe a hundred yards from
3 here, there's a pond that water goes through; it looks
4 just like that.
5 MR. HIGGINS: That would be interesting.
6 MR. HOUGH: I'll show you.
7 MR. HIGGINS: The thing is that this doesn't
8 mean that the algae comes out of Upper Klamath Lake.
9 It's living all the way to the ocean. It comes out in
10 the resistant life form and is transported and is dumped
11 into an environment where it's still and warm, and
12 you've got it. Algae blooms in fall start to die off,
13 and in the day when they're blooming, you have dissolved
14 oxygen of like fourteen. But at night when they're
15 expiring, breathing like we do, and dying, you can have
16 zero, also this is not a recreational resource for
17 several months of the year.
18 So we had sixty-two miles of free-flowing river
19 and a two-mile lake at Klamath Falls. Now we have lakes
20 in the hot sun, no shade from the canyon walls, and we
21 have thirty-seven miles of these lakes. We have five
22 miles of bypass reaches where there is almost no water
23 in the channel so that can't strip nutrients. There are
24 peaking ranges where the river is this big (indicating)
25 and this big and this big. And essentially the algae

1 which coats the bottom of the river -- we're talking
2 about algae as bad, but the algae on the bottom of the
3 river is good. We have six miles of free-flowing river
4 in this entire reach. That's a huge difference.
5 The South Fork of the Platte River outside of
6 Denver, Colorado, they studied below a sewer plant, and
7 ninety percent of the nitrogen was gone. If you had a
8 free-flowing river instead of lakes with nitrogen algae,
9 it would be cleaning up instead of getting dirty.
10 Here is the ammonia. It's above Copco
11 Reservoir and below Copco Reservoir. And below Iron
12 Gate, you see many months of the year this ammonia or
13 nitrogen usable by plants increasing below Copco, not as
14 high below Iron Gate, so this is like a net increase of
15 the nutrients right before you put it out into the
16 Klamath River where it becomes the floor of the river
17 itself.
18 And so PacifiCorp makes a point that, well,
19 it's cleaner at Iron Gate than it is at Copco. Well,
20 that's true, but the real question is: What is the
21 effect of the nutrients put out by Iron Gate which
22 include these algae blooms on the river down from there
23 to the ocean? It's really if you took the project out
24 or took different parts of it out, what the nutrient
25 levels would be at Iron Gate. Our contention, according

1 to science, they would be greatly diminished, and the
2 river at Iron Gate would be much cleaner.
3 The Klamath River suffers from impaired water
4 quality. The conditions can be deadly to the salmonids.
5 It sets up algae blooms that trap the nutrients. That's
6 good, but they also create conditions in the river that
7 can be highly stressful to fish, and those conditions
8 are the pH, the dissolved oxygen and ammonia, and these
9 effects are felt all the way to the ocean.
10 And I'll show how and why that occurs. This is
11 what it looks like when it comes from Iron Gate Lake or
12 Reservoir. These foams and scums and the brown color of
13 the water, its turbidity, the smells and the taste of
14 the fish are recognized as signatures of water
15 pollution. I fished the Klamath since 1966 and also
16 thought, Brown foam, smells funny, don't eat the fish.
17 That's the discoloration of water pollution. That water
18 pollution extends well before the Scott River. And I'll
19 show you the evidence for that.
20 There are statutes that FERC has to pay
21 attention to. You guys, now that fish in the estuary
22 taste different from the fish that you get from the
23 Shasta, those are concerns that have a very, very
24 material impact on the tribes up and down the river, and
25 FERC needs to look at these things because they're

1 recognized as indicators of water pollution. The
2 problems are more serious in terms of the fish and their
3 survival. Diseases are everywhere. There's germs in
4 the room here, but we're all healthy. It's because our
5 resistance is good. If conditions were such that we
6 became highly stressed over the long period, deprived of
7 diet or otherwise stressed by our conditions, we'd be
8 more likely to get sick.
9 The mortality of Iron Gate Hatchery can be as
10 high as ninety percent. If you study evolution, there's
11 a two percent difference, and you have a hundred fish,
12 then you get ninety-eight, then ninety-six. Eventually
13 you're going to be extinct. If you're losing half the
14 fish or ninety percent in any given year, you're on the
15 fast track for extinction.
16 You have to change this river dramatically, or
17 you're going to lose these fish as young fish do not
18 make it down from the reaches. Even the project reaches
19 and project impact areas above the Shasta, for instance,
20 or near the Shasta, any fish that doesn't get from Iron
21 Gate to the ocean because it becomes inflicted with
22 diseases or killed by the water wall can't be eaten by
23 the Resighini Rancheria tribal members. Therefore,
24 they're affected.
25 Without the project, what would the temperature

1 of the river be? This is the first ninety days,
2 January, February, March, and in these months four
3 degrees C, so we're down here. Zero is freezing, so
4 this is below four C. It is highly stressful to
5 salmonids under natural conditions. Without the
6 project, those conditions would not last long, but
7 instead they extend for an extra thirty days or so in
8 the spring in slowing the eggs from coming out of the
9 gravel. Then in the fall, without the project, the
10 river would be much cooler. This is highly stressful to
11 eggs. There are major problems with stress to adults
12 and having direct impacts on fall chinook salmon.
13 The next slide will show material evidence
14 actually of what I just described. This is what they
15 call a "Thermal Lag," colder in the spring for a longer
16 period of time, warmer in the fall, and this is hurting
17 them on both ends. It's hurting adult survival and
18 fecundity. Again, this is intensive selective
19 pressure. This is really changing the timing of the run
20 just in the period that we're looking at which is very
21 short. Cold water temperatures retard growth. Little
22 guys take longer to get out of the river. They take
23 months to get out, and they run into bad water quality
24 and die. This is a major, major impact on fall
25 chinook. Early summer temperature might be slightly

1 cooler. That might be a minimum benefit in offsetting
2 temperature stressors, but the benefits are likely
3 outweighed by the spring/fall temperatures.
4 If you put a fish in hot water instead of cold
5 water, it has less viability in terms of its eggs. You
6 look at the fish that are exposed to the temperature
7 stress and the fish that are not exposed to the
8 temperature stress, you see only two or three eggs that
9 are viable in October, and this is a hundred percent.
10 It's because the fish was stressed, so it reduced
11 fecundity. There isn't reason to believe that the same
12 things are not transpiring with the eggs exposed in the
13 gravel. They have to have water about fifty, sixty
14 degrees. They get fuzzy and die in the gravel if they
15 are laid when the period of temperature is
16 inappropriate, and the Klamath is always hot.
17 How much cooler would it be if you didn't have
18 the dams in there? That's a deep question. When your
19 temperatures are near twenty-five degrees C, which is up
20 there, you know, mid seventies -- these are floating
21 weekly maximum temperatures and are constantly in excess
22 of twenty-five. That's a significant number in terms of
23 ammonia balance, and ammonia may be the real cause of
24 killing the fish.
25 This is an infrared image of the Scott. These

1 are algae. Basically we would have to be down here to
2 be good for salmon. You see the river here is really in
3 the high seventies, and the Scott as it comes in is
4 slightly cooler; and yet when I look at the Shasta as it
5 comes in, it's not only nutrient rich, but it's running
6 in the eighties.
7 We have cumulative effects on the river apart
8 from the project that must be considered in the
9 project. We have a river in critical ecological
10 stress. If you take the dams out, then the farmers and
11 ranchers can be dedicated to fixing it. If we leave the
12 crisis of the river in place, you know, there's a great
13 deal of pressure under ESA that comes to bear on these
14 agricultural communities. These are all juvenile fish.
15 They're at the mouth of Bluff Creek. They are there
16 because the river is lethal. Very, very frequently
17 during the summer, we have major juvenile fish kills,
18 and actually the fact that they have to crowd into these
19 little areas that are beautiful, clear water areas, but
20 when they're all compressed in that little space,
21 they're all likely to get sick. The fact that the river
22 is only functional in small patches is bad for fish
23 health.
24 This long-flowing green hair of algae you would
25 see below Iron Gate, but at night those nutrients are

1 going by, and they're setting up somewhere else. The
2 other thing: This algae isn't like a redwood tree.
3 This algae lives about thirty to sixty days, and it
4 breaks off segments and new will grow. So whether it's
5 decaying or still photosynthesizing, it creates
6 conditions -- water quality conditions downstream that
7 are very, very serious for fish on the bottom of the
8 river.
9 This is down closer to the Trinity. The rocks
10 get turned over in the winter so you don't see this
11 long-flowing green hair. Instead you see periphyton.
12 This is an algae grow attached to the rocks you saw in
13 the river. You wouldn't know they were there. This
14 fuzzy look to these rocks, the periphyton, is water
15 pollution, and the pollution of nutrients here sets up
16 algae blooms that even just what is grown on the bottom
17 of the river has the capacity to change the entire
18 chemistry of the river and make it hostile to the
19 photosynthesis. Back when the photosynthesis occurs
20 during the day, carbon is taken out of the area or out
21 of the water, transformed into plant material. The side
22 effects of that are the things that create alkaline
23 conditions. Carbon acid dissociation and bicarbonate
24 dissociation, these are by-products of photosynthesis in
25 a really buffered system like the Klamath.

1 I'm using maximum pH values, but I'll tell you
2 that only a few dozen samples were taken during the
3 entire course of the year. Grab samples on day X found
4 pH values extreme of the Scott of nine seven. They
5 found pH values actually higher in the river than at the
6 J.C. Boyle or rather the Oregon border above J.C.
7 Boyle. It's lower than it is downstream. At Elk Creek
8 these values are down from the Scott. These are still
9 in the range of very, very bad. Any value over nine is
10 highly stressful to salmon and steelhead. It won't
11 necessarily kill them, but make them weak and
12 susceptible to disease.
13 This is the favorite of the plants. They eat
14 it like candy. They make plant material from it, but
15 dissolved ammonia or un-ionized ammonia is highly toxic
16 to fish. At point oh two five milligrams per liter on
17 the gills of the fish, it's severely stressful. It's
18 corrosive. And we see values of that level, and I'll
19 show you in a minute.
20 When the pH is over eight and the temperature
21 is twenty-five, this can create elevated levels of
22 dissolved or un-ionized ammonia, which is acutely
23 stressful to fish at very low levels.
24 Here's what was considered by the EPA in 1986
25 to be lethal to fish. Now we can't say that anymore.

1 These are conditions that come out of the project that
2 are in the acutely stressful range at least for
3 salmonids coming right out of Iron Gate.
4 This shows the nutrient spiraling. You guys
5 didn't come down the Klamath last night, but below the
6 Shasta -- well, actually the Shasta has major nutrient
7 and temperature problems. The Scott has Marble Mountain
8 tributaries and is less nutrient rich than the Shasta,
9 but below the Scott there are problems. When we look at
10 Ikes Falls downstream of Soames Bar upstream of Orleans
11 a hundred miles below Iron Gate, point two five, doesn't
12 look like very much. It's twice acutely stressful,
13 likely lethal at Ikes.
14 When I first studied this river, I would have
15 thought this was completely impossible. This is the by-
16 product of photosynthesis. It takes place a hundred
17 miles below Iron Gate, well below the Scott.
18 Dissolved oxygenation. We showed you this
19 yesterday. In the day photosynthesis happens, and DO in
20 the river may be high, but at night when the algae
21 expire, they use oxygen. This shows a dissolved oxygen
22 of three four, which is lethal to salmonids. It was
23 measured at Big Bar trap below Orleans. This is about
24 sixty, seventy miles upstream, more than a hundred miles
25 below Iron Gate. This is a river in trouble.

1 MR. SMITH: That's a mile -- about a mile north
2 of Bluff Creek?
3 MR. HIGGINS: Yeah. Maybe ten up from the
4 Trinity.
5 This is where they are, so this is where
6 PacifiCorp says the APE is, right here, the project and
7 to here -- well, if we're popping DO's down here of
8 three four, we've got un-ionized ammonia here, no
9 nutrient source, but just dilution from five dozen cold
10 tributaries, some of them major. Sixteen percent of the
11 flow of the river comes from here. When we're getting
12 photosynthesis values down here, they're coming from
13 here. That is what nutrient spiraling is about.
14 MR. WILSON: When you say PacifiCorp says
15 that's where the APE is, are we talking about Section
16 106 Area Potential Effects or the area PacifiCorp has
17 studied and is proposing to the FERC being included in
18 the environmental analysis?
19 MR. HIGGINS: The thing is seven thousand pages
20 long, and I'm not an expert on FERC law. The effects of
21 the project is huge and affect water quality and kills
22 the fish and has an inordinate impact on the lives of
23 tribal members and tourist business operators. You have
24 to figure out how that applies under your statutes, but
25 I mean, these people are affected.

1 Phil, when he does statutes with me, I'm
2 helpless.
3 MR. SMITH: I don't think that he is really
4 doing a statute with you. What he's asking is what
5 PacifiCorp wants to include. Right?
6 MR. WILSON: I hear the phrase Area Potential
7 Effects being used in the environmental analysis
8 context. I'm trying to avoid, in whatever material you
9 all bring to the Commission, confusion in mentioning
10 what we are or are not talking about. And so to help
11 clarify the issues that you guys bring forward, that's
12 -- one of my jobs as tribal liaison is help the Tribe
13 communicate to the Commission.
14 MR. SMITH: I don't know that that is really
15 going to be possible. You have water quality issues all
16 the way down.
17 MR. HOUGH: Water quality affects cultural
18 resources, and the quality of the fish affects cultural
19 resources. The people themselves are a cultural
20 resource. I understand that the National Historic
21 Preservation Act, from a tribal prospective, they are
22 the culture. So whatever we're talking about, from
23 whatever statute, what the Tribe is trying to get across
24 to you is to consider the impacts upon the individuals
25 sitting in this room and other members of the Tribe,

1 whether it's on water quality, fish health, impact on
2 the cultural resources that are in the landscape and the
3 impacts upon their health and their livelihoods and
4 their ability to practice their culture as Yuroks.
5 ESA defines an Area of Potential Effects, and
6 what we're concerned with is that you take all this
7 information, the scientific information, the cultural
8 information, the legal information into account. You
9 can ferret it out through the statutes. We're just
10 saying it's part of your responsibility to take all of
11 this into account and to look at disproportionate
12 impacts on groups of people and other tribes along the
13 river.
14 MR. HIGGINS: Every time I was searching seven
15 thousand pages on the APE, it sounds like you're really
16 concerned about dead Indians. It's all about
17 archeological sites. It's probably because you haven't
18 been very many places where the Indians didn't get
19 beat. These people are in place because they were never
20 defeated. That's why you don't have the same cultural
21 integrity or the same issues because, you know, it's
22 more people concerned about preserving the past because
23 there is no present. You have people between here and
24 Weitchpec, they don't have a plug in their house maybe,
25 but they have fish.

1 MR. SMITH: We have people between here and
2 Weitchpec, some of them who haven't been to a town in
3 ten years or fifteen years who live on the river and
4 live off the river and live off the land traditionally.
5 They don't have electricity. They quit worrying about
6 it years ago. They do without it, and they still live
7 extremely traditionally, don't even talk to you. They
8 are the culture. Without them, there is no culture.
9 There is nothing but dead Indians and dead river and
10 dead lands.
11 MR. WILSON: That is part of the point that I'm
12 trying to help communicate. What we do under Section
13 106, as I understand, the Area of Potential Effects
14 tends to be about artifacts in the ground. I do
15 appreciate the notion that the salmon itself or the
16 water quality is a cultural historic property, but it
17 tends to be more about stagnant resources and mitigating
18 them. What we do under NEPA tends to be more about
19 living and using and continuing to be with those
20 resources, not about something over there.
21 MR. HIGGINS: We're on the APE because these
22 guys as intervenors, if they're not in the affected
23 project area, what are they talking about? What nexus
24 do they have? Are we incorrect that they have to put
25 that this is part of the affected project area in order

1 to have a legal standing?
2 MR. HOUGH: I worked on Section 106. I worked
3 on the Forest Service. I've done a lot of work in the
4 National Historic Preservation Act with -- not so much
5 with this Tribe, but with other tribes in California and
6 Arizona. It does protect items in the ground. It
7 protects landscapes. There are potential systems to go
8 through and consider.
9 I'd have to agree; looking through this final
10 license application, it's all about dead Indians,
11 hundreds of pages of crap about dead Indians. Where is
12 the information about modern-day, living tribal people
13 and their relationship to the land and places that are
14 important to their history along the stretch of river?
15 It's absent, and it needs to be in there, needs to be in
16 the Environmental Impact Statement or Environmental
17 Assessment. It's got to be in there in order for you to
18 fulfill your trust responsibility. I understand Section
19 106.
20 DR. MUDRE: We have already decided to do an
21 EIS. I think, you know, for clarity sake, we should
22 probably -- APE has a specific meaning under 106. I
23 think we should restrict what that term means to Section
24 106, which is not to say that there aren't project
25 effects further downstream. You know, there may well

1 be, and we'll be looking at them. But just to avoid the
2 kind of confusion we've been having today, I think we
3 should restrict the use of the word APE to the Section
4 106 meaning and not to environmental impacts. Project
5 impacts meaning APE could be Area Project Effects or
6 something. It's just confusing, and I think through the
7 process we'll understand each other better if we
8 restrict the use of APE to its Section 106 meaning,
9 which is not to say that there aren't effects
10 downstream.
11 MR. HOUGH: That definition of the EPA, that
12 it's degraded river water quality, will have effects
13 upon the associated feeling that the Tribe associates
14 with its cultural resources or traditional cultural
15 properties that are in this stretch of the river: The
16 absence of salmon, an absence of the water quality has a
17 societal effect. That's one of the items you have to
18 look at in evaluation of the historic properties under
19 the National Historic Preservation Act.
20 MR. HIGGINS: They were stressing the
21 importance of each tribe. If you have a different view
22 of 106 and the APE than they hold -- I understand John's
23 suggestion and realize problems here are constructive.
24 They don't want their comments if your view is different
25 from the 106, and Rollie is just as fully acquainted

1 with his role at FERC. As we generate comments related
2 to your presentation, they should have some contribution
3 from you.
4 MR. HOUGH: Comments on the Environmental
5 Packet Statement would be a good forum for that. So the
6 Tribe is stressing that under 106 that they believe that
7 this area is impacted and should be included in the
8 APE. The Tribe is stressing that under the Clean Water
9 Act this area is impacted, and it should be included in
10 whatever -- however you term that area of impact, it
11 should be included in that discussion, in that study
12 when we're talking about fish, fish health, Endangered
13 Species Act, the effect upon water quality, and
14 management of the river at this time where they're
15 fishing should be included in that discussion.
16 I know that we muddied the term APE, but the
17 point is that this area because of the unique nature of
18 these people, of the Yurok people and the
19 disproportionate impact that neutral -- otherwise
20 neutral application of law can have upon them and other
21 tribes on the river needs to be discussed in this
22 context. That's the main point. Is that
23 understandable? Is that clear?
24 MR. WILSON: Uh-huh.
25 MR. HIGGINS: Thank you. I really appreciate

1 injections where you guys are trying to clarify.
2 MR. WILSON: It answers your question. The
3 point is you don't just have cultural resources, you
4 have a number of environmental issues as well that you
5 have raised.
6 MR. HIGGINS: Right. But -- so now what about
7 Resighini's standing as an intervenor if they're outside
8 the projected area as defined under the Cultural
9 Resources Law that we're discussing?
10 DR. MUDRE: They still have a party status. We
11 have people intervene -- they often are in different
12 states even.
13 MR. WILSON: The Tribe's resources are in the
14 river; and, therefore, you have an interest in this
15 project.
16 MR. HIGGINS: I think that's instructive to all
17 of us.
18 This is Deas and Orlab Model Results. Mike
19 works for PacifiCorp. These are graphs that appear in
20 his earlier works. Essentially there is huge amounts of
21 algae that trap the nutrients that flow during the day.
22 Below there is very little algae because photosynthesis
23 and algae growth has bound those nutrients up. The
24 Shasta, you get another spike in nutrients, but -- and
25 here's the Scott, but well downstream at Selad you still

1 have activities that indicate it's not stripped of
2 nutrients. This nutrient spiraling is kicking nutrients
3 well over the clean river.
4 This is another graph from Deas's earlier work,
5 and it shows that the nitrogen -- inorganic nitrogen is
6 really high coming out of Iron Gate. Dropping,
7 dropping. There's no nutrient sources down here, and
8 yet you see in June that is going up again. This is
9 nutrient spiraling. This is the stuff that is growing
10 below Iron Gate, growing below the Scott, the Shasta and
11 then cutting loose and essentially creating nutrient
12 abundance all the way to the mouth.
13 MR. SMITH: Terwer Creek is what creek I talked
14 about.
15 MR. HIGGINS: This is fascinating to us. We at
16 Kier Associates feel privileged to work for the tribes
17 and be involved in really cutting-edge scientific
18 questions.
19 How does this nutrient spiraling occur? The
20 algae and the nutrients go back in the water column.
21 The algae segments break off, and they photosynthesis
22 and drive the dissolved oxygen pH and nutrient cycle
23 further downriver, or is it that the segments actually
24 just are kind of dying and creating problems with the DO
25 sags? We don't understand all the mechanisms of

1 nutrient spiraling. And the other one is like at night
2 they're not trapping those nutrients, and they're going
3 downstream to feed other algae beds, and it's kind of
4 like energy can't be created. You know, it's like these
5 nutrients go into the river, and some of them dog back
6 on the atmosphere.
7 What the aphanezomenon and dozens of its
8 survivors -- it's below. This is direct quotes from
9 Phinney and Peak. They found aphanezomenon still
10 abundant at the mouth of the river. Every eddy that
11 stops in the river can grow an aphanezomenon. These
12 guys said that,
13 "The construction of additional
14 impoundments on the Klamath River will
15 greatly increase the organic load of
16 this already burdened stream and will
17 probably bring an end to fish
18 production in this stream."
19 These guys were right.
20 Eli pointed out to you the idea that we don't
21 know if we've seen the worst. There's a lag in terms of
22 the chemistry in Upper Klamath Lake, the nutrients
23 dumped in through the agricultural lands, we don't
24 understand how the nutrients within the reservoirs are
25 cycling. Certainly the aphanezomenon is more

1 omnipresent in the river because it sets up in each of
2 the reservoirs.
3 Jake Cohn, he says that undoubtedly if an
4 aphanezomenon started its trip from Upper Klamath Lake,
5 they're going to have far fewer cells or cysts or
6 whatever it is that perpetuates an aphanezomenon down to
7 the ponds on the terrace here, then the only source is
8 Upper Klamath Lake if an aphanezomenon is showing up in
9 the estuary. That's another very material connection
10 between these projects and fish death. Again, if you're
11 losing hundreds of thousands of fish every year, then it
12 doesn't take long in terms of evolutionary time to put
13 you out of business.
14 What's interesting, in this basket of dead
15 fish, we're seeing speckled face and suckers. This is
16 like if it's killing not just salmonids, which is a
17 sensitive cold-water species, but species adapted to the
18 warmest environments in the Klamath, it's very
19 indicative that the ecosystem is out of its range of
20 sustainability and on the verge of collapse.
21 Fish health in the Klamath River: There is no
22 kidney disease in the Trinity River, very little. They
23 get it in the Klamath severe. In the Trinity, it's
24 about forty percent less severe. These are highly
25 suppressed. These are probably not making it to the

1 ocean, and that persists down the Pecwan and to the
2 estuary. It starts to affect Trinity River fish and
3 Salmon River too earlier. The only thing that is
4 implicated in the downturn in the Klamath is because of
5 the good ocean conditions. They're not living to get to
6 the ocean. They're dying as juveniles in the main stem.
7 Ceratomyxa shasta is a very important disease
8 organism. Every fish in the river is resistant to them
9 except for a little population of trout. In Jenny Creek
10 it lives on cladophora which is algae spores in the
11 river. So not only are the aphanezomenon omnipresent
12 because of the reservoirs, because of extremely
13 nutrient-rich conditions that prevail below Iron Gate,
14 it is a nursery for one of the most pestilent and
15 dangerous diseases for fish in the river. And so the
16 more aphanezomenon ceratomyxa spores coming from these
17 extremely dense algae beds, the more likelihood of
18 disease. It's more the pathogens as well as the
19 stressors associated with the water quality, and you get
20 a deadly cocktail.
21 And so maybe this slide at this point is moot,
22 but to recap, we think the probable effects, whether or
23 not they should be terms of APE, are in the salmon life
24 here, to the nutrient spiraling, the related disease
25 effect. I think that between the aphanezomenon and its

1 bloom in every area of the river and down to the estuary
2 is a tie between the project and the river, and it's
3 hard to say what would happen if we took the dams out.
4 More than likely, we'd get dramatic improvement in the
5 water quality, from everything we understand about
6 rivers and the way they work, improved survival of
7 salmon and steelhead. The numbers would be another
8 fifty thousand fall chinook. That would also be in the
9 tributary in the Shasta and Scott and those areas that
10 are -- you know, where there's concern over the loss of
11 the population. It would be highly likely that the
12 survival of the juveniles would allow the populations to
13 rebound. It may take fifty years or a hundred years to
14 fix it, but certainly there would be improvement in the
15 river, in the canyon reaches, tourism.
16 I've driven the river where you don't see
17 anybody all day. You can be between Happy Camp and
18 Weitchpec in the winter and see no one, when it used to
19 be you couldn't find a rock to fish off. That could
20 change. It does change with the ocean conditions. It
21 could change for the better; and in the foreseeable
22 future, I think the property values would improve.
23 And, of course, the tribes. The tribes: If
24 the fish thrive, the tribes thrive.
25 Many sockeye salmon do great. Every

1 twenty-five years, they come our way. The ocean is
2 currently enjoying favorable conditions, yet the salmon
3 are not responding. If we don't change the river by the
4 time the cycle switches, we will lose species of adult
5 fish.
6 The fish kill on this river: There was nothing
7 in the memory of these tribes in time immemorial that
8 was its equivalent. Now certainly the Federal Energy
9 Regulatory Commission isn't responsible for the flow
10 that came out of Iron Gate, which was only seven hundred
11 cubic feet per second. They caught Ich, which is the
12 same thing your goldfish would catch in a dirty
13 fishbowl, and thirty-five thousand of them died. It has
14 to do with water quality. This was a most dramatic
15 thing because the adults died, but ten times the number
16 of fish die annually in the juvenile life stage, and it
17 hardly makes the press, although it is starting to.
18 This is thirty to fifty years. We're talking
19 about a resource that's been integral to the tribes for
20 ten thousand years, and any loss of any species means --
21 if they are here in perpetuity means every year there
22 will be no opportunity for every coho that doesn't
23 return.
24 And if you need more information, you can find
25 it at klamathwaterquality dot com, which is the web site

1 for the water quality work group. We will be continuing
2 to add to that.
3 MR. SMITH: Thank you, Pat. Thank you very
4 much. I really appreciate on behalf of the Tribe your
5 putting that together for us.
6 Are there any questions, any comments?
7 Do you have any closing statements or comments
8 you would like to make, John, before we end our meeting?
9 DR. MUDRE: I guess nothing other than to say,
10 you know, if anyone does come up with questions later,
11 give Rollie or myself a call. We can talk about
12 procedural matters, how things are going to happen.
13 I also want to say that I'm glad that we're
14 here at this meeting today and appreciate the facilities
15 you provided for us to have these meetings in, and we
16 look forward to working with you as this licensing
17 progresses. Thank you.
18 MR. GARY DOWD: Last week we had high waters,
19 went through the channel right there. So if you would
20 like, I go show you right down here. Probably washed
21 through, but still a lot there. It moves downriver.
22 It's there now.
23 MR. WILSON: That's the algae?
24 MR. GARY DOWD: The algae is growing.
25 MR. SMITH: I want to thank you for coming to

1 the meeting and coming and sharing with us the process.
2 It makes it more understandable. It's nice to deal with
3 the people rather than the paper. FERC puts out more
4 paper than any agency in the world. I do appreciate you
5 coming. I hope that we've imparted to you our interests
6 and our concerns about the Klamath. They're real and
7 they're serious.
8 I want to reemphasize what Pat said. This is
9 all about people. Even though we're talking about the
10 natural resources, the primary natural resource is the
11 people of Resighini.
12 One thing that we didn't get into too much is
13 salmon is food and what it really means. It's not just
14 fishing, but it's a medicine. It's health to the
15 people. The first salmon ceremony -- in ancient times,
16 the medicine man -- fish cannot be eaten until the
17 medicine man paid homage to the first salmon, thanked
18 the salmon for giving up its life for food and medicine
19 for the people. First salmon would be captured and
20 taken to the medicine man who would prepare the salmon
21 in a particular way; not worshipping the salmon, but
22 they honored the salmon giving its life for the people
23 for medicine and food.
24 So without salmon, you don't have that medicine
25 and food, and believe me, one of the things that has

1 made these people strong and allowed them to survive is
2 the diet that they eat and the number of salmon that
3 they eat every year. I mean, these young men, they
4 catch fish and take them to the elders and take them to
5 the families that don't have men who can catch fish
6 because it is medicine to them, and it's part of their
7 being.
8 It's all about the people because they're the
9 primary natural resource. I really want you guys to
10 understand that that's where we're coming from.
11 MS. DOWD: Thank you for coming here to listen
12 to us for -- to listen to our concerns for we're too
13 small to go out to express our concerns to you people,
14 and we thank you for coming here to recognize us, to
15 give us that recognition. We are here. Usually nobody
16 sees us, but we're here.
17 MR. WILSON: Thank you for having us.
18 (The meeting was adjourned at 12:45 p.m.)
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