## ALASKA POWER AUTHORITY SUSITNA HYDROELECTRIC PROJECT SETTLEMENT PROCESS

#### POSITION PAPER DISCUSSION MEETING #4

#### April 5, 1985

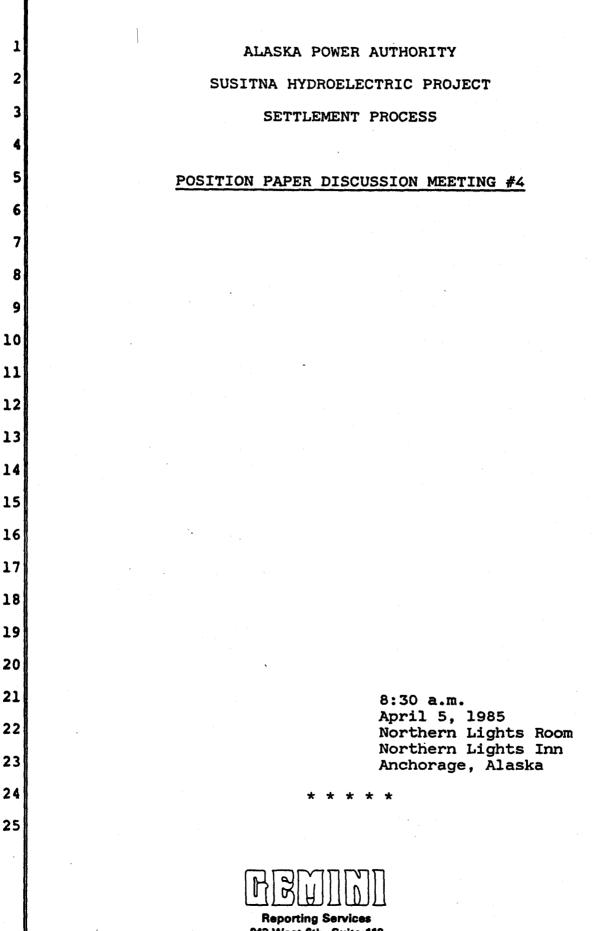
# Northern Lights Inn 598 W. Northern Lights Blvd. Anchorage, Alaska

Old Business: Deferred

New Business: Position Papers S-2, F-6, F-8, C-1, C-2, W-2, W-3, W-4

#### ATTENDEES

Tom Arminski, APA Bruce Bedard, CIRI Villages Pam Bergmann, HE Judy Bittner, SHPO Randy Fairbanks, HE Richard Fleming, APA Larry Gilbertson, HE Chris Godfrey, EPA Hank Hosking, FWS Carolyn Jones, AK Atty. Gen. Joel Klein, HE Leroy Latta, ADNR Jeff Lowenfels, BHB Eric Marchegiani, APA Dallas Owens, HE Jerry Roach, ADOTPF Jack Robinson, HE Dan Rosenberg, ADF&G Phil Scordelis, HE Dean Shinn, Advisory Council Brad Smith, NMFS Gary Stackhouse, FWS Gail Thompson, Earth Technology Corp. Jim Thrall, HE Sharon Vaissiere, HE Beth Walton, BLM Jim Wolfe, FMAA



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# **ALASKA POWER AUTHORITY**

## 334 WEST 5th AVENUE - ANCHORAGE, ALASKA 99501

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April 11, 1985 Susitna File No. 1.8.1/6.18.8.4/1.17.4.2

Mr. Dan Rosenberg Alaska Department of Fish & Game 333 Raspberry Road Anchorage, Alaska 99502

Subject: Susitna Hydroelectric Project Document Transmittal

Dear Mr. Rosenberg:

Please find enclosed for your use one copy of the Fourth Position Paper Discussion Meeting Transcript.

Sincerely,

ForJames B. Dischinger Project Manager Susitna Hydroelectric Project

csl

Enc: as noted

cc w/o Enc:

T. Arminski, Power Authority J. Drennan, PMS (DC) C. Curtis, VFSC&L (DC)

- J. Lowenfels, BHBP&A
- W. Larson, HE

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HABITAT REGIONAL OFFICE

### PROCEEDINGS

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MR. ARMINSKI: This is position paper meeting number 4. I'm going -- I'm not going to go through the typical opening remarks, I think we've all sut through those things enough times. What I'd like to do is have -- Dr. Fleming wants to say a few words about the staging with respect to the FERC licensing process, and then Jeff wants to talk for a few minutes about how this all fits into mitigation planning, so, Richard, why don't you go ahead?

10 DR. FLEMING: Well, if you haven't heard 11 yet, it's been on the radio and it'll probably be in the paper, 12 we got a letter from FERC, oh, Monday or Tuesday. And the typi-13 cal kind of FERC letter, it laid out a procedural tool as far 14 as they were concerned. It said that the flow regimes were a 15 revision to the application and a surprise, although they got 16 the first information in November. It said that the most recent 17 information we'd supplied them had changed the on-line date to 18 1996 instead of 1993. Of course, every time they delay the license 19 there's a comparable delay in the on-line date, but I guess pro-20 cedurally, at least, it's a surprise. And finally they said we 21 had informed them that we were considering staging but had not 22 made a decision yet whether we were or were not going to proceed 23 with that. What we had told them was that we had recommended 24 to the Board of Directors that we investigate staging more fully 25 and if we -- when we had better cost and design information, make



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1 a decision about whether to refine or revise the license. So
2 their letter set these three situations and then said, you know,
3 their resources were essentially thin enough that they could not
4 afford to initiate some analysis and then at some time later in
5 the future go back and go over it again. And they requested us
6 to inform them within about 30 days as to whether we were going
7 to fish or cut bait, what we intended to do. So I guess next
8 week we'll have to draft a letter to Quinten Edson saying what
9 sort of process we think we're involving -- we're involved with.

I think they wanted information on two things. One was kind of procedurally how we thought we were going to deal with it in terms of when the Board of Directors might take an action and what might follow from that. And the other thing I think they're looking for is some coaching with respect to what parts of the analysis in the FEIS would remain valid with the staging, if staging was incorporated, and what parts of the analysis might have to be modified or updated if we went with staging, because they would like to continue -- I would read into the letter that they would like to kind of continue doing what is going to remain valid, but they have not got the resources to undertake any analysis which may subsequently become invalid.

So that's the most recent news from FERC. We don't view it with alarm. We anticipated something like this happening, and it's a goad from them trying to get us to clarify what's going on, which we'll try and do. We anticipate going to the next Board



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1 of Directors' meetings with the information that has been worked 2 up in the last couple of months, seeking from the Board direction 3 to proceed or to not proceed with the staging. And then at that 4 time we can tell FERC Lore explicitly what we're going to do, 5 and hopefully work out some path with FERC in terms of how we 6 get it all accomplished.

MR. ARMINSKI: Any questions?

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8 MR. SMITH: When's that next Board meeting 9 going to be?

DR. FLEMING: There was a Board meeting 11 scheduled for the 8th or 9th or something --

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MR. ARMINSKI: 9th. It's been cancelled. DR. FLEMING: -- and it's been cancelled and I think it's going to be like the 2nd or 3rd of May now that they're talking about. There was some strategizing in terms of how early they could do it in terms of a number of different agenda items being brought up, and I think they were looking to he end of that week that starts on April 30th.

MR. SMITH: Will the Board have your staff analysis of the situation before that meeting? Is it likely they're going to act at that time or do you think that they'll -- they'll just receive your presentation?

DR. FLEMING: Well, the protocol that we usually follow is that material that's going to be discussed at the Board meeting is supplied in the Board packet a week earlier,



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1 which allows the Board members and their staff to review it. So 2 it would be my expectation that the Board packet would outline 3 where the analysis stood and what -- whether it confirmed the 4 earlier information that we provided them. And also we'll have 5 to make some recommendations in terms of how we proceed proce-6 durally. And I would expect that they would take some action 7 at that meeting. Basically we see a several step process. The 8 next action -- if they wish to proceed with staging, would be 9 a decision directing us to proceed to develop the additional ana-10 lysis that's needed and to prepare the material that would be 11 used to modify the license application. And so then we'd start 12 doing that, that would take -- some of the stuff could come out 13 fairly quickly, some of the technical analysis, and some of the 14 other material might take longer. And then there would probably 15 be another formal occasion some months later which would be a 16 decision to submit revisions to the license.

But it's kind of a chicken and an egg process. We're 18 trying to find out from FERC how they would deal with it, and 19 FERC's trying to find out what we're doing, and, you know, we're 20 both kind of maneuvering.

21 MR. ARMINSKI: Okay, Jeff, you want to talk 22 about the mitigation plan?

23 MR. LOWENFELS: Yes. At our last meeting 24 and again in a couple of communications that we've gotten, and 25 I don't know if the communications that come to us with comments



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on these position papers are also sent to you people, we got one 1 2 from Fish & Game, I know, and it wasn't clear to me whether those comments had been passed on to you people, but in any case there 3 seems to be an underlying confusion about the relationship between 4 these position paper meetings, the position papers themselves 5 and what we hope to be the ultimate mitigation and monitoring 6 7 plans. I think all of us pretty much agree that among the agreeg ments that we will have to put together will be an agreement on 9 a mitigation plan or on a mitigation -- well, on a mitigation 10 plan. I think we'll also need an agreement on a monitoring plan, 11 probably an agreement on an avoidance plan, in some instances. 12 But in any case, there's been a lot of question as to how this 13 process which leads up to those agreements relates to mitigation 14 plans and monitoring plans that people see on the Harza Ebasco 15 task list. And I think the simplest way to approach it is to 16 suggest to you that what we're doing today and what we've been 17 doing in the past meetings and what these papers are all about 18 is the following:

19 First, if you took the mitigation measures that are sug-20 gested in this -- in these papers, you would -- and separated 21 them into the various categories, terrestrial, aquatic, social 22 sciences, you would end up with what we would perceive today to 23 be an executive summary of what our proposed mitigation plan is 24 going to be for that particular subject. That's if we don't get 25 any comments from you, that's if you don't tell us we're wrong,



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1 that's if you don't react to us in a funny fashion. So what we're
2 doing today is adding your comments into that process. And that's
3 the relationship.

I think you'll all remember that sometime around February 5 when the Power Authority sent the revised flow regime E-IV to 6 FERC and didn't sit down with the people in this room, we got 7 a tremendous amount of complaints. And we got a lot of screaming 8 and yelling that we were avoiding you people, that we weren't 9 getting your input, et cetera, et cetera. We're trying to avoid 10 doing that. And we find ourselves in somewhat of a peculiar posi-11 tion because we're -- we perceive a little bit -- We're not that 12 sensitive, but we perceive a little bit of uneasiness on your 13 part in participating in this process, and yet we feel that if 14 we don't participate -- if we don't go through this process, you 15 know, we're back where we were when we issued that paper in E-IV. 16 Not a big thing, but I think the relationship has to be under-17 stood. What we're doing today, what we're going to be doing at 18 the other meetings is adding onto or changing what we perceive 19 today to be a proper mitigation procedure or proper mitigation 20 plan. Those plans that are being put together by the Harza task 21 leaders, right now some of them are in draft form, some of them 22 people have seen, some of them will be in draft form in the next 23 couple or four or five months, some of them won't be out for ano-24 ther year, whatever. Their relationship to these meetings depends 25 on what the particular document leader is doing with that. But



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1 MR. LOWENFELS: Yes, let's back up just for <sup>2</sup> a second. You're right, when we sit down and have an agreement 3 that we can take to FERC, I think it'll be -- it'll be no more 4 general than these are. Let's start there. How they're specific 5 they're going to be depends a lot upon the individual issue. I 6 think the individual plan, whether we're talking about a monitor-7 ing plan versus a mitigation plan, or an avoidance plan, I think 8 we can be pretty specific with some things, "we will not go into 9 this area" is about as specific as you can be. But I don't think 10 -- and it's my own thought and I really don't know and it's some-11 thing we'll have to talk about among ourselves, I don't think 12 it's going to be as specific as on the Jade Creek mineral lick. 13 Today we're saying we're going to clear  $2\frac{1}{2}$  acres. I think you 14 might want to know which  $2\frac{1}{2}$  acres are going to be cleared, and 15 I don't think they'll be that specific. Correct me if I'm wrong, 16 correct me if you think they need to be that specific, but I sug-17 gest that having looked at the existing FERC conditions on 18 licenses, they are grossly underspecific. Ours will be much more 19 specific because they'll be at least as full as these. But I'm 20 not even sure FERC will accept that as a -- as license conditions 21 -- as a license condition package. They are uniformly vague with 22 their specifics. I mean, the flow they may set, but, you know, 23 when they talk about monitoring, they talk about just setting 24 up a team with three biologists. So I don't -- I really don't 25 know, but --



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MR. ARMINSKI: Yes, well, I think we can -- we can get specific as we want, as we're comfortable with. And, you know, I think Jeff said earlier if you took all the mitigation measures out of these and put them all together, it'd sort of be an executive summary of the mitigation plan. And so I see the mitigation plan as being a lot more specific than the measures outlined in here where we would, if you can agree on it and we're comfortable setting out which  $2\frac{1}{2}$  acres and scheduled, you know, it -- I'm not sure that you want to be real specific, or we want to leave ourselves some leeway in case things don't work so that we don't have to go back and amend the licenses, you know, or whatever. But --

DR. FLEMING: Let me observe one thing that I don't think it can be. And that is the project approval process which the Board of Directors has specifically says we cannot get into design activities until there are power sales agreements. And so we are really skirting the edge, and certainly what you see as being your druthers, you know, in the best of all possible worlds would be the layout and plans for everything we're going to do. And the sort of thing we get cross examined all the time about is, is this design activity that you're doing. And if we can say, no, it's planning activity, or it's necessary for licensing, we can generally proceed with it. But our budgets are going to be constrained, and one of the constraints is that we are not supposed to do a lot of design activity. And so we



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1 really hope that we can carry things to the point in planning 2 where everybody understands what's going on with the understanding 3 that when design activities are initiated there's a lot of design 4 activity in the environmental program, and that's the period we 5 would see a lot of that activity conducted. The design activities 6 will stretch over, what, three years, two years, or something, 7 so it's not going to be a flash in the pan.

8 MR. LOWENFELS: I think you also have to 9 remember that resource agencies in particular -- this is a license. 10 You know, we still have to come to you and get approval for our 11 culvert crossings, you know, our -- our whatever. So this is 12 also just a part of the whole process. And I think that even 13 though we're not supposed to be doing design work on the project, 14 that what we are all doing here is obviously influencing the 15 designers. And I think it's a pretty good place to be.

MR. SMITH: I have a little trouble with giving the impression that the FERC license is a living document. My experience has been it's just the opposite. Once those things are set down, you know, somebody's going to look at it 10 years down the road and say "Oh, gee, look what we're supposed to be doing". And that's a problem for us. We've talked about a number of vehicles we could -- memorandums of agreement or specific license conditions or what have you. I guess maybe once we're past talking and reconciling the issues here then we'll decide on how that's going to be done.



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1 DR. FLEMING: Well, one thing that's -- we've 2 just had laid on us, which you might not be familiar with, is 3 a -- we got, you know, about that much computer print-out from 4 FFRC, and they said, our -- our license tracking system which 5 we are just putting into operation identifies these stipulations 6 and these things you're supposed to do and you'll notice that 7 this one, this one and this one are in default and that these 8 seem to be taken care of. And in the past, as you may be aware, 9 they've sometimes been rather vague about how they kept track 10 of license stipulations of conditions. It seems that the field 11 offices now are going to have this system which is going to have 12 very explicit tracking and reporting requirements so that -- My 13 experience with licenses is that the license may in fact be vague 14 and it says the applicant and the resource agencies shall work 15 out an arrangement within the next period of time, which is --16 which is kind of vague, but then that -- you actually have to 17 submit that memorandum of agreement or whatever you're working 18 up, and it varies case by case. The license will probably include 19 provision flow regimes, it would probably say -- my guess is it's 20 going to say "work out how you're going to do the moose mitigation 21 in the next year" or something, depending upon how critical they 22 see it and how far along the process is. But there will be more 23 effective -- hopefully -- monitoring than there has been in the 24 past.

MR. THRALL: Brad, from my point of view,



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1 I guess, just for clarification, I think part of -- part of the <sup>2</sup> confusion, or what I perceive as confusion here is that there's 3 some interpretation of this -- of the agencies' desire for speci-4 ficity in the mitigation plan. The interpretation of what the 5 agencies would like to see is a very -- Let's take an example 6 of a slough modification. We'd like to see a plan that specifies, 7 you know, at slough whatever we will, you know, cut down so many 8 feet and we will, you know, add a -- pipe in some water and put 9 in a berm "X" feet high and so on and so forth. And the feeling 10 is that in fact if we came up -- my feeling is if we came up with 11 something that specific you might then decide that that's not 12 really what you want because it sort of locks everybody into doing 13 one thing and then whether or not it works, you know, the Power 14 Authority could just say "Well, look, that was what we said we'd 15 do, we did it, and now we're done". There's some sort of a deli-16 cate balance we've got to have between giving you enough specifi-17 city that you feel comfortable but at the same time allowing every 18 body leeway so that as things work or don't work -- we all recog-19 nize that you predict impacts as best you can, and you plan to 20 mitigate them as best you can, but then as the actual project 21 goes in place things are going to change. And I think what we 22 need to do, and maybe this is something that's best done, you 23 know, at other than this meeting or maybe, you know, just in 24 casual conversations, is get a feel for, you know, exactly what 25 are we really talking about in terms of specificity, what would



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1 you really like to see, would you like to see that sort of a level 2 of specificity, which is really in my -- in my way of thinking 3 sort of a design, a mitigation plan design.

MR. SMITH: No, I agree 100% with you, and I didn't want to have that come across as a complaint about the lack of specifics in the settlement papers, just to show the linkage between a settlement and wherever that is --

8 MR. THRALL: Okay, so you're -- your only 9 concern is how the process -- where we -- how we will get into 10 that, whatever the right level of specificity is. So you're more 11 concerned with the process?

MR. SMITH: Sure, people above me have been -- you know, one question that repeatedly comes back is "well, you know, what are these, what are the settlements?" And I'm trying to impress upon them how -- how that detail is going to fit into the settlement process, and why it isn't necessarily included in these issue papers.

MR. MARCHEGIANI: I think, Brad, maybe the real answer to the whole thing is that the issue papers are, I guess, an instrument to get to where you want to go. And what we're doing is we're providing, like Jeff was saying, some general ideas of what the situations are. The FERC specifications will be somewhat general unto themselves, which I think will give us the flexibility. The specifics that I think you're looking for may be held in these technical sessions that we can iron out.



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1 But I think the bottom line is is that you want to be sure that <sup>2</sup>you're going to get a certain amount of mitigation, and there 3 is some specificity to it. And what you may find the best way 4 to do that, and I think the tool, the instrument, to get there 5 is that through these specifications that we have in the license 6 and in the issue papers is to reference something like the aquatic 7 mitigation plan, that we agree with the aquatic mitigation plan 8 and that's what's going to be implemented. Okay, then within 9 that mitigation plan you'll end up reviewing it and you'll be 10 able to provide comments in a technical forum and we'll be able 11 to modify and adjust that. And that will provide what you're 12 talking about as far as specifics. I think that's the instrument 13 and the route to go. Like Jeff says, the terms and conditions 14 a lot of times are not that specific, the papers are not real 15 specific. I mean, there's certain parts of them that are. But 16 I think that would be the easiest way to do it. And then as we're 17 working with that mitigation document, we can modify it.

MR. ARMINSKI: Okay, let's get off of this 19 and go on. We don't have any papers to discuss under old business, 20 but Jack Robinson's going to say a few words on how we plan to 21 handle this in the future. Jack?

MR. ROBINSON: I think that it would be in mR. ROBINSON: I think that it would be in the interest of all that as we go through the process -- well, right now we're in the part of the process where we're principally involved in taking in the -- taking a look at the first round



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l of papers. The -- and discussing them. And as you all know, 2 we've received comments from you in these meetings and we've also 3 received some written comments from some of the parties involved 4 in the settlement process. What we would suggest as a way to 5 work into the next step is to take the comments that you have 6 sent to the Power Authority and expressed here in these meetings 7 and work them into the revisions of the papers, the revised papers 8 and then, once those papers have been revised reflecting the com-9 ments that have been offered, then send them to you with a letter 10 from the Power Authority that says, "Here are revised papers num-11 bers so and so, so and so and so and so", and that set a meeting 12 date at which those revisions would be -- would be discussed. 13 And we would like to distribute those revised papers to all the 14 parties on our distribution list, not all of whom can always come 15 to these meetings, so that all the people that we have invited 16 to these initials meetings that we're now at would also have the 17 opportunity to see the revisions that have occurred to the papers 18 as a result of this forum that we're having here. And as we indi-19 cated before at one of the previous meetings, we will show in 20 each one of the revised papers by a mark in the margin where the 21 revisions have been made in the papers so that you can pick up 22 the paper, look at it and say, "Oh, yeah, this paragraph's been 23 revised". And it will be easily then comparable with the paper 24 that was originally discussed so it'll be easy to find where the 25 revision was made. We'd like to do it that way to keep track



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1 of where we are in the process so we don't get lost in the mound 2 of paperwork that's flying around now. And if anybody else has 3 a suggestion on how that might better be achieved, why, I think 4 we would like to hear it. But right now that's what -- that's 5 what we would suggest.

MR. ARMINSKI: And I think one other thing that we discussed that might make it easier on all of us is rather than, as we've been doing, discussing all the different disciplines than, as we've been doing, discussing all the different disciplines at one meeting, we may just in those follow-up meetings have just fishery issues or wildlife issues or socioeconomic issues. That way we don't have to get everybody tied in and doing up everybody's time.

MR. ROBINSON: That's a good point, Tom. This meeting that we're sitting at here is number four and we've just a couple of days ago sent out the invitations and the papers that would be discussed at the fifth meeting. We anticipate having about eight, nine, perhaps ten first-round meetings, and toward the end of that process we would certainly expect that part of those meetings would be devoted, in addition to the new business that we have, for example at this meeting the papers we're taking the first look at, but the meetings toward the end of the -- the eighth, ninth, tenth meetings, somewhere in there, would include a lot of revised papers as old business, as we had touched on in our previous discussions. So that we can expect " a transition somewhere in that time frame. And, importantly,



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I think that Tom's point of mentioning what we'd like to try to do is to organize it on a topical basis so that, for example, the fisheries papers can be looked at in -- in a group, or wildlife papers in a group, or socioeconomic papers in a group, et cetera. We think that would expedite the process tremendously and assist you all too in management of your time. Okay.

7 MR. ARMINSKI: On to new business. The first 8 paper we're going to discuss today is S-2, this is the significance 9 of project impacts on lifestyles in area communities. Our posi-10 tion is that the lifestyles in these communities may change 11 regardless of the project. However, the Power Authority is going 12 to implement mitigation measures such as the worker transportation 13 plan that strives to isolate these communities from project im-14 pacts as much as possible. And that we will institute a public 15 participation and monitoring program that will allow residents 16 to express their concerns and so that we'd be able to address 17 project impacts in those communities. Let's see, who's going 18 to -- Sharon's going to discuss this paper.

MS. VAISSIERE: The findings in this paper are based on four kinds of information. And the first of those is the historical information on development projects and other growth activities that have occurred in the area. The second is historical population data for area communities that tells us the kinds of fluctuations that have occurred in those communities in the past. The third is updated population projections for



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1 the communities with and without the project. And finally, results <sup>2</sup> of socioeconomic and sociocultural studies that have occurred 3 in area communities that give us an idea of how long the residents 4 that are in those communities now have lived there, and have given 5 us some idea about their attitudes towards growth. 6 MR. ARMINSKI: Any discussion? 7 MR. BEDARD: Yes, I have a point. 8 MR. ARMINSKI: Bruce? 9 MR. BEDARD: In here you refer to Trapper 10 Creek, does that include the smaller communities like Gold Creek 11 and Curry? 12 MS. VAISSIERE: It doesn't. 13 MR. BEDARD: It doesn't? 14 MS. VAISSIERE: No. 15 MR. BEDARD: Okay, because the concern I 16 have is there is a small Native community at Gold Creek and there's 17 also a much larger community on the Paxson side that resides in 18 the Paxson area year-round that would be impacted by this project 19 in the summer months. And there is a small population at Curry 20 Ridge. 21 MS. VAISSIERE: There's a small population 22 of what? 23 MR. BEDARD: Of inhabitants at Curry Ridge. 24 On the Cantwell on Page 4 you mention that the Cantwell people 25 resided in the area the medium of was eight years. That would

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1 be true of the community change that took place when the highway 2 was built. It tends -- when Frank Orth did this, if they did 3 it on this side of the community, they would've gotten that kind of analysis. If they had done it on this side of the community 4 they would've gotten a different analysis. The Cantwell Native 5 6 people have lived there all their lives. And so I'm not sure 7 whether Frank Orth got a rounded enough data to state that the 8 median residency was eight years when in reality at least 50% 9 of the population has been there more than eight years. I know 10 most of the people up there. I just wanted to bring that point 11 out. There is a Native community which is separate from the non-12 Native community, which is really on the other side of the road 13 on the highway. And most of the people that go there and do 14 studies, they stay in the hotel, and they get a tendency of sur-15 veying people that come into the restaurant and use the local 16 businesses. But they're all on that strip and it's primarily 17 the non-Native community.

MS. BERGMANN: Bruce, I might just add on 19 that that we did an additional survey in the Cantwell area this 20 year and these papers don't reflect that information.

21 MR. BEDARD: Okay, you probably found what 22 I'm saying to be somewhat accurate --

MS. BERGMANN: Yes, I think those numbers will be updated and reflected, so I think your comment will be scommodated.



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1 MR. BEDARD: Plus the populations that they 2 show here for 1980 are much greater now. Also on -- Let's see, 3 on Page 5, I don't know if this is good wording, I'm not criticizing it to any great extent, but it says "young countesculture 4 5 type of resident relies on food stamps and other government assis-6 tance rather than seeking a true subsistence lifestyle". This 7 is somewhat true, but there is also some young people that like 8 that kind of lifestyle that don't live on food stamps, and I think 9 it's kind of crude wording. 10 MS. VAISSIERE: That's a quote, Bruce, from 11 another source in that --12 MR. BEDARD: -- Okay, yeah, I'm just a little 13 uneasy with that kind of wording. 14 MS. VAISSIERE: Well. okay. 15 MR. BEDARD: The self-sufficient lifestyle, 16 again, is very small. Most of your elders in the Cantwell area 17 don't do any lifestyle living anymore. The younger people, again, 18 are taking up a white style lifestyle in Cantwell, and -- But 19 you get into Gold Creek, you do have that one Native family that 20 does live there, they're kind of living their old lifestyle. 21 But that's very rare. 22 MR. LOWENFELS: I might add that their life-23 style is more gracious than mine. 24 MR. BEDARD: But -- anyway, the self-25 sufficient lifestyle is a very difficult lifestyle in that



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1 particular area, and I just wanted to bring that out. Let's see, 2 plus their concern is generally an average concern. But one of 3 the things I did want to point out is that I don't want to -- I don't feel it's fair for the project to have to lecon the brunt 5 of a lot of the social/economic impacts that they think is going 6 to occur when a lot of these things have already occurred. There's .7 a four million acre Denali planning block, and I've got it right 8 here and anyone that's from BLM is aware of it. It's open to mineral leasing and open to general mining laws. And all the --9 10 all the land on the north side of the project area that is 11 federally owned, that's four million acres of land that's all 12 open to mineral leasing and general mining laws. And that kind 13 of impact can be more devastating than the project, in my opinion. And in addition to that you have the Ahtna lands over here that 14 15 some type of development, I'm sure, is going to take place 'cause 16 some of this land, like CIRI's land, are in the Mat-Su Borough, 17 and the Mat-Su Borough is waiting for the day they can tax that. 18 So the Natives are going to be forced to do something economically 19 to meet that tax base. CIRI's lands are kind of below the State 20 lands, which the State's corridor comes in kind of like this and 21 loops up this way. And they have a quarter million acres of land 22 that they're going to be in the same boat, whether the project 23 goes or not --

MR. LATKA: -- We're not going to pay the 25 Borough taxes, though.



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MR. BEDARD: Then you've got on the west -- the far west side the recent remote lands and the Indian remote area that was opened up to entry and quite a few people are now residing in those remote sites. So these changes are taking place and I don't think it's fair for the project to have to be blamed for a lot of the impacts that this right now is creating itself. And mining, surface mining, is going to be most of this mining is going to do more damage than this project is ever going to occur. I just want to bring that point out.

10 MR. LOWENFELS: We love you. So you agree 11 with our position?

MR. BEDARD: Well, the only thing I would like to see emphasized is that as a mitigation measure not only to the Native community but to the surrounding community that we utilized to the fullest extent possible local hire preference and local contract preference as a mitigation to those people. Because one of the biggest things in the intertie that I'm sure that APA people experienced was some disgruntled people because of the Spanish people that were hired from -- I'm not sure whether they were from Mexico or not -- to do the clearing on the intertie, and there was local people at Talkeetna that were capable of these people weren't even U. S. citizens. So again, I want to emphasize that that is a very strong plus for APA, to have that in their mitigation, that they'll do the utmost to try to



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1 comply with the local hire laws as well as give local preference <sup>2</sup> to contractors as well as local preference for hiring. 3 MR. ARMINSKI: That's discussed in another 4 paper, I think it's S-4. 5 MS. BERGMANN: S-4, right. MR. BEDARD: Oh, okay. Well, I was looking 7 at that as part of this impact, because you're going to offset 8 some of that attitude about, you know, "You're disturbing my life-9 style if I can't get something out of". It's really, you know, 10 upsetting. 11 MR. LOWENFELS: When are those figures going 12 to be available for inclusion? 13 MS. BERGMANN: At the end of June, or a little 14 earlier than that. End of June at the latest. Of '85. 15 MR. ARMINSKI: Any other discussion on S-2? 16 Okay. Next paper is F-6, this is significance of physical effects 17 of access corridors on fish habitat. The paper proposes some 18 mitigation measures, and it's our position that their use will 19 ensure that the impacts on fish habitat would be insignificant. 20 Phil? 21 MR. SCORDELIS: Basically, because there 22 is no master plan for road construction, at this time there's 23 no design, there's no specific location, the paper had to be pre-24 pared in a somewhat general manner. I relied upon the information 25 in the license application, the final Best Management Practice



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1 manuals that were recently distributed, and ADF&G survey of the 2 stream crossings in the -- along the corridor, the proposed access 3 corridor, and information in general literature. I also relied 4 upon my experience as a field biologist for the Forest Service 5 down in Southeast Alaska to assess the limitations of constructing 6 roads in remote locations. I'd like to mention that the mitiga-7 tion measures presented are principally preventative-type measures 8 and that a mitigation plan that includes corrective or replenish-9 ment-type measures in case of unforeseen impacts is being prepared 10 at this time, I believe by Entrix. There is a more comprehensive-11 type mitigation plan for access in the works.

MR. SMITH: The Gold Creek/Devil Canyon to Watana corridor, would that remain unchanged if the Denali access was -- was not licensed? In other words, your analysis here covers that portion between Gold Creek and Watana. Is that fixed, no matter what alternative it will be licensed?

MR. SCORDELIS: That -- that's actually two R. SCORDELIS: That -- that's actually two railroad corridor, and then across the Gold Creek to Devil Canyon railroad corridor, and then across the river, connected by a roadway and a bridge, is a road up to Watana. Now, are you talking about the whole length of that corridor?

MR. SMITH: Um-hm, either way you might take it, both separately or -- What I'm wondering is, the DEIS recommended against the northerly access route. Now, if it turns out that that's what licensed, would this paper allow us to address



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1 impacts to the fisheries along the corridor that FERC might
2 license? And I imagine that would be some sort of either a rail
3 or road access from Gold Creek to Watana?

MR. ARMINSKI: Yes, I think it would, because the practices are generally the same, and where we're going to get into the specificity is when we actually go out and have to design the crossings and everything, and those will all be done to a certain standard, you know, Fish & Game's culvert permits and roads will be constructed to certain highway standards. So I think this would apply no matter what the routes were.

MR. SCORDELIS: Of course, the only thing that would change would be the number of -- possibly the number of anadromous fish streams --

14 MR. ARMINSKI: -- Right --

MR. SCORDELIS: -- that were crossed versus 16 resident fish streams. And that's a specific, I would consider 17 that a specific.

18 MR. SMITH: A railroad, wouldn't it require 19 more -- for switchbacks or whatever, more or less crossings? 20 DR. FLEMING: There are about three or four 21 questions you've asked. 22 MR. SMITH: I've got time.

DR. FLEMING: If FERC did not license the Denali Highway access, then access would have to come from the Swest. I think our analysis indicates that going on the north

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1 side of the river from Watana to Devil Canyon would be the most 2 effective way to go. And that is where both road and the trans-3 mission goes. We then have in the existing application a rail link from Devil Canyon to Gold Creek. Presumably that would re-5 main. Now, what remains unanswered is whether FERC would or would 6 not license the project with road access, and the Power Authority 7 has always maintained the position that road access was essentially 8 essential. And that it looked unlikely that road access would 9 continue north on the east side of the Talkeetna River and then 10 the Susitna River from Talkeetna, but would probably come in from 11 the Park Highway via the Indian River, as we studied earlier. 12 So it's not clear what FERC would license if they did not choose 13 to concur with the Denali Highway. And the process all remains 14 the same, and what would have to be dealt with is updating our 15 information on some additional corridors. We've already done 16 some analysis but we'd have to go back and make sure it was up 17 to date.

MR. ROACH: I have a question. Why was the route chosen rather than going in from the west? Is it terrain 20 or --?

DR. FLEMING: Well, there -- if you choose to go in by -- First planning consideration is that there was not going to be any construction activity prior to receipt of the license. When you have the license in terms of -- another desirable factor is to constrain the construction period as much



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1 as possible. As you extend the construction period you're hit 2 by inflation and a lot of other things that drive up total project 3 costs. If you are going to go in from the west by rail only, there's no way of putting in a pioneer railroad --

5

MR. ROACH: -- No, I mean for road --6 DR. FLEMING: -- and you would -- it would 7 take you about two years to put in a railroad. If you're going 8 to come in from the Denali side south, our assessment is that 9 there's a very high expectation that you would succeed in 10 establishing a road in one construction season. If you come in 11 from the west, there are several ways you could do it, but it's 12 -- it would require some significant bridging. You either have 13 to make a high bridge across the lower end of Portage Creek, or 14 across the Susitna River, and the kind of bridge you're talking 15 about is like a two-year bridge. Or you would have to go down 16 and around Portage Creek, and there's about six or seven bridges 17 that are analogous to the one up at Hurricane -- is that the right 18 -- the right bridge crossing? They're not -- they're not culvert 19 bridges, they're big bridges. And so in terms of trying to meet 20 the construction criteria and keep the construction period short, 21 we've always felt that it was better design planning to come in 22 from the Denali Highway. It shortens --

23 MR. ROACH: Then you're estimating to build 24 a road in one construction season, coming in from the north? 25 DR. FLEMING: That's correct. You can build



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1 a road -- a road that you can use, and then you would probably
2 spend the next construction season going back and kind of upgrading
3 it and finishing it out. But what you have to do the first year
4 is get your men and equipment in to start preparing and getting
5 starting on the diversion tunnel. So you're not talking about
6 a lot of people, but you're talking about getting in the big equip7 ment that would allow you to start the diversion.

8 MR. ROACH: If you're going to build a road 9 in from -- in one construction season you're going to need a bor-10 row pit. And you're going to have to do -- you know, in these 11 papers you say you're not going to use borrow pits, you're going 12 to go to roadside borrow. And I don't think that'll work in that 13 country if you're going to -- if you're going to plan on building 14 something in one year. It may not work at all, you know, anyway.

DR. FLEMING: Well, that's why we're conducting the facilities planning exercise this summer, to try and get the best information we can in terms of the actual conditions l8 on the rights of way.

MR. SCORDELIS: I don't know if that's exactly correct. I've talked to our geologic -- geotech person and, don't take this as gospel, as I understand it as a biologist, the plan is to get into the Watana camp area and there are several borrow -- large borrow pits in that area, and to begin construction of the work at both ends of the road. I may be wrong, it may be just at the lower end of the road and work back, so that



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1 there will be -- there is a borrow area for road material. And 2 according to the geotech person, the requirements for borrow or 3 quarry sites along the road are minimal. Unfortunately Mike is 4 not here today, he's -- I think he's got the flu. I asked him 5 to be here.

MR. THRALL: I don't -- I don't think that there's any guarantee that there wouldn't be some borrow pits along that road. The intent was to try and minimize that to the degree possible, as a -- just as a environmental mitigation.

MR. ROACH: Yeah. If money's no object, 11 you could haul borrow from each end of the project. You're buil-12 ding a road how many miles long?

It's 44 miles.

MR. ROACH: About 40 miles, so you -- you 15 wouldn't want to haul borrow that -- 22 miles would be half of 16 that distance.

DR. FLEMING:

13

MR. SCORDELIS: Well, one of the pits --MR. ROACH: -- 23 miles --MR. SCORDELIS: -- one of the borrow sites MR. SCORDELIS: -- one of the borrow sites is away from the river, it's probably 10 miles up, so you're gaining some haul costs.

DR. FLEMING: We've done investigations and there are sources of borrow material all the way along the road. I don't think we're ever more than a mile or two from a potential borrow site. What we've said in response to earlier comments



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1 from the resources agencies is that we are going to try and use 2 a side borrow technique to minimize the profile of the road and 3 to minimize the disruption of the countryside. And that's not 4 to say there may not be areas where that's going to be entirely 5 feasible, where we are going to have to haul gravel. In spite 6 of what you've said, we are concerned with the costs of projects 7 and, as you're aware, the length of haul of material is a primary 8 consideration in this projects. So, you know, we plan on mini-9 mizing the profile of the road as much as possible by using a 10 side borrow technique, and we also hope to minimize the hauling 11 of material as much as possible.

MR. ROACH: Yes, you'll be dealing with --13 you'll be mostly in alpine country and the summers are short and 14 rainy, the material you'll be excavating will probably have a 15 high moisture content, and it'll -- When we built the first sec-16 tion of the Denali Highway from Paxson up to 21 Mile, you work 17 with quite a bit of wet material, and it takes you quite a bit 18 longer than what you think. Or it takes the contractor quite 19 a bit longer.

20 DR. FLEMING: Who should we talk to get some 21 of that insight? 22 MR. ROACH: Dave Harmon, if he's still in 23 town, was project engineer on that job.

24 MR. LOWENFELS: Does he work at DOT or is

25 he --



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1 MR. ROACH: No, he's -- he's working for
2 himself now.
3 MR. MARCHEGIANI: Could you spell his name?
4 MR. ROACH: It's H-A-R-M-O-N.

MR. ARMINSKI: Okay, any more comments on

6 F-6? Hank?

5

7 MR. HOSKINS: The total of 42 streams, the 8 sum of Tables 1, 2 and 3, will be impacted by either road or rail-9 road access corridors. At present 38% of them have not been sam-10 pled as to the presence or absence of fish. This work should 11 be accomplished this summer as existence of fish would have a 12 bearing on the design of the drainage facilities to be installed. 13 I don't know what your schedule might be to look at the rest of 14 those crossings in there.

MR. SCORDELIS: I'm not sure why these streams weren't surveyed. I have a suspicion that they were relatively small -- don't like to say insignificant, but I think insignificant is the term most appropriate for them. I haven't seen them myself. Our plans are to survey -- do our own survey of the access corridor this summer, get out there and look around a bit.

21 MR. ARMINSKI: Hank, I think it was -- I
22 think it was our position in the license application that regard23 less of whether or not those streams had been surveyed and the
24 fisheries resources identified, any culverts and things that were
25 placed in those streams would be done to fish passage standards.



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1 So even if there wasn't an identified resource, if there was one
2 that appeared, it'd be taken care of.

MR. LOWENFELS: Is that a -- just speaking in terms of FERC hearings, is that a gap that we need to fill in order for you to be able to say, yeah, we really consulted on that, or --

7 MR. HOSKINS: I think if the statement is 8 made that all drainage structures will be put in to fish passage 9 specifications as listed in the drainage structure manual and 10 the BNP (ph), that covers it as far as I'm concerned.

MR. ROSENBERG: I had a question on that. The final -- I realize that -- what we just talked about, about final design and all. But with that out of the way, when we do go into final design there will be -- or, will there be flexibility is as far as the actual siting in regards to use of those streams by fish as far as moving it a little to the left, moving it a little to the right, what have you, because an area's been idenl8 tified as being a spawning site or whatever?

MR. ARMINSKI: We expect -- what we wanted to do was prepare that drainage structure manual and apply for one permit, basically, for all the culverts and bridges. But we expect that for each structure that we have to construct we'll have to submit a design to Fish & Game to approve. But each one of those will be designed in accordance with the manual, which allows for passage.



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MR. LOWENFELS: The short answer is yes,

2 though.

24

25

MR. ROSENBERG: The emphasis is what I'm digetting at.

5 MR. THRALL: Dan, right now we have a corri-6 dor, that's all we have. This summer we hope to go out and do 7 some -- what we're calling a master plan, which is taking, you 8 know, from what was essentially a paper study layout basically, 9 and which is a feasibility level thing, and actually get on the 10 ground and look at that. And part of that we'll be looking at, 11 you know, where the road might cross streams. And at that point 12 we'll say, well, if we moved it over a little bit this way or 13 that way we think we'd be in much better terrain for the crossing. 14 So that'll be one more iteration. And then when you actually 15 get out there and are -- you know, then you have your actual 16 design and are in the construction, that's the third cut you get 17 at this. So there's at least two more cuts where we start to 18 get this down to more specific areas.

MR. ROSENBERG: Okay, thanks. That's all. DR. FLEMING: The road you can wiggle to a fair degree. The railroads don't wiggle very much. They are very much set by grade and curve and, you know, nature conforms to a railroad.

MR. ARMINSKI: Hank?

MR. HOSKINS: Mitigation measure Number V



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1 on Page 13, the second sentence states "The construction of stream 2 crossings will be timed, where feasible, to avoid periods when 3 fish eggs and alevins are present in the streams." Instead of 4 this sentence, I suggest the Power Authority provide a periodicity 5 chart of the fish species life stages occurring in the streams. 6 Fish & Game Department as the permitting agency could then provide 7 the windows in which timing of construction must be completed. 8 This is certainly no new concept along the line.

9 One other comment -- or two other comments. The Fish 10 & Wildlife Service still is opposed to project access via the 11 road from Denali Highway to Watana. And impacts to fish and wild-12 life resources from increased human uses should be addressed.

MR. SCORDELIS: I believe human uses is a 14 separate issue paper.

MR. ARMINSKI: Yes, it is.

15

MR. HOSKINS: I think it's a separate issue 17 paper, they have to be dovetailed, that's all.

MR. LATKA: Tom? We sent you over a memo, Mike Granada's gone through the latest version of BMPM's (ph) and compared them to our original comments. And it may not be germane to this, or it may be, but our -- is there a mechanism for revising those BMPM's? Because that's not discussed and hasn't been discussed in the documents.

24 MR. ARMINSKI: Yes. Well, I think they're
25 going to have to be updated periodically to reflect, you know,



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1 state of the art, but I think as well through the design process, 2 something's identified, or something's not appropriate, that can 3 be --

MR. LATKA: I think it's more a case of over-5 looked.

MR. ARMINSKI: Overlooked.

MR. LATKA: Yes.

6

7

MR. BEDARD: I had two comments. On Page ii where it talks about spills from vehicle accidents are not expected to have significant impacts on fish habitat quality due to the rapid initiation of clean-up efforts. I can agree with that, but oil-carrying vehicles, if an event did occur, which we hope it doesn't, they wouldn't be much different than a vehicle spill. And I'm, you know, wondering why that wasn't mentioned. There will be a lot oil-carrying or fuel-type carrying vehicles, diesel as well as regular gasoline, and it could occur that a bad culvert or something or bad potholes, flip a truck over. And I would like to see that at least addressed.

MR. ARMINSKI: I think as part of the spill contingency planning the contractor would have to be prepared to handle a situation like that. And we can -- we can mention that in here.

23 MR. BEDARD: And the only other point was, 24 like Fish & Wildlife Service and FERC, the Native people, which 25 APA's aware of, still support and has always stated, you know,

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1 an all-southside route. It is still our position today, though 2 like we've said we will accept what is put in with the project, 3 though we won't agree with it. MR. ARMINSKI: You'll use it but you won't 5 agree with it. 6 MR. MARCHEGIANI: Specifically on that. I'd 7 like to throw it back to Hank, and I'd like to ask Bruce if his 8 preference is a south side route --9 DR. FLEMING: Let's not get into which route 10 people prefer on the road because we will be here the rest of 11 the day. 12 MR. LOWENFELS: In addition to which, the 13 Board has opined on this one. 14 Any more discussion on F-6? MR. ARMINSKI: 15 MR. ROSENBERG: I had just a couple of things 16 Well, some of my original comments were answered by Phil when 17 he said that the Entrix and -- is it Entrix? Entrix is preparing 18 a -- what, the monitoring and contingencies? 19 MR. SCORDELIS: I believe it's a mitigation 20 plan. 21 MR. ROSENBERG: Yes, but it will have moni-22 toring and contingent -- and contingent types? 23 MR. GILBERTSON: The monitoring plan that 24 we're working on -- To tell you the truth, I'm not sure that it's 25 going to address that, but that would certainly be a subject for



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1 discussion as we go over the mitigation and monitoring plan.

MR. ROSENBERG: Just things like that sentence that Bruce just referred to about spills from vehicular accidents are not expected to have significant impacts on fish habitat quality due to the rapid initiation of clean-up efforts. I think the intentions are very good and I support them all and every -- so on and so forth. But if indeed there was a spill and if indeed something went haywire with the clean-up, then, of course, we need --

MR. GILBERTSON: Yeah, my fault. I thought 11 you were talking about a long-term monitoring. The construction 12 monitoring aspect of that, yes.

MR. ROSENBERG: Okay. That isn't clear.
MR. ROSENBERG: Okay. That isn't clear.
So that type of thing we'll see later on. And under the mitigation measures, the second one, adherence to the Alaska Department
of Fish & Game's habitat protection regulations. There really
aren't any proposed protection regulations.

18 MR. ARMINSKI: I always make that comment, 19 and it always gets back, but it's proposed.

MR. ROSENBERG: Okay. Suffice it to say the -- if you adhere to Alaska Department of Fish & Game's habitat protection guidelines, they'll all go into the permit, more or less, so more or less in some ways I guess it's just redundant anyway. Because I think a lot of the Fish & Game guidelines or the proposed regulations will end up in the permit stipulations,



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1 which is taken care of in Number 1, and all those BMP's.

2 MR. LOWENFELS: You mean you're not going 3 to promulgate those regulations?

MR. ROSENBERG: I don't know. That's about 5 it. The only other thing I had, which is just back what we were 6 talking about before on the contingency and monitoring and so 7 on and so forth. I'd like to see something in here that just 8 mentions that in that monitoring and contingency planning, that 9 it will be done -- there's going to be things that may occur that 10 we obviously can't foresee, and we're going to have to get together 11 and discuss what's appropriate for mitigation, perhaps in the 12 case of an oil spill into a creek or what have you. Just some-13 thing that says that that'll be done in consultation with the 14 various agencies, or what have you.

MR. ARMINSKI: Okay, F-8. This relates to the significance of water quality and quantity effects of construction camps and the permanent village on fish habitat. Our position is that the mitigation measures included in this paper will ensure that the impacts of these facilities on fish habitat will not be significant. Phil again.

MR. SCORDELIS: This paper was also prepared with the same limitations as the access papers. There's no master plan, the camp is not specifically located now, generally it's subject to change depending upon input from other agencies and other concerns. We again used the license application and the



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1 Best Management Practices manuals and literature found in journals 2 to assess what the impacts might be. 3 MR. LOWENFELS: Any comments? MR. SMITH: I couldn't find any mention of 5 any monitoring efforts, particularly for Tsusena and Deadman Creek 6 It's in there? 7 MR. SCORDELIS: No. 8 MR. SMITH: Oh, okay. I think there was 9 earlier commitment to do that, and it probably ought to be incor-10 porated into this. 11 MR. GILBERTSON: We're developing the moni-12 toring plan for Tsusena and Deadman Creeks now with AGEC. 13 MR. SMITH: Maybe just a mention that that's 14 being done, then. 15 MR. GILBERTSON: Okay. 16 MR. LOWENFELS: When do you expect to have 17 those done? I hate to always ask you that question, that's all 18 I ever ask you. 19 MR. GILBERTSON: Well, I can tell you it 20 will be done by the end of June, because it's a fiscal year task 21 that we will have done this year. I think we'd probably have 22 it done by the first part of -- the first of June. 23 MR. LOWENFELS: Brad, any other --24 MR. SMITH: No. 25 MR. LOWENFELS: Yes, Hank?

40

Reporting Services 943 West 6th, Suite 110 Anchorage, Alaska 99501 277-8591 MR. HOSKINS: On Page 1, the first paragraph under "Discussion" states a temporary airstrip of 2500 feet will be constructed and later upgraded to a 6,000 foot permanent facility. Figure 1 on the next page does not support this statement s as both the temporary and the permanent airstrip in different locations are shown here. Please clarify which is correct, the verbal description or the figure depiction.

8 MR. SCORDELIS: The verbal description is 9 correct, the figure is straight out of the license application 10 and is -- that was an oversight on my part. I didn't have that 11 corrected.

12MR. MARCHEGIANI: Which location is going13 to be it? Or what's your guess at the location?

MR. SCORDELIS: I would guess where the temporary one is now, but, as I said, that's more geotechnical experience or input than fisheries. I can't give you any --MR. HOSKINS: Right. It was just the extent

18 of habitat that might be disturbed that we were looking at.

MR. ARMINSKI: Any more discussion?
 MR. ROSENBERG: No, just the same -- actually
 some of the same comments as the last one apply to this one.

MR. SMITH: I have just kind of a general question on the water withdrawal out of Tsusena Creek, estimated 1.5 cubic feet. Doesn't sound like a lot of water, but it goes on to say that a series of groundwater wells will serve as a

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1 back-up system. Was there any thought given to making that the 2 primary system and then withdrawing --3 MR. SCORDELIS: I don't know. MR. ARMINSKI: I don't think -- I don't think 5 so. It's my recollection, and I'm sure they're going to do more 6 work on it, but they drilled some wells a couple years ago and 7 basically there was real low production, if any. So it doesn't 8 look like there's ---9 MR. SMITH: So it's not going to be a real 10 groovy back-up system? 11 MR. ARMINSKI: It doesn't look like there's 12 a real good source of groundwater out there. 13 DR. FLEMING: They'd flown up well casing 14 and drilled some holes up there -- it'd be two years ago, two 15 and a half years ago. That was the expectation, that serving 16 the construction site could be handled by the wells, and they 17 just never got a good -- good enough flow. 18 MR. LATKA: Tom? You might have already 19 discussed this. I had left my copy back at the office and had 20 to go call them. But Jerry Mauer (ph) had a concern on Page 5. 21 He's with our water resource section. And the eighth line down, 22 there's a statement that says, "Increased levels of nitrogen and 23 phosphorus are expected in the effluent from both camps". And 24 she was curious how you're going to treat domestic waste and since 25 there's no further discussion of this in the paper, no



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l quantification, she was concerned because, depending on the levels 2 there could be an effect on aquatic habitat. 3 MR. ARMINSKI: Well, we're going to treat to secondary standards. And I guess I would think if there was 4 5 any effect, it'd probably be a beneficial one. But --6 MR. LATKA: Put something in the water, I 7 don't know. 8 MR. ARMINSKI: But all effluents will be 9 in accordance with EPA and DEC standards. 10 MR. SCORDELIS: Might add that the location 11 of the outfall, or proposed location of the outfall, is in a tur-12 bulent section of Deadman Creek, and it's just a short distance 13 downstream to Tsusena -- or, to the Susitna River. I think once 14 in that turbulent section there will be thorough mixing and rapid 15 transport downstream, so the -- our water quality person does 16 not feel that there would be a substantial increase in produc-17 tivity in that short time period and short distance. 18 MR. LATKA: Probably the only thing would 19 be just a little more explanation so the document stands on its 20 own. It wasn't clear. 21 MR. ARMINSKI: Okay, next paper is C-1, this 22 is the identification and significance of loss of affected 23 cultural/historical sites. And our position is that we propose 24 to adopt the mitigation measures presented in this paper, and 25 that implementation will result in the project having no adverse

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effect on significant cultural resources, including historic,
 archeological and architectural properties, and that we'll also
 comply with all State and federal laws relating to these resources.
 Joel, are you going to ---

5 MR. KLEIN: The information that's presented 6 here was obtained through a review of existing information in 7 files of the State, and literature, but primarily came from five 8 years of field investigations conducted by the University of 9 Alaska museum, which resulted in the survey of all of the sur-10 veyable portions of the project area, with the exception of the 11 linear features, that were felt by the museum to have a potential 12 for containing historical or archeological sites. In addition 13 we've been in consultation with both the State Historical Preser-14 vation Office, the appropriate federal agencies and the profes-15 sional community in the state regarding their feelings as to the 16 potential significance of these findings.

17

MR. ARMINSKI: Any comments?

MR. BEDARD: Yes, just a couple. There has been one burial site was found, and I believe it was Dr. Dixon that wrote a letter in regards to that and wanted to know our views on how that should be treated. Talking with Knik and Chickaloon and Tyonek, all three kind of concur unanimous on keeping the site as is at this time, but if it does become impounded, we definitely would want it moved and find a location that would be suitable as close as possible to the original site. In



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1 addition to that what we would like to have in any removal of
2 significant artifacts or burial grounds that will be impounded,
3 we would like to see some kind of historical markers placed on
4 the nearest high ground indicating that that site did once exist
5 there for future historians and et cetera. We would like to see
6 that occur. I would like to compliment the University for what
7 they have done in the past. I've worked real close with this
8 over the last five years and I think they've done a real good
9 job, especially for the number of sites that have been sighted.

10 The other concern, I believe, was in relationship to the 11 federal laws as it relates to private property dwellers on Indian 12 lands. They're both roughly the same when you're involving 13 removing artifacts from Native lands, we definitely would like 14 to be informed. And you might want to educate your people that 15 are in the field doing these studies to look at land ownership 16 ahead of time, in the event something had been removed, to notify 17 the party involved. That's in the museum, in the trust that some-18 what verbally established, it's never been written in a written 19 document. And if you look at the federal regulations, this should 20 be in writing, some kind of a trust document be set up to maintain 21 those in the university.

MR. KLEIN: We're aware of all the concerns you've mentioned, and it is our intention to address them all in the mitigation plan that's finally developed. And I think there's more information on the mitigation plan in the next issue.



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1 MR. BEDARD: That's all I have on that. 2 MR. ARMINSKI: Other comments? 3 MS. BITTNER: Just one comment on the --4 a follow-up one on the CIRI comment on putting markers or sites. 5 In some of the mitigation the sites are only partially mitigated, 6 and so it has to balance out bringing attention to an archeolo-7 gical site where people can vandalize and hunt and doing a general 8 interpretation of the area without sort of specifically locating. 9 I like the idea of interpretation of the area --10 MR. BEDARD: -- I'm only talking about sites 11 that are removed. 12 MS. BITTNER: Yes, well, sometimes --13 MR. BEDARD: And are impounded. Once they're 14 impounded -- you know, removed first and then impounded, all I 15 want is some kind of marker to indicate that originally this was 16 where the site was located, so you don't lose the historical sig-17 nificance. 18 MS. BITTNER: I think there can be some very 19 good interpretation area without -- you know, in sort of a general 20 way without directing the people right to where it is, whether 21 it's completely underground or under water or something like that. 22 MR. BEDARD: Well, the sites -- yes, the 23 sites I'm referring to are quite remote, even with the lakes in 24 place they're going to still be quite remote. Jade Creek is the 25 pne I've been -- I was at that site, or the Butte Lake site,



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I 've been at the Clark Lakes/Clark Creek sites (ph), and they are significant. And there are others that primarily were maybe a aborigine had just used it as a overnight camping and some of his -- making new blades, there's some sherds (ph) that were found this kind of stuff. Those things are significant, you can't find them all over the place, you can find them right here in Anchorage.

8 MR. KLEIN: I think, Bruce, it's important 9 to note that is the vast majority of the type of sites that have 10 been found.

MS. BITTNER: We will be working and have been working closely with APA and the consultants and feel coml3 fortable with this.

MR. BEDARD: I just want to get the point across that, you know, a significant location should be identified especially for future historians that are in Alaskana and they want to know what took place in a particular area, they can find that data.

MS. BITTNER: Point well taken.

 MR. ARMINSKI: Other comments?

 MR. SHINN: Well, aside from burials are

 there any sacred sites that are known?

 MR. BEDARD: It's -- it's difficult. The

 Athabascan people at one time -- there is a significant site which

 we're aware of near Paxson, and that's a major archeological

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1 preservation area. And if you look at the whole area and the 2 number of sites you have found, it -- that may have spread out 3 through that entire region. It's real difficult to determine whether maybe 5,000 years ago there was villages there. And the 4 5 good potential is that Fog Lakes could have been an actual village 6 location. Such significant sites have already been found. Plus 7 it is our own feeling that we don't want fossil (ph) hunters going 8 all over the countryside either on our lands after the project 9 is in place, and we've addressed this with APA. So we will 10 require restrictions on any type of artifact hunters. I believe 11 on federal lands anything like an arrowhead found on the ground 12 you can -- you can take it and keep it, but on --13 MS. BITTNER: Uh-uh. 14 MR. BEDARD: They've changed that? 15 MS. BITTNER: It's against the law on State 16 land as well. 17 MR. BEDARD: No, I was thinking that on 18 federal lands, like in the Lower 48, they don't seem to --19 MS. BITTNER: -- No, they just do it, but 20 it's against the law. 21 MS. THOMPSON: Well, from the surface. You 22 can collect off the surface --23 MR. BEDARD: Off the surface. Like if you 24 find an arrowhead on the surface --25 MR. KLEIN: You can't dig. But you can't dig



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MR. BEDARD: But we don't even want that, we don't even want surface scroungers.

MR. SHINN: One other question. There's
4 a predictive model mentioned. Do you have a -- is that going to
5 generated from the sort of the thing that the university was -6 initiated, their research?

7 MR. KLEIN: Well, we're using all the avail-8 able data we can, and obviously the primary data base there is 9 the results of the university's work. The model that's being 10 developed should be complete sometime within the next two months 11 or so, and then there will be field testing. Field testing will 12 take place along the linear feature, and that's going to be a 13 primary source of information on location of sites and potential 14 impacts for those.

MR. SHINN: Will that be checked against what 16 was found by the university?

17

MR. KLEIN: Yes, it will.

MR. ARMINSKI: Other comments? Okay, let's go through C-2 and then we can take a break here. C-2 is the formulation and implementation of a cultural resources mitigation plan. We proposed to adopt the mitigation measures that are presented in this paper. It's our position that these measures and their implementation will result in the project having no adverse effect on significant properties. Joel, are you going to --MR. KLEIN: Okay, yes. Project impacts were



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1 assessed principally from comparison of project descriptions as 2 contained in the license application and compared with the infor-3 mation we presently have on known and potential archeological 4 and historic site locations. And we are at this point just 5 beginning the process of fleshing out the mitigation plan, but 6 we see basically five categories of mitigation. That's avoidance, 7 preservation in place, data recovery, which would be salvage 8 excavation, monitoring, and public interpretation and education 9 program.

10

## MR. ARMINSKI: Comments?

MS. BITTNER: My comments before sort of incorporated the two of them together. We've been working very closely and these are all very standard. And I see this as a -- just a general sort of guidance of the types of mitigation, and all the specifics and the sites and the predictive modeling we'll get at a later date, the actual specifics, and that's really when we start negotiating in a sense on the particular sites and the types of data recovery. But just as a general guidance, you know, I'm comfortable with it.

MR. ARMINSKI: Any other comments? Bruce?
MR. BEDARD: The only thing I want to say
is that my comments from the previous paper are somewhat applicable
to this paper. I did have one question in regards to -- Let's
see. Oh, the public interpretation and education program. I
didn't quite understand what would take place there. That's on



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1 Page 3.

MR. KLEIN: Well, for most of the sites that are up -- the prehistorical archeological sites, their value lies in the data that's within them, and it's our intent to look at popular -- things like population publications so that both Native groups and residents of the state in general will be able to understand what was found up there and why it was important, and make a general contribution to the lay public. Also we're looking at the feasibility of on-site exhibits, markers, things of that sort.

MR. BEDARD: One concern on Page 4, the training program for the workers. Is this training program going to be limited to just the supervisors or all workers in general or -- you get a dozer operator out there and the supervisor's at another location, that dozer operator is going to doze right through. And I'm just wondering, if you have a training program to include your supervisors, maybe it'd be wise to have the supervisors delegate and emphasize the importance of the dozer operators to try to observe the best they can to -- if they unearth some bones not to look at it as just maybe wild bones but to stop and report the find.

MR. ARMINSKI: We're going to have an environment indoctrination, and I think it's going to be probably required that the contractors do it. And it's certainly something that could be addressed in that.



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## MR. BEDARD: That's it.

MR. SHINN: I have one question of just 3 general interest about the research of the effects of inundation. 4 Where is that, what stage is that at?

MR. KLEIN: We're primarily at this point working with information that's been collected by the National Park Service in their reservoir inundation studies. It's a multiyear, very lengthy and detailed study. We're trying now to -plus gathering information from the engineers at Harza on the hydraulics and so on. I'm trying to dovetail the actual conditions for the project with the information that the Park Service has collected.

MR. SHINN: And then one other question about MR. SHINN: And then one other question about the sample of sites to be mitigated by data recovery. And the rationale, of course, would be linked to the research questions that -- in the mitigation plan.

MR. KLEIN: That's one of the considerations, MR. KLEIN: That's one of the considerations, that's a primary one, but there are others as well in terms of just feasibility and cost effectiveness and scheduling, location.

20 MR. SHINN: And then the answers to questions 21 that might be left out due to feasibility considerations, those 22 sorts of things -- the sorts of shortfalls may or may not be 23 acceptable based on --

24 MR. KLEIN: Well, at this point we're anti25 cipating there wouldn't be problems like that, since there is



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5 why don't we take a break for ten minutes and . . .

6

## (OFF RECORD)

7 MR. ARMINSKI: Okay, funlovers, the next 8 one we'd like to discuss is W-2, the significance of reduction 9 in black bear denning and foraging habitat. It's our position 10 that black bears will be impacted by the project and the mitiga-11 tion measures presented in this paper will reduce the level of 12 the impact. The goal of the Power Authority is to provide compen-13 sation for residual impacts either through out-of-kind habitat 14 enhancement or preservation of important habitat. Randy?

MR. FAIRBANKS: Okay, the data sources for MR. FAIRBANKS: Okay, the data sources for black bear paper were basically the field studies that have been conducted by ADF&G in the project area, and the open scientific literature on black bears. Basically the paper concludes that black bear habitat is currently quite limited in the project area. The project area is kind of on the edge of the major portion of black bear range in the Susitna basin. That inundation will cause a loss of foraging and denning habitat, most important between Tsusena Creek and the Oshetna River, where black bear habitat is currently limited to a pretty narrow fringe of forest. There's several mitigation measures presented in the paper that will reduce



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1 the level of impact, and addition mitigation is intended to be 2 developed through out of kind habitat enhancement and/or the pre-3 servation of important habitat.

MR. ARMINSKI: Comments:

5 MR. HOSKINS: I have my revenge. I'll just 6 read the statement. Paraphrasing your position up there on Page 71, the mitigation goal will be achieved by providing out of kind 8 habitat enhancement or preservation of important habitat. The 9 paper discusses impacts on denning and foraging and states a large 10 area of forested habitats will be removed in association with 11 Watana development. This loss of foraging habitat from impound-12 ment filling will be the major adverse concern, according to this 13 evaluation. Black bears have a demonstrated propensity for the 14 forested habitat which is to be impounded. Locations of bears 15 in spruce forests were nearly equivalent to the observation of 16 bears in shrublands. This may indicate a higher use of coniferous 17 habitat, since a dense cover may have precluded aerial observa-18 tions. Studies indicate approximately one-third of the black 19 bear dens in the area of the impoundment occur below the normal 20 maximum operating level of the reservoir. An in-depth discussion 21 in terms of available habitat, den density and intra- and inter-22 specific adult space requirements on the impact to displaced bears 23 should be appropriate. Mitigation measure number 5, Page 8, should

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1 be expanded. The out of kind enhancement is addressed by the 2 old standard of improving habitat for moose because bears eat 3 moose. That takes care of providing a full belly, but it does 4 not address the winter sleeping needs. Please provide information 5 that couples the preservation of important habitats portion of 6 this endorsed measure with the black bear denning requirements.

MR. FAIRBANKS: Okay --

8 MR. LOWENFELS: -- Could you repeat -- Oh, 9 sorry.

7

10 MR. FAIRBANKS: To address your last point 11 there, mitigation measure number 5, I think the term "out of kind 12 enhancement", we're not really using that to mean that increasing 13 moose is going to benefit black bear, because that would be in-14 kind enhancement. We're talking about -- So far we haven't really 15 come up with a good way of compensating for black bear habitat 16 loss through habitat enhancement. It's possible that if we design 17 the crushing, burning programs in the right manner, and that would 18 mean by designing them so that a variety of habitats are inter-19 spersed, and we continue to include a large portion of mature 20 forest, we think that at least we're not going to hurt black bears 21 and we may actually be able to improve black bear habitat in some 22 areas, such as what's potentially occurred in the Swanson River 23 burn area, where there's still high densities of black bear even 24 though you've had a significant burn, because there still is a 25 lot of mature forest around. So anyway, the point is we're not



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1 trying to say that compensation for moose is going to provide in-kind compensation for black bear because it's not, except to 2 a minor degree, possibly, if we can design the management scheme 3 on these mitigation lands correctly. But the only approach that 4 we can see taking to provide, you know, more -- a fuller compensa-5 tion for loss of black bear habitat is to provide additional --6 an incremental additional amount of moose habitat, which is an 7 out-of-kind measure, and it certainly -- it's the type of thing 8 that we'd like to hear comment on. You know, is that going to 9 10 be satisfactory from the agency standpoint, because so far we haven't really been able to determine a way of significantly 11 increasing habitat productivity for black bears directly. 12 So 13 I guess that's the -- the only point that's being made there.

Other than that, the preservation of important habitats 14 15 is another factor -- another way of compensating, potentially 16 compensating for black bear and other species impacts where --17 where it's difficult to improve habitat through enhancement. 18 And so far the key area that we've identified for that means of 19 compensation is the Prairie Creek drainage, and we're presently 20 working with the Natives trying to come up with a way to provide some protection for that drainage, although that's going to be, 21 22 again, an out-of-kind enhancement -- or, out-of-kind mitigation 23 for brown -- or, black bears, because it's primarily going to 24 benefit brown bears. But obviously we can't -- we're not going 25 to be able to find a place like that for every species. We've



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1 got to -- you know, we'd like to hear comments on what the agencies
2 really think we should do beyond providing a habitat management
3 program to increase moose so we can add on additional increments
4 of carrying capacity to say, overcompensate for moose so that
5 maybe we can achieve some out-of-kind compensation for other
6 species. And then the other -- the other thing that we've iden7 tified is potentially the preservation of Prairie Creek.

8 MR. HOSKINS: You might consider the preser-9 vation of areas that are known black bear denning habitats away 10 from the project, perhaps, or contiguous to the project. We've 11 looked at the areas, for example, of adjacent lands to enhance 12 for moose browse production, consider the preservation of areas 13 where bears exist right now if there is some threat to them, set 14 them aside for bear denning.

MR. FAIRBANKS: If we could identify areas l6 like that, that might be a viable alternative.

MR. HOSKINS: This is the point I'm driving at, Randy, right here, is I think that food requirements and foraging will be met through this enhancement of habitat for moose and so forth. But here you're displacing the bears and you're going to have increased conflict between black bears themselves, increased conflicts with blacks and browns and so forth. We recognize that there may be a problem -- the paper recognizes there may be a problem, and it's just left hanging. So I was asking for additional discussion on these points.



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MR. ARMINSKI: Is there -- are there any 2 areas that Fish & Game and Fish & Wildlife Service recognize as 3 being important to black bear denning that are, you know, in immi-4 nent danger of being developed, you know, through your projects 5 review? 6 MR. HOSKINS: I'll have to -- I don't know. 7 MR. ROSENBERG: Yes, I don't know either. 8 I think in a very generic sense there are geographical areas or 9 habitat types that are known to be better than others within the 10 project -- not within the -- you know, within the Susitna basin, 11 say downstream or what have you. And I think those can be iden-12 tified, the types of habitats that, say, black bears prefer to 13 den in. But -- and along those lines, that's where I think the 14 emphasis should be on avoiding those areas where bear denning 15 concentrations are known to occur, avoiding --16 MR. FAIRBANKS: Um-hm, you mean for moose 17 management. Is that what you --18 MR. ROSENBERG: -- Well, just -- I mean 19 avoiding them by maybe actually identifying those areas and using 20 those -- avoiding other disturbances, not just project distur-21 bances. I mean using those areas as mitigation, perhaps as 22 replacement lands, identifying areas where black bear denning 23 concentrations are known to occur, and establishing those as 24 replacement lands for mitigation for black bear. 25 MR. FAIRBANKS: You mean simply protecting



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1 those lands?

2 MR. ROSENBERG: Protecting those areas.
3 I don't know what those areas are.

MR. ARMINSKI: I know we've talked about this in the past and, you know, it seems that there's very little likelihood that at least on state lands the State's going to forego its opportunity to dispose of lands. And I'm not sure how the federal government would restrict some of its programs for this. Is there anything that we can identify to compensate for this if we can't mitigate it in kind? Is there something that --

MR. FAIRBANKS: That's a possibility, the denning thing, but in general I think black bear denning is pretty dispersed. I'm not aware of any -- any areas where there's a real concentration, and if there were, you almost have to go out and radio collar, you know, hundreds of black bears to find out where they're all denning. The dens aren't really obvious places, except for the ones that we know about in the project area, because that's where we've done a lot of radio collaring. But generally the denning -- you know, they den just about anywhere where there's a good tree root ball that they can get underneath, or a cave, a natural cave. I mean, there are some places maybe where brown bear denning could be protected, possibility.

MR. BEDARD: Wasn't there an area in the 24 Poise (ph) Creek area that was identified as a little more heavy 25 in black bear population than in the overall area?



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MR. FAIRBANKS: Well, there's more black
bears down that way because there's more forested habitat, there's
more black bear habitat when you get down that far.
MR. BEDARD: Is that kind of what you're

5 looking at, that kind of area?

MR. HOSKINS: If we're up the rope right here and can't come up with an area to be set aside because of the lack of knowledge of where the bears den and so forth, I think the paper should reflect this. And if your recommendation is for mitigation of out-of-kind or something that provides benefit to another species, that should be stated in here as such.

MR. ARMINSKI: I'm really afraid that we're not, both in a practical sense of identifying denning habitat and just being able to preserve those areas, I mean, from development, you know, I think we're going to have a real hard time.

MR. HOSKINS: It can very well be, and you're probably right, Tom, but I think if that's the case, the paper should reflect that. And just say, "agencies, this is the way we look at it, and now it's just a matter of everybody's biting the bullet, including the bears, and this is what we anticipate to happen".

MR. ROSENBERG: Yes, I agree with what you're saying, and I agree with what you're saying on -- that these den sites are rather dispersed and essentially opportunistic in a lot of ways as to where or when they might be. But --



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MR. HOSKINS: We're going to run into this same sort of problem on these next papers that we're looking at today, the same type of thing. And we have to get more input, I feel, from the Power Authority right now on just what the position is, because we're left hanging.

6 MR. ROSENBERG: But if we can identify some 7 specific areas, and I don't know yet how big, how small, perhaps 8 when they're spoken of in terms of whatever, land purchase, land 9 exchange, land reclassification and so on and so forth, perhaps 10 if they're -- if they're a little bit more specific and not so 11 generic, something can be worked out. So I think it just is worth 12 the time to perhaps try and identify some areas and see if it's 13 possible to identify some areas first, and then take it from there 14 and see where the -- what those areas are, where those areas are, 15 and it may be possible to pursue it to the next step.

MR. ARMINSKI: What kind of level of detail Would you be happy with on identifying areas? You know, take for example the brown books that the Fish & Game Department's prepared, and everybody recognizes those things are pretty shaky, but, I mean, now, there's one level of detail. We can talk to area biologists and maybe get -- of course, they're the ones that drew the circles on those maps to begin with, but we may be able to get a little better level of detail.

MR. ROSENBERG: Didn't some of these studies 25 go to downstream areas? Weren't they doing -- Fish & Game right



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1 now doing radiotelemetry studies on -- in locating den sites out
2 of the immediate impoundment area?

MR. FAIRBANKS: Yeah, they've done some work in the middle river zone, plus there's -- I think they've identified -- you know, there's probably five or six or seven den sites identified down there.

7 MR. ROSENBERG: My point now is just mostly 8 to look into it, just explore the possibility for that approach, 9 and then see where that takes us. And that -- In the same regard 10 on the mitigation measures, number -- the ninth one, it says that 11 "Major project-related ground activity will be prohibited within 12 a quarter mile of all known active bear dens between September 13 15th and May 15th". As determined by what? Will there be a moni-14 toring program or further studies, further radiotelemetry studies, 15 that will locate more bear dens, or are we just going to go with 16 what we know right now at this point in time? What's going to 17 -- when are we going to draw the line on --

MR. FAIRBANKS: Yes, I think that's --MR. ROSENBERG: -- How's that going to be, you know, identify all these active bear dens, or have they been identified and we're going to leave it at that, or what? MR. FAIRBANKS: Yeah, well, the detailed aspects of the monitoring program in that respect haven't been developed yet. I don't --

MR. ROSENBERG: -- No, but they will be --



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1 MR. FAIRBANKS: -- Yeah ---2 MR. ROSENBERG: -- that will be part of it, 3 is all I'm getting at. MR. LOWENFELS: To identify more sites, I 5 guess, is the question. MR. ROSENBERG: Yes, I -- is there going 7 to be a monitoring program that will set up some scheme of things 8 where if more sites will be identified, money will be set aside 9 for radiotelemetry studies, so on and so forth. 10 MR. FAIRBANKS: Additional what? 11 MR. ROSENBERG: I'm sorry, money will be 12 set aside for radiotelemetry studies to locate more sites. Will 13 that be part of the monitoring program? 14 MR. ARMINSKI: Well, it would seem to me 15 that -- just on the basis of what you said, you know, and Randy 16 said, that bears are fairly opportunis -- can't say that. 17 MR. LOWENFELS: Opportunistic. 18 MR. ARMINSKI: But they're -- you know, the 19 den sites aren't going to be the same year after year. And, you 20 know, perhaps, you know, visual survey or something, each den --21 MR. FAIRBANKS: Yes, there's no easy way 22 of doing it. That's the reason I'm hesitating. We haven't really 23 -- there's no easy way. It's an expensive proposition if you're 24 going to continue to monitor radio collared bears, you know, for 25 the life of the project. That's why I -- I doubt that it would

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1 be -- we could justify doing -- continuing the radio collar bears 2 and monitor them throughout the years just to identify den sites. 3 But I think that there would be some level of monitoring of radio collared bears at least during the initial years of the project 5 anyway to find out what's going to happen -- what's happening 6 to the black bear population in the area, and along with that 7 we would be identifying additional den sites. There is a fair 8 amount of reuse, though, of -- you know, in the case of black 9 bears, so that the dens that have been identified very likely 10 are going to be used again unless they collapse or something even-11 tually. So that those, in conjunction with some level of moni-12 toring later on, would produce some, you know, additional den 13 sites. But there's a limit and there's a point of diminishing 14 returns there where you keep pumping a lot of money into moni-15 toring but you're only going to be turning up, you know, one addi-16 tional den a year or something.

MR. ROSENBERG: I just wanted -- I hate to 18 say "more specifics", but --

MR. FAIRBANKS: Yeah, I know what you mean. MR. ROSENBERG: Some -- something there where it just further defines what at least will be looked at as far as how we're going to draw that line, again, as to where we're going to continue studies and where we're not.

MR. FAIRBANKS: Right.

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MR. BEDARD: I had one comment from Page 6.



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Is it possible that in the impoundment zone of the two dam projects that the dens that would be impounded by water at the mean high water level, is it possible for those dens to be completely plugged in and closed up? My personal fear is that it could occur where bears might go into those dens at the lower -- lowest water levels, have their cubs in there, and when the waters start rising you know, you get a flash flood or a high temperature on the glacier, it melts off, comes down and raises three feet within a couple of hours, you're going to wipe out some bear population.
And to discourage that, would it be a good mitigative measure to plug those things while they're clearing --

12 MR. FAIRANKS: Yes, in fact I think that 13 was -- that was something that was just -- we either intended 14 to incorporate in here or it did just barely get incorporated 15 right at the last minute before it was mailed, but that's a good 16 point, and that's why we calculated the -- estimated the number 17 of dens that might be in that situation. I think there's a table 18 in here which indicates -- Table 1, which indicates approximately 19 when -- what season of the year each den would be inundated for 20 that reason. I think we looked at -- because of the fact that 21 the filling mostly occurs during the summertime, there would be 22 a minority of dens that would run that risk. But -- and we didn't 23 feel that -- the ones that may be flooded in the winter, the 24 clearing would've taken place prior to that, so the -- you know, 25 the habitat is going to be -- not look so great to a black bear



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l anymore once it's, you know, a big clearcut. Although bears do 2 -- or, black bears have been known to den in clearcuts too. So 3 I think that's a good suggestion, is that in addition to just 4 clearing the area around the den, the den should just be destroyed 5 MR. BEDARD: That's what I'm getting at. 6 just plug it up or otherwise make it nonusable. 7 MR. ARMINSKI: Well, if we're going to des-8 troy dens, can we establish dens? 9 MR. FAIRBANKS: Well, that's -- I guess that's 10 always a possibility. I don't know. You know, you'd have to 11 find -- to be effective, you'd have to find an area where den 12 sites are limiting. And that's not going to be an easy proposi-13 tion. But it's a possibility. I don't know that anybody's ever 14 done it, I've never seen --15 MR. HOSKINS: You'd have to have a very big 16 one. 17 MR. LOWENFELS: I was going to say, my mother 18 was a den mother once. 19 MR. THRALL: Would a -- say, a program to 20 look at, in an experimental way, look at artificial den sites, 21 would that be a -- considered a mitigation? 22 MR. HOSKINS: Not to me it wouldn't. 23 MR. THRALL: We'd go out there with some 24 styrofoam dens. 25 MR. ROACH: I have the same comment I had

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1 before on Page ii, Item 2, and over on Page 8, Item 2, and that's <sup>2</sup> about the side borrow. Somebody else made a comment a while ago 3 that there's borrow pits all along there -- gravel all along there. 4 But if you take a look at the gravel pits around Cantwell and 5 over around Paxson and the ones that we know of along the Denali 6 Highway, most of them are just a thin veneer of gravel overlying 7 glacial till. And so what you're -- what you're going to have 8 to do when you get in and open up these areas, you're going to 9 have to have big areas to open up, because the gravel some places 10 is only four or five feet thick. So that's why we'd like the 11 statements -- both of these statements two -- both the statement 12 Number 2's changed where that you're going to allow gravel pits. 13 That was a big problem, by the way, when the DOT built the Parks 14 Highway, is some sections of those -- of that highway was done 15 by consultants and gravel pits were located from aerial photo-16 graphs, and in some cases the quantity of gravel that was esti-17 mated just wasn't there.

MR. THRALL: Would a statement to the effect 19 -- we would still like to make the attempt to use side borrow, 20 I think, as possible. But we would recognize in this paper that 21 where that's not possible we will have to have borrow pits. Is 22 that --

MR. ROACH: Yes, this is strange coming from
me, because I've always advocated in our own department we use
side borrow if possible. It's just not possible to do a 40 --



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I don't think, a 46-mile project without going to some side borrows, especially in this area up here where you know -- in areas that you know of that the gravel deposits aren't very thick. If you drive along the Denali, you know, you may wonder why they got so many gravel pits, one here and there and there, and that's one of the reasons, a lot of these pits are -- have only got a couple feet of gravel -- the gravel's only a couple feet thick.

8 MR. FAIRBANKS: Okay, I think that's the 9 way it should be stated, is that the intent would be to use side 10 borrow as much as possible, but I know there have been some sites 11 identified in the license application, at least in a tentative 12 manner, for pits, and this summer, if things go according to plan, 13 we'll be out in the field and including doing some drilling, 14 looking for, you know, sites on the ground. So hopefully we can 15 pin it down, then, after this summer.

MR. ARMINSKI: You know, something else is If guess we had always envisioned that after the project was constructed that we would turn this road over to DOT. And you guys would have to maintain it. And that's not -- I mean, our money all comes from the same place, but, you know, if maintenance -having material sites for maintenance is really a concern, then we need -- I mean, in addition to construction as a concern, we need to get together and identify what you think the best thing is to do.

MR. ROACH: You need -- you need pits for



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<sup>1</sup> maintenance. Where these roadside borrow areas work best are <sup>2</sup> in areas where you've got rolling terrain and you've got thick <sup>3</sup> -- or, a thick gravel deposit, or you're in bedrock. And in areas <sup>4</sup> where you've got bed -- where you're going over a hill and you're <sup>5</sup> in bedrock, they work real well for a side borrow, but the only <sup>6</sup> catch there is it costs a lot more money to excavate bedrock, <sup>7</sup> because it has to be drilled and shot rather than picking up oil <sup>8</sup> -- gravel.

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10 MR. ROSENBERG: Yeah. I saw the statement 11 on the top of Page 4, and just -- and the statement on Page 7, 12 in the second paragraph, as a little bit contradictory. It says. 13 "Black bears" -- on Page 4 at the top, the sentence, "Black bears 14 will tend to concentrate in the limited remaining habitat areas 15 at lower elevations along the impoundment shores", and then on 16 Page 7, "After filling, it is likely that few black bears will 17 forage or den along the Susitna River between Tsusena Creek and 18 the Oshetna River", that's the top of the second paragraph. And 19 maybe it's just that the time frames we're talking about are dif-20 ferent, maybe that's all. If we're talking about different time 21 periods then maybe it's not -- maybe it's not a contradiction, 22 but --

> MR. FAIRBANKS: Yes, I think the --MR. ROSENBERG: -- it's not explained. MR. FAIRBANKS: -- sentence on Page 4 is

MR. ARMINSKI: Any more comments on --



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1 referring to like immediately after inundation, bears will tend 2 to concentrate on the limited remaining habitat. And then it 3 goes on to say after the short term increase in density, you know, 4 the population will decrease. I think that's the intent there, 5 maybe we could clarify that.

MR. ROSENBERG: Yeah, because the other -7 on the second -- on Page 7 is says "after filling", which also
8 sounds rather immediate.

9 MR. FAIRBANKS: Yeah, long-term versus short-10 term.

MR. ROSENBERG: Yeah, that needs to be a little bit better clarified. I was somewhat confused on Page 6, I was somewhat confused with just the wording in the last half of that second paragraph versus what it says at the top -- what it says at the top of the page in the first paragraph. I just wasn't quite sure what it was saying in that, to tell you the truth.

18 MR. FAIRBANKS: You're talking about the 19 last sentence in the second paragraph?

20 MR. ROSENBERG: Yeah, the last couple of 21 sentences in the second paragraph.

MR. FAIRBANKS: Page 6?

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23 MR. ROSENBERG: Yeah. And then -- but in
24 reference to what it says in the top paragraph. I can't remember,
25 I just wrote down that I was confused by it, and I don't really



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l remember now 2 MR. ARMINSKI: I think it says that these 3 dens are not going to be inundated but the disturbance will cause 4 them not to be used, and then after the disturbance ceases then 5 the bears will be -- reuse these. 6 Okay. Yeah, okay, I'll re-MR. ROSENBERG: 7 read it. 8 I think I understand what MR. FAIRBANKS: 9 it's saying. 10 MR. ROSENBERG: Then I also question the 11 effect that the impoundment might have as a barrier. We have 12 144 documented crossings and something like 15 to 20% of the bears 13 were radio marked, which these were -- these crossings were docu-14 mented. So there are quite a few crossings of that area, 15 apparently. I don't know, is there anything from the literature 16 to support the statement that there really shouldn't be much 17 effect on bears crossing an impoundment as wide as Watana? 18 MR. FAIRBANKS: Well, certainly there is 19 documentation that bears can swim that far, and they are good 20 swimmers. I guess the point was that, you know, it's probably 21 going to be fairly minor compared to the other impacts, the pro-22 blem with getting across. In some cases, I think the reservoir 23 is going to improve -- make it easier for bears to get across, 24 especially Devil Canyon. Most of the Devil Canyon reservoir where 25 it's fairly narrow and still water, and it's -- more black bears



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1 are in the vicinity of Devil Canyon reservoir, as you go further 2 west the number of black bears increases. So, you know, it's 3 going to be a problem, but I guess we didn't feel that it was 4 going to be a significant population decimating factor, one that 5 would reduce the population over and above what the inundation 6 will do already.

7 MR. BEDARD: That particular area, the
8 Oshetna area, there's quite a few rapids in that particular area.
9 In my opinion, knowing how black bears forage the Kennebeck (ph)
10 River, which is much wider in some places than the Oshetna will
11 be after impoundment, the waters are going to be more stable and
12 it'll probably be much earlier for the bears to cross. This is
13 my own opinion.

MR. ROSENBERG: In certain portions, perhaps,15 yeah.

MR. ARMINSKI:

Any other comments?

MR. ROSENBERG: Yes, I've got -- I'll keep

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18 going for a little bit. On Page 7, the second paragraph, the 19 last sentence, "The application of more stringent black bear har-20 vest regulations in the immediate project area may be advisable 21 to alleviate the combined impacts of decreased habitat and 22 increased hunting". To implement something like that does require 23 dollars for monitoring and enforcement, and I just want to be 24 sure that that's -- if something like this is proposed in the 25 mitigation plan, that you're aware of the need for funding,



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1 monitoring and enforcement costs.

2 MR. FAIRBANKS: Well, this isn't really being 3 proposed as part of the mitigation plan, because we're -- we are assuming we can't propose --4 5 MR. ROSENBERG: -- Yeah, the regulation is 6 a whole other issue. 7 MR. FAIRBANKS: -- regulation as mitigation. 8 We're just simply stating that it may actually be necessary --9 well, it won't be necessary, but it may be -- may be something 10 that should be done in order to minimize the total impact to the ll bears. 12 MR. ROSENBERG: Yes, I just wanted to be 13 aware that it does require -- there is costs involved with that 14 sort of thing, to be done effectively. 15 MR. ARMINSKI: Bruce? 16 MR. FAIRBANKS: Yes, I guess --17 MR. BEDARD: Go ahead. 18 MR. FAIRBANKS: Yes, I was just going to 19 say that I -- we haven't -- to date we really haven't considered 20 that the Power Authority would be responsible for providing addi-21 tional funding because of additional regulations needing to be 22 implemented. That's maybe a general question that maybe needs 23 to be addressed at some point. If this is just one case, there's 24 going to be others.

MR. ARMINSKI: I guess our position would



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1 be that, you know, we would seek to minimize the loss by the means
2 we've talked about, replacement habitat or whatever.

MR. ROSENBERG: But if that couldn't be done,
or if it was shown that, you know, that the monitoring program
-- subsequent monitoring program showed that that was not working,
and therefore the Board of Game or what have you is forced to
implement regulations that did require additional expenses for
enforcement and monitoring of those regulations.

9 MR. ARMINSKI: I don't know if it's our posi-10 tion to fund Fish & Wildlife to -- that's DOT/PF's -- or, Public 11 Safety, Fish & Wildlife, to enforce regulations. But I think 12 certainly we could -- we're going to be monitoring anyway to 13 ascertain whether or not these impacts take place.

MR. ROSENBERG: I think that will need to be -- maybe we should discuss that later on at some time and go into that a little more. Okay, on Page 8, mitigation measures, Number 1, I just think it's fair to say that rather that "Impoundment clearing will be conducted in a manner to minimize prereservoir-filling habitat loss", essentially impoundment clearing will delay habitat loss, is what it will do. And over the long term it's really not a very significant -- go ahead.

MR. LATKA: Well, I -- have you decided, then, to clear the impoundment areas? I'd never really heard for sure that that was going to happen.

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MR. FAIRBANKS: Yeah, I think that's the



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1 current plan, although it hasn't -- a detailed reservoir clearing 2 plan has not been developed.

MR. ARMINSKI: That's in the works right 4 now.

MR. ROSENBERG: Okay, number -- the fifth
one I think we've covered already, Hank covered that and Randy
talked about it. The eighth one, Number 8, line one, two, three,
says, ". . . prohibiting hunting by the public or employees within
the project boundary -- within the project boundary . . ." I
don't think the Power Authority can do that, prohibit public hunting.

MR. ARMINSKI: Within the -- within the pro-13 ject boundaries we certainly can.

MR. THRALL: That's a very limited area. They can't go in the basin or in the project area, but within the boundaries of the project itself, I think they can.

MR. FAIRBANKS: Would include the shoreline18 of the reservoir.

MR. THRALL: In other words, you're --MR. ARMINSKI: It may not even be that, you know, we would preclude hunting in the entire project boundary. For example, you know, the reservoir's 40 miles long. If our workers are just in the camp area working on diversion tunnels, there's probably no hazard to the health and safety of workers to have hunters hunting 10 miles away or something like that,



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1 you know. 2 MR. BEDARD: There's another thing you can 3 add to that, that in the event the State can't do it, at least on the lands that are public surrounding the two-dam project, 5 the Natives can. 6 MR. ROSENBERG: When we're talking about 7 the project boundary, we're talking about a few hundred feet up 8 from --9 MR. ARMINSKI: Yeah, it's that line that --10 MR. ROSENBERG: Oh, okay, yeah. 11 MR. THRALL: The biggest part of the project 12 boundary, other than the inundation zone, would be, you know, 13 in areas where you'd obviously prohibit hunting, would be the 14 camps --15 MR. ROSENBERG: -- Sure --16 MR. THRALL: -- and in the construction areas 17 themselves. And obviously the Power Authority can control that 18 area, and I'm sure they can keep people from coming and hunting. 19 MR. FAIRBANKS: And along the access road. 20 MR. THRALL: And along the access road, to 21 some degree. 22 MR. ROSENBERG: I just -- I just wasn't aware 23 that that could be done. 24 MR. THRALL: That's not to say the whole 25 project area, just sort -- maybe one thing we need sometime to

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1 develop is a set of definitions for the project boundary, project 2 area. I think we went through this once before and then they 3 got lost. MR. LOWENFELS: We're just waiting for the 5 Native land status before we can finalize that. 6 MR. BEDARD: So are we. 7 MR. ARMINSKI: So are they. 8 MR. ROSENBERG: If you can do that, fine. 9 I didn't know that that could be done, that you could prohibit 10 public hunting, other than within -- around buildings and roads. 11 MR. HOSKINS: Randy, on that --12 MR. ROSENBERG: -- That's all that I have. 13 MR. HOSKINS: On a couple of these you've 14 mentioned state regulations pertaining to aerial hunting or some-15 thing like this. You might want to also include the federal regu-16 lations, the airborne hunting act, which restricts harassment 17 of animals by aircraft. 18 MR. FAIRBANKS: Good point. 19 MR. ARMINSKI: Bruce? 20 MR. BEDARD: Another point also, on the 21 federal lands, unless they've changed the regulations, on Page 22 7, Item 12, you've got 1,000 feet above ground level. On the 23 federal land, I believe it has to be 1500 feet. Am I wrong? 24 MR. HOSKINS: I think it's pretty much a 25 project-specific thing. Thinking along the pipeline and some



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1 of these others, it depends on what species are there and what values and so forth. I don't think there is a specific law. 2 3 MR. BEDARD: Well, I was reading some regula-4 tions over at BLM when I was over there for that agency meeting 5 they had, and I ran across a regulation that quoted 1500 feet, 6 and it wasn't specific to any species, just said where wildlife 7 are known to be in an area. They prefer a 1500 foot altitude. 8 MR. HOSKINS: It may be something they pre-9 fer, I don't ---10 MR. BEDARD: -- I was just wondering if that 11 should be looked into and addressed. 12 MR. ARMINSKI: Okay, well, we can look into 13 that. Okay, let's go on to W-3. It's basically the same as W-2 14 but relates to brown bear. Randy, are you going to cover that 15 one? 16 MR. FAIRBANKS: Yeah, sure. This is very 17 similar, again. Brown bear field studies conducted primarily 18 by ADF&G provided the major source of information, along with 19 open scientific literature. The paper again basically concludes 20 the same sort of thing, that there will be a lost of spring for-21 aging habitat and a local reduction of moose numbers. Those will 22 probably combine to reduce brown bear numbers, along with probably 23 a greater hunter harvest, which is really addressed in a separate 24 paper. And the same sort of things are proposed for mitigation 25 measures again. We don't know of a good way of enhancing brown



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1 bear habitat, although in this case brown bears are probably likely 2 to more directly benefit from moose habitat enhancement than black 3 bears are, although it's hard to take too much credit for that for brown bears. 4 5 Well, a lot of that too is MR. ROSENBERG: 6 just -- it's a seasonal enhancement. 7 MR. FAIRBANKS: Yeah, it is, right. Some-8 what ---9 MR. ROSENBERG: -- And so if a brown bear 10 is fat and happy in one season but starving to death in another, 11 it won't do any good. 12 MR. FAIRBANKS: Although, you know, moose 13 do provide a proportion of brown bear diets throughout the year. 14 MR. ROSENBERG: But that may not be limiting 15 MR. FAIRBANKS: -- The biggest part is during 16 June. 17 MR. ROSENBERG: -- to the brown bears. 18 MR. FAIRBANKS: Right, exactly. So, yeah, 19 I don't -- I think the key point here is that out of kind -- that's 20 what the paper says, that out of kind enhancement, habitat 21 enhancement, and preservation of forage habitats are the only 22 measures that we know of there. And the key area that we're 23 seeking to develop some agreements are on there is the Prairie Creek area there, which everybody agrees is an important brown 24 25 bear habitat.



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MR. ROSENBERG: Which -- Which was -- my main comment was on this is that that wasn't mentioned in here. A number of -- on the fifth mitigation measure, which is identical to the one for black bears except the idea of -- no mention -- it's no specific mention of replacement lands or Prairie Creek is in here. I'd like to see that.

7 MR. FAIRBANKS: Okay, that was just an over-8 sight.

9 MR. ROSENBERG: I'd like to see that in here 10 somewhere.

MR. FAIRBANKS: Because that is in the position statement. And preservation of important habitat, that was 13 -- should be in there.

MR. ROSENBERG: Yeah, we'd like to see Prairie Creek, too, specifically stated in the mitigation measures that that will be a goal.

MR. FAIRBANKS: The paper on -- I think it's W-17/18, mitigation measures -- or, compensation measures paper will address this issue more directly, talk about habitat enhancement and compensation lands and replacement lands and preservation of like Prairie Creek area. We still can't commit to anything on Prairie Creek, except to say that that's -- you know, our goal is to be able to provide some preservation there. We're working on developing agreement with the CIRI villages and CIRI corporation.



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1 MR. ROSENBERG: Well, Prairie Creek, yeah. 2 could be the -- could be the goal. I agree you can't. 3 MR. FAIRBANKS: Right. MR. ROSENBERG: And then some of the same 5 comments apply from the last one as far as the whole discussion 6 we had on active -- known active bear dens. 7 MR. FAIRBANKS: Okay. 8 MR. ROSENBERG: And also there's -- there's 9 not a lot of discussion on the impact of improved access by 10 individuals other than hunters. And its effects on bears. 11 MR. FAIRBANKS: Individuals other than 12 hunters? 13 MR. ROSENBERG: Hunters. There'll be im-14 proved access and a lot of other people may be going into the 15 area by whatever means and for whatever reasons. That could also 16 have an impact on bears. 17 MR. FAIRBANKS: Yeah, although we feel that, 18 you know, the impact of hunting is going to be definitely the 19 primary factor there. If there wasn't going to be any hunting 20 along the access road, I think the impact of people hiking and 21 recreating in the area would be pretty low, and there's a fair 22 amount of evidence to that. 23 MR. ROSENBERG: I think it's just worthy 24 of mentioning that there might be some impacts from that. 25 MR. FAIRBANKS: Sure.

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MR. ROSENBERG: We're getting at -- I'm getting at cumulative impact, once again, and I just think it's worth -- when you start adding things up, it all counts, to a degree. It has to be -- the overall impacts have to be assessed along those lines. And on Page 2, the top paragraph, one, two, third line, says, "Construction of and travel on the proposed access roads should not affect brown bear denning activity." Do we have any documentation that that area is not used by brown bears or is used by brown bears? It's my understanding it just wasn't really studied or looked at in the first place.

11 MR. FAIRBANKS: Yeah, well, a significant 12 portion of it was studied, not -- I guess not the entire -- the 13 entire access route. Now, there have been radio collared bears 14 -- some of the radio collared bears have covered the entire route, 15 but the southern portion and probably the southern half, I believe 16 have been looked at pretty intensively, but the northern half 17 has not. And those dens that have been discovered in the range 18 of the Chulitna hills, I think -- yeah, the Chulitna hills up 19 there, and I think the closest one was one and a half miles from 20 the proposed route. But, yeah, the northern -- it should probably 21 be pointed out that the northern portion of the route has not 22 been as intensively looked at as the southern half of the route. 23 MR. ROSENBERG: Because I believe that there 24 is some good den habitat along the northern half.

MR. FAIRBANKS: Yeah. Although it -- the



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1 access road starts following the railroad (ph), though, on the 2 northern half, it starts taking it further away from the denning 3 habitat, but it's close.

MR. HOSKINS: Randy, a couple points. On Page 1, again, make note of the federal airborne hunting act restrictions under present knowledge.

MR. FAIRBANKS: Okay.

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MR. HOSKINS: On Page 2, the second paragraph, reference to my statement that brown bears tolerated construction activities well at Terror Lake on Kodiak. Keep in mind you're trying to extrapolate between two different populations of animals. In my opinion, the Interior bears are much more intolerant of almost every human activity than the bears are on Kodiak. So don't extrapolate too much from the observations on Kodiak bears. And finally, the -- on Page 4 you discuss the likelihood of increased competition and social strife between bears, and what are APA's plans to monitor the impacts to brown bear populations once construction begins? You have a mitigation measure that will discuss monitoring the den sites, and I want to know if you have anything else planned.

21 MR. FAIRBANKS: Well, the specifics haven't 22 been developed there either. That will come out in the mitigation 23 plan this summer. But there will be some -- some degree of moni-24 toring of brown bears for sure.

MR. ARMINSKI: Other comments on W-3?



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1 MR. ROACH: I have the same comment I had 2 before, Randy. It's on Item 2 on ii and Item 2 on Page 5. 3 MR. FAIRBANKS: Okay. 4 MR. ROSENBERG: And on Page 5, the third 5 item, that "Bears are typically attracted to revegetated sites 6 by the high productivity and early availability of spring forage". 7 Is there much documentation for that and the types of revegetation 8 that we're talking about, will that be beneficial to bears in 9 the short term or in the long term, or what types of revegeta 10 -- do we know yet what types of revegetation, really? 11 MR. FAIRBANKS: All right, I think that can 12 be clarified. Documentation can be provided there. 13 MR. ROSENBERG: Oh, and -- one more thing. 14 On Page 6, Number 9, the dates for prohibiting major project-15 related ground activity can be changed to between November first 16 and April first. 17 MR. FAIRBANKS: Okay. 18 MR. ROSENBERG: If everybody else agrees. 19 Right now it says September 15th and May 15th. 20 MR. FAIRBANKS: All right. 21 MR. ARMINSKI: Okay, W-4. 22 MR. THRALL: Tom, I think we've got some 23 more comments. 24 MR. ARMINSKI: Oh, sorry. Leroy? 25 MR. LATKA: No.

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## MR. ARMINSKI: Bruce?

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MR. BEDARD: No, I'm on W-4 too.

MR. ARMINSKI: Okay, let's go. This is significance of habitat reduction for middle basin furbearers and birds, the proposed mitigation measures. And our position is that impacts on most of those furbearers and birds that do not use heavily forested habitats would not be significant. Impacts on forest-dwelling and other species will be reduced through implementation of the mitigation measures and partial compensation will be provided through in-kind or out-of-kind habitat enhancement or preservation of important habitats. There'll be monitoring to verify the expectations and additional mitigation measures will be instituted if necessary.

MR. FAIRBANKS: Okay, this again is basically MR. FAIRBANKS: Okay, this again is basically the same thing, same spiel. Furbearer and -- data sources were furbearer and bird field studies in the project area conducted by -- primarily by Phil Gipson, Brine Kessel, and the ADF&G for the wolf and wolverine studies, and the open scientific literature on these species. Again the basic conclusions are that inundation will reduce available habitat for furbearers depending on forested habitats, especially species like marten, which it's estimated they'll lose about 7% of the available habitat above -- upstream of Gold Creek in the Susitna basin. Mink and otter will also -- the habitat will also be reduced throughout the impoundment zones. And, you know, habitat for forest-dwelling birds in



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1 particular such as, you know, spruce grouse, woodpeckers and 2 various passerines, will also be considerably reduced in the upper 3 basin. Again, a variety of mitigation measures were presented 4 to reduce or minimize or delay impacts, and the residual impacts, 5 the intention is to provide at least partial compensation through 6 in-kind -- in this case in-kind or out-of-kind enhancement or 7 again through preservation of important habitat.

## MR. ARMINSKI: Leroy?

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9 MR. LATKA: On Page iv, Number 9, d on 10 Page 15, Number 9, basically talks about slough enhancement mea-11 sures will also benefit muskat, mink and otter and may provide, 12 et cetera. We just wanted to say that I think that'll also bene-13 fit moose, and that might be a way to punch out a few acres off 14 our card, you should include moose there.

MR. FAIRBANKS: That's a point. The degree to which we'll actually attempt the slough enhancement is still up in the air, and that's one thing that's being looked at right now, will be coming out in a mitigation plan. It was one thing that was proposed in the license application, but it's -- we're recognizing that slough enhancement for salmon is going to come ifirst, and it may be feasible to provide some enhancement for aquatic furbearers and maybe other species through that as well, but that's just one of the options right now.

MR. ROSENBERG: I think that's a pretty mini-25 mal area, too, in relation to moose. We're talking about forest



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lsloughs, you know, so . . . 2 MR. LATKA: I just thought I'd bring it up. 3 MR. ROACH: I have the same comment on iii. 4 Number 2, to reword that one. And then I have a comment on Page 5 12, Number 2, where you say "Habitat loss for all species will 6 be minimized through the use of side-borrow techniques for road 7 construction, dispose" --8 MR. LOWENFELS: -- Depositing --9 MR. ROACH: -- "depositing spoil in future 10 impoundment areas or depleted borrow sites". Might also want 11 to add you could put spoil adjacent to the roadway in some areas 12 to provide side support for the roads. It might cut down on the 13 length of haul you've got for the waste material and also put 14 it to good use. 15 MR. FAIRBANKS: Okay. 16 MR. ARMINSKI: Dan? 17 MR. ROSENBERG: How did you know? 18 MR. ARMINSKI: I. knew. 19 MR. HOSKINS: This is the last paper? This 20 is the last paper? 21 MR. ARMINSKI: Yes, this is the last one. 22 I think Dan's got --23 MR. ROSENBERG: I've got a few things. Under 24 the mitigation measures, the third one, which is back to revegeta-25 tion and fertilization of disturbed sites. You know, what and

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how -- or, what and how the effects of revegetation are going to be will depend on, you know, what species the revegetation will be good for and so on and so forth. So without having a revegetation plan, without deciding specifically what type of revegetation or what the revegetation will be targeted for, it's difficult to say that that's going to minimize the period of temporary habitat loss. I mean, it's certainly not -- by planting an area to grasses you're certainly not going to minimize temporary habitat loss to forest-dwelling birds. MR. FAIRBANKS: No, but I guess the point

11 is being made there that, you know, it's going to be better than 12 bare dirt, probably.

MR. ROSENBERG: Well, for a lot of things, 14 I mean, it will be better --

MR. FAIRBANKS: -- The point is by revegeta-MR. FAIRBANKS: -- The point is by revegetation we're not meaning necessarily planting or seeding with -you know, it just simply means -- it's intended to be a general term just to imply getting the area ready for re-establishment of vegetation or, in some cases, seeding or planting may be advisable or a necessary measure because of erosion problems.

MR. ROSENBERG: Well, I just don't --MR. FAIRBANKS: The point is that these sites would be -- revegetation activities would take place as soon as the sites are not needed. That's the point.



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1 MR. ROSENBERG: I'm all for revegetation, 2 I just question it will minimize the period of temporary habitat 3 loss. To what, or for what? MR. THRALL: Maybe we can qualify it. 5 MR. ROSENBERG: In regard to the middle basin 6 furbearers and birds. 7 MR. THRALL: I think we just qualified it 8 for some species, but obviously revegetating an area provides 9 more habitat than --10 -- Than a gravel pit. MR. FAIRBANKS: 11 MR. THRALL: -- than a gravel pit. We cer-12 tainly can qualify that statement. It won't provide habitat for 13 everything. 14 MR. ROSENBERG: Number 2, you're getting 15 a lot of mileage out of -- pardon my choice of words -- out of 16 the side borrow technique, but you do have it down here twice. 17 2 and Number 8. 18 MR. LOWENFELS: Two sides. 19 MR. ROSENBERG: Two sides of the road. 20 MR. FAIRBANKS: Caught us. 21 MR. ROSENBERG: More of an editorial comment. 22 And I also question two wolverines that are going to be affected 23 by the project. How that was arrived at and --24 MR. LATKA: What page it is on? 25 MR. ROSENBERG: Well, it just states in here



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1 somewhere that only two wolverines will be adversely affected 2 by the project, I think, or the carrying --3 MR. FAIRBANKS: I don't think it says that two will be affected, it says that the carrying capacity will 5 be reduced by about two. 6 MR. ROSENBERG: Oh. okav. 7 MR. FAIRBANKS: I think a lot more than two 8 will be affected, but, you know, it's kind of hard to predict 9 wolverine impacts on a project like this, but based on home range 10 size of wolverines -- you know, we've just basically --11 MR. ROSENBERG: Well, I think it's fair for 12 the paper to say it's hard to predict wolverine impacts and we 13 don't know how many will be affected. I think it's a little pre-14 mature, maybe, based on the information to say that only two --15 the carrying capacity for two wolverines -- the carrying capacity 16 will be reduced so two less wolverines will be able to be sup-17 ported. It's sort of based on an acreage figure. 18 MR. FAIRBANKS: Right, based on their home 19 range --20 MR. ROSENBERG: And of course it doesn't 21 really depend on acreage, it depends more on the type of habitat 22 that's available. 23 MR. THRALL: Well, I have a little problem 24 with that, because we have been -- there's an emphasis on trying 25 to be quantitative of predicted impacts in the degree you can.



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1 And we always get very severely criticized -- well, not severely 2 criticized, we get criticized for, you know, being vague about 3 impacts. I think this two wolverine -- the carrying capacity 4 for two wolverine is just an attempt to put some level --- I don't 5 think we intend to say that only two wolverine are going to be 6 lost, but at least it puts it in perspective, and I think that's 7 the proper way to approach things where we can. And this is --8 again, we can put some qualifying words in here to indicate that 9 we certainly aren't saying that that's a hard quantified number 10 that are going to be lost, but I think we should, wherever we 11 have this sort of information, I think we should present it, 12 because it gives everybody a better feel for what we're really 13 talking about. I just -- this happens to be one point of sensi-14 tivity because I something think I get -- we get hit from both 15 sides on this. We're told to quantify things, but sometimes when 16 we do quantify things, you say, oh, well, you know, that's really 17 not true, it's going to be worse than that. We don't mean to 18 say that --

MR. ROSENBERG: Well, yeah, by saying worse than that doesn't mean you can't -- that's not saying you shouldn't quantify things. I'm -- All I'm saying is I don't agree with your quantification, not that you shouldn't quantify things. MR. THRALL: Well, it's just a method. I mean, there's a certain home range size, certain acreage, I mean, just -- you multiply it out and you take it for what it's worth.



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1 Again, I say, we can put some qualifiers on there saying using 2 these --

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5 come up with.

MR. ROSENBERG: -- Yes, I think that's -- MR. THRALL: -- factor, that's what you'd

6 MR. FAIRBANKS: Yeah, it does say that, 7 though, that that's what the estimate is based on. It's based 8 on the home range size of a wolverine, that if you used that as 9 the basis, then the carrying capacity would be reduced by about 10 two wolverine. But I think, you know, we could follow that with 11 another sentence stating that, you know, recognize that habitat 12 quality is important as well as quantity and it's very difficult 13 to assess that aspect of it.

## MR. ARMINSKI: Bruce?

MR. BEDARD: I just had an overall comment about it. I notice that throughout this whole paper it refers to trapping as a main source of impact, and if access is made more easy, trapping may occur, poaching may increase, hunting may increase, and all these would have an impact on the wildlife. Does it behoove the agencies to address the fact that they may not have the regulatory authority to maybe control access, but as well the law goes the private owner does. And you might look at that as a mitigation with the private owners, what these agencies would like to see, and see if the private owners are willing to confer with some of you. That method could minimize a lot



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1 of this impact I'm reading through this last paper.

MR. ARMINSKI: Hank?

3 MR. ROSENBERG: Are you saying that you think
4 that that will be the biggest impact?

5 MR. BEDARD: Well, I do know that, you know, 6 because there are differing Native entities that own the land 7 up there within the CIRI structure, I do know that certain land-8 owners are saying they're not going to allow any ATV use, they 9 don't want any rockhounders up there, they may restrict hunting 10 by -- via permit, and these all will enhance some of these pro-11 blems. But this could probably enhance even greater if you people 12 make aware what your concerns are and where you can't do it, maybe 13 through the effects of regulatory authority, we could do it as 14 an effort of a private landowner by requiring permits and limiting 15 trespass and things like this on areas of concern. But because 16 we have to address this with the different landowners, we might 17 be able to -- like Tyonek, for instance, they have 50,000 acres 18 up there, and Tyonek might be acceptable to most or all your plans 19 Whereas Knik, who has almost a similar amount, may have different 20 opinions. So whatever they're agreeable to, at least it's a step forward in minimizing some of this impact. 21

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MR. ARMINSKI: Hank?

MR. HOSKINS: To paraphrase the APA's position on Page 1, impacts on forest-dwelling species will be reduced through mitigation measures and compensation, either by in-kind



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1 or out-of-kind habitat enhancement or the preservation of impor-2 tant habitats. This approach is supported by the Fish & Wildlife Service. We concur with the treatment being afforded to wolf, 31 wolverine, beaver, muskrat, mink, otter, coyote and red fox within 5 the context of this paper. Our concern is with the other fur-6 bearers, Pages 7 and 8, associated with coniferous climax forest 7 lands. Acknowledgement is offered that populations of weasel, 8 linx and marten will be adversely impacted by vegetative clearing 9 and filling of the impoundments, but not mitigation measures are 10 presented. The statement that "evidence exists that marten are 11 tolerant of moderate levels of disturbance in areas adjacent to 12 logging operations" is irrelevant and has no bearing on the extent 13 of habitat destruction which is proposed. We suggest that the 14 investigation of compensation lands be undertaken by the Power 15 Authority. And Bruce's proposal is very apropos here. Our pre-16 ference would be to preserve lands which are presently threatened 17 by development as the furbearer black bear habitat management 18 area. We hope the approach taken will be more innovative than 19 the typical out-of-kind habitat compensation of swapping units 20 of moose browse for spruce woodlands. Consider that the maximum 21 density of marten in optimal habitat is about four animals per 22 square mile. The minimum amount of habitat for consideration 23 would be approximately 35,000 acres as replacement for the number 24 of marten displaced by the project. So to summarize, I'm asking 25 the Power Authority to investigate replacement lands, and I think



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1 the proposal that Bruce has to talk with the Native corporations 2 and see if they're willing to set aside areas as furbearer black 3 bear management areas, something like this is very appropriate. MR. BEDARD: Yes, APA is doing that now. 5 to some extent, moose and other things. But we haven't got into 6 marten and other species yet. 7 MR. HOSKINS: Right. 8 MR. LOWENFELS: Is that it? 9 MR. ROSENBERG: I agree with Hank's statement 10 as far as that whole discussion on replacement lands that I talked 11 about earlier, too, with black bears. 12 MR. FAIRBANKS: It seems like only -- just 13 to -- Maybe we should drop that subject. But it seems like the 14 only option available to APA is going to be state -- or, private 15 lands, because the State, as we understand the directives we've 16 gotten from the State or will be getting, are that, you know, 17 this concept of replacement land is not going to be a feasible 18 concept on state-owned land. So it sounds like the option is 19 to essentially buy out development rights, purchase development 20 rights, or purchase land or lease land. 21 MR. ROSENBERG: Yes, what you're going to 22 get -- I guess it's in the mail. 23 MR. LATKA: Famous last words. 24 MR. ROSENBERG: The order or priorities for 25 replacement lands is going to be, one, purchase private lands,



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1 two, purchase or reclassify borough lands, three, reclassify state
2 lands where existing classifications are incompatible with the
3 approved mitigation plan for the target species, and four, ex4 change state land for non-state land.

MR. ARMINSKI: Well, you know, I guess all I've got to say is that, you know, when you talk about 35,000 acres, that's a township and a half, and, you know, if the State -- I don't mean the Fish & Game Department, but I mean the whole State thinks that it's in its best interest to buy up a township and a half of development land so they can have this project, I guess they'll do it. But, you know, it seems pretty unreasonable to me.

MR. LATKA: Well, you can figure that 86% of the classified state lands are already -- I think -- let me see, I think it's 86%, I don't have the number in front of me, but the lands classified in the Susitna plan are fish and -- fish -- what do we call it, wildlife habitat. So it's -- the Susitna basin is the most valuable land the State's got in the sense of public use, not in the sense of Prudhoe Bay. And, you know, you go in there and start talking, what, township and a half of --21 we don't -- we haven't got that much left to --

MR. ARMINSKI: You've got to -- I mean, you've really got to weigh what's in the public interest, I think. I mean, you can't have -- you can't have everything. I don't mean --



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1 MR. HOSKINS: You can't have the animals 2 as long as you have people. 3 MR. ARMINSKI: Well, that's true. MR. LATKA: Why don't we do this, before 5 we start discussing the paper, why don't you get the paper, and 6 -- because, I mean, we're -- I haven't even seen the final draft 7 since it was signed myself. Let's get it and then we can have 8 a meeting and talk about it instead of going --9 MR. ARMINSKI: Yes. 10 MR. ROSENBERG: Yes, what you just said --11 Leroy just said is a very misleading statement, but let's just 12 leave it at that. 13 MR. LATKA: Yes. 14 MR. LOWENFELS: Strike that statement about 15 misleading -- No. 16 MR. LATKA: Yes, I'd just as soon you didn't 17 put that in the notes. 18 MR. LOWENFELS: We'll strike the last 19 reference. Okay, that's it? 20 MR. ROSENBERG: Yeah, that's basically it. 21 I have a few other little comments, but they sort of pertain to 22 statements that I just think are a little bit out on a limb. 23 MR. ARMINSKI: Will you --24 MR. ROSENBERG: I'll write them up, they're 25 not big issues.



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MR. BEDARD: Is anyone from BLM supposed <sup>2</sup> to be represented for these scoping meetings? 3 MR. LOWENFELS: Beth Walton from BLM. MR. BEDARD: It amazes me, you know, that 5 they've opened up that four million acre Denali planning block 6 for the kind of purposes that they did, knowing the significance 7 of wildlife and fisheries and archeological and other things in 8 that area. That really surprises me. And it's a shame they're 9 not here to hear some of the problems, because they may still 10 be alter some of that land. 11 Is Rico (ph) the BLM guy or is MR. LATKA: 12 it Kastron? The BLM rep, would that be Rico or would that be 13 Kastron? 14 MR. ARMINSKI: Well, Kastron is really the 15 one that we deal with most. 16 MR. LATKA: I think he's on vacation right 17 now. I mean, he hasn't come to anything anyway, but he's on vaca-18 tion now. 19 MR. ARMINSKI: Are we off the record? 20 **REPORTER:** Not yet. 21 (OFF RECORD) 22 END OF PROCEEDINGS 23 24 25

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## CERTIFICATE

2 UNITED STATES OF AMERICA

3 STATE OF ALASKA

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I, Teresa E. Mielke, Notary Public in and for the State of Alaska, residing at Anchorage, Alaska, and Electronic Reporter 5 for Gemini Reporting Services, do hereby certify:

SS.

That the annexed and foregoing Position Paper Meeting Number 4 was taken before me on the 5th day of April, 1985,
beginning at the hour of 8:30 a.m., in the Northern Lights Room of the Northern Lights Inn, Anchorage, Alaska;

That this transcript as heretofore annexed is a true and 9 correct transcript of said proceedings, taken by me electronically and thereafter transcribed by me. 10

I am not a relative nor employee nor attorney nor counsel 11 of any of the parties, nor am I financially interested in this action. 12

IN WITNESS WHEREOF, I have hereunto set my hand and af-13 fixed my seal this 6th day of April, 1985.

Notary Public in and for Alaska My commission expires 5/6/87

17 SEAL

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