

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION
ORPC ALASKA, LLC PROJECT NO. 12679-002

June 15, 2009

1:10 p.m.

Taken at:
Homewood Suites by Hilton
Yukon Room
101 West 48th Avenue
Anchorage, Alaska

Reported by: Leslie J. Knisley
Shorthand Reporter

1 MATT CUTLIP: I think we're going
2 to go ahead and get started.

3 My name is Matt Cutlip with the
4 Federal Energy Regulatory Commission, and I'm the
5 project coordinator on FERC's behalf for this
6 project. With me is David Turner. David is the
7 wildlife biologist that's assigned to this
8 project as well.

9 A couple of housekeeping items.
10 First, as I mentioned to the participants on the
11 phone, we just ask that you please state your
12 name and affiliation before you speak. We are
13 having this meeting transcribed. It's going to
14 be entered into the record for the project
15 formally, the transcript, so please state your
16 name and affiliation just so we make sure we get
17 everything transcribed correctly.

18 I passed around some agendas.
19 Hopefully everybody has a copy. Basically we'll
20 start with introductions and then -- yeah, I
21 guess we'll probably start off asking for
22 everybody's name and affiliation. We'll just go
23 around and introduce everybody and that way
24 hopefully we'll initiate some good, open
25 discussion.

1 Maybe we'll start with the folks
2 representing ORPC.

3 MONTY WORTHINGTON: My name is
4 Monty Worthington. I'm the Alaska project
5 manager for ORPC.

6 MARY McCANN: I'm Mary McCann. I
7 work for HDR, and I'm assisting ORPC on the
8 permitting and licensing of this project.

9 ERNIE HAUSER: I'm Ernie Hauser,
10 vice president of project development for ORPC.

11 TAMARA McGUIRE: My name is Tamara
12 McGuire. I'm a wildlife biologist with LGL, and
13 I'm consulting with ORPC.

14 KATE SAVAGE: Kate Savage, I'm a
15 marine mammal specialist with NOAA in the
16 regional office.

17 MANDY MIGURA: Mandy Migura, I'm a
18 marine mammal biologist here in Anchorage with
19 National Marine Fisheries Service.

20 SUE WALKER: Sue Walker, I'm the
21 hydropower coordinator for the Alaska Region.

22 DAVID LOCKARD: I'm David Lockard.
23 I'm with the Alaska Energy Authority. I run the
24 State Ocean and River Energy Program, which
25 includes tidal energy.

1 NEIL McMAHON: Neil McMahon with
2 the Alaska Energy Authority. I'm an engineering
3 intern.

4 DOUG MUTTER: I'm Doug Mutter with
5 the U.S. Department of the Interior.

6 JENNIFER CURTIS: I'm Jennifer
7 Curtis with the Environmental Protection Agency.

8 FRANCES MANN: I'm Frances Mann
9 with the Fish and Wildlife Service.

10 BETSY McCRACKEN: I'm Betsy
11 McCracken with the Fish and Wildlife Service.

12 THERESA SPANG: Theresa Spang with
13 the Fish and Wildlife Service.

14 MATT CUTLIP: Okay. To start
15 things off, David and I are going to give an
16 overview of the pilot -- I'm sorry -- phone.

17 Can you guys go ahead and please
18 state your name and affiliation?

19 TOM MEYER: This is Tom Meyer. I'm
20 in Juneau with NOAA general counsel's office,
21 Alaska Region.

22 SEAN McDERMOTT: This is Sean
23 mcDermott with NOAA Fisheries. I'm at the
24 Gloucester map office.

25 TIM BACHELDER: This is Tim

1 Bachelder, HDR. I'm in Portland, Maine.

2 JARLATH McENTEE: This is Jarlath
3 McEntee with the Ocean Renewable Power Company.
4 I'm the director of engineering for turbines.
5 I'm in Portland, Maine.

6 MATT CUTLIP: Thank you.

7 David and I are going to start off
8 with a discussion of the pilot licensing
9 procedures, then ORPC folks are going to give an
10 overview of their project proposal, just a brief
11 overview. I think they have slides prepared for
12 us. And then we will probably move into a
13 discussion beginning with the beluga whale
14 issues, pertaining mostly to the information and
15 monitoring needs. There were comments filed by
16 NOAA Fisheries in that regard. So that will be
17 the No. 1 priority in terms of the issues
18 discussion.

19 Then we intend to discuss comments
20 that were filed and the issues surrounding the
21 fisheries investigation, and then we can follow
22 up with any other issues. That was the bulk of
23 what was filed was based on those two resource
24 areas, so that's kind of where we hope to focus
25 the meeting today. Then we can follow things up

1 and close the meeting.

2 So with that, I'll go ahead and get
3 started. We just want to start off with an
4 overview of the pilot licensing procedure just to
5 make sure everybody here is aware of where we're
6 at with this project and the important milestones
7 between now and when the license application is
8 filed. And then finally the important milestones
9 that would occur after a license application is
10 filed and we move towards a licensing decision by
11 the Commission.

12 So as you all are aware, the
13 applicant filed their notice of intent and draft
14 license application on March 31st of this year.
15 The Commission noticed it. We had a request to
16 extend the comment period and so we granted that
17 request, and the comment period concluded. We
18 received a comment letter from Fish & Wildlife
19 Service, from National Marine Fisheries Service,
20 and then we had a few other comments, I think at
21 least one or two, from the public and one from an
22 Indian tribe that expressed interest in
23 participating in the licensing procedures.

24 I did contact, I think, 14 separate
25 Indian tribes, none of them having explicitly

1 stated they wanted to be here today or consult
2 individually with the Commission; however, we
3 have had some tribes that want to be added to the
4 mailing list or wanted to be kept apprised of
5 what's going on. That's just to give you a
6 background on the tribal interest.

7 Moving forward, after this meeting
8 today, according to the process plan that was
9 filed with the draft application and consistent
10 with the procedures on this paper right here, the
11 Commission is going to issue -- within 15 days
12 after the close of this meeting, they're going to
13 issue a notice that would either grant the waiver
14 request for the pilot licensing procedures or
15 possibly issue an additional information request
16 saying that we don't have sufficient information
17 at this time to process the project as a pilot
18 project. That doesn't mean that that wouldn't
19 occur at some point down the road provided that
20 whatever is included in that additional
21 information request, that that information is
22 provided and we find it to be adequate moving
23 forward down the road.

24 That would likely be for -- if we
25 were to issue an additional information request,

1 we would probably request that information be
2 filed in a timely enough manner for us to
3 evaluate it and make sure it's adequate before
4 you would intend to file the final license
5 application, which would be next March. Does
6 that make sense? We would issue an AIR and say
7 please provide this information within
8 such-and-such days -- I don't know -- 90 days,
9 120 days. We would look at it and then we would
10 make a determination at that time one way or
11 another and we would move forward with the pilot
12 procedures.

13 So after that is resolved, then at
14 some point we would issue -- we would issue a
15 notice saying either we think the waiver -- we
16 grant the waiver request, we think this project
17 is suitable for the pilot licensing procedure, or
18 we don't have enough information to make that
19 determination at this time. But if we are going
20 to move forward with the pilot, at some point
21 between now and next March we would likely issue
22 a notice that states that we grant your request,
23 you can now go ahead and file your final license
24 application. So that would likely occur between
25 now and next March to coincide with the timing of

1 the expiration of your current permit so that you
2 would have time to file a license application
3 before your permit expires. I think that was
4 what kind of the intent was of the schedule that
5 you provided; is that correct?

6 MARY McCANN: Yes.

7 MATT CUTLIP: Okay. So then once
8 the final license application is filed, which
9 would be next March, March 31st of 2010, would be
10 the deadline in order to meet the expiration date
11 of the permit. With that filing you would also
12 include a draft biological assessment and a 401
13 water quality cert application, if needed, as
14 well as an application for the coastal zone
15 consistency determination.

16 Fifteen days later the Commission
17 would issue an acceptance and ready for an
18 environment analysis notice and a request for
19 interventions. At that time we would also -- if
20 we were going to adopt the applicant's biological
21 assessment, we would do that at that time and
22 then we would initiate consultation. So that's
23 15 days after they file the license application
24 if we adopt their BA. If we don't adopt the
25 biological assessment, then we could -- we would

1 probably initiate consultation at the time that
2 we issue the EA because we would maybe have some
3 tweaks to the applicant's proposal based on
4 recommendations and comments received on the
5 application. And so then in that EA the
6 Commission would identify its preferred
7 alternative and that would be the action that we
8 would be consulting on.

9 Under either scenario, the intent
10 is that we would receive a biological opinion 135
11 days after we initiate consultation if in fact
12 formal consultation is required.

13 Anything you want to add to that?

14 DAVID TURNER: This is David
15 Turner. Just a couple things, just to back up.
16 You guys have all been involved in the pilot
17 procedures and I'm sure ORPC has kind of talked
18 about it. Is there any questions that you may
19 have before we jump into the issues about the
20 pilot? I'm sorry. Did somebody have a comment
21 there on the phone? Okay. I guess not.

22 MANDY MIGURA: I do have one
23 general comment. I'm really, really new to the
24 FERC process.

25 DAVID TURNER: Well, it's new to

1 everybody, so --

2 MANDY MIGURA: If we go ahead and
3 from the agency standpoint, you know, we're
4 consulting just on the pilot phase of this, you
5 know, the one to five units, does that
6 automatically give our consent that we're okay
7 with the full buildout?

8 DAVID TURNER: No.

9 MATT CUTLIP: Absolutely not.
10 You're only consulting on what they're proposing
11 as a pilot project.

12 DAVID TURNER: The only connection
13 between the pilot and the commercial buildout is
14 the concept behind the pilot. Because this is a
15 nascent industry and we're just trying to get
16 this all on board and all the unknowns associated
17 with these new technologies, we've tried to
18 develop a procedure in which we can get those
19 things in the water and test them to evaluate the
20 environmental effects. So the connection between
21 the pilot and the commercial buildout is really
22 developing the monitoring plans and the other
23 things that help define the environmental effects
24 associated with the pilot so that ultimately we
25 can expand those unknowns to the commercial

1 buildout.

2 MARY McCANN: But under a separate
3 licensing process.

4 DAVID TURNER: It's under a
5 separate licensing. We'll consider those and
6 you'll have the chance to go through our normal
7 licensing procedures to develop those studies.
8 But the only thing we're trying to do is keep in
9 mind now the data that's being gathered around
10 these pilots will help you define those things
11 during the licensing of the commercial buildout,
12 and what kind of studies need to be done under
13 those, and help answer some of those unknowns in
14 terms of what needs to be expanded on and what
15 issues went away and what issues cropped up based
16 on what was there.

17 So with that in mind, I mean, we
18 can talk about the process in general or more in
19 terms of the consultation. Matt has kind of gone
20 through in a very brief effort where we'll take
21 everything through the process, but I want to
22 make sure everybody understands the concepts
23 behind the pilot before we move on.

24 FRANCES MANN: Frances Mann with
25 the Service. I do understand the concept, but

1 just to clarify. When you say next spring, Matt,
2 they'll apply for their final license
3 application, it's the pilot license application?

4 MATT CUTLIP: Correct. If they
5 ever decide to take this as far as a full
6 commercial buildout, there would be a whole other
7 license proceeding that would be initiated and
8 some of the data -- we would hope that the data
9 collected during the pilot phase would go into
10 that license application, into developing that
11 license application for the full buildout, but
12 there's no guarantees that it would ever get that
13 far. This is strictly the pilot right now that's
14 before us that we're evaluating.

15 KATE SAVAGE: Kate Savage with
16 NMFS. I was just curious whether the timeline
17 you described would incorporate kind of an
18 extended baseline monitoring. I mean, whether it
19 would fit in.

20 DAVID TURNER: I think that's a
21 topic for the discussion as we start to get into
22 the specifics.

23 KATE SAVAGE: I was wondering if it
24 was part of the process or if we'd discuss it in
25 terms of the belugas.

1 DAVID TURNER: I think that would
2 be a species-specific, issue-specific type thing
3 and that would be better in that regard. I just
4 want to kind of keep the concept in terms of the
5 timeline and what we're trying to do and the
6 procedures that are behind it.

7 So what's really before us right
8 now, before the Commission, is to decide whether
9 or not the pilot procedures fit here. And what
10 we're trying to determine and when we grant the
11 waivers, if we grant the waivers for following
12 the licensing procedures, what we're saying
13 basically is that we now have a complete
14 application before us and we're ready -- it fits
15 all the criteria for a pilot procedure and we can
16 start doing our environmental analysis based on
17 the information at hand, and ORPC is free to file
18 their final license application concluding the
19 prefiling consultation, and we'll start
20 processing it.

21 So that's really the decision the
22 Commission has to issue. We have to make a
23 decision that the pilot fits here and part of
24 that decision is whether or not we have the data
25 we need to conduct our environmental analysis.

1 TIM BACHELDER: I have a question.
2 I'd like to follow up on that for a minute. What
3 I've heard here is that there's three possible
4 outcomes from this call. One is that you could
5 approve the pilot application procedures. Two,
6 you could decide that more information is needed.
7 And, third, I guess would be that you could
8 decide that the pilot processes aren't
9 appropriate. Hasn't the Commission recently
10 issued an order where they've deferred this
11 decision until the filing of the final pilot
12 application? We've heard some rumbling that
13 maybe that triggered your -- I'm a little
14 confused about how hard and fast the trigger is
15 for the decision.

16 DAVID TURNER: I don't think that's
17 exactly right, although I won't say I'm exactly
18 up to speed on all of them. I think what we have
19 said is that we may later defer our decision on
20 whether a license for a pilot project is
21 appropriate once we do our environmental
22 analysis, but at that point we would have already
23 said at least the criteria fits to follow the
24 pilot licensing procedures.

25 TIM BACHELDER: Okay. Thank you.

1 I've been hearing some discussion in the
2 background on this. I haven't really been able
3 to pin it down.

4 DAVID TURNER: Do you know which
5 decision you're talking about, because maybe we
6 need to go back and do some research? But I'm
7 just not aware of it.

8 TIM BACHELDER: That was the
9 Verdant application, right?

10 MARY McCANN: Yeah.

11 DAVID TURNER: I thought we
12 approved in the Verdant application the pilot
13 licensing procedures and told them they could go
14 ahead and file the license application.

15 MATT CUTLIP: I know there was an
16 additional information request issued. I don't
17 know if anything's been filed and whether they've
18 made a determination since the AIR information
19 was filed. Has the AIR been filed?

20 MARY McCANN: Yeah.

21 MATT CUTLIP: Okay. I'm not aware
22 of where it's at right now.

23 TIM BACHELDER: Okay. Well, I'll
24 take a closer look at that, then. Thank you.

25 MATT CUTLIP: Any other comments,

1 questions about the process? Everybody have a
2 good understanding?

3 JENNIFER CURTIS: Jennifer Curtis.
4 I just have a quick question concerning, I guess,
5 the NEPA step here. The Commission issues what
6 will be a FNSI. I'm assuming that that means
7 that it's determined prior to that that there
8 could be potentially significant impacts and that
9 that would bump the project out of this process?

10 MATT CUTLIP: Yeah, if we can't
11 reach a FNSI and we have to issue an EIS, then
12 this project would not meet the criteria for a
13 pilot. That's what David was talking about.
14 Ultimately we wouldn't -- we might not decide --
15 I mean, we can approve the pilot licensing
16 procedures for them to proceed down at this time,
17 but ultimately we might not -- we wouldn't
18 determine whether a pilot license can be issued
19 until after the EA is issued and then ultimately
20 when the order is issued.

21 DAVID TURNER: Does that make
22 sense? I mean, it's kind of a stepwise idea. Do
23 we have enough information that we can move this
24 what I call abbreviated type of approach and
25 data-gathering and decision-making relative to

1 our other licensing procedures, or do we need --
2 but ultimately does the pilot fit, I mean, is the
3 ultimate decision, so --

4 MATT CUTLIP: The alternative would
5 be if we were to decide that the pilot procedures
6 wouldn't work in this proceeding, then the
7 applicant would have the opportunity to just
8 develop a traditional license application under
9 one of the traditional licensing processes. So
10 that's the alternative right now.

11 KATE SAVAGE: Matt, what's the time
12 frame for the traditional application?

13 MATT CUTLIP: Well, there's
14 typically three years of prefiling data
15 collection and consultation requirements, and
16 then after the license application you're looking
17 at two years minimum to get a license.

18 DAVID TURNER: What we're really
19 talking about here is a very quickened review on
20 the Commission's part and also principally maybe
21 some lesser amounts of information that might be
22 gathered under a traditional approach in terms of
23 developing the issues and that kind of stuff. To
24 be honest, we haven't gone through enough pilot
25 procedures yet to really define that distinction,

1 other than the post-filing processes which we've
2 committed to in trying to reach some conclusions
3 within a six-month time frame relative to a year
4 and a half to two years, depending on the
5 licensing process.

6 ERNIE HAUSER: Isn't there another
7 difference, and that is that in typical hydro
8 projects the technology has been around for over
9 a century. So from the standpoint of
10 manufacturers, it's not new technology. Maybe
11 modifications or improvements to existing
12 technology, but it's not new technology. What we
13 have here today in the hydrokinetic field is new
14 technology that has either limited testing or not
15 really been tested, and to really understand and
16 to gain a century's worth of knowledge in a
17 shorter amount of time, the pilot license process
18 allows it to go in very slow steps, one piece at
19 a time, monitor it, understand it, build out a
20 little bit, again, monitor it, understand it, do
21 the studies, you know, what's happening to better
22 understand what's going on and it has the ability
23 to be removed immediately, stopped, okay, and
24 removed versus having constructed an entire dam
25 project. Then what do you do? You've made all

1 these permanent changes to the ecosystem and then
2 what do you do?

3 Here it's a situation where it can
4 be stopped, removed and away you go. Is that
5 right?

6 DAVID TURNER: You're absolutely
7 right. That's why we concede the pilot and what
8 we're trying to intend in terms of
9 data-gathering. But strictly from a procedural
10 perspective, if you weren't allowed to pursue the
11 pilot license, you could pursue a license for the
12 project regardless. It would just not be short
13 term. It could be as long as 30 to 50 years and
14 it would have safeguards as we do on any license,
15 but it wouldn't necessarily have to have all the
16 other safeguards that we try to implement as part
17 of the pilot procedures.

18 MATT CUTLIP: Things like
19 decommissioning plants and things of that nature
20 may or may not -- would likely not be included in
21 a full buildout.

22 DAVID TURNER: Or reasons for the
23 Commission to include them as part of their
24 analysis, so --

25 MATT CUTLIP: But those are

1 included in a pilot under the pilot procedures,
2 things like decommissioning plants.

3 DAVID TURNER: And the safeguards
4 that we normally put in to try to cover these
5 short-term projects.

6 MATT CUTLIP: Any other questions
7 related to this process? Anybody on the phone
8 have any comments?

9 TIM BACHELDER: Not at this time.

10 MATT CUTLIP: I think we can move
11 forward, then, with the overview of the project
12 proposal.

13 ERNIE HAUSER: Matt, thank you very
14 much. My name is Ernie Hauser. I appreciate
15 everyone coming here today to talk about our Cook
16 Inlet pilot license application and process. I'm
17 sure everyone has seen the document, and it's a
18 large document. We did not bring copies. If
19 you'd like a copy, we would be glad to get you
20 one.

21 I just put together a quick summary
22 taking bits and pieces out of the application
23 process, and there's more detail in the
24 application itself. We have located our pilot
25 project area adjacent to Fire Island. I

1 understand a couple folks went to visit some
2 observation sites on Fire Island today. It's a
3 phased approach. Again, it's looking at
4 taking -- our core technology is what's called a
5 turbine generator unit and a turbine generator
6 unit by itself produces about 250 KW in a
7 six-knot current.

8 Our design, our technology is very
9 modular. You'll see a slide coming up, for
10 example, that in a river application rather than
11 two turbines per side of the generator, there's
12 only one in a river application and it's a
13 smaller unit and things like that. But there are
14 some difference. So our design is very modular.
15 It is made of composites. The hydrofoils are
16 composites. The structure itself is composites.
17 We have designed foam-filled of all the
18 components in the module itself on the
19 turbine-generating unit, so that it is constantly
20 positively bouyant. It always wants to go to the
21 surface.

22 A lot of the comments that were
23 filed, we've started to take a look at some of
24 the references and some of the documentation of
25 the white papers that were included as

1 references. One of the things we've come to
2 realize is that we think that our design and our
3 technology really does meet many of those
4 concerns that were raised. First of all, from
5 the standpoint of slow speed, this unit is about
6 40 rpm. Its top speed is about 18-and-a-half
7 feet per second, which is less than a marathon
8 runner, slightly less than what a marathon runner
9 would do.

10 One of the papers talks about sharp
11 surfaces. Well, these are blunt surfaces. The
12 hydrofoils themselves are like an airplane wing.
13 There are no sharp surfaces on it. There are no
14 pinch points from the standpoint that the
15 smallest gap between a frame and any of the foils
16 is about 12 inches, the smallest gap. From
17 what's called a solidity factor, it's about in
18 the 20 percent range, which means that 78 percent
19 or almost 80 percent of the area is open. It's
20 always open from the standpoint of free-flowing
21 water.

22 One of the points that was brought
23 up is cavitation. Cavitation is typically from
24 the potential energy or a typical hydro project
25 where we have a dam and there's potential energy.

1 We do not have that in this situation. It is
2 essentially flowing water across. There is some
3 slight pressure drop, but not enough for
4 cavitation. I think the calculation was it would
5 take about a 50-knot current speed to get our
6 device to have any kind of cavitation, and I
7 don't think that happens out in Cook Inlet.

8 We will be responding to the
9 comments. But a lot of things we see are being
10 very positive from the standpoint of our design
11 and our technology.

12 The next slide is a quick look at
13 the main -- what this slide does is show the
14 pilot license location just off of Fire Island,
15 within our FERC preliminary permit, our FERC
16 preliminary permit site. Goes on down past Fire
17 Island and up north into Knik Arm. So that's the
18 location and the deployment area. Our
19 interconnect will be through Fire Island and
20 through the wind project of CIRI, which is
21 developing a wind project on the island.

22 Monty, if there's anything else I
23 should add to some of these, you know the area
24 and the site better than I do.

25 This is another view of the

1 deployment area near Fire Island and the project
2 boundary. This is a diagram of the bathymetry
3 within the area. Again, all this is in the
4 application.

5 MONTY WORTHINGTON: I might add
6 there that that inset on the right there shows
7 the potential of up to 5 OCGen module buildout.
8 That is showing the anchoring lines. The red
9 piece is the actual module. That's based on
10 previous slides that show the whole project.

11 ERNIE HAUSER: To further Monty's
12 comments, here is the mooring diagram, four
13 mooring lines each with screw anchors. Again,
14 they'll always be positively taut from the
15 standpoint of always wanting to move up. It will
16 move slightly in the water. But from our
17 understanding from PND, who has done the mooring
18 design, there's enough force that it will always
19 be tight. The cabling and mooring system will
20 always be tight in that situation.

21 The next slide is -- and I know we
22 discussed -- what we did was when we wrote up the
23 Cook Inlet application -- what you see in diagram
24 form is in words in there and we developed the
25 diagram out of the words. This fall we will be

1 testing a beta precommercial turbine generator
2 unit up in Maine. This will be in Cobscook Bay
3 just off of Eastport, Maine. It will be deployed
4 from a barge with about a 30-foot swing arm, so
5 it will be constantly under water. After a few
6 days of what I call shakeout cruise, which is to
7 either tow or to push the barge with the turbo
8 generator unit deployed, just in case there are
9 any gremlins. In our first prototype test last
10 year Murphy was alive and well. There were
11 cracks in some of the wiring and issues with
12 instrumentation and some of those things. So we
13 do expect to have a few days of troubleshooting.
14 But then the plan is to moor it temporarily in
15 Cobscook Bay for 60 days and let the tide just
16 naturally run and let the unit operate in its
17 normal conditions. The unit will be monitored.
18 There will be cameras on it just as we had in our
19 prototype unit. We're planning to mount a DIDSON
20 from the barge so that we start to see how the
21 DIDSON operates and how that works.

22 We'll be doing a noise survey while
23 the prototype is in the water. We do this with a
24 precommercial unit in the water. We did a noise
25 survey, as I mentioned, in the application for

1 the prototype last year and there was no
2 additional noise above ambient. Part of that is
3 that the turbine generator has no gears. It's a
4 single shaft. There's one moving object and
5 that's the turbine blades itself. The turbo
6 generator has no gearing associated with it, so
7 it's relatively quiet. It's not like a motor in
8 the water.

9 After testing that unit this fall
10 and early winter, we will be applying for a pilot
11 license application on our site on the Tanana
12 River in Nenana. The goal with the University of
13 Alaska Fairbanks working with us on that project
14 and doing some environmental analysis of the
15 river, what happens with ice breakup, for
16 example, they've done work on that, velocities,
17 our goal is to deploy that same beta
18 precommercial turbine generating unit in a river
19 application and work under a pilot license
20 process and work with the University of Alaska
21 Fairbanks who will be assisting us in such things
22 as: Are there any protection devices that might
23 be required for a river application of a turbine
24 generator unit? What might be an appropriate
25 mooring system for a river application unit?

1 Those types of things they're helping us to
2 develop.

3 As I mentioned at the beginning of
4 the presentation, our concept is very modular.
5 Our design concept is that parts will be shipped
6 but assembled here locally, for example, here in
7 Anchorage. Pieces of the turbine generator unit
8 such as the hydrofoils will be shipped. The
9 frame will be shipped and the generator and the
10 shaft will be shipped here and will be assembled
11 locally and essentially bolted together and then
12 floated out to the deployment site. The mooring
13 system, the anchors, everything deployed and it's
14 a matter of just winching down the turbine
15 generating unit and the OCGen module in its
16 position for its first deployment under the pilot
17 license process. The first OCGen module we are
18 planning to be deployed in May of 2010 and the
19 first deployment here in Cook Inlet in the summer
20 of 2011.

21 MANDY MIGURA: Can I ask a question
22 about the OCGen module?

23 ERNIE HAUSER: Sure.

24 MANDY MIGURA: I thought you
25 changed the configuration so it wouldn't have

1 such a --

2 ERNIE HAUSER: What we did in Cook
3 Inlet, because of the location and the depth, we
4 also -- we can be at any height in the water
5 column. But there is a situation where we want
6 to make sure we stay out of the way of any type
7 of commercial traffic, ship traffic, et cetera.
8 So we'll be deploying what we call two
9 half-modules.

10 The concept here is to be really
11 flexible for the situation and the environment
12 that you are in so that there are no impacts,
13 okay. So we can go three high, we can go two
14 high. One becomes a little bit of an issue from
15 the standpoint of the economics around it. One
16 thing in a river system, if you do that you're
17 benefiting a local community with a small power
18 feed. But it's different when it's looking at it
19 from a technology standpoint of proving the
20 commercial viability of your technology and your
21 design of your unit, and that's really important
22 to us here.

23 MANDY MIGURA: So the half --

24 ERNIE HAUSER: It will be two and
25 two.

1 MANDY MIGURA: Would they be
2 connected or will they be separate?

3 ERNIE HAUSER: They'll be separate.
4 We talked about connecting. We can't connect.
5 We thought we would learn more having them
6 slightly separated.

7 MONTY WORTHINGTON: This picture
8 shows that's how they'll work in Cook Inlet.

9 ERNIE HAUSER: Next slide.

10 MONTY WORTHINGTON: So this kind of
11 explains some of our study plans that are
12 proposed and ongoing in Cook Inlet to address
13 several environmental concerns. These are some
14 of the major ones. Obviously the beluga whales
15 and potential impact are a big concern. So we
16 are doing visual observations of this Fire Island
17 deployment area because there's very little data
18 on the beluga usage in that area. The data we
19 have is relatively low usage by the belugas.

20 We're going to be doing visual
21 observations during the remainder of this
22 ice-free season and then again next summer.
23 They'll actually begin this week doing visual
24 observations from Fire Island and establishing
25 what kind of baseline usage of that area there is

1 with the belugas. At the same time we've been
2 working with the Alaska Department of Fish & Game
3 and they have a whole consortium of researchers
4 working together on a study where they're using
5 these recorders that record the vocalizations of
6 the beluga whales with the ecological acoustic
7 recorders, EARS, and the echo location with these
8 units called C-PODs. We are working with them.

9 They have deployed several units in
10 the Inlet and deployed one right next to our
11 deployment area that's going to be in the scope
12 of our visual observation so we can correlate the
13 effectiveness of the acoustic devices in the
14 inlet. The goal is to assess how well they're
15 picking up beluga observations so people can
16 decide which of these observation methods will
17 effectively characterize beluga use of the area.

18 We're also doing baseline fisheries
19 studies using active hydro listening device
20 technology. It's sonar. We're doing that
21 periodically at times of the year when it's
22 likely to have salmon running through this area.
23 And we're doing this in the deployment area to
24 see targets and we're capable of doing sampling
25 of salmon to see what species of fish we're

1 seeing down there. At the same time, since it's
2 not always easy to do that, we're trying to
3 correlate those with the setnet fisheries opening
4 so we can see what fish they're intercepting
5 there so we have an idea of what species are
6 active there at that time. That will be going on
7 through this summer.

8 The sediment transport analysis is
9 something we're working with with the University
10 of Alaska and another company to assess what the
11 impacts are in terms of sediment which is another
12 long-term concern with this project. Then once
13 the units are deployed, the initial unit in 2011,
14 the post-deployment monitoring will include using
15 DIDSON cameras, which are basically a sonar
16 camera that will be deployed on either side of
17 the unit to actually monitor near-field
18 interactions with fish and marine mammals.

19 So that's kind of a quick synopsis
20 of our overall study plans.

21 ERNIE HAUSER: Just in closing, I
22 know that Matt and David talked about this, but
23 the pilot license process is a short-term
24 process. It's small. It starts with one unit
25 and then goes up to a maximum of 5 megawatts. An

1 appropriate safeguard is it can be easily
2 stopped. It can be stopped remotely and removed.
3 And we look forward to a collaborative approach
4 to both the environmental and the technical
5 monitoring of this unit. We do want it to be
6 successful. Quite frankly, a lot of us are here
7 because we believe that renewable energy needs to
8 be a focus for our society today as we go
9 forward. It's been estimated by EFRI that
10 hydrokinetic technologies can produce about 5 to
11 10 percent of our energy needs in this country,
12 and it would be hard not to look at that and have
13 that be part of wind and other renewable
14 technologies that we have to move forward on.

15 SUE WALKER: You said the unit can
16 be stopped remotely. Are you going to have
17 someone actively monitoring at an off-site
18 location?

19 ERNIE HAUSER: A lot of that design
20 we're still working on. We're going to have to
21 monitor 24/7. There are going to have to be
22 alarms on it. There are certain situations where
23 we want it to automatically stop. If there's an
24 impact to the unit, you want it stopped. If
25 there's any type of what I'll call operating

1 issues, which is let's say it stopped by itself,
2 you would want to know why. You would want to
3 remove it. I think we did a matrix on some of
4 the issues we'll be looking at and the
5 instrumentation and monitoring. But with any
6 type of generator it's very easy to what we call
7 short it out and the magnets within the permanent
8 magnet generator will hold the generator in
9 place. It would be impossible to move. The
10 turbine will not move. Then it's a matter of
11 getting a vessel, a barge to come out and remove
12 the unit and inspect the unit, either tow it back
13 to a shore location or in a lot of cases our
14 thought process is it can be inspected on site
15 because it floats to the top, and you can do a
16 lot of things while it's in place.

17 SUE WALKER: How will winter ice
18 affect your ability to remove this should you
19 need to? Are you actually planning to be able to
20 remove it?

21 ERNIE HAUSER: Well, I know the
22 winters are very difficult. I think Monty talked
23 to a number of folks here. At a minimum it can
24 be stopped, and then it's just a matter of under
25 what conditions is it safe to remove it.

1 SUE WALKER: Or even possible.

2 ERNIE HAUSER: Well, impossible --

3 SUE WALKER: I said or even
4 possible.

5 ERNIE HAUSER: Or even possible.
6 That, I don't know. Maybe Monty can comment.

7 MONTY WORTHINGTON: Yes. It's one
8 of those things that in the winter the barges and
9 the tugs still do operate in the upper inlet. If
10 you could wait for when you don't have the wind,
11 you could go out when you have to. With the
12 marine shipping industry, they operate all winter
13 long. When it comes to the operation of removing
14 one of these turbines, it's not a small thing.

15 SUE WALKER: I know how difficult
16 it is to operate out there in the winter.

17 MONTY WORTHINGTON: You can do it,
18 but the ice is going to completely stop you. But
19 they do continue the shipping through the ice.

20 SUE WALKER: You don't have details
21 yet about when the unit is stopped or you need to
22 stop it?

23 ERNIE HAUSER: We don't have all
24 that yet. I mean, the engineers are working on
25 that.

1 Jarlath, any comments on the
2 instrumentation of the unit?

3 JARLATH McENTEE: First off, it's
4 very hard to hear most people. I'm having a hard
5 time hearing some of the questions.

6 DAVID TURNER: I just want to
7 remind you guys to speak up a little bit.

8 JARLATH McENTEE: The
9 instrumentation of the condition-monitoring
10 equipment that comes with the unit basically
11 detects the currents, the electrical currents
12 generated by the unit and the voltage generated
13 by the unit, so that gives realtime data on
14 rotation speeds and any torques or forces that
15 the unit is experiencing. We expect to be able
16 to pick up any anomalous behavior on the turbine
17 from that information and we should be able to
18 react to that information instantaneously.

19 KATE SAVAGE: So let's say, for
20 example, you get a signal that the unit has
21 stopped. And it's how many feet from the
22 surface?

23 ERNIE HAUSER: Forty.

24 KATE SAVAGE: So how do you fill in
25 that gap and get to the unit and presumably bring

1 it to the top? It sounds like it's kind of a big
2 deal. So how do you assess what's going on?

3 ERNIE HAUSER: If the
4 instrumentation can't tell you, the only thing
5 you can do is raise the unit and bring it to the
6 surface.

7 KATE SAVAGE: That's kind of a
8 challenge bringing it up, right?

9 ERNIE HAUSER: Well, these units
10 are going to be designed to be winched down. We
11 haven't finalized how that works, but a lot of
12 this we are finding out is, though it may be
13 difficult, it's been done in the marine
14 environment especially in the Navy environment
15 throughout the world, and it's a situation where
16 you just have to plan for it and understand it.

17 We will have already been deploying
18 the unit in Maine, in Eastport, Maine, and will
19 have already raised it a number of times. The
20 first unit in Maine in 2010, our expectation is
21 that we will probably be taking it up more
22 routinely initially just to see how it's
23 operating. From the standpoint of a knowledge
24 base and procedure and making it an easy
25 operation, we're going to learn that and do that

1 over that time in 2010.

2 Long term our expectation is that
3 these units will operate for a year before having
4 to be serviced. A one-year service will be
5 raising to the service, inspection and cleaning
6 as necessary and bringing it back down. Every
7 five to six years we'll take the unit out of
8 service, tow it to an onsite location, dismantle
9 it, dismantle the generator. See whether it
10 needs a new lining, new bearings, those type of
11 things. We'll do that in the shop. Then it's
12 towed back out and gets put back into the water
13 and runs for another year to five years.

14 DAVID TURNER: So is the unit in
15 Maine going to have the same kind of moorings?

16 ERNIE HAUSER: The unit in Maine --
17 we're working with PND from a design standpoint.
18 The issue there is there's a substantial amount
19 of rock right below the surface. So the mooring
20 design in the Maine application will likely be
21 anchors and blocks, essentially no different than
22 screw anchors. It will just be a combination of
23 anchors and blocks. Other than that, no
24 difference.

25 SUE WALKER: What kind of rock?

1 Bedrock, cobble, or what kind of rock?

2 ERNIE HAUSER: It's a combination
3 in Maine. It's nonhomogeneous. There are
4 certain parts of the area where we could use
5 screw anchors. Our concept now is that we're
6 going to design around something that's easily
7 removable and something that can be installed
8 using the local marine industry that's already
9 there and doing moorings and anchoring for the
10 ecoculture industry.

11 MARY McCANN: They're looking at
12 that information now.

13 SUE WALKER: A lot of this sounds
14 like it's still in design. What phase of the
15 design work are you at? 30 percent?

16 ERNIE HAUSER: Jarlath, what phase
17 would you say we're in?

18 JARLATH McENTEE: Sorry. Again, I
19 couldn't hear the question.

20 SUE WALKER: Sure. I was just
21 curious. Listening to conversation it sounds
22 like a lot of the technology is still very
23 theoretical and in the process of being designed.
24 At what design stage would you estimate the units
25 to be at now?

1 JARLATH McENTEE: For the mooring
2 system or for the entire system?

3 SUE WALKER: The entire system or
4 the various major components.

5 JARLATH McENTEE: For the turbine
6 components we're always looking to improve the
7 performance of the turbines, but in terms of a
8 practical system we're probably 70 to 80 percent
9 complete in terms of the design of the turbine
10 units themselves. The generator system is a very
11 well-defined and well-developed system, so that
12 is pretty much complete, totally complete. The
13 structural elements of the unit, there's really
14 very little design work required on those. Those
15 are just kind of placeholders. Those are
16 essentially complete.

17 The mooring system, as Ernie was
18 talking about, is somewhat dependent on the
19 particular site and we need to have good
20 geophysical information on those sites before we
21 can begin a mooring system design for the
22 specific site. So as Ernie was saying, the
23 bedrock in Maine may be quite different from the
24 bed floor in Cook Inlet, and that would
25 necessitate different anchoring system approaches

1 in each case. The technology for mooring the
2 devices is available commercially in the oil and
3 gas industry and through some Navy projects.
4 It's a matter of deciding what is the appropriate
5 anchoring system for each site and then finding
6 out if the facility exists in the locality to
7 install the particular anchors.

8 So in terms of technology
9 development, the technology is well advanced, but
10 it's a matter of getting it all together in one
11 place at one time. And my perspective is that's
12 what somewhat the pilot process allows us to do;
13 it actually allows us to get into the field and
14 investigate some of these issues directly.

15 SUE WALKER: Thanks. Sounds like
16 things are further along than I would guess
17 hearing language used to describe this. That
18 really does help. Just a little bit further, it
19 might help to envision what types of projects the
20 oil and gas industry and the Navy are using for
21 these mooring systems and what those things are
22 like.

23 JARLATH McENTEE: Typically the oil
24 and gas industry specifically in the Gulf of
25 Maine is using oil rigs which are actively

1 positioned systems, so there's actually oil rigs
2 which are floating devices. Essentially they're
3 somewhat similar to the OCGen proposal in that
4 it's light; it's bouyant. It's tethered to the
5 sea floor by various cabling systems. They have
6 done risers from the oil platform to the floor
7 which connect to the wellheads on the sea floor.
8 The mooring lines that connect the platform to
9 the anchoring systems on the sea floor are very
10 similar to what we would envision using.

11 SUE WALKER: Thank you.

12 ERNIE HAUSER: Other questions?

13 KATE SAVAGE: So I'm just trying to
14 conceptualize. This is a great thing. So it
15 will be a certain -- or a varying distance from
16 the surface, right, depending on the tide? It
17 will not move vertically?

18 ERNIE HAUSER: It will not move
19 vertically. At the low mean watermark it will be
20 at at least 40 feet.

21 KATE SAVAGE: So 40 feet to
22 however -- okay.

23 ERNIE HAUSER: Other questions?

24 DAVID LOCKARD: I'm actually going
25 to have to leave shortly and I was hoping to make

1 a very short statement. Would it be possible to
2 do that now?

3 DAVID TURNER: Sure, if it's real
4 short.

5 DAVID LOCKARD: Okay. My name is
6 David Lockard. I'm the ocean and river energy
7 program manager for the State of Alaska, Alaska
8 Energy Authority. I was hoping to give a little
9 context to these decisions.

10 Alaska gets 54 percent of its
11 electricity from natural gas, 24 percent from
12 hydro, 3 percent from coal, 10 percent from
13 petroleum residual and 9 percent from oil. The
14 reason I think that's important is to recognize
15 that the choice here is not between something
16 that might be a risk to belugas or other
17 fisheries in the inlet and nothing. The
18 alternatives to tidal energy all have impacts.

19 My agency owns the largest hydro
20 project in the state, Bradley Lake. It's 126
21 megawatts across the Kachemak Bay from Homer and
22 it has environmental impacts on the inlet. If
23 you read today's paper, there's a supply ship for
24 the oil and gas platforms that's upside down on
25 the bottom of the inlet. They're trying to

1 remove 30,000 gallons of oil from that supply
2 ship. Those oil and gas platforms contribute to
3 the gas that provides the majority of the
4 electricity we use on the railbelt grid. So
5 everything has an impact.

6 I guess just to keep it short, the
7 last thing I would mention is that I think it's
8 very difficult for anybody to make decisions such
9 as what's being contemplated today because it
10 requires much more than being an expert in
11 fisheries or oceanography or marine mammals. The
12 implications go to war in the Middle East, which
13 is partly over oil, goes to climate change. So
14 there are very many aspects to it, and I guess
15 I'd like to just finish up by encouraging you to
16 look at this as not a choice between no impact
17 and some impacts. It's a choice between the
18 types of impacts. It goes way beyond the
19 environment. This has implications for our
20 country. Thank you.

21 MONTY WORTHINGTON: So we kind of
22 went over this briefly in the overall
23 presentation. The belugas are a critical issue
24 in this project. We're trying to approach this
25 in a very prudent way to make sure we design the

1 project and all of the systems in such a way that
2 it will have very little ecological impact on the
3 belugas and also if there is any impact then we
4 can understand it. So that's one of the reasons
5 we're here is to try to address this issue with
6 belugas and with fish also, but belugas are
7 critical since they were recently listed as
8 endangered.

9 So in the draft license application
10 we got comments back from NMFS on different
11 things they wanted to see done. As of now our
12 proposal is to conduct these visuals based on
13 observations and we're starting later than we'd
14 hoped -- we got slowed down with some issues --
15 but we'll be starting tomorrow. Tamara will be
16 going out there to start the field crew there.
17 They'll be monitoring four days a week, six hours
18 a day. They will be starting to quantify what
19 kind of beluga usage is existing at the site.

20 One of the comments we received was
21 that we should looking into the possibility of
22 using passive acoustic devices. Among other
23 things, the visual observations are limited by
24 daylight. They're incredibly limited by
25 seasonality. There's very low success of seeing

1 belugas in the winter. There's something to be
2 figured out about how to address concerns in this
3 area in the winter. We looked into using the
4 EAR, ecological acoustic recorders devices, and
5 to date they're in Cook Inlet, they have been
6 deployed for the season, but there's no
7 information on how well they're really working.
8 They've been tested relative to visual
9 observation, but we don't know if they were
10 highly successful or not. So our approach in
11 partnering with the Alaska Department of Fish &
12 Game this season is to correlate our visual
13 observations with their passive acoustic
14 observations with the EAR and also a device
15 called the C-POD. The EAR will detect the
16 vocalizations which are relatively low frequency
17 for the belugas. The C-PODs quantify locations.

18 They did just this spring use those
19 in Yakutat and had some success with them. They
20 have deployed them at several locations at our
21 deployment site and we'll be looking to see how
22 the visual observations and the hydro acoustic
23 ones work and understand if the hydro acoustics
24 are doing an accurate job or doing a better job
25 of detecting beluga in the deployment areas. Our

1 approach there is really trying to vet out these
2 technologies before we go too far overboard with
3 relying on them.

4 DAVID TURNER: Quick question.
5 Now, that's not laid out in your plans, right?
6 That's new?

7 MONTY WORTHINGTON: This is new,
8 yeah. This is kind of one of our responses to
9 these comments we got and we were able to work
10 through with this collaboration. It's beneficial
11 to both organizations because they can be a
12 mechanism to vet out both technologies. They
13 have agreed to keep that deployment in place
14 through the two years of funding they have now
15 received and very likely into the future as long
16 as it basically is proving itself out as viable
17 technology.

18 MATT CUTLIP: When would you
19 intend -- do you already have those deployed?

20 MONTY WORTHINGTON: That was
21 deployed on the 5th of June.

22 MATT CUTLIP: And it's right in the
23 deployment area?

24 MONTY WORTHINGTON: Yeah, let me
25 show you. This is a map that shows -- that

1 yellow box is the deployment area. The X on the
2 bottom is our visual observation and the triangle
3 with the dot is the EAR and the C-POD deployment.
4 It's about halfway in between the two. It's well
5 within our visual observation range and it's
6 close enough to the deployment area to detect
7 belugas there and we'll be able to understand how
8 well it will work.

9 SUE WALKER: Is that completely
10 submerged?

11 MONTY WORTHINGTON: It's on the
12 bottom. It's deployed in, I believe, 60 fathoms
13 of water. Fish & Game deployed it -- 60 feet of
14 water, not fathoms. That way it should be well
15 below any potential ice scour. They'll be
16 picking it up, I believe, at the end of this
17 month to check it initially and then in the fall
18 before the winter season so we can recharge the
19 batteries and stick it down there for the rest of
20 the winter.

21 MANDY MIGURA: Have they determined
22 the range of detection?

23 MONTY WORTHINGTON: Not that I'm
24 aware of. That's another thing. Without having
25 visual observations, they have no way to --

1 MANDY MIGURA: So the EARS and
2 C-POD won't be able to tell if there's a beluga
3 near the unit itself because we don't know that?

4 MONTY WORTHINGTON: They just
5 locate it and say we heard a call.

6 MANDY MIGURA: I guess what I'm
7 saying is: Do we know if your deployment site is
8 within the radius of the detections of the EAR?

9 MONTY WORTHINGTON: The thought is
10 yes, but they haven't coordinated that with any
11 visual data in the inlet.

12 TAMARA McGUIRE: There was a pilot
13 study done last year by the Department of Fish &
14 Game here and they did a playback study. So they
15 went out in a boat with calls of the whales and
16 they had the EARS out and so they recorded the
17 distances. What they don't know is how that ties
18 in with what you actually hear and what the
19 actual vocalizations are. But in the preliminary
20 report they thought they could detect up to one
21 nautical mile distance, which is well outside of
22 the range here.

23 SUE WALKER: That looks like it's
24 1500, 2,000 feet?

25 TAMARA McGUIRE: Yeah, I think it's

1 a total distance at the observation site of
2 1,200 meters. Right, Monty?

3 MONTY WORTHINGTON: Yeah.

4 TAMARA McGUIRE: So that's well
5 within the one nautical mile range. Now, the
6 question is: How accurate was that playback
7 experiment? And I think the only way we'll know
8 that is with the visual observations we do this
9 year and the visual baseline monitoring and the
10 acoustic baseline monitoring.

11 SUE WALKER: Why did they choose
12 that site versus the actual deployment site?

13 MONTY WORTHINGTON: The idea was
14 they wanted to have it in a location that was
15 consistent with our deployment. That was the
16 thought there.

17 MATT CUTLIP: Is that continuously
18 monitoring?

19 MONTY WORTHINGTON: Yeah. It's
20 continuous in terms of it will be year-round.

21 TAMARA McGUIRE: I think they were
22 going to recalibrate that, but I think it's every
23 minute it switches off for half a minute or every
24 five minutes it will sample half a minute during
25 the five minutes it's on. The reason they do

1 that is they need to cut back on the storage
2 space and they need to worry about the life of
3 the battery as well. I think they'll be
4 experimenting with that in the summertime because
5 they'll be able to retrieve it and make
6 adjustments. So they're going to try and
7 maximize that time they can switch it off.
8 They're going to base a lot of that on what we
9 determine with the visual observations. Because
10 they're going to try to see was there a ratio of
11 the visual observations that they missed when the
12 probe was clicked off to save on the battery
13 life. Were there any detections that if you were
14 only relying on the acoustics that you would have
15 said there were no whales in the area but maybe
16 the whales were there. They're going to use that
17 to help them with the timing of that shutdown
18 period.

19 MONTY WORTHINGTON: I think it's
20 different between the two devices as well because
21 they have different batteries.

22 TAMARA MCGUIRE: I think the C-POD
23 is continuous monitoring and the EAR is on the
24 timing cycle, sampling cycle.

25 MONTY WORTHINGTON: Any further

1 questions about those?

2 So then like I mentioned, that
3 hydro acoustic EAR and C-POD device will be
4 continued with current funding through 2010,
5 through that season, and if it's working, it's
6 very likely it will continue through the
7 deployment period and that's why it's not located
8 in the deployment area but adjacent to that area.

9 When we finally deploy the OCGen
10 module, it will be equipped with two DIDSON
11 cameras. It's a sonar camera. It has a really
12 limited range. It's not very useful for
13 collecting baseline data because its range is
14 about 30 meters. What it will do is it will
15 illuminate sonically the areas in front and
16 behind the turbine and will collect continuous
17 data. Through that we'll be able to quantify any
18 actual near-field interactions between the fish
19 or belugas with the module. So that would be
20 where we're looking at what is actually
21 happening, the creatures that come close to the
22 modules and what they do. Then we'll be
23 analyzing and reporting on any potential impacts
24 that we realize or don't realize between the
25 OCGen module and the beluga whales. That's the

1 gist of the studies for the belugas.

2 Here is a picture of these
3 ecological acoustic recorders. They often anchor
4 at the bottom. They're bouyant. They have an
5 acoustic release. They can bring them up and
6 replace batteries and download data. This might
7 have some information on their frequency, but I
8 think it's in another area.

9 MATT CUTLIP: I have a quick
10 question about the DIDSONs. Do you believe it's
11 possible that a DIDSON is going to detect a
12 marine mammal coming -- if a marine mammal swam
13 into your unit, do you think the DIDSON is going
14 to actually pick that up?

15 MARY McCANN: If it swims within
16 the sampling zone of the DIDSON. We're trying to
17 aim it where we're covering in front of the
18 turbine blade zone upstream and downstream.

19 MATT CUTLIP: Do you think you can
20 get that kind of coverage?

21 MARY McCANN: One of the advantages
22 of the DIDSON is you can actually aim it on a
23 structure which you can't do with the hydro
24 acoustic. While we can't really see through the
25 structure, we're hoping to be right up against it

1 and be able to sample the width of the cone and
2 the sampling area is hopefully wide enough to see
3 them approach it. But this is experimental.
4 Nobody has used it in this application. We're
5 going to try it out with testing that they're
6 planning to do this fall to see how they actually
7 work and what do the images look like. We don't
8 think the marine mammals up there in Maine are --
9 it's not very common. I don't know what the
10 chances are we're actually going to see a marine
11 mammal, but hopefully some fish or something that
12 will come through and they'll have a better idea
13 of what these images are going to look like as
14 well as work out some of the logistics of how to
15 mount it on the frame, how the storage of the
16 data is going to work. They're pretty data hot,
17 8 gigabytes an hour. So we're going to be able
18 to use a subsampling type of methodology. Those
19 are some of the things we hope to work out.

20 FRANCES MANN: Mary, you're using
21 the DIDSON on the main deployment too, right?

22 MARY McCANN: Yeah, you know,
23 pending this evaluation we're doing this fall.

24 FRANCES MANN: Did you try using
25 that on the East River? Wasn't there that

1 predeployment fisheries work done?

2 MARY McCANN: We had both. The
3 DIDSON is really still new and in development.
4 This was a project two or three years ago now.
5 It's still come a long way, although it doesn't
6 have the same history and documentation of use
7 that the split-beam hydro acoustics does. There
8 are a lot of other things that hydro acoustics
9 would give us that DIDSON would not. The ability
10 to program the software, to have it auto-analyze.
11 There are a large number of things that we did.
12 But we did have a DIDSON as a test at the same
13 time, and it didn't last that long term on the
14 East River.

15 I don't know how many people know
16 the East River, but it's not something you want
17 to swim in and the DIDSON couldn't handle those
18 conditions long term. These are things that are
19 still in development with it. I don't know of
20 any technology that would give us everything we
21 want to know. We're just trying to use the best
22 that's available and how do we apply it.

23 MANDY MIGURA: To answer your
24 question if it will pick up a marine mammal. The
25 Army was using it in fish studies and I believe

1 they caught a beluga in Eagle River last --

2 TAMARA McGUIRE: I believe it was
3 about a meter distance.

4 MANDY MIGURA: It was a much
5 smaller area.

6 MARY McCANN: I think the potential
7 to capture the image is there. It's how close
8 would the belugas come before they might react
9 and we're not sure what that area is. We can
10 play with the DIDSON aiming some. It's supposed
11 to be rotational. We could move it, but until we
12 actually get something in the water and play with
13 it, this is a design and we know there are things
14 that are going to need to be worked out because
15 it's never been used in this way.

16 DAVID TURNER: But in combination
17 with all the other things, you're covering a fair
18 amount of variability in the unknowns.

19 MONTY WORTHINGTON: Yeah. I think
20 these visual observations and these passive hydro
21 acoustics are more a far-field look and the
22 DIDSONs look at what might happen if a beluga
23 does approach.

24 MARY McCANN: The intent of the
25 DIDSON is more a safeguard, the direct effect,

1 the interaction with the unit itself. Because
2 that would be one of the triggers that if we're
3 seeing something come through and we have the
4 DIDSON on the other side, we can tell if it's
5 getting hit or does it look like it was
6 disoriented or hurt. Is that going to be a
7 trigger where, okay, we need to just stop it now
8 and figure out what's going on. But that's for
9 like the environmental safety mechanism.

10 MATT CUTLIP: So when you say "come
11 through," would it be on the downstream side?

12 MARY McCANN: That's why we have
13 one on the upstream and one on the downstream.

14 SUE WALKER: This isn't unlike
15 testing some of the different turbo designs in a
16 traditional hydropower setting where if you know
17 you're not going to have enough natural targets
18 or fish, then you set up dummies, set up
19 balloon-tagged fish or some sort of tagged fish.
20 Have you considered doing something like that
21 here to get a good concrete measure of what this
22 will do to fish or mammals?

23 MARY McCANN: We have considered it
24 not just on this project but others because that
25 question has come up. As opposed to conventional

1 hydropower where you're in a dam and you can
2 funnel fish through much more easily and retrieve
3 them, this is such an open system. That's a lot
4 more difficult even if you could force them to go
5 through, which I'm not sure how you would do that
6 practically.

7 SUE WALKER: I don't think the
8 point would be to force them to go through, but
9 to see whether or not they could avoid it. If
10 they did go through, you'd know. If they didn't
11 go through, you could recover them and know that
12 too.

13 MARY McCANN: I think another way
14 to answer that question would be while you have
15 the unit in the water and can do something like
16 the hydro acoustics further away to see if the
17 targets are there, then the close interaction
18 monitoring with the unit will tell you if it's
19 coming through. If you're seeing targets ahead
20 of it, then you're not seeing anything on the
21 DIDSON, then I think you can make the evaluation
22 that the targets are moving around it. If you're
23 seeing the targets -- if you're not seeing
24 targets with hydro acoustics outside of it and
25 then you don't see anything on the DIDSON, it's

1 just that the targets aren't there.

2 SUE WALKER: What's your estimate
3 of what the field of view would be for the
4 DIDSON, field of view and distance of sight would
5 be?

6 MARY McCANN: You can purchase
7 different models that have different fields and
8 it depends on the frequency and the resolution
9 that you want to get. They are either
10 14 degrees, it widens out at that angle, or 29 is
11 one. I can't remember exactly what we said on
12 this one. The long-range one gets a higher
13 frequency, a higher resolution in the longer
14 range if it was the 14- or 29-degree. But that's
15 something we calculated out. And at the width or
16 length of the OCGen module, according to what the
17 manufacturer says, the ranges we should be able
18 to cover from one end to the other, but
19 understanding that that beam starts out small at
20 the point and then widens out to the other end.

21 SUE WALKER: So you're going to be
22 looking down the unit?

23 MONTY WORTHINGTON: I don't have
24 any slides to illustrate that.

25 SUE WALKER: You'd be looking down

1 the length of the unit?

2 MARY McCANN: Yeah. I believe we
3 had it in the --

4 SUE WALKER: That would be your
5 focus, that would be the center of your beam?

6 MARY McCANN: Yes, in the center.

7 ERNIE HAUSER: One on each side.

8 SUE WALKER: But you don't know how
9 far around the unit it would be actually --

10 MARY McCANN: We have a figure
11 showing it and we can do that calculation of what
12 that area is. I don't know it off the top of my
13 head.

14 SUE WALKER: You've solved the
15 power, the data storage, software issues?

16 MARY McCANN: Those are some of the
17 logistics that we're hopefully going to work out
18 this fall.

19 SUE WALKER: Okay. So they're
20 still existing challenges at this point?

21 MARY McCANN: Yeah, because, I
22 mean, we did do it on the East River and what
23 they ended up doing was subsampling. They had a
24 trigger in the software for movement to try to
25 help shorten that. We can't do that here because

1 the turbine will be moving, so that won't work.
2 There are other options we could evaluate. There
3 is, I believe, a way you can cut off from here so
4 that movement from the turbine blade won't
5 trigger the sensor that would set it off as, say,
6 a target was coming through. That helps save the
7 memory. It's a matter of how many banks of
8 computer hard drives do we need to keep at the
9 shore station or wherever we're storing the data
10 and have somebody to review it each time. Those
11 kinds of details haven't been worked out.

12 SUE WALKER: I understand one of
13 the major problems in the Verdant project was the
14 units weren't operating long enough to get much
15 useful data.

16 MARY McCANN: Unfortunately they
17 broke days after being put in, so we never had
18 the opportunity to really vet that whole study.

19 TAMARA McGUIRE: You're saying that
20 the turbines broke, not the DIDSONs?

21 MARY McCANN: The turbines broke.
22 The DIDSON worked for the first two or three
23 months. Like I say, they've improved the design.
24 One of the things you can do if the silt is a
25 problem is put a silt box around it. You lose

1 some of the resolution, so you lose some of the
2 details that we hoped to figure out. By the time
3 this goes on line there will be more and more
4 improvements in the DIDSON.

5 ERNIE HAUSER: The difference
6 between ours and Verdant is Verdant designed a
7 windmill under water so the force of that blade
8 is where it broke. Because we are using
9 hydrofoils, the water is going across the foils.
10 You're not going to have the same issues of the
11 turbine breaking off.

12 SUE WALKER: I wasn't suggesting
13 yours was going to fail.

14 What would be the operating period
15 for the DIDSON units? Year-round?

16 MARY McCANN: Oh, yeah. Yeah,
17 that's the biggest advantage.

18 SUE WALKER: And you're going to
19 have no power issues on the shore station?

20 MONTY WORTHINGTON: We're looking
21 at trying to couple the power and the data
22 transmission from the shore. We do have
23 challenges to figure out there. The other option
24 would be figuring out somewhere to deploy it. It
25 becomes more complicated if it's with the unit.

1 We'd like to be able to keep it under water.

2 MANDY MIGURA: This little box with
3 the two DIDSONs, seems like you might want to
4 have one on the other side too. Have one on one
5 side of the unit but nothing on the other side?

6 MARY McCANN: You can't aim it
7 cross-beam with the interference. With the
8 complete beam hydro acoustics we had to be real
9 careful.

10 MANDY MIGURA: One thought about
11 the visual observations. Even if you do onsite
12 visual observations four days a week, six hours a
13 day, do you already have a schedule worked out?
14 Is it going to be worked out around the tide or
15 the same time every day?

16 TAMARA McGUIRE: Same time and then
17 the tide.

18 MANDY MIGURA: I'm kind of
19 wondering: Have you considered using remote
20 cameras that give you the ability to record the
21 observations? Is it too far?

22 TAMARA McGUIRE: I think the
23 distance is too great. We can consider it in the
24 future. Right now the visual observations with
25 the spotting scope is what we plan to do.

1 MANDY MIGURA: I've seen this one
2 thing where you can record those as well.

3 TAMARA McGUIRE: We talked about
4 that. If you could get a high-resolution camera,
5 we could pull things off, but the distances are
6 pretty great.

7 DAVID TURNER: What is the distance
8 we're talking about?

9 TAMARA McGUIRE: It's 1,200 meters,
10 so 1.2 kilometers from the observation site to
11 the middle of the deployment site. That's the
12 distance to the middle of the deployment site.

13 MONTY WORTHINGTON: More questions?

14 On the beluga studies the things
15 that are included are the visual observations and
16 the hydro acoustics. We're looking to get an
17 idea about the baseline distribution and through
18 the pilot installation of the DIDSON cameras,
19 we'll have continued observation and look to
20 understand continued impacts on the beluga
21 population. At the same time we're going to
22 continue to pursue other opportunities for
23 funding opportunities to do this. We're doing
24 the best we can with the technologies that are
25 available. If other things come up that might do

1 a better job, we'll certainly look into it. What
2 we would like to do is do this season's work
3 where we do the visual observations, coordinate
4 with the EAR devices and the C-Pods, then revisit
5 those after the field season and try to
6 understand what we understand about the beluga
7 usage in the area, how do the observation methods
8 work, and we look forward to making a decision on
9 further studies at that point.

10 MATT CUTLIP: I have a question for
11 you. I saw up there on your slide at one point
12 it said beluga observations June 2009 through
13 June 2010.

14 MONTY WORTHINGTON: Yeah, and I
15 think -- there was an earlier slide in the
16 initial presentation. I think I put the ice-free
17 season there.

18 MATT CUTLIP: So are you planning
19 on continuing observations after you file your
20 application?

21 MONTY WORTHINGTON: In our
22 application we intended to start observations
23 last year, but we had issues that prevented us
24 from doing that and we'll be starting tomorrow.
25 So to fill in the gap of visual observations we

1 plan to do it next year.

2 MATT CUTLIP: So you have a very
3 limited second year of data collection?

4 MARY McCANN: It's just to fill out
5 the ice-free season.

6 MANDY MIGURA: So essentially it
7 will be one summer's worth and then put the data
8 together.

9 KATE SAVAGE: You mentioned that
10 depending on what you find, it might dictate what
11 you do; is that correct?

12 MONTY WORTHINGTON: Yeah,
13 certainly. For instance, with the EAR devices we
14 may find that they're not working very well. We
15 may find they work fabulously and we can depend
16 on them. At this point we really don't know.
17 They haven't really been verified as to their
18 effectiveness in the Cook Inlet environment with
19 the whales.

20 KATE SAVAGE: So what you're saying
21 is that what you find will maybe determine how
22 you do the post-deployment monitoring, or could
23 it change the temporal nature of your
24 predeployment monitoring?

25 MONTY WORTHINGTON: I think it will

1 have an effect on both of those. We don't know
2 very much about the belugas and how accurate the
3 different observations will be. Say we find that
4 these passive hydro acoustics and everything
5 we're seeing visually have 100 percent accuracy,
6 we would want to move forward to use those for
7 the deployment rather than having continual
8 observations in the water. I really think this
9 summer's data collection effort is going to be
10 critical on how we move forward on the beluga
11 project.

12 KATE SAVAGE: I don't know if it's
13 time to sort of --

14 DAVID TURNER: I think we're kind
15 of all dancing around the same kind of question.
16 So it's appropriate to go ahead and ask your
17 question.

18 KATE SAVAGE: What concerns me is
19 this: Obviously we all know that the way a
20 species uses an area changes seasonally and also
21 changes annually. You could spend a lot of time
22 trying to come up with the most accurate baseline
23 information. For example, apparently there was a
24 cow and calf there earlier this season. If
25 somebody hadn't been there, nobody would have

1 known they were in the area at that time of year.
2 I would much prefer that if you had to divvy up
3 the time you spent monitoring, that you spent
4 maybe less time with the post deployment and more
5 time with predeployment just because that offers
6 a more true baseline, whereas if you limit your
7 time now and then you move on to deployment, then
8 you're shifting to a totally new baseline and
9 you're using that baseline, which may not be
10 real, to determine if you're going to do the full
11 buildout.

12 Does that make sense? That kind of
13 concerns me.

14 MANDY MIGURA: I guess I was
15 wondering: The timing is one summer's worth of
16 data collection. I guess, was there a reason --
17 you originally wanted to do it this summer and
18 was it for the permitting process time line you
19 were trying to get some data in before that
20 deadline? I guess now that the date is changed,
21 I don't understand why you continue to sample
22 through all of next summer.

23 MONTY WORTHINGTON: A big part of
24 it is it's expensive to do these observations.
25 We're trying to collect valuable data we need in

1 a manner that will still make sense from our
2 point of view. We had other land use permit
3 issues that took a long time to go through with
4 the Coast Guard and with landowners on the
5 island. That's why we are starting now and
6 continuing next year, to get one full season.

7 DAVID TURNER: Why are you
8 believing that they're doing less now relative to
9 post deployment? I didn't quite follow that.

10 KATE SAVAGE: Say, for example, if
11 avoidance behavior becomes a huge issue, it seems
12 like it would be really important to recognize
13 that. If you put the unit in the water, then you
14 might not recognize that and unless you kind of
15 know how they're using this area without the
16 unit, then -- how am I trying to say this --

17 SUE WALKER: You may be displacing
18 animals from the area of use without knowing it
19 because you don't have a sufficient baseline.
20 That's why we've asked for additional baseline in
21 order to make that determination.

22 MATT CUTLIP: Would that qualify as
23 a take? Avoidance?

24 KATE SAVAGE: Well, yes, probably
25 it would. Harassment is loosely defined as

1 anything that changes a behavior, so that would
2 be a take. To me, just on a very biological
3 level, where the energy demands for these animals
4 that are in numbers where events could create
5 jeopardies, it's kind of a crucial thing. It's
6 not like you're talking about deploying something
7 where there's lots of stellar sea lions and it's
8 not going to be a real issue where it could be
9 for these animals. I know the post deployment
10 monitoring is something you have in mind. I
11 don't know if there's any leeway within the pilot
12 project procedure where you can kind of tweak it
13 a bit.

14 MANDY MIGURA: The issue is by
15 having one really good season, you don't know if
16 that's the true condition or if there's something
17 somewhere else causing that one season to be an
18 anomaly.

19 DAVID TURNER: Would two years give
20 you any better feel?

21 SUE WALKER: Yes, sure. You get no
22 measure of variability with one season; you get
23 some measure with two. Of course it gets better
24 after that. But two is certainly twice as good
25 as one.

1 DAVID TURNER: There is a
2 significant amount of data that you guys have --
3 well, I shouldn't say you -- but there is a
4 significant amount of data already out there from
5 the last ten years or so that you've been looking
6 at through aerials. I mean, it's not equivocally
7 the same kind of data, but there's a lot of data
8 that they have been able to pull off the record
9 that looks at use very broadly, a lot of it going
10 to Susitna Flats and some of that other, so --

11 MARY McCANN: I'd like to ask --
12 I'm not a beluga expert. Do you think that we
13 would not be able to see avoidance of the
14 deployment area, which is what we're trying to
15 answer, with the unit in the water if we see,
16 say, belugas going around it but not coming even
17 close to the deployment area?

18 KATE SAVAGE: I think -- could you
19 run that by me again?

20 MARY McCANN: I'm asking if you're
21 saying that you don't think we would be able to
22 determine if they're avoiding the deployment area
23 where the unit is in the water -- while the unit
24 is in the water, if we're doing observation while
25 the unit is in the water, if we're seeing them

1 come through and going either closer -- or how
2 far apart from it, is that avoidance? Say, they
3 don't come up through the deployment area but are
4 taking a wide berth around, is that avoidance?

5 KATE SAVAGE: I think the only way
6 you can determine if there's avoidance or not is
7 if you have good baseline information. I mean,
8 there was the cow and calf there and everyone was
9 surprised because they didn't expect that. So
10 that's one more sample to be added into the
11 question group. Of course you can have your
12 sample size go to infinity and that would be
13 great, but that's not realistic. But still you
14 don't want to have too small a sample size.
15 Avoidance behavior, you have to have kind of a
16 normal behavior before you can characterize an
17 avoidance behavior. When you do the deployment
18 too quickly, then what you're calling normal
19 behavior might be avoidance behavior. You know
20 what I mean? It's like the belugas are going
21 around and you're classifying that as normal
22 behavior, which may potentially modify when you
23 do the full buildout, where in truth it's not
24 because not enough information has been collected
25 initially to say, well, you know what, they're

1 changing their behavior. It's very possible that
2 you might find that belugas don't use that area
3 at all. But it seems like you have to have a
4 sufficient period of time in order to say that
5 with confidence.

6 TAMARA McGUIRE: What would happen
7 if you took the total number of hours or days
8 they had scheduled and you spread it over two
9 years? We don't have a magic number in mind of
10 doing behavioral observation to say that, okay,
11 for our sample size or our genetics study we need
12 to have a sample of X number of whales to meet
13 our goals. So the fact that we're up to 20 hours
14 a week, for example, from June to November, we
15 pulled that out of our hat based on what was
16 being done at the port with the construction. In
17 this case there's a real mitigation need to have
18 that. So they were trying to be consistent with
19 what else was going on. But I don't really see
20 that we have a need to have that many hours now
21 if the money is a constraint as well because it
22 does really add up.

23 SUE WALKER: You bet.

24 TAMARA McGUIRE: Is it possible to
25 spread it out over two years and take the same

1 number of observer hours and spread it out over
2 two years; is that a compromise?

3 KATE SAVAGE: I guess that would
4 partially be a question to FERC. For example,
5 Monty, you guys were going to do the
6 deployment -- refresh me on this time frame --
7 and then have it in the water for how many years?

8 MONTY WORTHINGTON: The initial
9 module?

10 KATE SAVAGE: Yes, the initial
11 module. For one year; is that correct?

12 MONTY WORTHINGTON: One year, yes.

13 KATE SAVAGE: And then you had four
14 more, and they were going to be there for?

15 MONTY WORTHINGTON: Up to eight
16 years.

17 KATE SAVAGE: So I guess my
18 question to FERC would be: How much leeway is
19 there in saying, okay, well, maybe instead of
20 this, let's do this and still call it a pilot
21 project? It seems to me that if FERC has a
22 criteria sensitivity, it would be hard to find a
23 more sensitive area than Type 3 habitat for 3- or
24 400 beluga whales. If that's not considered a
25 sensitive area, then I don't know what is. To me

1 the onus would be on them to say, this is not a
2 sensitive area because the belugas aren't using
3 it.

4 MANDY MIGURA: In the past ten
5 years or so we've been doing aerial surveys. The
6 area that their project is in has not been a
7 heavily surveyed area whereas Susitna and other
8 areas have a lot more surveys collated. So it
9 could be a flaw on our side doing the surveys.
10 But the data we provided them, some of the maps
11 in the project, I mean, you can look and the
12 effort is just not there compared with those
13 other areas. So I think saying, well, look at a
14 map doesn't say -- because we haven't put in the
15 same level of effort as in the other areas.

16 DAVID TURNER: I guess I didn't
17 pick up on the change of the effort. Looking at
18 it obviously you don't believe or you probably
19 would have been observing it with that same level
20 of effort if it was anticipated to be a great
21 demand. But I understand what you're saying.

22 MANDY MIGURA: It's the seasonality
23 of the surveys as well. Most of the belugas this
24 time of year -- we just concluded the surveys
25 this past week. This time of year most of the

1 belugas are believed to be at river mouth
2 feeding, so that's also another reason why Fire
3 Island hasn't been surveyed so heavily. That
4 does not speak to anything about the rest of the
5 year and their use of it. So I guess we want to
6 make sure when you're looking at that you realize
7 the context that you're looking at that in.

8 ALICIA BISHOP: I really can't hear
9 you on the phone.

10 SUE WALKER: That's Alicia Bishop
11 from the Northwest Region of NMFS.

12 DAVID TURNER: We'll try to speak
13 up. You want us to recap any of that?

14 ALICIA BISHOP: No, it's okay. I'm
15 just letting you know it's difficult to hear.

16 DAVID TURNER: That was my concern.
17 We'll try to speak up.

18 KATE SAVAGE: So, Tamara, in
19 addressing your question. I think, yeah, there's
20 a lot of ways things could be more so. It could
21 be financially okay and everybody could get what
22 they want. I don't think it has to be the
23 maximum effort and both years, but to me it just
24 kind of needs to be extended a little bit more.
25 That's just my thought.

1 MONTY WORTHINGTON: Some of us, in
2 line with the thinking of looking at what we've
3 learned this summer from observing there and in
4 the fall, we can say, here's what we learned;
5 there was lots; there was little; acoustic
6 recordings didn't work; they did work. We can
7 use this to learn more how we want to establish
8 the baseline.

9 KATE SAVAGE: Again, the question
10 to FERC: For example, you go out there and you
11 find that belugas are not in that area at all.
12 By all means it seems like move forward if that's
13 apparent, but if that's not the case -- David or
14 Matt, I'm going to ask you how much can they work
15 with the time frame?

16 DAVID TURNER: We'd ask you: What
17 if they go out there one year and find that
18 they're using it a good bit? Can you write a
19 bi-op on one year's worth of data based on that?

20 KATE SAVAGE: No. But, for
21 example, say they were going to give it another
22 year and they find enough in the second year to
23 say, okay, we think we can go forward with the
24 project, does the pilot project license or
25 procedure allow for that? To say, okay, we're

1 not going to do our final application this year,
2 we're going to do it next year.

3 MATT CUTLIP: It would probably
4 cause problems, at least pertaining to the
5 preliminary permit, because if you open that back
6 up for competition and the municipality applies,
7 they may have just lost their --

8 SUE WALKER: Can't it be extended?

9 DAVID TURNER: No. The preliminary
10 permit is statutorily defined for a three-year
11 period. It begins and it ends.

12 SUE WALKER: You know, that's a big
13 problem. I think, David, you asked the wrong
14 question. Could you write a bi-op based on a
15 year's worth of data?

16 DAVID TURNER: Well, no, based on
17 the quality.

18 SUE WALKER: I would say to FERC,
19 we've got significant data that shows use of this
20 very small population of a species that is
21 sensitive, so does the pilot licensing procedure
22 apply? That's not a question that should be
23 asked before we're asked to write a bi-op.

24 DAVID TURNER: In a sense you've
25 kind of hit the nail on the head. What probably

1 the take-home message will be from the Commission
2 is that what we're beginning to realize is
3 there's a lot of definitions of sensitivity from
4 an agency's perspective. I agree with you, Kate,
5 this is probably one of the most extreme examples
6 of what we might want to call a sensitive area.
7 But we would probably feel like we would have to
8 do our NEPA analysis to really figure out if
9 we're going to find whether or not a license for
10 a pilot project is appropriate. But the question
11 becomes one of: Can they proceed and file their
12 final license application? That's the first
13 question we have to answer is whether or not
14 there's enough information to say that the pilot
15 seems to be feasible in this case, and should we
16 then license it for the short term with all of
17 our safeguards and protections? We'll probably
18 have to carry that through our environmental
19 analysis to make that decision. But that's also
20 going to be putting it in your laps for issuing
21 the biological opinion.

22 MANDY MIGURA: What we say in the
23 bi-op will also be dependent on the information
24 you guys provide us in the BA about what's found
25 and what you're anticipating the effects to be.

1 DAVID TURNER: Exactly. So we're
2 going to be in the same boat. We're going to
3 have to be examining the effects based on the
4 available information. In this case we'll say,
5 worse case scenario, one year's worth of data and
6 depending on that you would be in a boat as well
7 as we would be in terms of trying to decide
8 whether we should issue a license for a pilot
9 project that would operate for eight years.

10 MARY McCANN: Dave has a good
11 point. I want to ask if NOAA has in mind, what
12 is the level of use? Do you have anything in
13 mind that would say, okay, this level is okay,
14 but this level is not; we consider it sensitive?
15 I'm just wondering: Do you guys know what that
16 level is?

17 KATE SAVAGE: I don't think, like
18 FERC, that we could exactly say that. In truth,
19 it seems like the best tack here would be to wait
20 until the data comes out before determining
21 whether a pilot license project would be feasible
22 or whether it should go traditional licensing. I
23 certainly couldn't say they should not do a pilot
24 project -- they should not consider that kind of
25 licensing when, for example, they find out that

1 there's no beluga whatsoever, so it's not a
2 sensitive area. I mean, I certainly can deal
3 with that now, but --

4 DAVID TURNER: But the answer will
5 be it's not whether or not they should proceed
6 down a different licensing path, because that's
7 sort of the immediate decision, is whether these
8 procedures are appropriate or not. And my guess
9 is -- I don't know -- we're going to have to look
10 at your comments and what comes in and talk about
11 it back at work. But if it's what we anticipate,
12 in most cases we're going to have to do our
13 environmental analysis to say, yeah, the pilot
14 procedures are probably appropriate to figure out
15 whether an applicant can file for a license for a
16 pilot project. We'll make our decision on
17 whether to issue a license and that license would
18 be for a pilot project. If the answer is, no, it
19 doesn't fit here, it doesn't mean that they
20 couldn't turn around and then develop a new
21 license application with more data and that kind
22 of stuff for long term.

23 But the more immediate question is:
24 Can we move along with the information that
25 they're proposing to gather and develop a

1 licensing decision for a pilot? Is there enough
2 to say with certainty that there is -- the pilot
3 procedures are too truncated for this issue and
4 therefore they need to go back to square one and
5 try to figure out under our traditional licensing
6 processes. To be honest, that's the first
7 question we're trying to answer with a technical
8 meeting. My gut tells me that we're probably
9 going to have to figure that out through our
10 environmental analysis which, again, is going to
11 put it back in both of our boats to figure out
12 what are the least likely effects going to be and
13 what kind of safeguards do we put in place for a
14 pilot, if at all.

15 KATE SAVAGE: I think offhand
16 that's kind of a different spin. I mean, if the
17 question is -- their monitoring plan as written,
18 is it sufficient to determine later on whether a
19 pilot process would be feasible? That's what
20 you're saying, right?

21 DAVID TURNER: No. I think I would
22 rather put a spin on it as: Are the safeguards
23 that we're putting in place sufficient enough
24 that we can minimize the uncertainties associated
25 with the data gaps to limit the adverse effects

1 and the potential for take and the adverse
2 effects that are associated with those conditions
3 so that if we can comfortably say that, yes,
4 there are some unknowns and there are going to be
5 unknowns associated with these new technologies
6 and we're not going to know those unknowns until
7 we test those new technologies. But are there
8 enough mitigation measures or monitoring measures
9 that we can put in place that we can comfortably
10 say with a reasonable assurance that we may
11 displace or may show some displacement, but it's
12 not going to have a jeopardy opinion -- or not
13 result in jeopardy of the species or something
14 like that, and maybe we can still move forward
15 with issuing a license. If we can't say that,
16 then we may say, no, a pilot doesn't fit here.
17 But the bottom line is that we have already
18 processed it. The Commission is processing the
19 application all the way to that end of deciding
20 whether to issue a license or not for that pilot.

21 SUE WALKER: I'm afraid that what
22 you're asking us to make can't be made without
23 coming up with a formal biological opinion
24 without consultation. We can't do that before we
25 have enough data. What we can tell you right now

1 is that one season's worth of data probably won't
2 have enough information to do that.

3 MATT CUTLIP: So you wouldn't
4 initiate consultation?

5 SUE WALKER: We have to have enough
6 information to do the analysis necessary. We
7 start the work when we have sufficient
8 information.

9 MARY McCANN: Tamara and I planned
10 when we asked for the nonfederal representative
11 to start the informal consultation after this.
12 So are you talking about the formal consultation?

13 SUE WALKER: I'm talking about the
14 formal consultation.

15 MARY McCANN: I realize that I used
16 informal consultation, but I did not say under
17 ESA, just consultation not under ESA.

18 SUE WALKER: There was also mention
19 of incidental harassment authorization, which
20 implies take which implies formal.

21 MARY McCANN: Well, I know you
22 asked me that at a public meeting before and I
23 said I expect that it would. We can only take it
24 the informal route, then it goes to FERC and it's
25 their decision whether to take it to formal. I

1 expect that that would have to be done, but
2 that's under FERC.

3 SUE WALKER: I think we're in a
4 catch-22 here because of the timing of this
5 preliminary permit. Kate hit the nail on the
6 head. It's really in everyone's best interests
7 to determine whether or not this is a sensitive
8 area. We need sufficient data to determine
9 whether we have beluga or fisheries use of this
10 area. The monitoring plan proposed prior to the
11 changes that we've seen today, that we've only
12 seen for the first time today -- but the
13 monitoring plan that was proposed prior to today
14 was not sufficient to allow us to determine
15 whether or not it's sensitive, which I think we
16 clearly state in our letter. And you've added
17 some very interesting additions to the monitoring
18 thing that we certainly need to consider. But I
19 think even given those data, I don't think one
20 season's worth of monitoring data is enough for
21 us to go forward, which puts us at the end of the
22 preliminary permit. You have to have a draft
23 license application in by spring. I just don't
24 know how we can get there. I know you're not
25 facing this issue only at this project.

1 DAVID TURNER: Is it conceivable to
2 develop an opinion based on that data and then
3 structure your opinion to gather additional data
4 before deployment?

5 MANDY MIGURA: Are you using the
6 word opinion as in biological opinion?

7 DAVID TURNER: Yes.

8 MANDY MIGURA: That's something we
9 do once we receive a biological assessment
10 and that's something that's further down the road
11 than what we can do right now.

12 MATT CUTLIP: We're trying to be as
13 flexible as we can be hoping that the agencies
14 will try and be as flexible as they can be. Does
15 that make sense? We're trying to kind of reach
16 an agreement on how we can maybe process this
17 project as a pilot -- understanding there may be
18 some additional data collection predeployment,
19 studies that need to be done next summer. We're
20 trying to figure out how we can get there.

21 MANDY MIGURA: My understanding of
22 our regulations is we cannot do an if then
23 scenario. If you do this, then we can say yes,
24 but if you do this, then we'll say that. We
25 don't have that ability to do that within our

1 agency's regulations.

2 DAVID TURNER: Well, I wasn't
3 suggesting an if you do this type thing. What I
4 was suggesting is doing an opinion based on one
5 year's worth of data, we process that data,
6 include an additional year of baseline monitoring
7 that would -- depending on what that data may
8 have said, you could go back and open or
9 reinitiate consultation and then deploy
10 subsequent. Rather than in the schedule that
11 they propose -- maybe we process it, they delay
12 deployment for a year to gather some more
13 baseline data to reaffirm this year's study
14 efforts or they maybe even continue this effort
15 now even next summer -- I don't know if that's
16 something that's conceivable in their approach or
17 not recognizing the cost -- but having that data
18 kind of come in sequentially, but we process that
19 information as it's given to us as part of their
20 final license application. I mean, that's going
21 to be the crux. We're going to do our analysis
22 based on what's in the application and you guys
23 are going to be having to do your analysis for a
24 biological opinion based on what we give you.
25 But is there a way to incorporate that in there

1 to gather some additional baseline data prior to
2 deployment to reaffirm your decisions, and if
3 that comes back in saying, well, this is contrary
4 to what we assumed, you're going to need to
5 reinitiate?

6 ALICIA BISHOP: I don't see them
7 going through two biological opinions for a pilot
8 project. We're going to be given another year of
9 information. Why wouldn't you just wait for the
10 second year before doing your biological opinion?

11 DAVID TURNER: It's the timing that
12 Matt talked about. There's the preliminary
13 permit and our commitment to continue to process
14 these things as a pilot in a very quick manner.

15 ALICIA BISHOP: Can I ask, I guess,
16 a process question? I'm a little confused
17 because it seems like from looking at the white
18 paper and at least initially how it was set up,
19 FERC was going to make their determination on
20 whether or not the pilot process was appropriate
21 at the end of the prefiling stage, so prior to
22 the final license application. Now, just based
23 on the little bit I've been on this conversation,
24 it sounds like you guys are waiting until after
25 the EA. So I was just wondering when this shift

1 occurred and kind of what was behind that.

2 DAVID TURNER: What was behind --
3 it is a bit of a shift and what we explained in
4 the white paper or what we envisioned there was
5 some areas that were pretty much black and white.
6 If it's an area that was basically legislatively
7 or regulatorily prohibitive for licensing a
8 project -- let's say a marine area. It's black
9 and white. It's a sensitive area and we would
10 shut it down. We couldn't process that
11 application. Or if it was near some military
12 type of installation that said, you know, for
13 unknown reasons that we can't disclose to you
14 this isn't going to work. It's a sensitive area
15 and we're shutting it down, and we couldn't
16 license it in that regard. We have come to
17 realize as we've been looking at this from a
18 programmatic point of view that there's a couple
19 of things in the white paper that probably needs
20 more of an environmental review that will occur
21 through our NEPA analysis, and one is sensitivity
22 of the area. Another was license term. What is
23 exactly short term? We came up with these
24 concepts to try to bolster the pilot procedures
25 and pilot projects to kind of test these nascent

1 technologies and promote them where it makes
2 sense. But we're understanding that there's
3 great variability in terms of sensitivity, and a
4 lot of those issues are just going to have to be
5 reviewed by the Commission. But the only way to
6 do that is get the license application before us.
7 So, yeah, it is kind of coming off as a change in
8 direction in a way, but it's based on some of the
9 things we're seeing over all our pilot
10 procedures.

11 FRANCIS MANN: David, I have a
12 process question for you. So by next March you
13 have to make a decision whether to proceed with
14 the license or not, but you were talking about --
15 can the license have a contingency for another
16 year? Like you were talking about getting a
17 contingency in place. So based upon the data
18 from this summer -- NMFS was looking at your
19 opinion. We had a similar comment in regard to
20 fish studies, interannual variability, et cetera.
21 Can you issue your license contingent upon --
22 because it may be once we all sit and start
23 looking at this data next winter that there may
24 be a request for an additional year of data. Can
25 you proceed with a contingency to your license,

1 contingent upon another year's data, or is it all
2 or nothing?

3 DAVID TURNER: What I was
4 envisioning is license requirements that say go
5 gather another year's worth of baseline data. It
6 would be a condition of the pilot license and
7 built in with that some adaptive management, if
8 you will, based on that data that may be coming
9 in. At least that's not unheard of from a
10 conventional point of view of conventional hydro.
11 They do studies and based on that data, we may
12 modify that. That's kind of what I'm envisioning
13 is maybe some adaptive management as a license
14 requirement for a pilot project.

15 KATE SAVAGE: As far as adaptive
16 management. It seems like the most logical
17 approach would be to somehow adapt it so this
18 techno meeting happens after we get the
19 information, if that's possible. Because at that
20 point it seems like we can say, okay, there's no
21 belugas here, we're good to go. Or we could
22 probably all agree to say, belugas are actively
23 using this area, we have to do something else.
24 But it seems kind of premature -- and I agree
25 with Monty -- when you have information to

1 assess, it's really kind of -- it's a logical
2 approach if we could get there. Does that make
3 sense?

4 MATT CUTLIP: So you're saying
5 after this predeployment data is collected this
6 study season moving into the winter, after that
7 data is collected, compiled, put in some kind of
8 a draft report possibly, maybe folks get together
9 and look at it, and then try and decide on a path
10 forward or maybe try to come to a consensus on a
11 path forward?

12 KATE SAVAGE: Well, it seems like
13 that would be much more logical than trying to
14 kind of second-guess how belugas use the area,
15 which is in a way what we're trying to do.

16 MATT CUTLIP: So what if you --
17 hypothetically speaking, what if you find out
18 that belugas do use the area. Then what? Then
19 their permit still runs out, expires on
20 March 31st of next year. They have to have a
21 license application in by that date to maintain
22 their priority for filing a license application.
23 What then, I guess?

24 KATE SAVAGE: Is that like a
25 license application for a pilot project or for

1 any license?

2 MATT CUTLIP: It's for the pilot.

3 KATE SAVAGE: If belugas actively
4 use that area, then a pilot license might not be
5 the way to go.

6 MATT CUTLIP: You have to have a
7 license, but I don't think you can --

8 MARY McCANN: We can't go any other
9 way now because we're in the pilot process. To
10 save the priority status, we would have to have
11 something pending before them. We would have to
12 have a license application pending before them.

13 KATE SAVAGE: To save the
14 particular area.

15 MARY McCANN: The priority status
16 of the project.

17 MANDY MIGURA: One more thing to
18 throw in the mix is in October we're planning to
19 have our critical habitat determination come out.
20 One of the things that this summer with you guys
21 doing your visuals not only presence/absence, but
22 how are they using that habitat. I have no idea
23 what they're thinking on determining the critical
24 habitat. But if they do say that area is
25 critical habitat, one of the things you can be

1 looking at is, well, they're only using this area
2 for transit or it looks like they're feeding.
3 That's going to weigh differently when we do it
4 down the road too. It's not just belugas. If
5 that area is determined to be a critical habitat,
6 we'll have to consult on the habitat aspect as
7 well. That's coming out around October.

8 DAVID TURNER: That's good to know.
9 We recognize we would have to consult on both the
10 habitat and the species as well.

11 MATT CUTLIP: One of the issues
12 with your approach, Kate -- I mean, I like the
13 idea. The problem is it's just -- it's a lot of
14 risk to a developer, I guess, to continue to
15 collect data with the thought that they might not
16 even be working towards a final license
17 application and maintaining priority of their
18 site.

19 KATE SAVAGE: Right. Well, I would
20 hope that there was some method to avoid that
21 kind of risk, but I don't know enough about the
22 process.

23 DAVID TURNER: Kind of back up to
24 where Matt was going. Isn't that sort of what I
25 was suggesting in the sense of reevaluating this

1 one year's worth of data?

2 MANDY MIGURA: I was going to ask
3 that. If you put that as a stipulation in their
4 license, then if the outcome -- there's two
5 possible outcomes, belugas are there, belugas are
6 not there. If the outcome is there's a lot of
7 belugas there the second year that weren't there
8 the first year, what is the next step? Do you
9 have a contingency based on what's found that
10 second year kind of built in or how does that
11 work? I like the idea of moving forward and
12 having that stipulation, but I'm kind of snagged
13 on where you go -- it takes me back to that if
14 then scenario.

15 DAVID TURNER: Well, let me ask you
16 the question: What kind of measures would you
17 put in place based on knowing that they do use --
18 let's assume they do use it a lot. Let's say
19 they use it year-round both for foraging as well
20 as for transiting through it. What measures
21 would you put in place knowing the design of the
22 project and the effects you're going to analyze?

23 MANDY MIGURA: I can't answer that
24 without knowing.

25 DAVID TURNER: No. Assume that

1 they are there. Assume that there's a bunch of
2 them there.

3 MANDY MIGURA: Then that's going to
4 weigh a lot differently.

5 DAVID TURNER: What effects are we
6 talking about? We're talking about noise. We're
7 talking about displacement of habitat. We're
8 talking about collision. Can you not envision
9 mitigation measures that would assume the worst?

10 ALICIA BISHOP: In a way that kind
11 of goes back to the original question of what
12 sort of data do you all need to classify
13 something as sensitive?

14 SUE WALKER: I think you're passing
15 the buck here.

16 MATT CUTLIP: I think we understand
17 that this is -- I don't want to use sensitive in
18 the terms that were put forth in the white paper,
19 but I think we all understand that this is a very
20 special area. It's probably as close to a
21 sensitive area as you might find outside of a
22 marine sanctuary. A parallel situation would be
23 like a wilderness area for a conventional
24 hydropower project. There's provisions within
25 the Wilderness Act or whatever the implementing

1 act is that says you can't build a hydropower
2 project here, or you can't build a power project
3 here. This is as close to that, but it's not
4 clearly defined as such because it's not in a
5 marine sanctuary. The bottom line is a lot of
6 these hydropower projects are probably going to
7 be in relatively special habitats. There's going
8 to be a lot of listed species there, especially
9 if you're looking at the marine environment. I
10 mean, that's the practical reality. But I don't
11 think the fact that there's a listed species
12 there and the fact that they use the area
13 necessarily precludes it from being licensed as a
14 pilot.

15 SUE WALKER: We're telling you
16 exactly the same thing. We agree with you on
17 that point. The point comes to us having enough
18 information to be reasonably certain about that,
19 which our regulations require us to do. Myself,
20 Alicia and Sean, we are three regional hydropower
21 coordinators. We commented on your guidance for
22 licensing pilot projects. In that letter from
23 NMFS we recommended certain criteria for
24 sensitive areas. We also recommended that you go
25 through rule-making. Those sensitive area

1 determinations included the presence of listed
2 species and critical habitat and essential fish
3 habitat, all of which we have here. We also have
4 a population that numbers between 3- and 400
5 individuals. It doesn't take too much science to
6 know that that population cannot lose very many
7 animals or have any kind of impact and not have
8 jeopardy. It's a very tenuous situation for the
9 Cook Inlet beluga. But your process allowed you
10 to determine, based on our input which we have
11 already given you some, whether or not this is a
12 sensitive area and fit the pilot licensing
13 procedure.

14 You've now backed that off and
15 you're not going to make the decision until
16 further down the line. I think we're dealing
17 with a moving target here and so is the
18 applicant. We have said we need more than one
19 season's worth of data. That doesn't fit into
20 the process, but you've changed your process. So
21 I think we need to figure out a solution, but we
22 clearly need more than one season's worth of
23 beluga monitoring data. We need more than one
24 season's worth of fisheries data. We've also got
25 a sensitive area in terms of winter habitat with

1 a project that's going to operate year-round in
2 very difficult conditions, and what's being said
3 is, well, we can't get in there except during the
4 ice-free periods so we're just going to assume
5 nothing bad or good happens during the other nine
6 months out of the year. That's another issue.

7 A project in order to fit the pilot
8 licensing criteria has to be something that can
9 be easily monitored, not be sited in a sensitive
10 area and can be easily be removed. So I think
11 the question goes back to FERC: Does it meet the
12 criteria? Are you changing the process? When
13 are you going to make that decision? We've
14 requested additional data. The applicant is
15 willing to work to provide as much data as they
16 can given your time frame. I just don't see how
17 we can squeeze this into the framework that's
18 been created.

19 DAVID TURNER: Well, as far as the
20 applicant being agreeable to the data, I mean,
21 they're the ones in terms of filing the license
22 application. If they choose not to gather
23 additional data, then that's their option. What
24 we're trying to figure out is how to work within
25 the framework of their proposed schedule for

1 filing a license application, what we've laid out
2 for the pilot procedures and processing an
3 application if the pilot were to fit that
4 procedure or not. And you're right, all the
5 things you talked about, with the exception of
6 being easily monitored, was defined in the white
7 paper as criteria that we would consider, and we
8 may weigh all your comments and decide that this
9 just does not fit a pilot procedure. But our
10 hope was to come to this technical meeting to see
11 if there was some compromise, to see if there was
12 some other way of looking at this and defining
13 other measures that would give you that comfort
14 level that you're desiring over the two year's
15 worth of baseline data.

16 Maybe in the best of worlds -- I
17 mean, we haven't changed the prefiling steps at
18 all. What we actually maybe have changed is
19 where we may feel like we need to look at that to
20 make our environmental analysis and whether to
21 issue a pilot license or not. Maybe if some of
22 this had been vetted earlier or implemented
23 earlier in the process to gather that baseline
24 data, we wouldn't be having these questions, but
25 that's not where we are.

1 MANDY MIGURA: I take issue with
2 that because I know we've been saying this since
3 at least December.

4 DAVID TURNER: December of last
5 year, right?

6 MANDY MIGURA: Yes.

7 DAVID TURNER: Like I said, maybe
8 if things had moved along faster, but we also
9 understand all the other parts of the technology.
10 We don't define how long it takes to get to the
11 draft application stage. All our concepts are is
12 that an applicant will consult with the agencies
13 and other parties to define the issues and gather
14 that baseline data that we may need to process
15 the environmental analysis. So we don't have a
16 control over that aspect. Again, the preliminary
17 permit is defined for a three-year period.
18 That's just statutory. We have no way to work
19 around that. It's one of the artifacts, if you
20 will, of the permitting.

21 JIM FERGUSON: I was going to say
22 real quick: That can be renewed, though, right?

23 DAVID TURNER: They can file for a
24 new permit.

25 MARY McCANN: It goes out for

1 competition. And if somebody gets in there two
2 seconds before you did, it's theirs.

3 JIM FERGUSON: I understand that.

4 MARY McCANN: And this was
5 competitive before. So we know that there's
6 other people out there.

7 Mandy, when you made that come
8 about last December, I just want to clarify that
9 we have been working based on the comments in our
10 meetings with you since December and have made
11 significant changes to what we had proposed.

12 MANDY MIGURA: I know originally
13 you proposed Sand Point. I think you've done
14 great strides in moving your location to Fire
15 Island. The one comment that we've been wanting
16 more than one season's baseline data, that
17 comment has been made as early as last December
18 is what I recollect.

19 MARY McCANN: We did try to adjust
20 the plans based on the comments to the point we
21 felt was reasonable and feasible and there was a
22 new option now that they're looking at. But I do
23 want to still come back to the question about
24 what level of information is enough for you to
25 make a determination on the biological opinion.

1 Because regardless of whether it's a pilot
2 project or going back to a traditional licensing
3 process, we wouldn't do that or ORPC might
4 consider not doing that if the level of use of
5 that project area was enough for you to say that
6 it could jeopardize the species.

7 So that is something we would be
8 really interested to know now. If we said --
9 let's assume, just assume that the level of use
10 is say a moderate level of use right now, whether
11 it's one year or two years, and it vetted out
12 over the two years and they were using that. So
13 I guess what we'd have to consider then is if you
14 would say that that might jeopardize the species,
15 then we would want to know that sooner than
16 later. There's no sense in going towards a
17 conventional license because you still wouldn't
18 be able to have a license issued.

19 SUE WALKER: At this point in
20 regards to jeopardy, we're at the point where one
21 single lethal take is enough to increase the
22 extinction rate. So, one lethal take. But we
23 can't quantify at this time how many harassments
24 may equate to a lethal take. We have
25 statisticians and lawyers working on that concept

1 so we can give you an answer. We don't have that
2 answer right now. Very loosely I can tell you,
3 if we're looking at it and you guys, you know --
4 say, I mean, there's no usage by belugas, it's
5 much easier on everybody's part. If there's
6 moderate usage, then we have to come back and
7 take a harder look at it and really weigh are
8 there other things we can do. You know, being
9 that this is such novel technology, we really
10 have to go out and assess it so we can justify
11 that we're comfortable saying that whatever
12 you're going to do is not going to jeopardize.

13 I can't tell you what the answer
14 is. I know that's what you're looking for, but I
15 don't know that. I don't know how are they using
16 the habitat. If it's moderate use just for
17 transit, that's completely different than
18 moderate use for feeding or moderate use for a
19 calving habitat.

20 MARY McCANN: But what you're
21 saying is that you think you could make that
22 determination with just the baseline data and not
23 the information that we would collect while a
24 unit was in the water and we'd make different
25 observations of how they interact.

1 KATE SAVAGE: I think it's probably
2 apples and oranges, because if you're talking
3 about the impact of a single unit or like the two
4 half-modules, then we would review that and
5 discuss that. But if you're talking about a full
6 buildout --

7 MARY McCANN: Just to get the pilot
8 license with the one in the water.

9 MANDY MIGURA: I think there are
10 things you guys are going to be doing post
11 deployment that still are going to weigh into our
12 decision if we go down the road to full
13 deployment status. I can't sit here and say
14 100 percent that just by having two summers of
15 data then we'll give it a seal of approval.

16 MARY McCANN: No, no, no. What I'm
17 trying to ask is if you would be able to make
18 that biological opinion -- be able to write that
19 based on the two years of baseline but not --
20 without having the information that we're going
21 to collect while it's in the water.

22 MANDY MIGURA: Wouldn't we have to
23 do a bi-op before you can deploy one anyway?

24 KATE SAVAGE: Yes, yes. Two
25 bi-ops.

1 MARY McCANN: So what I'm saying is
2 that you're basing the biological opinion just on
3 the existing use of that habitat and not what
4 we're going to learn about how that interacts.

5 MANDY MIGURA: Just on what you
6 guys learn, what's going on now, but also in your
7 BA you have to let us know how you think your
8 project is going to change that behavior and
9 we'll look at that information as well. We need
10 to really understand what's going on now to be
11 able to say is this change caused by the addition
12 of these OCGen units in here significant enough
13 to jeopardize the species or not.

14 SUE WALKER: If you have two years
15 of baseline data. It shows no beluga use
16 whatsoever. We do a bi-op. Reasonable measures
17 include the post-deployment monitoring, which if
18 that has any effect, that reinitiates
19 consultation. Then you go from there. You can't
20 pre-guess what that will be. If the two years of
21 baseline data shows some habitat use, then the
22 bi-op depends on how that use is characterized
23 and what effect any displacement or any effect on
24 that use would have on the species.

25 DAVID TURNER: But the bottom line

1 is you believe that two years worth of data is
2 the minimum requirement to gather that analysis?

3 SUE WALKER: To have any measure of
4 variability it is.

5 MANDY MIGURA: I think I'm
6 comfortable saying that you go from this summer
7 on as long as you can and all of next summer. At
8 least having that year-and-a-half instead of
9 having to go into 2011 that I'm much more
10 comfortable that -- beluga use, especially more
11 late in the fall, the use is greater.

12 MARY McCANN: But we would need to
13 wait until after that second year to prepare the
14 BA. We need to have that data in the BA.

15 KATE SAVAGE: First of all, I want
16 to applaud ORPC because you did move towards
17 getting other modalities and I'm really happy
18 that you're going to be working with ADF&G.
19 Also, based on what I saw today, I thought that
20 was a great observation site. I'm happy with
21 that. So the only thing for me is like the
22 temporal nature of things. I agree with Mandy.
23 I think one-and-a-half years might be fine; less
24 might be fine.

25 DAVID TURNER: Less might be fine?

1 KATE SAVAGE: Sure, because let's
2 say, for example, they go through -- probably not
3 less. You'd want at least a full year. But
4 let's say from this point on there's a cow and a
5 calf and that was all they saw. So then they
6 continue the monitoring until today, next year,
7 and they didn't see anything else. Well, it's a
8 totally different ballgame than if you start
9 seeing them coming and using the area.

10 MANDY MIGURA: The reason I'm
11 suggesting -- I'm happier with two late
12 summer/falls and one spring because the use in
13 that area tends to increase in the late
14 summer/fall. So that's where I am.

15 DAVID TURNER: And you know that
16 because?

17 MANDY MIGURA: Our observational
18 data, our stranding data, some aerial surveys,
19 very limited, that's done every month. Most of
20 the aerial surveys referred to earlier was our
21 June survey, so excluding that. But some of the
22 things from Port of Anchorage, they're seeing
23 more in the Upper Arm in late summer.

24 MARY McCANN: I have a question for
25 FERC. Could we file a license application in

1 March and the processing be held up while the BA
2 is being finalized?

3 DAVID TURNER: That's beyond my
4 decision-making abilities, but my gut tells me
5 that's stretching the concepts of the pilot
6 pretty far.

7 SUE WALKER: I would suggest we
8 take a break.

9 DAVID TURNER: Okay.

10 MATT CUTLIP: Yeah, that's fine.

11 DAVID TURNER: Want to reconvene in
12 ten minutes? Is that enough?

13 SUE WALKER: Okay.

14 (Break.)

15 MATT CUTLIP: Do we want to
16 continue to talk about the belugas?

17 MANDY MIGURA: I think we've beaten
18 this beluga to death.

19 DAVID TURNER: With one exception.
20 I think you guys were getting at it. You had two
21 comments. One was the baseline monitoring which
22 we had beaten to death, but the other was the
23 approach for that monitoring in terms of the
24 level of effort. And as you acknowledged,
25 they've made some changes since the application

1 came in. Did I hear you correctly say you're now
2 comfortable with what their approach is for the
3 baseline as well as post deployment?

4 MANDY MIGURA: Maybe one of the
5 things you're referring to is in our letter we
6 did address that. They said several time that
7 the pre- and post-monitoring plans would be
8 developed with the agencies, and I didn't know
9 the time line for it. I didn't know the date. I
10 didn't know how it was going to work on the tide
11 cycle. That's what the comment was in reference
12 to in the letter. Is that the one you're talking
13 about?

14 DAVID TURNER: Well, it says: NMFS
15 recommends expanding the proposed pre and post
16 deployment to provide better and longer.

17 "Better," what do you mean by
18 better? I thought it was the acoustic reference,
19 passive acoustic stuff that I saw reference to in
20 some of your comments. Those elements seem to
21 have been incorporated at this point. Is there
22 something more we need to talk about from that
23 perspective, setting aside the two-year issue?

24 SUE WALKER: Well, we just heard
25 that EARS have been added as well as the C-POD.

1 There was some question on the distance of the
2 acoustic sampling. It would be a lot easier if
3 we had a response to our written comments and we
4 had the things that are being proposed in front
5 of us to study. We've only heard them for the
6 first time today, but it sounds good.

7 DAVID TURNER: At least that's a
8 positive step in the right direction.

9 MANDY MIGURA: Taking in
10 consideration the questions we asked earlier, the
11 distance, the radii.

12 MONTY WORTHINGTON: We'll know that
13 at the end of the season. Those are questions we
14 can answer after this year's data collection
15 efforts, but at this point we can't answer that.

16 MATT CUTLIP: Okay. Well, I think
17 we can move forward now and talk about the next
18 item on the agenda which was the fisheries
19 investigation and the fisheries issue. I know
20 that NMFS had commented on the predeployment
21 fisheries studies as well as Fish & Wildlife
22 Service. So I don't know if you guys had
23 initiated any conversation since those letters
24 were filed or how you had intended to -- if you
25 had any responses to those comments.

1 MARY McCANN: Yeah. We'll be
2 submitting written responses too, but in general
3 we really understand the difference between the
4 beluga and being listed and the need for more
5 extensive information than we have. But we feel
6 on the fisheries side that the year that we have
7 proposed to do, and we did change that quite a
8 bit from the initial study plan, beefed it up
9 with more intensive monitoring as far as multiple
10 times during the day and at night to catch the
11 tidal cycle and the diurnal cycle, although with
12 the caveat that the nighttime one is a safety
13 issue. That's left up to the captain's
14 discretion, if he feels it's safe or not.

15 We did make quite a few changes
16 based on the comments. But we feel that for the
17 pilot project, as we understand it from FERC,
18 that this is -- the intent is to get these things
19 in the water to monitor the effects, the
20 interaction, that the baseline studies are
21 information and can be mostly from existing
22 information, acknowledging that where there's
23 holes we're trying to fill in, but we're not
24 going to be trying to do a comparison of what is
25 before and after the unit is in the water on the

1 fisheries side. That we really feel that the
2 pilot project is really focused on trying to find
3 out what the effects of the unit are in the
4 water, and we feel we can collect that while the
5 unit is in the water from the fisheries side of
6 things. And that having the type of
7 statistically rigorous information that you're
8 requesting is not feasible given the high
9 variability as you've noted and as I tried to
10 address in the responses to comments on the draft
11 license application that it would be unrealistic
12 that we could even collect that kind of
13 information even if we were out there every day.
14 Just as we reference other studies in the area
15 that have been conducted that showed that even
16 when they did attempt those really extensive
17 survey efforts, they still come out with
18 statistical rigorous information. And then the
19 other point of that is that even if we had that
20 information, that's not going to tell us what the
21 potential effects of the project are going to be
22 of having a unit in the water. I feel that we
23 really need to evaluate that with a unit in the
24 water.

25 The first step is to make sure

1 that, one, we vet out that the unit is going to
2 last in the water. As we've seen from other
3 projects, with new technology there's a lot of
4 issues that come up and I think a responsible
5 phased approach to these new technologies is to
6 first make sure they're going to work long term
7 in a marine harsh environment while having some
8 type of monitoring plan set up to ensure the
9 safety and be able to shut down if we do see some
10 measurable effect. I know that's a threshold
11 that we still need to work out what that would
12 be.

13 And then move from there, say,
14 after the first year of phased approach and then
15 start trying to address some of these more
16 indirect effects of avoidance is one, while the
17 unit is in the water and start trying to answer
18 the larger questions of what these units -- what
19 kind of effect they have on the environment and
20 use that information to move forward as these
21 things are built out. Assuming every year it
22 would be -- you've got to go through and look at
23 what's been collected for information, learn off
24 of that. Maybe then revise or plan what the next
25 step would be, to evaluate them. As we see new

1 questions come up, that we address them. It's
2 going to have to be an adaptive approach because
3 we don't know what's going to come out of this.
4 Like the one year is enough to get a general
5 characterization of fish use of the area. Are
6 they using it? Are they using the water column?
7 Are they staying on the surface? But the real --
8 determining the project effect is going to come
9 when we have the unit in the water. And these
10 things, as I said, it would be unfeasible to try
11 to the statistical rigor. This type of survey
12 that we're doing right now has -- it's more
13 expensive, very logistically challenging just to
14 get out there and sample in that environment.
15 And they're trying to -- had to try to adapt as
16 we're out there to be able to collect the data
17 because of the conditions, and we did already
18 start because we didn't want to miss the season.
19 As soon as we started getting some of the
20 information back, we'll be distributing that,
21 sharing that with everybody.

22 I did want to point out that as we
23 had said in the license study plan, we wanted to
24 do an average of twice a month, but that wasn't a
25 strict every two weeks. We wanted to adapt it

1 based on -- revise it and use it based on when
2 the expected fish migrations were, and we've been
3 working on getting information from Fish & Game,
4 from the commercial setnetters on when the
5 expected runs are. We've started those and we've
6 been doing them three weeks in a row since the
7 last week of May and I think they've been doing
8 them weekly and doing one day -- they were going
9 to do one today and they couldn't get out because
10 of the weather.

11 FRANCES MANN: Are you running all
12 four? What are they doing?

13 MARY McCANN: During the ebbside,
14 the flood tide and the nighttime, so three sets
15 each time they go out. They did have to abort
16 once last week, but they went right back out as
17 soon as the weather was good enough to get out
18 there. There are issues with the hydro acoustic
19 gear. When the wave chop is bad, the noise
20 causes interference for the surface unit trying
21 to get the surface-oriented fish and can't take
22 the risk when the boat is rocking that if it gets
23 exposed to air, it can fry it instantly. So we
24 have to take that into consideration too.

25 FRANCES MANN: You know, Mary, I

1 think your written response would be very helpful
2 for us because that sort of information you just
3 described is not clear in the plan. So when our
4 letter was written, you know, you did incorporate
5 most of our comments from the February letter, so
6 we do appreciate that, where we recommended you
7 sample during the full tidal cycle, night and
8 daytime, ice-free sampling periods would be
9 suitable, et cetera. So we do appreciate that.
10 But some of those details you just provided was
11 not in that draft application. So then we
12 followed that with some additional
13 recommendations. So if I understand you right,
14 you've been sampling weekly --

15 MARY McCANN: But still the average
16 will be overall twice a month. We're just trying
17 to focus their efforts when the expected fish
18 runs are going to be there.

19 FRANCES MANN: For the benefit of
20 you folks, and I know you've read the letter, but
21 just to recap some of the things we said. We're
22 concerned about this issue of interannual
23 variability similar to what you said. So one
24 year's data is a problem, but we also
25 acknowledged some of those adaptive management

1 techniques you were talking about whereby if the
2 data is of high enough quality and come falltime
3 we can sit down with you and look at that data,
4 one year's data may be adequate. That's
5 contingent upon, however, our bullet No. 2 which
6 is increasing the frequency of the sampling,
7 especially during those periods where fish might
8 be there. For example, sampling two times a
9 month. If you return with a zero, does zero mean
10 you missed the fish or does zero mean no fish are
11 migrating through at that depth? So that's our
12 big issue. Zero does not mean there are no fish
13 utilizing the water column at that depth. It
14 could simply mean you missed it and because
15 they're highly variable, they come in pulses, you
16 could miss it. I realize you're trying to
17 fine-tune that. One of the things we said in our
18 letter was when you hit a -- when you hit
19 something, increase the frequency of the
20 sampling.

21 MARY McCANN: Well, as I said, we
22 tried to focus on when the expected fish runs
23 were. What I started to say before was that
24 after we had tried to work that out, what that
25 schedule would be, and I realized that the plan I

1 put in the draft application I inadvertently left
2 out some of that information. So I sent an
3 e-mail with the projected schedule based on the
4 expected fish runs and the additional information
5 that had gotten left out in an e-mail to NOAA and
6 Fish & Wildlife and Fish & Game before the
7 comments were due. I realize it was only a week
8 before. We did try to address some of that and
9 come up with a schedule and the additional
10 netting information and we sent that out.

11 FRANCES MANN: I did see that. Our
12 letter was already kind of in the process. I
13 still think -- I still think especially during
14 the months of June and July that two times a
15 month is not adequate, that you could still
16 miss --

17 MARY McCANN: My next question is
18 going to be whatever we come up with, information
19 on the existing use now, whether it's
20 statistically rigorous or two years or whatever
21 it is, that does not tell us what the effect of
22 the project is until we have it in the water
23 aside from belugas, which I know is a different
24 issue because they're much larger and have
25 different sensitivities to these units. But as

1 far as fish go, we really feel that the direct
2 effect of how they're going to move, if they're
3 going to go through the turbines or if they're
4 moving around it. I don't care how much sampling
5 we do before the unit is in the water, that will
6 not tell us that. We really need to have the
7 unit in the water and do more sampling after the
8 unit is in the water. We'd like to try this
9 phased approach to make sure of course we have it
10 in the water. We're going to do the safeguard
11 monitoring and make sure that the unit is not
12 going to have to get redesigned for some reason
13 out there and then follow up in consultation with
14 you guys on what would be the next step and doing
15 another monitoring plan the following year, say.

16 I'm just thinking that would be one
17 way to answer that, is to do the hydro acoustics
18 on either side of where the unit is deployed and
19 compare that to what we're seeing around the
20 DIDSON itself, if they're coming to it or not,
21 are they there using that area? Because I don't
22 think the fish are going to be able to sense that
23 unit in the water as far away as something like a
24 beluga could.

25 FRANCES MANN: I agree with some of

1 that. One of the issues is avoiding that impact
2 altogether. So, I mean, is there a site out
3 there that you could determine with your sampling
4 which is the best spot to locate the structure?
5 So the issue is more than just do the fish see it
6 and then move around; it's where is the best
7 absolute location to place the structure.

8 MARY McCANN: In some regards
9 that's already limited. They need the depth and
10 the velocities and that's in that deep water
11 area, so they can fudge it meters here and there,
12 but it needs to be in the deeper hole area.

13 FRANCES MANN: Well, then I guess
14 it kind of comes down to risk in that with the
15 proposed sampling regime you run the risk of
16 having really high variability. I'd suggest
17 being careful about setting an objective before
18 you begin to study, because we've had other
19 studies in the past where they didn't clearly
20 define their objective and we just want to see
21 what fish are using this area of Cook Inlet. It
22 wasn't a defined enough objective for them to
23 actually conduct sampling that answered anything.
24 As a result, it didn't answer anything. So the
25 purpose of that particular comment was to try to

1 make sure that you set an objective and strive
2 for that. Moulton in his paper did a good job of
3 defining the sorts of objectives he was looking
4 at. So without increasing sampling, at least in
5 the months when we think most fish are going to
6 be migrating through, you run the risk of us
7 sitting down next fall and going, we can't tell
8 much about where fish, adults or juveniles, are
9 moving through the water column.

10 MARY McCANN: Well, that's why we
11 wanted comments on the suggested schedule that we
12 put out.

13 FRANCES MANN: I think I did kind
14 of address that in my comments to you, but I'll
15 send you some. I think during July especially --

16 MARY McCANN: I mean, the one that
17 we sent you that you haven't commented on. The
18 e-mail that we sent out before our proposed
19 schedule. I'm just saying that we have gone from
20 an average of twice a month to, okay, this is
21 what we're proposing right now for the schedule
22 based on what we know.

23 FRANCES MANN: I'm not saying this
24 month.

25 MONTY WORTHINGTON: This schedule,

1 I consulted with the setnet fishermen on Fire
2 Island on when they see their primary pulses of
3 salmon. May 25th through June 13th we're doing
4 it every week.

5 FRANCES MANN: You're doing it
6 every week?

7 MONTY WORTHINGTON: Yeah. May 25th
8 through June 13th. That's weekly because that's
9 when the pulses of chinook move through. The
10 latter half of July and beginning of August is
11 when we see the bulk of the other salmon move
12 through, the silvers, the chum, the sockeye. So
13 that was based on information from those
14 setnetters when they tend to see those fish
15 pulses there. The following weekend, typically
16 that second week of August, according to those
17 fishermen that's not that productive of a fishing
18 period. Those dates still average two weeks a
19 month. They're just squished into those peak run
20 times.

21 MARY McCANN: We're really trying
22 to focus the effort on collecting the best data.

23 SUE WALKER: Are you able to focus
24 on migration?

25 MONTY WORTHINGTON: That's

1 something that I haven't had any information on
2 when that happens.

3 MARY McCANN: You know, trying to
4 do netting in that area is problematic, but they
5 were able to catch one. That's really the best
6 that you can do on the type of netting in that
7 area is trying to supplement what the hydro
8 acoustics is telling you.

9 SUE WALKER: Given the variability
10 in fish run timing, are you able to tweak your
11 schedule depending on what is being caught in
12 realtime?

13 MARY McCANN: We're flexible.
14 We're just trying to keep the overall schedule
15 effort under control for budget constraints. I
16 think we've always said that. We would like to
17 be able to mold the schedule around when the fish
18 runs are, when the greatest concerns are based on
19 the input we get from people, from you guys, from
20 the setnetters and trying to be flexible to focus
21 on when those peak times are.

22 FRANCES MANN: So I guess, Monty
23 and Mary, I'm not sure -- we were just looking at
24 this. In the supplemental e-mail that came out,
25 it's got some dates. It says: We propose the

1 following schedule during the weeks of, and you
2 have your weeks outlined. So at some point
3 during that week, the week of June 1st or
4 June 8th, when you go out and you do a full tidal
5 sample at some time of day or night --

6 MARY McCANN: Each time they go out
7 it's the ebbtide, the flood tide or whichever one
8 comes first during the day, and then a nighttime
9 survey and that would be just whatever tide it
10 is. They do have constraints on when they can
11 get out on the water because of access issues.
12 They're generally out there 18 hours before
13 because of the tidal constraints and they're
14 trying to get those three events. They're trying
15 to focus, if possible, on the Monday when the
16 setnet data comes out to supplement it, but like
17 today they couldn't go out because of the
18 weather. When the chop is too high, they can't
19 get the data.

20 FRANCES MANN: So each week it's
21 one cycle?

22 MARY McCANN: Each event, each time
23 they go out, one event is three samples, ebbtide,
24 flood tide and nighttime, with the caveat that at
25 nighttime it's a safety issue and that's the

1 captain's discretion. They have seen a lot of
2 big debris coming through that has them
3 concerned, but so far they've been doing it.

4 MONTY WORTHINGTON: As far as
5 flexibility during the week. Starting I forget
6 when in July, but during that period they fish
7 Mondays and Thursdays, so there's two
8 opportunities to have the sampling correlate with
9 the setnetter's.

10 FRANCES MANN: But you know that
11 setnets aren't really necessarily correlated with
12 certain runs, right?

13 MONTY WORTHINGTON: No.

14 FRANCES MANN: Just the date,
15 right?

16 MARY McCANN: It's just a way for
17 us to say if we collect the same day, then some
18 of the targets we're seeing hopefully will
19 correlate with what they're collecting. That's
20 all. I've told them when they're going out the
21 focus is to get the tidal cycle, so they may have
22 to adjust what day they go out based on access to
23 the water because of the boat ramp limitations
24 and being able to get both the ebb and the flood.

25 MONTY WORTHINGTON: If they catch a

1 bunch of fish on the Monday, we would go on
2 Thursday to hope that that pulse of fish was
3 still present.

4 FRANCES MANN: That seems
5 reasonable and I appreciate that effort. I just
6 want to caution you again, and one of our
7 comments was that we want to look at the data.
8 And so the higher unknown, the higher variability
9 makes us less comfortable with believing the
10 data, and we've had that happen before on our
11 projects where objectives weren't set, data
12 wasn't gathered systematically, and you can't
13 make whys or reasonable recommendations to help
14 direct the applicant to avoid or minimize impact.
15 Then I agree, once you put the structure in, that
16 kind of changes the whole way of what you're
17 looking at. This is the baseline study to figure
18 out where are fish moving through this column.

19 MARY McCANN: So once the structure
20 is in the water, how are they going to react
21 around it.

22 FRANCES MANN: That would be the
23 next question. That is one of the questions, but
24 it's not the first question that's asked.

25 MARY McCANN: I don't think any

1 amount of collecting the data before the unit is
2 in the water is going to tell you what the impact
3 is going to be.

4 SUE WALKER: It's going to help
5 inform that decision, though.

6 MARY McCANN: While they're doing
7 one year, they're trying to keep it reasonable
8 through the size and the commencement of the
9 pilot project.

10 SUE WALKER: But under the pilot
11 process the project can be removed to see if you
12 have sufficient impact.

13 MARY McCANN: I believe the removal
14 is more for looking at the direct effects of,
15 say, if there was direct harm to the fish and not
16 the avoidance.

17 MONTY WORTHINGTON: With the salmon
18 it's going to be really hard because you have
19 such variability to say there's less salmon this
20 year. If you see harm happening to fish as you
21 pass the fish, if you get strikes or something
22 like that, you can remove it or stop it. From
23 what I understanding the real thing I'm trying to
24 quantify does not establish the baseline quantity
25 of fish, where they are in the water, and the

1 distribution.

2 FRANCES MANN: That's right.

3 Actually, Mary, one of your
4 responses to our comments in February was that we
5 wanted population estimates, and we did not. We
6 didn't expect that. What we're interested in is
7 depth and distribution of adults and juveniles.
8 It's important to us to know where are most of
9 them moving. Is it adults or juveniles that may
10 be potentially encountering the structure? What
11 times of year. For example, things we're doing
12 on Fire Island, because my agency responded on
13 that particular project. They're going to be
14 implementing some studies and dependent upon
15 strike potential and weather conditions, et
16 cetera, we have an adaptive management plan, if
17 you will, to potentially turn the turbines off
18 when the birds are migrating through. We've
19 written that in as an adaptive management
20 condition to potentially ameliorate the effects
21 of what happens on Fire Island because we know
22 it's an important migratory corridor for birds.
23 If you imagine that, that's how we're thinking.
24 So when we look at a migratory corridor through
25 water and we find that most of the fish are at

1 40 feet, what could we do to potentially
2 ameliorate the effects when the turbines are
3 running? It doesn't mean you have to pull the
4 turbines out or anything like that. But what
5 sorts of steps could be taken to minimize the
6 impact, and it does depend on where the fish are
7 moving and when. So that's just an example of
8 what we're doing on Fire Island. That project is
9 being permitted now as we speak with a number of
10 conditions attached.

11 So, I mean, I think that's the sort
12 of thing we want to talk with you about when we
13 start looking at the data as it starts coming in.
14 It will hamper us if there's a bunch of zeros and
15 that's a sampling error and not a real error.
16 That's just the risk you might run. We do
17 understand that it's costly to do these types of
18 studies. So focus your efforts where -- you
19 know, kind of like I thought what you were
20 saying, Tamara, was very interesting. Is there a
21 way to focus efforts during a certain time period
22 and less on -- I don't know that right now,
23 because we don't know like the March through
24 November, we don't know what that might be. I
25 don't think we know what might be happening on

1 the tail end of the runs. It's still worth
2 conducting sampling during those periods to try
3 to help narrow that down where more numerous
4 samples could be taken when the fish are running.

5 DAVID TURNER: Are we still only
6 talking the salmon species?

7 FRANCES MANN: Interjurisdictional
8 fish.

9 DAVID TURNER: Anything else?

10 SUE WALKER: I would like to point
11 out also that the sufficient baseline data and
12 full effects on this project will be very useful
13 when it comes to full buildout. These effects
14 will be magnified and much greater. This is for
15 the pilot right now and it may be adequate if
16 sampling is sufficient, but I think in the future
17 you can anticipate a much greater use for the
18 larger buildout in the one to five units because
19 that will have much greater impacts, and our
20 concerns are not just on adults, but given the
21 nature of the waters that you will be harnessing
22 energy from we need to look very closely at
23 smolts. I assume your hydro acoustic sampling
24 and netting will also give you some information
25 on the marine species.

1 MARY McCANN: Are you talking about
2 marine mammals?

3 SUE WALKER: No, fish. They're not
4 going to net marine mammals.

5 MARY McCANN: Whatever they catch
6 with the gillnets, trawlnets. For the trawlnets
7 they didn't have the collector's permit to begin
8 with. They did try the gillnet last week and
9 they got that one chinook smolt.

10 SUE WALKER: So they've only been
11 able to gillnet so far?

12 MARY McCANN: Yes.

13 SUE WALKER: When would we expect
14 to have written responses to our comments?

15 MARY McCANN: In the next week or
16 two.

17 MATT CUTLIP: Yeah. According to
18 the process plan, we would be issuing our
19 determination on the waiver request in 15 days.
20 So I'm assuming it would be coming between now
21 and then. We want that to weigh into our
22 decision.

23 SUE WALKER: And you would still
24 like comments on the information you submitted?

25 MARY McCANN: Yes. If you have a

1 suggestion, you know, if we could modify that
2 somehow.

3 FRANCES MANN: Mary, we have one
4 suggestion that Betsy was telling me about that
5 when you're pulling up some of the net samples,
6 there's been some interest in getting some
7 samples for genetic analysis. We probably should
8 discuss some of that with you. Betsy, do you
9 want to explain a little bit about it? I don't
10 know that much about it.

11 BETSY McCRACKEN: I was talking
12 with the agency geneticist and there's some
13 indications that around Fire Island with the ebbs
14 and swirls and the eddies in there that salmon
15 are holding there and milling there and foraging
16 before they go to their native streams. Some of
17 the fish that go there are actually Kenai fish.
18 So they're interested for purposes of their stock
19 ID program in trying to identify whether those
20 are or are not in that project area.

21 MARY McCANN: So are you talking
22 about the adults returning?

23 BETSY McCRACKEN: Yes. So that's
24 another reason we would be asking for
25 representative sampling of fish usage in that

1 area, you know, prior to the deployment. So that
2 afterwards we could tell if those fish, if they
3 were identified as Kenai stock, if they were
4 behaving differently, bumping up into Cook Inlet
5 or being impinged or whatever would happen.

6 MARY McCANN: Is there something on
7 the genetic side that you do, like a punch hole
8 tissue sample?

9 BETSY McCracken: Tissue or blood
10 sample. Fire Island is the only island there in
11 the immediate area, so it does offer some habitat
12 and refuge and foraging environment, so --

13 MARY McCANN: One of the things on
14 the transect lines is they had to make some
15 adjustments because of the conditions, the fast
16 currents and the waves, and try to maximize the
17 efficiency of the acoustic data. We've had to
18 try to rearrange those under certain conditions.
19 The intent is just to be able to cover the
20 deployment area sampling. If we tried to stay on
21 the exact line of the transect each time we went
22 out, then we would lose a lot of data. They have
23 to try to angle it. I just wanted to say that.

24 The other thing is we've noticed
25 preliminarily -- we need to get some more

1 in-depth data analysis done -- but in doing the
2 acoustic data analysis they made a note that they
3 saw an area where there was a concentration of
4 targets. So we want to pull that out more. I
5 just got the first look at it on Friday. One of
6 the things that we would look at closer to the
7 island is different uses.

8 FRANCES MANN: That kind of prompts
9 a process question. We didn't provide too many
10 comments on -- well, none on the post-deployment
11 monitoring because inside the monitoring
12 description of what you're planning it seems
13 reasonable. You were talking about relying on
14 some data that's being gathered right now to help
15 you craft your proposal, and we kind of just put
16 a placeholder in where once this data starts
17 coming in, then we can start making some better
18 recommendations to you. So we didn't really
19 comment much on that. What you proposed is
20 consistent with what you're doing, but the devil
21 is always in the details. That kind of depends
22 upon what you're finding out with the deployment
23 in May and how all that data starts coming in and
24 what you find out here.

25 MARY McCANN: I fully expect that

1 this will be an adaptive process as we learn
2 about the units and how they work and how this
3 type of monitoring gear works because none of it
4 is off the shelf. I'm sure we'll have to be
5 making some changes.

6 MANDY MIGURA: I would like to say
7 we have some of the same sentiments. Given that
8 there were no details, it seemed reasonable but
9 we didn't go into in-depth comments on that
10 because the details weren't there to comment on.

11 MARY McCANN: I realize the first
12 one I sent out was vague. I was just trying to
13 get some suggestions and input. This is new and
14 we're trying to figure out what's the best way to
15 monitor the unit. This is a proposal. I think
16 we'll learn more as we try it out in May. I
17 don't know how much more detail I can put in
18 there until we learn about how it's going to
19 work.

20 DAVID TURNER: But the timing of
21 the issue from the data in Maine is what relative
22 to following your license application?

23 MARY McCANN: We'll have a revised
24 plan for the final license application. I still
25 expect that once we even put it out on Fire

1 Island, assuming that we get that far, we'll
2 learn more off of that as the technology
3 develops.

4 DAVID TURNER: No doubt. And to go
5 back to your process question in terms of your
6 refinements of those recommendations. Once we
7 approve the licensing procedures, they file their
8 final license applications and we issue our REA
9 notice, everything should have been well enough
10 adapted and defined in their license application
11 for you to give those recommendations, and we can
12 consider them and incorporate them as appropriate
13 in any license. Ideally we would hope to approve
14 those monitoring plans as part of that license
15 telling them to go implement those actions as
16 they implement their projects. So we're all
17 driving to that same point. Some of it is early
18 in the game for some of this, but by the time the
19 license application comes in, I'm hoping
20 everything will be more concretely defined.
21 Obviously we'll adapt as we implement those too,
22 but those things should be defined.

23 FRANCES MANN: I can envision that
24 or I can envision coming up with stipulations or
25 adaptive management if this occurs stepwise.

1 Because there will be a lot of unknowns probably
2 even next March when they're finalizing their --
3 but I think it's reasonable to try to address
4 those. Again, using Fire Island as an example
5 because we just went through it. There's five or
6 six or I can't remember how many permit
7 conditions -- it's not a FERC license -- but
8 here's what we'll do if this situation is
9 encountered. If this is encountered, we're going
10 to do a study that does this. So there are a lot
11 of unknowns because all of it is new technology.

12 DAVID TURNER: It certainly sounds
13 like a reasonable approach.

14 MATT CUTLIP: Are there any more
15 comments about the fisheries investigations?
16 Proposals? Okay. Anything else you want to talk
17 about in terms of other issues?

18 MANDY MIGURA: I just want to
19 backstep just real quick. We talked about some
20 of these different little things with the beluga.
21 Just to reiterate that our big concern is that we
22 feel that one summer's worth of data is not
23 adequate to develop a baseline for a project
24 that's going to be there year-round. So that's
25 our big concern. NMFS is open to discussions on

1 alternatives, with working with the applicant,
2 maybe work through different schedules. One
3 thing we may need to consider is the rest of this
4 summer and next summer. Looking at that may be
5 something just to try to find an alternative
6 method of monitoring year-round starting from
7 June 2009 to June 2010, and that might fit in the
8 time line a little better. I think that's
9 something that needs to be worked out when we
10 have time to sit down and go through the issues
11 and then weigh the situation and not be held to
12 what's said in a public meeting when we're
13 throwing ideas around.

14 DAVID TURNER: One question that
15 comes to my mind when you just said that is the
16 year-round aspect. Why does two summer's worth
17 of data give you any more comfort level for the
18 winter period?

19 MANDY MIGURA: It doesn't. Being
20 put on the spot earlier, we were talking about
21 it. We're trying to figure out given the
22 parameters of currently monitoring only during
23 ice-free months, we would feel much more
24 comfortable having an additional summer's data,
25 but that's not necessarily saying that's going to

1 answer any questions about what's going on during
2 the months that aren't being monitored. Maybe
3 there's an alternative out there that hasn't been
4 addressed.

5 SUE WALKER: We have repeatedly
6 gone on record saying that this project operates
7 year-round and we'd like some assessment of
8 year-round baseline information. It's an
9 extremely difficult area to operate in. It's
10 probably next to impossible, but that, to me,
11 points to the sensitivity of the area. We do
12 need to strive to figure out how we can monitor
13 the effects of this project year-round when it's
14 planning to operate year-round. I know there's
15 nothing to pull off the shelf right now, but
16 we're going to be operating -- I don't know --
17 200 units year-round. We really need to figure
18 out how to sample year-round in Cook Inlet. And,
19 no, I don't know how.

20 MARY McCANN: When you talked about
21 200 units and jumping from the pilot to that,
22 what we're trying to figure out is how can we
23 sample in the winter without spending \$2 million
24 or something.

25 SUE WALKER: I don't think you

1 could do it if you had all the money in the world
2 right now.

3 MARY McCANN: I'm just saying
4 jumping from the pilot to a larger buildout, our
5 hope is that once we have the units in the water,
6 something to mount other units to or a way to
7 power them, we would hopefully be able to get
8 some winter information during the term of the
9 license application that hopefully would help
10 build a baseline for a larger buildout. But
11 right now with nothing there to power, to mount
12 anything to, it's just a challenge.

13 SUE WALKER: The year-round DIDSON
14 and the EARs and other data will add to
15 year-round sampling data. It's going to have to
16 be remote technology.

17 MONTY WORTHINGTON: We definitely
18 understand that issue about the year-round data
19 collection. There's nothing off the shelf, you
20 acknowledge, that exists right now that's proven
21 out. That's why we're excited about using the
22 EARs and C-Pods. We're continuing to research
23 other technologies that might be able to do this,
24 but at this point in time there's nothing that we
25 can do this year that we know that's going to

1 produce the quality data that can answer the
2 valid questions. It comes back to this catch-22,
3 as you referred to it, this timing issue that's
4 not really in our control. No matter what we do,
5 if it's one year or two year's of data, if it
6 doesn't follow in the time line, we're left
7 without anything. We definitely want to work and
8 try to figure this out, but it's this timing
9 issue that can make all this somewhat irrelevant
10 without a way to work around it.

11 DAVID TURNER: We'll take back your
12 suggestion about post filing and see what happens
13 with higher-ups. We can brainstorm that too, but
14 no promises.

15 MATT CUTLIP: We can try to make
16 this fit the pilot, but if it doesn't work out,
17 it doesn't work out. It might just be too
18 sensitive an area.

19 FRANCES MANN: So, a question of
20 Matt and David and Mary: Where are we right now?
21 Mary, you are in the process of preparing a
22 response to the letter.

23 MARY McCANN: Uh-huh.

24 FRANCES MANN: And then you need
25 some additional comments from us on the proposed

1 schedule. We'll provide some information on how
2 to collect some of the samples from the fish that
3 you net to get to -- then timewise Mary is
4 preparing a response. What happens then for --

5 SUE WALKER: You have 15 days from
6 today.

7 DAVID TURNER: Fifteen days from
8 today we'll either issue a decision that says the
9 pilot procedures are not going to work here for
10 us. We may issue a letter that says we need some
11 additional information for that decision to be
12 made, or we may grant it and say the pilot
13 procedures work with us; we're concluding the
14 process. I don't envision that personally.
15 There's enough data that is being proposed to be
16 gathered that is relevant to all these issues
17 that I suspect that the Commission would withhold
18 its decision to grant the procedures until that
19 data comes in and say that the pilot procedures
20 fit here. At least that's where I think we might
21 fall out.

22 MONTY WORTHINGTON: What kind of
23 extension in time would you foresee?

24 DAVID TURNER: You know, I don't
25 know, but my guess is given what you're talking

1 about for gathering data for at least the beluga,
2 I would say somewhere around December or January.

3 MATT CUTLIP: Time to get the data,
4 crunch the numbers, put it in a report.

5 DAVID TURNER: Then give us more
6 information to consider in terms of the pilot and
7 maybe even factoring in some time to kind of go
8 through that data with NMFS to see what it means.
9 It may not sway your opinion for two years; maybe
10 it will. I don't know. That might be another
11 avenue that we would go down. But the bottom
12 line is that one of the criteria for the pilot
13 procedures was by issuing that notice of waiving
14 the regulations we're basically saying that the
15 pilot fits, we're ready to do our environmental
16 analysis as soon as you file your final license
17 application. You proposed a number of studies
18 that would go well beyond that decision before
19 filing the license application. So it doesn't
20 fit in terms of issuing that kind of a
21 recommendation now when you're still defining
22 studies that define the baseline. So my guess is
23 that the more likely outcome is we're going to
24 ask for additional information and hold off on
25 that decision. Of course it could be the other

1 way around when we consider some of NMFS'
2 comments that this just may not be the
3 appropriate area to be considering a pilot
4 either. So we'll have to take it back and see
5 what -- people higher up the food chain than I
6 make that decision.

7 Did that answer your question?

8 FRANCES MANN: Kind of. You're
9 going to prepare a response within 15 days from
10 today.

11 MATT CUTLIP: Yeah. There will be
12 something issued by us, by the Commission in 15
13 days, and it's going to define the path forward.

14 FRANCES MANN: Okay. And then Mary
15 is going to --

16 MARY McCANN: And we're going to
17 submit written comments to them before that.

18 FRANCES MANN: Okay. And then it
19 will come to us.

20 MARY McCANN: Yes.

21 DAVID TURNER: Hopefully those
22 responses and comments and all that's going to
23 occur in the next five to ten days and you guys
24 will have that in your laps.

25 SUE WALKER: We'll e-file this for

1 simplicity's sake.

2 DAVID TURNER: If you've got
3 comments coming in, yeah, if you want us to
4 consider them based on those filings. That's one
5 reason I'd encourage ORPC to get it in sooner
6 rather than later.

7 MATT CUTLIP: We obviously have to
8 review things and stuff we have to go through to
9 get something prepared to be issued. So we're
10 going to initiate this effort immediately after
11 this meeting in order to get that letter out in
12 the 15-day time period.

13 SUE WALKER: I'd like to clarify
14 one point. It's really not NMFS saying this is a
15 sensitive area and it doesn't fit the pilot
16 process. That's not what we said in our letter.
17 What we said is that we don't have enough
18 baseline information to determine that or not.
19 It's a subtle point.

20 DAVID TURNER: Okay.

21 MANDY MIGURA: We need the
22 information to analyze this accurately and
23 adequately.

24 MATT CUTLIP: But we might not have
25 the time frames within the pilot to do that.

1 SUE WALKER: We didn't set up the
2 time frame of the pilot.

3 MATT CUTLIP: Right. Understood.
4 Absolutely understood.

5 DOUG MUTTER: But there's other
6 ways they can apply. An ILP or something. It's
7 not black and white.

8 MATT CUTLIP: I'm just referring to
9 within the time frame of the pilot.

10 DAVID TURNER: Recognizing what we
11 said earlier about the term of the permit.
12 They're going back to square one -- well, maybe
13 not quite to square one because there's already
14 been a lot of information gathering and a lot of
15 consultation and you can start off another
16 licensing procedure, but you're not going to
17 complete that licensing procedure in a year
18 regardless, given your position on two year's
19 worth of data. So if they were to opt for that,
20 they would have to basically file for a new
21 preliminary permit, which then again --

22 SUE WALKER: To convert to an ILP?

23 MATT CUTLIP: Just to maintain
24 priority.

25 DAVID TURNER: To maintain

1 priority, but if they were pursuing another
2 license --

3 SUE WALKER: Is there any mechanism
4 to transfer from the pilot licensing procedure to
5 the ILP or to enter the process?

6 DAVID TURNER: The permit has got
7 nothing to do with the licensing process.
8 Preliminary permits are a completely separate
9 beast from the licensing process. The
10 preliminary permit does nothing but hold the
11 priority of the site for a final license
12 application.

13 SUE WALKER: Is it tied to the
14 pilot license versus the ILP?

15 DAVID TURNER: No, it's just a
16 permit for the site. It holds the site for them
17 to develop an application, whether that
18 application is for a full buildout license or for
19 a pilot. I mean, that could be the other option
20 for them. They may consider, given the cost and
21 level of effort and everything that we have to
22 consider here, maybe we want to just move to a
23 commercial license and not even consider a pilot
24 with the information needs that may be developed
25 around that whole concept.

1 MARY McCANN: What ORPC is saying
2 is that there's a concern that they'll lose the
3 permit.

4 SUE WALKER: I understand.

5 MARY McCANN: That's why the push
6 to get the application in.

7 SUE WALKER: I think we saw four
8 preliminary permits filed on one day, so we know.

9 MARY McCANN: Whoever files first.

10 DAVID TURNER: Outside the
11 municipal preference it's first in line.

12 MATT CUTLIP: Are there any other
13 comments or concerns?

14 MARY McCANN: Thank you all for
15 coming.

16 MATT CUTLIP: Thanks.

17 DAVID TURNER: Thank you.

18 MATT CUTLIP: I think we'll move to
19 close.

20 (Meeting adjourned at 4:40 p.m.)

21

22

23

24

25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

CERTIFICATE

I, LESLIE J. KNISLEY, Notary Public for the State of Alaska, and Shorthand Reporter, do hereby certify that the foregoing proceedings were taken before me at the time and place herein set forth; that the proceedings were reported stenographically by me and later transcribed by computer transcription; that the foregoing is a true record of the proceedings taken at that time; and that I am not a party to, nor do I have any interest in, the outcome of the action herein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal this 19th day of June, 2009.

LESLIE J. KNISLEY

Notary Public, State of Alaska

My commission expires: 02/02/11