

1 TURNAGAIN ARM TIDAL ELECTRIC ENERGY PROJECT

2 PROJECT NO. 13509-001

3

4 PUBLIC SCOPING MEETING

5

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A-P-P-E-A-R-A-N-C-E-S

For Federal Energy Regulatory Commission:

Kim Nguyen

Project Coordinator/Civil Engineer

Matt Cutlip

Fisheries Biologist

Ian Smith

Fisheries Biologist

Applicant:

Turnagain Arm Tidal Energy Corporation

Dominic S.F. Lee, PE

Freddie Sue Lee

Tammie Smith

Taken by:

Mary A. Vavrik, RMR

BE IT KNOWN that the aforementioned proceedings were taken at the time and place duly noted on the title page, before Mary A. Vavrik, Registered Merit Reporter and Notary Public within and for the State of Alaska.

1 P-R-O-C-E-E-D-I-N-G-S

2 MS. KIM NGUYEN: Good evening. My name is
3 Kim Nguyen. I'm the project coordinator and civil
4 engineer for the Federal Energy Regulatory Commission.
5 With me today are two of my colleagues, Matt Cutlip and
6 Ian Smith. They are both fish biologists assigned to the
7 project. This is the second of two public scoping
8 meetings to discuss the proposed Turnagain Arm Tidal
9 Electric Energy Project, FERC Project No. 13509-001. As
10 you can see, this meeting is being transcribed, and its
11 transcript will be made part of the record. So to help
12 the court reporter with getting a complete and thorough
13 record, please sign the registration form in the back and
14 state and spell your name before speaking. And if you
15 have written statements, no matter of the condition,
16 please give Mary a copy of that. That would be greatly
17 appreciated.

18 This is our agenda for this evening. We have
19 already gone through the introductions. We will talk
20 about the purpose of scoping and why we're here. Then the
21 applicant will give us a brief description of the project
22 and how it operates or will operate. The applicant's
23 proposed environmental measures and study will then be
24 presented to you. We will discuss the scope of cumulative
25 effects, then we will go through our preliminary list of

1 resource issues that was identified in the scoping
2 document. And I have some in the back of the room if you
3 don't have a copy.

4 Then we will go over the initial study proposal
5 that was proposed by the applicant. Then we will talk
6 about the information and the studies that we are
7 requesting from you and the public today. We will go over
8 the EIS, which is the environmental impact statement
9 schedule that we, the FERC, will adhere to. And then we
10 will get some comments from you.

11 Okay. As I said, the applicant, Turnagain Arm
12 Tidal Energy Corporation, filed a notice of intent and a
13 preapplication document for the project. They are using
14 the Commission's integrated licensing process. We are in
15 the early prefiling stage of that process, which requires
16 scoping of issues. NEPA, FERC regulations, and other
17 applicable laws require evaluation of environmental
18 effects of licensing or relicensing of any hydropower
19 projects.

20 Now Mr. Lee will give a brief presentation for
21 the project.

22 MR. DOMINIC LEE: Thank you. Welcome to
23 the scoping meeting. My name is Dominic Lee. I am a
24 34-year resident in Alaska, and also a 49-year resident of
25 United States, and I am a U.S. naturalized citizen since

1 1974.

2 This project is having -- working on for two
3 years, and it's called Turnagain Arm Tidal Energy Project.
4 It is -- and I will give you a brief description of the
5 project. The project is started by Little Susitna
6 Construction in 2009, and Turnagain Arm Tidal Energy
7 Corporation was formed specifically for this purpose in
8 2009. My name is Dominic S.F. Lee. I am a professional
9 engineer licensed by 11 states, and I have the education
10 and experience to do this job.

11 The Turnagain Arm Tidal Project is right in our
12 doorstep in Cook Inlet. This is the premier location in
13 the world for tidal energy. Right here in Anchorage,
14 Turnagain Arm, we have the highest tides, the fourth
15 highest tide in the world, average about 26 feet. And at
16 certain times of the year when the sun and the moon and
17 the earth all line up, we get up to 33 feet of tide, which
18 is very good for -- for the energy -- for the use of tide
19 to turn into electricity.

20 The tide is clean energy. It isn't using any
21 fuel, so there's no emissions. It's renewable and
22 powerful. The moon is the one that attract the water to
23 make the tide. The tide coming in and going out have been
24 have been predicted up to the last minute every day. And
25 this is one of the affordable energy by United States, as

1 well as other countries. They have the tide
2 differentials. This is right at our doorstep. You can
3 see this is the bore tide of two meters coming in from the
4 Cook Inlet into the Turnagain Arm inlet.

5 Like I say, it's the fourth highest tide in the
6 world, and it's the only bore tide in the United States.
7 And the tide is renewable, clean and predictable.
8 Critical shortage of energy in the Railbelt because we are
9 suffering the lingering reserves of natural gas. Even we
10 have lots of natural gas on the North Slope, but it's
11 almost prohibitive to build a pipeline to bring the
12 natural gas from the North Slope to Anchorage.

13 The tide is very safe, less expensive, more
14 reliable than other sources of energy.

15 In February 2010, we received the preliminary
16 permit to use this area to begin our tidal energy project.
17 And basically our tidal pad will produce 240 megawatts
18 with a storage tank system. And then after they attract
19 the electricity, it will go through a submarine cable to
20 the Anchorage switchyard and also it will go to a control
21 building and then go to the corridor to the Kenai to tie
22 in with the Homer Electric grid.

23 The turbine -- we are using the proven
24 technology of the turbine, which have been used for 44
25 years in France. And this is called an offshore pad

1 location in the middle -- in the middle of the inlet so
2 that it will minimize any environmental disruption.

3 This is the pad they built in France in 1966.
4 Between here and here are the 34 turbines they lay, but
5 they had to barrage the whole river of -- La Rance River
6 so that they could control the water better. And when the
7 tide come in, it generates electricity. When it's going
8 out, it also generates electricity.

9 The construction of this project cost 88 million
10 dollars at that time. And you have 24 10-megawatt
11 turbine, and the annual output is 600 gigawatt-hours. The
12 barrage is 750 meters, about 2,461. The power plant only
13 take about 1,091 feet.

14 This is the different -- we don't have the row
15 on top of the turbine housing like they have in France,
16 but we are using the same type of turbine. So when the
17 high tide come in, which we call the flood tide, come in
18 and it will generate electricity. But in the ebb tide,
19 means the retreating tide going back to the sea, the
20 engineer have to turn the angle of the blades, these two
21 blades in a certain degree, and then the water flow
22 from -- from inside the basin to go back out and also
23 generates electricity.

24 Advantage of bulb turbine is the technology is
25 proven for 44 years. And according to the report from my

1 engineer who visit the site, told me that they have no
2 major breakdowns and the French using it successfully.
3 Also on the offshore site is -- we using wet construction,
4 which will reduce the disturbance to the environment, to
5 the fish and sea mammals. The tidal plant will function
6 as an island for the fish and sea mammals, and fish can
7 swim around it, and then the plant may provide habitat for
8 birds and sea mammals.

9 In the proven technology, storage tank
10 technology is not a new concept. It has been in use in
11 the United States as well as all over the world to store
12 excessive water so they can use it when they need it. The
13 limitation of renewable energy, including wind, solar, and
14 even hydroelectric dam are some kind of intermittent and
15 unpredictable.

16 We cannot generate electricity 24 hours a day,
17 so the solar, they do not do very well in Anchorage,
18 Alaska in the wintertime. And they are intermittent and
19 unpredictable. And even hydroelectric is not a very
20 reliable source because in wintertime, Alaska freeze up
21 very fast. And also we have lots of earthquakes which can
22 damage the dam, and also the dam cannot allow the fish to
23 go to their spawning grounds.

24 But in the tidal is completely different. It's
25 predictable. It has no intermittent because the slack

1 tide period use storage tank technology, so slack tide
2 period means between the -- the flood tide coming in. And
3 before they go back to the sea, it's called ebb tide.
4 They get a period between 15 to 30 minutes where the water
5 does not move. And that's why we use the storage tank
6 technology to push the turbine back so that the water can
7 go back into the ocean and generate electricity without
8 any interruption of supply of electricity.

9 In this one here, it's about 1,000 feet here is
10 24 turbines we will install. And then there is a -- this
11 is called a storage reservoir, which is a storage tank.
12 The water can come in from the -- from the basin through
13 this slot gate and go to this slot gate and take it into
14 the turbine so the water can flow to the sea. But when
15 the flood tide is coming in, the flood tide can come in
16 here and turn the turbine and go back this way and go to
17 the basin.

18 And while they are doing that, there is a pump
19 station to pump the water into the tank so there will be
20 20 feet of pad for the next cycle. So either they are
21 coming in or going out, we always have the electricity
22 continuously.

23 The storage tank is built of a concrete wall in
24 the middle with boulders on both sides to hold it up. And
25 this is -- the water level is about 20 feet higher than

1 the maximum high tide level so you can generate some kind
2 of head to keep pressure to turn the turbine.

3 And this is a cross-section of a slot gate which
4 allows the water going through from the outside to the
5 inside. When they use the water from the storage tank,
6 you can use it in the turbine. In the flood tide, you can
7 open the gate and let the water come back and fill it up.

8 And this is the isometric of the slot gate.
9 This gate goes very slowly, usually about -- you can see
10 them move very, very slowly because they open up the
11 turbine, the gate under pressure so the water can flow
12 from outside to inside.

13 And this is an isometric view of all those
14 turbines lined up. We have 24 of them. Each one has a
15 10-megawatt capacity. And this is a picture of the flood
16 tide coming in, turn the turbine and go into the storage
17 tank area for the water. And during the ebb tide -- or
18 flood tide, when the storage tank open the gate, because
19 you can see the reservoir level is much higher than the
20 outside level, sea level -- so because there is about 20
21 feet of water pressure, it will push the water from here
22 and turn the turbine and also generate electricity.

23 And when the water level drop from the storage
24 tank, but also the ebb tide coming in to suck the water
25 out, so this is always higher than the outside water

1 level. And because of that, the water always turns the
2 turbine.

3 This project is environmentally very friendly.
4 It uses no fuel to produce electricity and no emission, so
5 there is no CO2 use. It does not block the migration
6 pathway. The fish and marine mammals can swim around it.
7 It's operation is very quiet because everything is under
8 the water. And it's earthquake proof. Unlike a concrete
9 dam or earth dam, Alaska is an earthquake zone, and it's
10 one of the very high earthquake areas. Especially we
11 encounter in 1964, the Good Friday earthquake, which is an
12 8.9 Richter scale. So if that happened, any dam in Alaska
13 it will break and fall and the water will bust out and
14 kill lots of people, which we don't want.

15 This Railbelt will be very essential to the
16 Railbelt area because the project will create 2,000 jobs,
17 construction jobs for four years, and after it's
18 constructed and in operation, it will need about 200
19 permanent jobs to run the plant and the control of the
20 electricity control room. And then there are lots of
21 other job-related business, including the manufacturer in
22 the Lower 48, as well as engineering design team.

23 Another attractive point is that this project
24 can reduce our energy cost from 16 cents per kilowatt hour
25 to maybe six cents a kilowatt hour, depending on

1 the financing. If the government can get a new good
2 financing, then it will be even cheaper. But after 20
3 years if the project is paid off, you are paying about 1.2
4 cents a kilowatt hour, which is the lowest electricity
5 rate in the whole world.

6 This is the first of its kind in the United
7 States and also in the -- in the world, too, because very
8 few people think about to put the storage tank technology
9 as well as the tidal energy technology together to build
10 something you can overcome the intermittent disruption of
11 electricity.

12 I guess that's all I have to say.

13 MS. KIM NGUYEN: Thank you, Dominic.
14 Dominic has pretty much gone through their environmental
15 proposals -- measures and studies, so -- but they are also
16 in the scoping document if you would like to look at that
17 in more detail. So I won't repeat it.

18 Now we will talk about the scope of the
19 cumulative effects for the project. And Matt is going to
20 do that.

21 MR. MATT CUTLIP: Okay. So at this point
22 in the process, we have currently identified two resources
23 that could be cumulatively affected. Those are fishery
24 resources as well as the endangered Cook Inlet beluga
25 whale population. Our geographic scope of analysis for

1 cumulative effects is defined by the physical limits or
2 boundaries of the proposed action's effects on the
3 resources and contributing effects from other hydropower
4 and nonhydropower activities within Upper Cook Inlet. And
5 so with that said, we have currently chosen Upper Cook
6 Inlet as our geographic scope for both of these resources.
7 And of course, we are taking comments on our geographic
8 scope as part of the scoping process.

9 For the temporal scope, most -- FERC licenses
10 are typically 30 to 50 years long, so the temporal scope
11 of our cumulative effects analysis is based on a 30- to
12 50-year license term. So we will look at actions that are
13 reasonably foreseeable to occur in the next 30 to 50 years
14 within the geographic scope. Are there any comments on
15 our scope of cumulative effects?

16 MS. VIVIAN MENDENHALL: So far I have not
17 seen a map showing where this thousand-foot-wide and
18 several-mile-long barrage would go. Is any available?

19 MS. KIM NGUYEN: I think you had one.
20 There is one in the PAD. And didn't you have one in
21 the --

22 MS. VIVIAN MENDENHALL: I don't know where
23 the PAD is or what it -- I see that it's referred to.
24 There is not one in here. There was not one on the
25 website that I could get to function. There is a brochure

1 with one about this big [indicating], but it's very hard
2 to figure it out.

3 MS. KIM NGUYEN: Do you mind if I pull up
4 your presentation, Dominic?

5 MR. DOMINIC LEE: Yes.

6 MS. KIM NGUYEN: I saw it here.

7 MR. DOMINIC LEE: It's that little red dot
8 there.

9 MS. KIM NGUYEN: This is the area.

10 MS. KIM NGUYEN: What about the
11 seven-mile-and-a-half-long barrages that were referred to
12 in the material on the website? There are no dams?

13 MS. KIM NGUYEN: There's no dam on this
14 job. This is a little island, one mile by two miles.

15 MS. KIM NGUYEN: The green area is the one
16 mile.

17 MS. VIVIAN MENDENHALL: What are the
18 boundaries shown in that --

19 MS. KIM NGUYEN: This is the projected
20 project area that was given to the applicant when it
21 submitted its preliminary permit. So this is their study
22 area, if you want to call it that.

23 MS. VIVIAN MENDENHALL: I have been
24 reading other things, so I need to submit questions
25 afterwards to somebody and clear that up.

1 MS. KIM NGUYEN: This is like a project
2 boundary or project area, and then it also includes not
3 just this area, the A, E, F, G through H, but it also
4 includes a transmission line corridor.

5 MS. VIVIAN MENDENHALL: Right. I
6 understand the red part. Thanks.

7 MR. MATT CUTLIP: Any other questions on
8 cumulative effects? Monte?

9 MR. MONTE MILLER: Your listing Upper Cook
10 Inlet, are you including the entirety of Turnagain Arm as
11 your affected area?

12 MR. MATT CUTLIP: Absolutely. Yeah, I
13 think maybe in the scoping document 2, I'll try and make
14 it a little more clear what the boundaries are
15 geographically.

16 MR. MONTE MILLER: Many people will look
17 and see Upper Cook Inlet, that means Anchorage, Susitna,
18 the area around Fire Island, but it may not include
19 Turnagain Arm. That's the clarification that I'd like to
20 see.

21 MR. MATT CUTLIP: Okay.

22 MS. KIM NGUYEN: Any other questions?

23 MS. CINDY ROBERTS: I've followed this
24 issue a little bit because I have at most respect not only
25 for FERC's process, but for the individual whose project

1 is before you. As you define the area, I expected more
2 comment about the nonrisk to commercial fisheries for this
3 particular zone as -- I don't think anyone actually fishes
4 for salmon in Turnagain Arm, and the whales are pretty
5 smart and go where they want to go. But was there a
6 question regarding how it might impact commercial
7 fisheries in the Cook Inlet? Which I personally don't see
8 that there would be, but I'm interested in what you found.

9 MS. KIM NGUYEN: There was an issue. That
10 issue was brought up this morning. We had a public
11 scoping this morning, a public scoping meeting this
12 morning, and that is one of the issues that we will talk
13 about in the socioeconomics section.

14 MS. CINDY ROBERTS: So that's more to come
15 tonight? I'm sorry.

16 MS. KIM NGUYEN: Yes.

17 MR. MATT CUTLIP: I think to clarify, too,
18 this may address your comment. I believe there is net
19 sites down on Fire Island and then down the inlet a ways.

20 MS. CINDY ROBERTS: Closer to open seas,
21 but not in Turnagain Arm.

22 MR. MATT CUTLIP: So, you know, fish are
23 migratory. They move around a lot. Salmon are migratory
24 species, so it's not -- this is a big project. The
25 effects are likely to be pretty far-reaching throughout

1 the inlet. It's going to extract energy from the tidal
2 cycles. It could affect fish behavior migration. It's
3 not unrealistic at all for fish headed to Fire Island to
4 go down Turnagain Arm. Who knows where they go.

5 MS. CINDY ROBERTS: That's the question.
6 There are, I think, areas where the fish do go and spawn
7 but probably, you know, very rarely in Turnagain Arm.
8 Have your -- studies have dealt with that one already?

9 MR. MATT CUTLIP: That -- well, that will
10 be an issue that's explored through the study planning
11 process.

12 MS. CINDY ROBERTS: Okay. Thank you.

13 MR. MONTE MILLER: Can I provide a little
14 clarification? There are salmon runs throughout Turnagain
15 Arm, Bird Creek, Ingram Creek, Portage, 20 Mile, the river
16 at Hope. All of these contain migratory salmon in
17 addition to hooligan that come down into the 20 Mile area
18 throughout the Turnagain Arm. So the fisheries, both the
19 commercial and the sport aspect, is of concern to both the
20 State and federal agencies. And when they get into the
21 scoping or the other -- the fisheries issues, I think a
22 lot of our comments from this morning will come out and it
23 will help identify some of our concerns, as well.

24 MS. CINDY ROBERTS: Thank you.

25 MS. KIM NGUYEN: Okay. We will go on to

1 discuss the resource issues that we have preliminarily
2 identified. And like I said, it's also in the scoping
3 document. We will start with 4.2.1 on page 13.

4 MR. MATT CUTLIP: So now we are going
5 to -- first issue we are going to cover is on page 13,
6 section 4.2.1. It's titled Navigation, Engineering,
7 Geomorphology and Water Resources. The first issue that
8 we have identified is the effects of installation and
9 maintenance of turbines on navigation. Duration of
10 construction. The frequency and duration of maintenance
11 events. Flow conditions expected or desired for
12 construction and maintenance operations. We have the
13 effects of project construction, operation and maintenance
14 on utility crossings and bridge crossings, if applicable.

15 Transmission line cable safety for recreation
16 and maintenance activities. Survival of turbines under
17 stress from flood conditions, impact of submerged debris,
18 added stress associated with trapped debris, or strike by
19 a vessel. We have the survival of turbines under stress
20 from flood conditions, the impact of submerged debris,
21 added stress associated with trapped debris, or strike by
22 a vessel. Effects of sedimentation and floating debris on
23 equipment function, mounting system, and efficiency. The
24 hydraulic effects of equipment on flooding, safety,
25 sedimentation and navigation.

1 Effects of installation of project structures
2 and underwater transmission lines on sedimentation and
3 turbidity in Upper Cook Inlet. And the effects of
4 anti-fouling coatings or accidental leaks on water
5 quality.

6 Are there any comments on our identified issues?
7 Anything you want to add or take away? I will note that
8 there were some additional items discussed at the meeting
9 this morning. We will be addressing those in our scoping
10 document 2, which is due out about 90 days from today. So
11 those will be picked up in the scoping document, too.

12 MR. MONTE MILLER: You don't want to
13 address what those are here now? I think they are
14 relevant adds.

15 MR. MATT CUTLIP: We can. They are
16 already on the record, so --

17 MR. MONTE MILLER: For people's
18 understanding.

19 MR. MATT CUTLIP: I don't typically. If
20 there is a request to do so, I can. Would you like to
21 hear the other ones we came up with?

22 MS. CINDY ROBERTS: Sure.

23 MR. MATT CUTLIP: Okay. We have the
24 effects of tidal energy extraction and changes in geometry
25 on sediment transport and physical habitat; example,

1 shoreline erosion and scouring. Effects of the project on
2 the bore tide. And effects of icing on physical footprint
3 of the project, including the reservoir and ability of the
4 project to expand the Upper Cook Inlet ice load during the
5 winter.

6 And then we basically, under fishery resources,
7 the next section, we have crossed out the first bullet
8 there and moved it; basically moved up it up to enhance
9 it, add some clarity to it, which I've already discussed.
10 So are there any other comments on that resource?

11 MS. VIVIAN MENDENHALL: I may be missing
12 something, but how do you construct something by sitting
13 it upon a thousand feet of unconsolidated sediment? The
14 diagram showed the rock structure sitting on, quote,
15 unquote, bottom of inlet. If you build a building on
16 relatively consolidated marsh, you have to sink -- either
17 super charge it for nine months or so with additional
18 heavy gravel or you sink pilings dozens of feet until it
19 meets no resistance so you know that your building is
20 going to stand on your pilings. Fish and Wildlife Service
21 Region 7 headquarters right here in Anchorage, quarter of
22 a mile from here, was constructed by that method, and many
23 other buildings have been. But that doesn't seem
24 particularly feasible in the middle of the inlet, and the
25 sediments are far less consolidated with any of the soil

1 structure on which buildings have been built in Anchorage.

2 MR. DOMINIC LEE: Our geotechnical
3 engineer and structural engineer will address this
4 problem.

5 MS. VIVIAN MENDENHALL: I'm sorry. I
6 can't understand the answer. Would you turn toward me,
7 please.

8 MR. DOMINIC LEE: I say our geotechnical
9 engineer and structural engineer will address this
10 problem.

11 MS. VIVIAN MENDENHALL: It seems like
12 before undertaking this, from agencies [inaudible],
13 wouldn't one try to figure out if it's feasible to do
14 this?

15 MR. DOMINIC LEE: According to our
16 experience and all the breakwater view in the whole world,
17 it's not required to have pilings. And another reason is
18 that we do not want to have pilings in this project
19 because it will produce lots of noise, which will scare
20 the marine mammals.

21 MR. MATT CUTLIP: Any other comments on
22 the first resource? No?

23 MR. IAN SMITH: Moving on, we will go to
24 site resource, which is 4.2.2. And that's fishery
25 resources. The first bullet in the scoping document, the

1 effects of tidal energy extraction on sediment transport
2 and shoreline habitat we have decided to move up into
3 water resources. So we will start with the second one,
4 which is effects of installation of project structures and
5 underwater transmission lines on the benthic habitat.
6 Followed by effects of the permanent removal of aquatic
7 habitat from powerhouse, reservoir and directing barrage
8 footprints. Effects of electromagnetic fields from
9 underwater transmission lines on fish species. And
10 earlier we have tacked on the electromagnetic fields of
11 turbines in that, as well.

12 Effects of project pumping system and turbines,
13 including entrainment and mortality on fish species.
14 Effects of the presence of project structures on fish
15 behavior and migration. And finally, effects of
16 underwater noise during construction and operation of the
17 project on fish species.

18 MS. KIM NGUYEN: And we also added to
19 bullet No. 4 not just fish species, but marine mammals and
20 T&E species.

21 MR. MATT CUTLIP: There is a couple other
22 additions, too. I have effects of project changes in the
23 tidal energy dynamics of the project area on fish species
24 and migration. We also have effects of the project on the
25 recreational fishery due to removal of individual fish

1 from the population or changes in their behavior,
2 specifically salmon and hooligan. And we have effects of
3 the project on the potential establishment of gull or tern
4 colonies and corresponding effects on predation of fish
5 within the project area. And I think that's it. When we
6 are reviewing the transcripts, there may have been other
7 ones that we missed, but we will be pulling them out.

8 MS. VIVIAN MENDENHALL: At this point I'm
9 representing Friends of the Anchorage Coastal Wildlife
10 Refuge, which is a nongovernmental organization that works
11 with the State of Alaska on behalf of the Anchorage
12 Coastal Wildlife Refuge, which is from the south and west
13 coast from Potter Marsh to Point Woronzof, habitat for
14 large numbers of breeding and migrating birds; also for
15 beluga whales.

16 And when I was under the impression from a
17 direct statement to that effect, as I understood it, that
18 there would be a dam across the arm, I was quite alarmed
19 that a total change would occur in shoreline habitat. It
20 appears that may not be the case. However, changes in
21 sediment and flow, noise and other effects could occur
22 that would either change -- could change habitats or
23 otherwise affect the animals on this refuge. So I'd like
24 to add that to the concern, please.

25 MR. MATT CUTLIP: Specific to the refuge?

1 MS. VIVIAN MENDENHALL: Pardon?

2 MR. MATT CUTLIP: Are you saying specific
3 to the refuge, the animals that --

4 MS. VIVIAN MENDENHALL: Well, you
5 mentioned gull and tern colonies, of which, as far as I'm
6 aware, the nearest ones are Potter Marsh. There may be
7 some small ones in the Kenai Peninsula, and certainly
8 there are a small ones in this refuge on the south coast
9 of Anchorage. There are several -- a number of other
10 species of concern of birds and mammals there, as well.

11 MR. MATT CUTLIP: Sure. Okay. Yeah, we
12 have -- we will be getting to that, but we do have that, I
13 think. I guess we will figure it out in a minute. Any
14 other comments on fishery resources? Okay. We will move
15 on to marine mammals and seabirds.

16 Before we get started on this, just note that
17 this specific resource doesn't cover the beluga whales.
18 We have them separated out under threatened and endangered
19 species. There also was an error pointed out -- a couple
20 of errors. One, this is not the harbor porpoise. It's the
21 harbor porpoise that we're talking about. And two, we
22 discussed stellar sea lions under this resource, but we
23 recognize that they are a threatened and endangered
24 species, so we will be moving that down to 4.2.5.

25 We have identified the effects of project

1 electromagnetic fields on marine mammals. Effects of the
2 permanent removal of aquatic habitat from powerhouse,
3 reservoirs, and directing barrage footprints on the killer
4 whale, harbor seal, harbor porpoise, foraging, migration,
5 calving and rearing habits and available habitat.

6 We have direct and indirect effects of project
7 features on marine mammal behavior and migration. Effects
8 of underwater noise during construction and operation of
9 the project on the killer whale, harbor seal and harbor
10 porpoise. Effects of the permanent removal of aquatic
11 habitat in the powerhouse, reservoir and directing barrage
12 footprints on seabird foraging habits and habitats,
13 including the Kittlitz murrelet.

14 We have added the effects of the project
15 reservoir on the potential for entrapment of marine
16 mammals and any measures that can be considered to
17 minimize the potential for the adverse effects. The
18 effects of the addition of the barrage as a potential
19 haul-out for the harbor seal, and harbor porpoise and as a
20 roosting and nesting location for seabirds.

21 We also have the effects of additional habitat
22 created by the project for marine mammals, including
23 haul-outs on predator/prey relationships for fish. So
24 basically what we are looking at here is the corresponding
25 effects on fish. And that's all we have at this time.

1 Are there any comments?

2 MR. MONTE MILLER: You didn't really
3 mention the fact or what we brought up earlier about the
4 lagoon becoming an attractant for potential bird --
5 seabird colonies to take root out there, which will
6 increase predation on young-of-year fish.

7 MR. MATT CUTLIP: Okay. I think I
8 mentioned it under fisheries.

9 MR. MONTE MILLER: This is marine mammals
10 and seabirds. I'd be concerned.

11 MR. MATT CUTLIP: Okay. Fair enough.

12 MS. VIVIAN MENDENHALL: Where is this
13 one-mile-by-two-mile reservoir going to go? I saw where
14 the powerhouse was going to be, but I don't remember where
15 the reservoir is supposed to be.

16 MS. KIM NGUYEN: It's that green area.
17 Let me see if I can pull that back up.

18 MR. MONTE MILLER: It was that square in
19 the middle of the --

20 MS. VIVIAN MENDENHALL: Okay.

21 MS. KIM NGUYEN: Well, it's included. The
22 powerhouse, and it's integral to the reservoir.

23 MS. VIVIAN MENDENHALL: Thank you.

24 MR. MATT CUTLIP: Any other comments on
25 marine mammals? Okay. Kim.

1 MS. KIM NGUYEN: Okay. We will go on to
2 4.2.4, terrestrial resources. The first issue we have is
3 the effects of the transmission line corridor construction
4 and maintenance on terrestrial resources, including
5 vegetative communities, wildlife and wetlands. And we are
6 going to add bald eagles. The effects of siting the
7 transmission line and its construction on intertidal and
8 shoreline communities and habitat, including at all the
9 wildlife refuges around the area. The effects of the
10 transmission line as a bird collision and electrocution
11 hazard. The effects of the transmission line construction
12 and maintenance activities on the establishment of the
13 spread of invasive species.

14 Do you remember if we added anything?

15 MR. MATT CUTLIP: Yeah. One that I know
16 of is the effects of the project in siting of the project
17 transmission line on wildlife refuges along the
18 transmission line route.

19 MS. KIM NGUYEN: That's my bullet No. 2.

20 MR. MATT CUTLIP: But there was one both
21 north of the project and also at the south end along the
22 shoreline.

23 MS. KIM NGUYEN: Any other issues that you
24 can think of that might affect terrestrial resources in
25 the area? Okay. We will go on to T&E, then. Matt.

1 MR. MATT CUTLIP: Okay. We have
2 preliminarily identified the effects of the permanent
3 removal of aquatic habitat from the powerhouse reservoir
4 and directing barrage footprints on Cook Inlet beluga
5 whales foraging, migration, calving, and rearing habits
6 and critical habitat. We will also be putting stellar sea
7 lions into that, with the exception of critical habitat
8 for the stellar sea lions. I don't think there is any
9 designated there. Correct me if I'm wrong.

10 MR. MONTE MILLER: I'm not sure. I know
11 there is for belugas.

12 MR. MATT CUTLIP: Effects of underwater
13 noise during construction and operation of the project on
14 beluga whale and stellar sea lion. Effects of
15 electromagnetic fields on beluga whales and stellar sea
16 lions, and then all the additional items that we have
17 added to the marine mammals section we will also be
18 incorporating for their effects to look at the effects --
19 those effects on both the beluga whale and the stellar sea
20 lion.

21 MR. MONTE MILLER: Just a -- I don't
22 know -- procedural question. Is the Kittlitz murrelet a
23 threatened or endangered species?

24 MS. VIVIAN MENDENHALL: No. It's a
25 candidate, but they haven't found the time to decide to

1 list it; however, I don't think it also occurs here very
2 much, either.

3 MR. MONTE MILLER: I just wondered if it
4 needed to be moved into your threatened and endangered
5 species area.

6 MS. VIVIAN MENDENHALL: Not technically
7 from the --

8 MR. MONTE MILLER: It hasn't officially
9 gained its status.

10 MS. VIVIAN MENDENHALL: Correct.

11 MR. MATT CUTLIP: We will be updating our
12 T&E species list throughout the project, and we'll
13 actually request a formal list from the services after the
14 application is filed. So as the list is updated or
15 modified, we will definitely be staying current on those
16 developments.

17 MS. VIVIAN MENDENHALL: Another technical
18 question related to that. Who does the Section 7
19 consultation? Do you have to consult with NOAA on the
20 beluga issues?

21 MR. MATT CUTLIP: We will be required as
22 part of the licensing action to consult on the project
23 effects on listed species, so if there are Fish and
24 Wildlife Service species, we will be consulting with them.
25 Obviously, there is NOAA species at this time, so we will

1 definitely be consulting with them on both the stellar sea
2 lions and beluga whales and beluga whale critical habitat.

3 MS. VIVIAN MENDENHALL: That's under the
4 Endangered Species Act requirements.

5 MR. MATT CUTLIP: Any questions or
6 comments on T&E species?

7 MS. KIM NGUYEN: Okay. We will go on to
8 recreation and land use. The first bullet is effects of
9 project construction and operation on public access,
10 recreation opportunities, and land use within the project
11 area, including the transmission line corridor. The
12 effects of public access -- the effects on public access
13 and the exclusion zone of the barrage. The effects of the
14 project on boating, including wind surfing, kite surfing
15 and bore type surfing within the project area boundary.

16 Did I miss anything, guys?

17 MR. MATT CUTLIP: Did you address the
18 exclusion zone?

19 MS. KIM NGUYEN: Yes.

20 MR. MATT CUTLIP: Okay. And public access
21 where the T-line comes to shore?

22 MS. KIM NGUYEN: No.

23 MR. MATT CUTLIP: Effects of the project
24 on public access where the transmission line comes ashore.
25 There was one other one, too, that we identified, which is

1 effects of the project on recreational fishing in the
2 Upper Cook Inlet and Turnagain Arm due to changes in fish
3 populations. And specifically we are talking about
4 hooligan and salmon fishing along the inlet streams.

5 MR. MONTE MILLER: Between this morning
6 and this afternoon, I thought of another potential area
7 here that could be impacted. Now, the utility corridor
8 will go all the way down to Nikiski, is that correct, down
9 along the Kenai Peninsula shoreline?

10 MR. DOMINIC LEE: Yeah. We are using the
11 corridor as --

12 MR. MONTE MILLER: The concern I have is
13 there is a critical habitat or a critical area defined by
14 the State down along the Kenai River or adjacent to the
15 Kenai River area, the Kenai Dunes, that basically is a
16 protected area, as well. I'd be curious how this --
17 whether it goes across that, through it, around it, or
18 what, if it's going all the way to Nikiski. It may be
19 below Nikiski.

20 MR. DOMINIC LEE: Just go down to Nikiski
21 and hook up with the Homer Electric substation right
22 there.

23 MR. MONTE MILLER: Okay.

24 MR. MATT CUTLIP: So you propose to
25 interconnect it to Homer at a substation for Homer

1 Electric?

2 MR. DOMINIC LEE: Yes.

3 MR. MATT CUTLIP: Where is it at?

4 MR. DOMINIC LEE: Nikiski.

5 MR. MATT CUTLIP: Is that north of where
6 you are talking about?

7 MR. MONTE MILLER: Nikiski is south of
8 Kenai along K-Beach Road, isn't it?

9 MR. KIM PAISLEY: It's north.

10 MR. DOMINIC LEE: There is a designated
11 corridor by the Borough of Kenai Peninsula.

12 MR. MATT CUTLIP: Is there existing
13 transmission line there?

14 MR. DOMINIC LEE: Yes.

15 MR. MATT CUTLIP: But you won't be
16 connecting there? To clarify, the project jurisdictional
17 transmission line is from where the project starts where
18 the electricity is generated to the point of
19 interconnection. That's the only piece that would be
20 jurisdictional under the license, FERC license. So I
21 can't really tell at this point where that is on a map and
22 how it would affect that location, but we will look at
23 whatever effects the transmission line would have on the
24 various environmental resources from the point of
25 generation to the point of interconnection.

1 MS. KIM NGUYEN: Just that corridor.

2 MR. MONTE MILLER: And this is an active
3 utility corridor at this point in time?

4 MS. KIM NGUYEN: I think Dominic is
5 alluding to the active one starting at Homer because yours
6 will be new, correct? Your transmission line from the
7 project, even though it's submerged and when it hits land,
8 that's a new corridor until it gets to Homer, right?

9 MR. DOMINIC LEE: This has been set aside
10 by Kenai Peninsula Borough, but -- there are no power
11 lines there right now, but the corridor has been set aside
12 by the Kenai Peninsula Borough to -- for that -- for the
13 extension of the borough need.

14 MS. KIM NGUYEN: And whose land is that?

15 MR. DOMINIC LEE: It's the borough's land.

16 MR. MATT CUTLIP: I'm not sure. Does that
17 answer your question or comment?

18 MR. MONTE MILLER: I think it does. My
19 concern was other projects, we have run into an applicant,
20 their intention to use the utility corridor only to find
21 that that utility corridor is fully utilized, which then
22 changes their -- their positioning of their -- a new
23 utility corridor which can go across private land and
24 cause additional problems. Just more concerns.

25 MR. MATT CUTLIP: Those are valid

1 concerns. At some point in the licensing process, the
2 applicant will need to put together a concrete proposal,
3 and we will make sure that we -- that that proposal is
4 fully vetted. And also that all the environmental effects
5 are disclosed. So before we could even do our NEPA
6 analysis, we would have to have that finalized.

7 MS. KIM NGUYEN: Okay. On to cultural
8 resources. The issue there is the effects of the proposed
9 action and alternatives on properties included in or
10 eligible for inclusion in the National Register of
11 Historic Places.

12 Under aesthetic resources, the effects of the
13 project construction and operation on aesthetics and
14 visual experience of visitors and residents using project
15 lands, including along the shoreline, including for many
16 parks, refuges, scenic highways and railroads.

17 Under socioeconomics we have the effects of the
18 project on the local economies in Anchorage and Kenai
19 Peninsula areas. The effects on tourism. The effects on
20 commercial -- on the commercial fishing channel. The
21 effects of the project on the local and commercial fishing
22 and recreational fish industry. And that's -- that's all
23 we have for now.

24 Are there any other comments or issues in these
25 resource areas?

1 MR. MATT CUTLIP: I'm just going to note
2 we had some pretty extensive comments from the National
3 Park Service earlier about the aesthetic effects. It was
4 difficult to get those down. They are in the transcripts,
5 and they also intend to file written comments, so we will
6 make sure we incorporate those in the scoping document 2.

7 MS. KIM NGUYEN: And it was mainly
8 aesthetics and recreational issues. Okay. Our last
9 resource is the developmental resource, which is the
10 effects of the project maintenance on capacity benefits of
11 the project and the effects of funding all the protection,
12 mitigation and enhancement measures on the cost of the
13 power. Any other comments on the resource issues?

14 Okay. Now we will talk about the -- some of the
15 initial study proposals by the applicant. They have
16 identified three. One under geology and soils,
17 geotechnical study to support the foundation design of the
18 project. One under aquatic resources; they plan to review
19 the data on safety of the turbines for fish and sea
20 mammals. And for terrestrial resources, they want to
21 study effects of wetland habitat in the area leading to
22 the Anchorage Wildlife Refuge at the entrance to
23 Possession Point for transmission line corridor.

24 Now, for request for information and studies,
25 these are the types of information and data we are looking

1 for. So if you have any of -- or insights to any of these
2 type of information, data or studies, please let us know.
3 Please file comments or you can mail them in to the
4 Commission, file them electronically, or give them to the
5 court reporter here today.

6 Here is our tentative EIS preparation schedule.
7 All requested information, comments, study requests is due
8 by September the 9th. The license application is due to
9 be filed in March of 2014. And this is due to a possible
10 one- to two-year study period. Our REA, which is ready
11 for environmental assessment, notice will be issued in May
12 of 2014. Then we have comments, recommendations and terms
13 and conditions from all the mandatory agencies by June
14 2014. The draft EIS is due to be issued in January of
15 2015. You have a comment period on the draft, and then
16 the final to be issued July 2015.

17 Now I'd like to open up for any more comments.
18 That's it. I also have a slide for the processing plan if
19 anyone is interested in seeing that, which has a more
20 detailed schedule of our licensing process.

21 MR. MONTE MILLER: Vivian, is that
22 correct?

23 MS. VIVIAN MENDENHALL: Yes.

24 MR. MONTE MILLER: I'm sorry. She alluded
25 to the lack of the PAD and being available. It's a very

1 extensive document to download. I'd like to know if that
2 document is available in CD form from the company to
3 people at this meeting to be able to have access to that
4 document.

5 MS. TAMMIE SMITH: We have some.

6 MR. MONTE MILLER: I'm asking for you, I
7 guess, that you have access to the PAD document because
8 it's a very important document.

9 MS. VIVIAN MENDENHALL: Where would one
10 get that?

11 MS. TAMMIE SMITH: I'll get one -- I will
12 get you one when the meeting is concluded.

13 MS. VIVIAN MENDENHALL: Thank you.

14 MR. MONTE MILLER: Thank you.

15 MS. KIM NGUYEN: Anything else. Ian?
16 Matt? Well, thank you very much for coming and for your
17 participation, and we look forward to working with you
18 closely in the future.

19 (Proceedings adjourned at 7:40 p.m.)

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