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FEDERAL ENERGY REGULATORY COMMISSION

OFFICE OF ENERGY PROJECTS

- - -

Free Flow Power Mississippi River

Hydrokinetic Lead Projects

SCOPING MEETING

Memphis Cook Convention Center

255 North Main Street

Memphis, Tennessee 38103

Monday, May 4, 2009

7:00 p.m.

1 APPEARANCES:

- 2 For Federal Energy Regulatory Commission
- 3 Sarah L. Florentino Environmental Biologist
- 4 Annie Blanchard Jones - Attorney-Advisor
- 5 Allen E. Creamer - Fisheries Biologist

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7 SPEAKERS

- 8 Roger Allen - 10
- 9 Ramya Swaminathan - 13
- 10 Steve Crowley - 23
- 11 Tony Greer - 33
- 12 Davis Olcott - 35
- 13 Garry Harris - 36

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

2 MS. FLORENTINO: Good evening,
3 everyone. Can everyone hear me? I guess we'll get
4 started. We were trying to give people a little
5 more time, just in case they had trouble finding
6 the Convention Center here.

7 Welcome to all, thank you for coming
8 to the 7th of 10 scoping meetings for Free Flow
9 Power's Hydrokinetic Mississippi River Lead
10 Projects. I'm not sure which order those words
11 should be, sometimes those are confusing.

12 My name is Sarah Florentino and I'm
13 with the Federal Energy Regulatory Commission,
14 which I will abbreviate in various forms, the
15 F-E-R-C, The FERC, or the Commission.

16 The Commission is an independent
17 federal agency which regulates non-federal
18 hydropower projects, among other responsibilities.

19 It is currently composed of three
20 commissioners and one chairman.

21 Thank you all for joining us again.
22 And we hope to make this a very productive meeting
23 of information sharing.

24 In a nutshell during this meeting we
25 hope to provide you all with information about the

1 Commission's licensing process, and about the
2 proposed lead projects.

3 We are also requesting comments and
4 information pertinent to the proposed lead projects
5 from interested stakeholders, such as yourselves.

6 So, first things first, I think --
7 has everyone signed in, hopefully you've all signed
8 in. If you haven't, please do so now, and indicate
9 on the sign-in sheet whether you would like to be
10 added to the Commission's mailing list for the Free
11 Flow Power Proposed Lead Projects.

12 Also at the bottom of the sign-in
13 sheet, I hope you've indicated whether you would
14 like to speak tonight during the comment
15 period.

16 Allan Creamer will be directing all
17 of the speakers at the end of the meeting and
18 calling everyone up one-by-one, which I'll let you
19 know, there's only one person that signed up, so
20 we'll have plenty of time if you decide at one
21 point during the meeting that you would like to
22 comment or ask a question, there's plenty of time
23 for that. Or if you've prepared a written
24 statement, we have a court reporter, Terry Holmes
25 here, so you can submit your written statements to

1 him, or you can file them with the Commission. And
2 I will explain how to do that in a few minutes.

3 Also, at the back of the room we had
4 various handout, and I hope you all took several
5 copies because I don't want to take them back to
6 Washington, D.C. with me.

7 This is the Scoping Document 1 and
8 it's jam packed with information about the
9 Commission's process and the preliminary issues
10 that we'll be looking at when we're analyzing this
11 project.

12 There is also Scoping Notice 2 that
13 we issued with a complete schedule of all of the
14 scoping meetings and site visits. So if you plan to
15 join us for any of those, please get copies and
16 they'll be addressed of the meeting and times.

17 Also, we have a handy booklet of the
18 Commissions regulations on the integrated licensing
19 process or the ILP, and the more lay person
20 oriented guide on the other side.

21 And finally we have a brochure that
22 I explained to you on how to use the Commission's
23 electronic library, a sign up for e-mail to get
24 notification of all the filings on the project.
25 And also a filing and comments electronically.

1 That's really the easiest way to file your comments
2 about the project.

3 So I'm hoping to present the slides
4 as efficiently as possible so we can allow plenty
5 of time for any additional comments at the end from
6 you and questions.

7 So our agenda is first to do
8 introductions of the FERC staff and the Contractor
9 staff, as well. And then we're going to look at
10 the overall proposal and the Lead Project concept.
11 Then we're gonna cover the purpose of scoping,
12 working with the Corps of Engineers. Our
13 anticipated environmental impact or EIS schedule.
14 Request for information. Description of the
15 proposed project for Free Flow Power. And the scope
16 of cumulative effects that we'll be looking at in
17 our environmental document. And then, finally,
18 I'll explain the procedures for filing your written
19 comments and providing scoping comments tonight.

20 Okay. As I said I'm Sarah
21 Florentino, and I am one of two coordinators for
22 the licensing process with FERC. My coordinator's
23 name is Stephen Bowler and his contact information
24 is listed in the scoping document. Allan Creamer,
25 is with FERC, as well. He's our Senior Technical

1 Expert for the FERC team. Annie Jones, is one of
2 our FERC General Counsel members. Fred Winchell is
3 our contractor project coordinator. Bernward Hay is
4 our contractor project coordinator. Bernward Hay
5 is our contractor water quality specialist. Tom
6 Kahl is in the back, he's our contractor civil
7 engineer, as well as Karen Klosowski, our
8 contractor recreation specialist, as well.

9 There's several other team members,
10 that could not join us today, but we do have a
11 large team working on the analysis for this
12 project.

13 Okay. So now to cover the Overall
14 Proposal and the Lead Project Concept. Ultimately
15 Free Flow Power proposes to install 1000 -- Or, I'm
16 sorry, 180,000 turbine-generators across 55 sites
17 to produce 1,800 megawatts of average operating
18 generation with a total installed capacity of 7,200
19 megawatts.

20 Free Flow Power has proposed that
21 seven of the 55 sites be treated as the "Lead
22 Projects" and licensing process be initiated for
23 those sites using the Commission's Integrated
24 Licensing Process or the ILP.

25 The Lead Hydrokinetic Projects

1 include the proposed Greenville Bend, Scotlandville
2 Bend, Kempe Bend, Ashley Point, Hopefield Point,
3 Flora Creek Light, and McKinley Crossing Projects.

4 Descriptions of the proposed Lead
5 Projects are provided in Section 3 of the scoping
6 document, as well as Free Flow Power's
7 pre-application document or CAD as we call it for
8 short.

9 After the seven Lead Projects have
10 completed the study determination phase of the ILP
11 process, Free Flow Power plans to prepare license
12 applications for the other 48 sites under the
13 Commission's Traditional Licensing Process, or the
14 TLP.

15 Free Flow Power intends for the
16 study plans established in the ILP be used at the
17 TLP sites.

18 As of now, we are currently focusing
19 on the seven lead projects -- scoping meetings for
20 the other 48 TLP sites will be conducted at a later
21 date.

22 Okay. So what is the Purpose of
23 Scoping. The National Environmental Policy Act or
24 NEPA, -- FERC's regulations, and other applicable
25 laws, require evaluation of environmental effects

1 of licensing or relicensing of hydropower projects.
2 FERC's staff analyzed the effects of proposed
3 projects on aquatic, terrestrial, recreational,
4 cultural, tribal, aesthetic, and developmental
5 resources.

6 The scoping process is apart of NEPA
7 and is used to identify issues and concerns to be
8 addressed in the NEPA documents, such as
9 environmental assessments or environmental impact
10 statement, as we're going to prepare in this case.

11 During scoping meetings, FERC staff
12 solicit input from federal, state, and local
13 agencies, Indian Tribes, Non-government
14 organizations, and the public.

15 The Scoping Document 1, or SD-1, for
16 the Lead Projects was issued on March 16, 2009. It
17 provides a preliminary list of issues that the
18 Commission staff plans to analyze in the
19 environmental impact statement for the lead
20 projects.

21 And if want to flip to page 17 to
22 see a list of our preliminary issues in the scoping
23 document.

24 Okay. As you may be aware, the
25 Corps of Engineers is involved in virtually

1 everything that occurs on the Mississippi River.
2 We anticipate that the Corps will actively
3 participate in the Commission's licensing process
4 of the seven lead projects.

5 At this time, I would like to take a
6 moment to allow Roger Allen from the Regulatory
7 Branch of the Army Corps of Engineers Regulatory
8 Branch to provide a brief prepared statement.

9 ROGER ALLEN

10 ROGER ALLEN: The U.S. Army Corps of
11 Engineers supports the development of renewable
12 energy projects where these projects are feasible,
13 and in the case of the hydrokinetic projects on the
14 Mississippi River where these projects are
15 compatible, the Corps missions and navigation, and
16 flood risk management, environmental stewardship
17 and recreation.

18 The Mississippi Valley Division has
19 provided comments to the Federal Energy Regulatory
20 Commission and Free Flow Power Corporation
21 regarding the hydrokinetic projects being planned
22 for the Mississippi River.

23 The Corps will continue to work with
24 FERC and Free Flow Power through FERC's licensing
25 process and the Corps regulatory process to ensure

1 that these projects are compatible with Corps
2 missions on the Mississippi River. Thank you.

3 SARAH FLORENTINO: Thank you, Roger.
4 Okay. To go over just a couple of highlights of
5 the Environmental Impact Statement Preparation
6 Schedule. This is in Dave's list here.

7 The second scoping notice, which is
8 one of the handouts I showed you at the beginning
9 of the meeting, provides a detailed schedule of the
10 public scoping meetings and site visits. And we
11 encourage you all to pick up a copy of the scoping
12 document, which has a more detailed schedule lined
13 out in Appendix B, the very end.

14 We invite you all to participate in
15 the remainder of the process that is gonna go on,
16 as you can see, for a number of years.

17 Please note that the Commission has
18 approved the request of the Fish & Wildlife Service
19 and the Environmental Protection Agency to extend
20 time for stakeholders such as yourselves, to
21 provide comments on Free Flow Power's
22 pre-application document. Comments on the
23 Commission's scoping document, and also to submit
24 your study request. The previous due date was May
25 15th, but it has been extended 60 days to July

1 14th, 2009.

2 This time extension will effect the
3 rest of the schedule. We will issue an updated
4 schedule in our Scoping Document 2 or ST-2. The
5 updated schedule will address the -- as the
6 schedule listed in Appendix B of Scoping Document
7 I. And it lists the parties responsible for each
8 step in the process and the -- the due date for
9 each step.

10 Okay. So please help us gather
11 information. You can help us gather pertinent
12 information for the Commission's analysis of the
13 proposed lead projects.

14 Please inform us of any significant
15 environmental issue that should be addressed in our
16 environmental impact statement.

17 Please provide us with study
18 requests for any information needed for a thorough
19 analysis for the lead project proposal.

20 We encourage everyone who plans to
21 request studies to write clear and detailed study
22 requests, following the Commission's seven study
23 plan criteria as listed in Appendix A of the
24 Scoping Document 1.

25 Please submit any information, any

1 information rather or data describing past and
2 present conditions of the project areas.

3 In addition, please submit any
4 resource plans and future proposals in the project
5 areas.

6 There are a number of ways you can
7 provide your comments to the Commission. Oral or
8 written comments can be provided today. You may
9 file your comments electronically, filing
10 instructions in the brochure that I showed you at
11 the beginning of the meeting, or you can mail your
12 written comments to the FERC secretary. Her name
13 is Kimberly D. Bose as the address that you would
14 send it to, listed on this side and also on Page
15 iii and Page 24 of the scoping document.

16 Again, please note that the comments
17 will be to you on July 14th.

18 At this time, I would like to allow
19 representatives from Free Flow Power to provide us
20 with a brief description of the lead projects.

21 RAMYA SWAMINATHAN

22 MS. SWAMINATHAN: Good evening and
23 thank you for coming out this evening. I'm Ramya
24 Swaminathan, I run Project Development for Free
25 Flow Power and I wanted to take a few minutes just

1 to tell you about our proposed lead projects, give
2 you a sense of the turbine, the technology that
3 we're proposing to be used and the sense of
4 deployment, and then finally a brief sense of the
5 sites themselves. I'm not gonna belabor too long
6 on this, 'cause Sarah covered most of the important
7 information.

8 We have 55 proposed project sites
9 ranging from New Orleans to St. Louis. Each of
10 those sites range from between 2 and 16 river mile
11 and lake, and they are located in seven states.

12 The FERC preliminary permits were
13 issued in early 2008 and in early 2009, on January
14 15, to be specific, we filed with the Commission
15 the pre-application document and Notice of Intent.

16 We believe that hydrokinetics offers
17 a compelling alternative for the region of the
18 county. We have renewable resources simply for
19 reasons of natural endowment. In terms of more
20 traditional forms of wind and solar or less
21 available, and that's really what this is trying to
22 get to.

23 The Mississippi River has tremendous
24 flows and volumes and is a major source of
25 renewable energy and green jobs.

1 The turbine generator that we intend
2 to deploy at these site after licensing is depicted
3 on the page. The righthand side of this page shows
4 you the prototype model. We developed a one-meter
5 model that was tested in a lab in Massachusetts.
6 And the next generated of these "of an engineering
7 results" of these tests, as well as further design
8 refinement is three meters and outside diameter
9 renderings that are showed on the lefthand side of
10 this page, and it generates about 10 kilowatts of
11 output and flows of about three-meters a second.

12 The middle part of the page shows
13 you an exploded view of the equipment. I'm gonna
14 skip some of the verbiage on that page because the
15 next page covers it in a little bit more detail.

16 Key Design Features, we wanted to
17 make sure that we told you about that it has a low
18 tip speed ratio, about two to one. And because
19 it's dependent on ambient river flows rather than a
20 head environment, really low, there are really no
21 high velocity regions that would cause turbulent
22 sheer stress or and no small gaps that would cause
23 grinding injury. The base distance moving parts of
24 the turbine divide are engineered to give out a
25 mere regional. And we believe that's a major,

1 feature, fish friendliness of the turbine.

2 And as I mentioned because it's
3 dependent on ambient river flows, there's really a
4 De minimis pressure gradient, and we intend to
5 deploy it below the navigation channel on the
6 riverbed such that it would not interfere with
7 commercial navigation on the Mississippi River.

8 There is relatively small footprint
9 of on shore equipment, largely consisting of
10 cabling on shore substation.

11 And finally, a point I wanted to
12 make about the turbine device itself is that it has
13 no -- for lubrication and relies instead on
14 hydrodynamic.

15 We are committed to designing
16 flexibility in terms of deployment south of Baton
17 Rouge in a deeper draft part of the river. We
18 anticipate no vertical in depth to deploy turbines
19 in ways that can be stacked vertically, such as are
20 depicted on the righthand side of this page.

21 And in the shallower parts of the
22 river, Baton Rouge and north where both the
23 navigation channel is maintained to a smaller
24 amount than the draft part of the river, but also
25 the river itself is a shallower. We intend to show

1 you as well, alternatives so that would -- raise
2 turbines in a more lateral, perhaps suspended a
3 change of items.

4 Operations and Maintenance,
5 obviously is a major concern. And we intend to use
6 standard marine equipment and procedures with
7 pretty modular procedures. Our idea is that the
8 turbine array be lifted from the piling to shows
9 any sea arrays from the barge based crane -- and
10 that's --

11 I wanted to give you a very quick
12 sense of the Scale of Deployed Turbines. This is
13 specific for instantiation purposes. This is our
14 site #8 which is in New Orleans. And those green
15 dots in the center of the river, which I'm hoping
16 you can see. I can see a lot of people squinting
17 in the back, but hoping they are slightly visible.

18 We just want to give you -- within
19 the range of the river, but what the scale of this
20 is, to tell you what you're looking at, you're
21 looking at 32 pilings that are arranged to scale 50
22 feet apart from each other on a lateral basis on a
23 much larger basis and -- the two rows are 75 feet
24 apart from each other. And if you could blow this
25 up, you could see that each of those is to scale, a

1 piling with six turbines.

2 Wanted to take a moment to give you
3 a sense of the seven lead sites and the idea behind
4 them. I'm not -- I know this page is dense as is,
5 as are the remainder of the presentation. I'm not
6 certainly gonna read through it or expect you to.
7 This presentation is available on our website,
8 should you want to look at it. As a point in the
9 future, our website is www.free-flow-power.com is
10 the name of our company Free Flow Power with
11 dashes.

12 The idea is that the seven lead
13 sites are -- for characteristics in consultation of
14 stakeholders that hot characteristics that are
15 representative of a broad slate of divide sites,
16 all the way from New Orleans, up to St. Louis.
17 They're in a variety of different landscape
18 environments. Some are in urban areas, some are in
19 rural areas, some have direct range of connect and
20 customer -- device, some do not. There are some
21 habitat notes that differentiate each of them in
22 different habitat terms. And this page and next
23 labels out for you in terms of the two sites.

24 The only other thing that I wanted
25 to point out is in terms of resource areas that --

1 in the process of consultation and research that we
2 embarked on for the preparation of our
3 pre-application document, some of the most
4 important ones that came to our attention for
5 navigation, water quality, aquatic and terrestrial
6 species alternative historic sites. As I mention
7 this I go to the next page -- should you want to
8 look at it. Thank you very much.

9 SARAH FLORENTINO: Thank you, Ramya.
10 Before we move on, but let me take a moment and
11 just ask, does anyone have any questions now about
12 the FERC process or about the lead projects that we
13 could cover before we, before I complete my part of
14 the presentation?

15 LEO VIZZERT: Can you, maybe,
16 refresh -- tell us a little bit about the company
17 itself FFP, where it's coming from and who is, who
18 is behind it, and do they have new pieces of
19 product somewhere else already, Europe or Asia,
20 wherever it is?

21 MS. FLORENTINO: Okay. The
22 questions was -- can you hear me? Whether a
23 representative from Free Flow could sort of talk
24 about the company, let us know if there's any
25 turbines that are --

1 LEO VIZZERT: Or is this the first
2 time we ever, they have produced this or -- Yeah.

3 MS. FLORENTINO: Ramya or --

4 MS. SWAMINATHAN: We are a
5 Gloucester, Massachusetts based company and right
6 now we're private. And there have been multiple
7 title and ocean current projects that are similar
8 in terms of this estimate, in terms our
9 technologies this is the first set of commercial
10 scale projects.

11 STEVE CROWLEY: So you proposed
12 studies, but have -- there are actually
13 applications of these turbines in costal areas as
14 well as -- You said there's been studies, but have
15 there -- has your company actually -- has submitted
16 these processes?

17 MS. FLORENTINO: Let me pass around
18 the microphone, just to make sure that everyone can
19 hear you. Sorry. Can you review that question?

20 STEVE CROWLEY: Sure. You know that
21 a proposed studies in various areas, costal,
22 inner-costal, et cetera, has this company, has Free
23 Flow actually provided designs in practical terms
24 and now managing such a generation powered facility
25 somewhere?

1 MS. SWAMINATHAN: We don't have any
2 current projects that are either in commercial or
3 pilot scale.

4 JON GUIDROZ: We built a prototype
5 and tested it on land.

6 STEVE CROWLEY: Okay.

7 MS. FLORENTINO: Okay. Were there
8 any other questions? Okay. You can ask questions
9 at the end if you think of one.

10 So as I mentioned before, FERC staff
11 will be analyzing the effects of the proposed
12 projects, and a preliminary list of potential
13 effects can be found on pages 17 through 20 in the
14 scoping document. If you disagree with our
15 preliminary list or you want to add something,
16 subtract something, please let us know as part of
17 your comments that we hope to get by July 14th.
18 But in terms of cumulative effects as just on page
19 16, 17 of the scoping document, the Commission
20 staff have reviewed Free Flow Power's
21 pre-application document and identified the
22 following resources that may be cumulatively
23 effected by the proposed lead projects, including
24 water quality, fisheries or aquatic resources, wet
25 land and terrestrial resources, commercial

1 navigation and recreation.

2 Our Geographic Scope for cumulative
3 effects is generally the middle and lower
4 Mississippi River for water quality and fisheries,
5 as well as terrestrial resources. The scope for
6 navigation extends to the limits of significant and
7 commercial navigation in the drainage.

8 Our Temporal Scope for cumulative
9 effects includes past, present and foreseeable
10 future actions 30 to 50 years into the future.

11 Okay. Just want to cover the
12 procedures for the remainder of the meeting. I'm
13 gonna open the floor for your comments. I think we
14 only have one person who have, as I mentioned, that
15 signed up to speak so far. But just in case, we
16 like to say, please show respect for the other
17 participants, and I doubt we're gonna have any time
18 limits, but please make sure that you allow for
19 everyone a chance to speak.

20 And -- Oh, for the court reporter,
21 make sure to state your name and spell it out, and
22 if you're gonna use any acronyms, please spell out
23 what it means, first, then you can use the acronym
24 after that the first time.

25 And just as a reminder, you can

1 leave your written comments if they're ready with
2 the court reporter or you can mail them to the
3 Commission.

4 With that, I will turn it over to
5 Allan to our first speaker.

6 ALLAN CREAMER: Good evening,
7 everyone, my name is Allan Creamer, as Sarah said,
8 and I will -- this is gonna be simple, we only have
9 one. I was gonna be the moderator for this
10 portion, but this will be simple. Steve Crowley.

11 STEVE CROWLEY: Yes.

12 ALLAN CREAMER: If you want to take
13 the floor now.

14 STEVE CROWLEY

15 STEVE CROWLEY: Thank you. And may
16 I start by asking a question. In terms of a
17 detailed analysis of this project, therefore
18 detailed questions, is this the appropriate time,
19 later, or just -- are you asking now for a comment;
20 I'm not sure -- Pardon me, I just didn't realize?

21 MS. FLORENTINO: So you're saying,
22 you have a question about --

23 STEVE CROWLEY: Well, I have a
24 multiple, multitude of questions, actually. I'm
25 not sure if this is the appropriate time or is

1 tomorrow's meeting a different format or?

2 MS. FLORENTINO: Well if there are
3 questions that will ultimately -- that you plan to
4 develop into a study request --

5 STEVE CROWLEY: Yes.

6 MS. FLORENTINO: -- something that
7 we can't really answer right, 'cause the
8 information is unavailable, then we can --

9 STEVE CROWLEY: I can ask that.

10 MS. FLORENTINO: You can ask, it'll
11 be in the record, but if you would like to make a
12 formal study request, you need to follow the study
13 criteria --

14 STEVE CROWLEY: Right.

15 MS. FLORENTINO: -- that I proposed
16 -- listed in the scoping document?

17 STEVE CROWLEY: Okay. Well, thank
18 you. My name is Steve Crowley, I'm Executive Vice
19 President of Marchette Transportation. We're a
20 company that operates about 700 barges on the city
21 river system. We operate approximately 110 vessels
22 of different sizes, et cetera. Obviously we have a
23 great deal of concern. We're part of an industry
24 that I'll state clearly at the time we are the most
25 environmentally friendly type of transportation in

1 this nation. We haul as you know coal, petroleum,
2 project cargos, iron, steel, grain, containers,
3 chemicals, and certainly about 60 percent of all
4 export grain.

5 We basically tow about hundred
6 billion dollars worth of cargo annually. With that
7 said, the concern for impact and encroachment to
8 new commerce navigation is the issue that we're
9 here to learn about. With that said then, I would
10 ask if a study has been conducted in terms of
11 determining with the 110,000 turbines -- Again, I
12 was not privy to that, I was just kind of, if you
13 will, caught up on this idea on this proposal here.
14 Has there been any hydrokinetic impact study? What
15 will these physical structures do to currents as we
16 know 'em today? That will be, I guess, if that's a
17 formal request, that's what I'd like to request in
18 terms of study. And then I'll have -- certainly
19 write it, and I'll send it to the appropriate
20 place.

21 MS. FLORENTINO: Thank you. Your
22 concerns has been noted, and let me just point out
23 really quickly again. For those of you thinking
24 about developing a formal study request, I'll
25 repeat, in Appendix A of the Scoping Document,

1 there's a list of the Commission's seven criteria
2 for a study requests. So just do your best to
3 explain why your requests and meet these criteria.

4 STEVE CROWLEY: Sure. Has there --
5 then a question leads to the question to Free Flow,
6 if that's appropriate. Has there been any analysis
7 conducted in terms of the low-water points that we
8 recognize in this industry that constrains and
9 constricts our ability to move cargo using the
10 gauges at the various locations up and down the
11 river; in other words, has Free Flow and/or the
12 government determined how often that we are into a
13 negative node, meaning negative stage, at, for
14 example, Memphis gauge and then a corresponding
15 locations, as well, Vicksburg, Grable, et cetera?
16 Zero meaning as our baseline. So has a baseline
17 been established with putting these turbines in the
18 bottom of the river, and at what levels of the
19 river has this study been conducted?

20 JON GUIDROZ: I'll start with
21 introducing myself. I'm Jon Guidroz, Director of
22 Project Development. The most direct answer to
23 your question is that has not been determined yet,
24 to the top of our list of things to determine
25 because we don't want to be in your way and you

1 don't want us to be in your way. If you hit our
2 turbines we're out of business and there's a
3 problem. So we recognize first and foremost that
4 we need to look at safe navigation issues, and
5 where those steps are sufficient is where we want
6 to be. So we're working with the Corps to try to
7 get that done -- first and foremost.

8 As far as occupying the river, far
9 less than 5 percent of the river will be occupied
10 by the turbines. Sounds like a very large number,
11 180,000 turbines. It's from above St. Louis to
12 below New Orleans but only the 3 meters, but it is
13 on our radar and we understand we're coming in your
14 sand box, so.

15 ALLAN CREAMER: Anybody else have
16 any questions? This is the one only speaker that
17 signed up?

18 UNIDENTIFIED PERSON: Doing good,
19 keep going.

20 STEVE CROWLEY: 1988 was the
21 recorded all time low and, again, refer to it as
22 minus 10.7. Since 1988 to present date, December
23 of '08, we have incurred 1365 days of zero gauge in
24 Memphis or below. The average depth of the entire
25 reach of the Mississippi River would be

1 approximately 12 to 14 foot from one end to the
2 other, Gable, Illinois to Baton Rough, Louisiana.
3 With that said -- Oh, by the way, St. Louis has
4 been 576 days since 1988 of zero gauge or lower.
5 In addition to that, 57 percent of those days has
6 occurred in this decade, turning this back. So
7 therefore, the question on the areas that you are
8 proposing to place these turbines, certainly could
9 have a huge impact by stopping navigation commerce,
10 again, realizing that the average depth, 'cause if
11 I understand this question leads into a question,
12 the proposals, and I guess it's still in the
13 testing phase, the pilons, if you will, that they
14 would protrude from the river bank from the river
15 bottom itself, is there a variation in how high
16 they protrude up or is it -- and what is the
17 minimum they would have to project upward from the
18 bottom of the river?

19 JON GUIDROZ: You're okay to answer.

20 MS. SWAMINATHAN: I think I have
21 sort of several streams of thought on your
22 questions, but first and foremost I wanted to
23 reassure you that we hear you loud and clear on the
24 issue of commercial navigation, and our intent in
25 sighting these turbines is largely to site them in

1 the deepest part of the river, the outside of the
2 bends. That's for reasons to deal with commercial
3 navigation and to also to deal with reasons of
4 velocity. So that's where the velocity is the
5 highest. So in some ways on a competing use basis
6 we and you want to be in the same place,
7 essentially in the sense that you want to be in the
8 same place, we want to be -- at the river, the
9 deepest and fastest -- navigation as well. So I
10 start out by recognizing that in saying that we
11 hear that loud and clear, and our intent is to work
12 with you, the Corps, the coast guard, et cetera to
13 keep that at the top of our list of concerns.

14 Depth is obviously a first kind of
15 cut at what sites or what areas within a proposed
16 site works -- and we're in the process right now of
17 collecting data that profiles -- at all the sites
18 in New Orleans, all the way up to St. Louis, and
19 that will give us a real sense of where the pockets
20 of depth are.

21 In terms of what we're actually
22 talking about, we are going to be constrained on
23 both sides, being top and bottom. On the top we
24 want to be certainly below the navigation channel,
25 and that's maintained at different depths at

1 different parts of the river -- south of Baton
2 Rough -- We want to be obviously a margin of safety
3 below that below the navigation channel. We talked
4 -- about being 150 feet, which is 9 percent.

5 Now obviously we and you are
6 concerned about the -- if you're talking about
7 probability distribution below water, we you are
8 concerned about what's on the lefthand side,
9 meaning the lowest water, because that's where
10 you're concerned about navigation. As Jon pointed
11 out interests in common is that we don't want you
12 -- And so that's -- We're certainly working with
13 the Corps and coast guard and stakeholders like
14 yourselves to figuring out where we can be in the
15 way that does not effect commercial -- that data --
16 we're still gathering that data, we're trying to
17 take first cuts at where we can do that in a way
18 that doesn't interfere with commercial navigation.

19 The constraint on the bottom is that
20 in all likelihood we want to be at least 10 feet
21 off the bottom because we want to escape bottom
22 friction and sedimentation. So we've got a cut at
23 the bottom and cut at the top -- work an the sites
24 -- work within these two constaints.

25 STEVE CROWLEY: Ten feet off the

1 bottom?

2 LEO VIZZERT: And that's the lowest
3 point, stacked up and we would be higher -- to the
4 lowest point up --

5 MS. SWAMINATHAN: I'm sorry.

6 LEO VIZZERT: That's where your
7 lowest turbine is -- you're saying six on top of
8 that -- you're way up there?

9 MS. SWAMINATHAN: I think -- you
10 know six turbines is --

11 LEO VIZZERT: Three.

12 MS. SWAMINATHAN: Right, it's three,
13 but it's also our intention to do that really in
14 the area. We have quite a bit of flexibility in --
15 sighting, meaning if there aren't depth
16 requirements -- we certainly would be sighting be.

17 LEO VIZZERT: Yeah, my biggest
18 concern just speaking clearly.

19 COURT REPORTER: Sir.

20 LEO VIZZERT: -- turbines in general
21 in the river system is really a channel because of
22 all debris that floats around the river outside of
23 the tug boat barge traffic. Your damage will be
24 just phenomenal just on the stuff floating around
25 getting sucked up and those things. I can't

1 imagine what you have to deal with from a
2 maintenance standpoint. You better have a serious
3 budget associated with repair, because it is -- I
4 have a hard time believing you can maintain this in
5 good fashion. Plus the abrasion from the sand and
6 silk and everything like that, has to be tremendous
7 to just -- I don't know, I wonder, just, just
8 complexity behind is very complex.

9 STEVE CROWLEY: In terms of
10 maintenance, I guess, we would propose a model
11 testing I suppose, but obviously, it would also
12 just on a normal maintenance, whatever that is I'm
13 certainly prepared to do any business with
14 turbines.

15 What impact it has in navigation
16 must channels now -- is there any, any thought or
17 look towards that in terms of -- I couldn't even
18 imagine the placement of these things to begin
19 with, but judging the normal maintenance of effects
20 of shutting down a river system?

21 JON GUIDROZ: I'd like to direct you
22 to page 17 on the scoping document. First,
23 resources issue identifies navigation engineering
24 geopathology, water resources, and it talks at
25 length about exactly the issue you're concerned

1 with. So just to make it official that we -- we
2 have this on the top of our list. All of these
3 items are squarely in front of us in our
4 considerations. We can talk further about it, but
5 for study plan determinations, this is our list on
6 the document, so -- But we are engineering for all
7 these things as the turbines are being built and
8 manufactured and designed for the Mississippi
9 River.

10 MS. FLORENTINO: I will reiterate
11 for everyone, you all seem to be well versed in the
12 river, and I would encourage you to submit any data
13 and statistics that you were providing earlier, if
14 you have papers or other information that will help
15 us do the analysis, we would appreciate it.

16 TONY GREER

17 TONY GREER: My name is Tony Greer
18 I'm with the Pine Bluff Sand & Gravel Company -- we
19 do a lot grazing, channel navigation, grazing, this
20 kind of thing. My question really is -- Well, I
21 guess it's addressed actually to the Corps of
22 Engineers. As you have selected sites, how much
23 coordination is gone on with the Corps, and, Roger,
24 is it being handled by one Corps office or is each
25 district reviewing the potential sites, if you

1 will?

2 ROGER ALLEN: The lead sites cover
3 four districts in the Mississippi Valley district,
4 so that each district is reviewing as well as
5 coordinating through Mississippi Valley.

6 TONY GREER: Can I have the mic
7 back? So that just -- is there a contact within
8 each district that we as industry folks can go to
9 and talk with or is there one individual you talked
10 with? As I understand it, General Career is also
11 helping you guys, is that correct?

12 JON GUIDROZ: That's correct.

13 TONY GREER: So is there a
14 point-person in the Corps that we can talk to or we
15 go district-by-district?

16 ROGER ALLEN: Each district has a
17 contacted -- Each district does have a contact, but
18 if it's a division wide, then I can certainly find
19 -- it would be more appropriate for them to get
20 division contact from our concerns.

21 ALLAN CREAMER: Do we have any other
22 more -- any other questions, comments, process
23 project related? Now is the time to speak up.
24 This is the beginning of the process -- develop the
25 studies that we gather information that you're

1 gonna want to have, so now is the time to speak up.

2 DAVIS RICH OLCOTT

3 MR. OLCOTT: This is just a
4 kindergarten question.

5 COURT REPORTER: Your name, sir.

6 MR. OLCOTT: Name is Davis Rich
7 Olcott, O-l-c-o-t-t. When you've got these
8 turbines running, there's going to be extracting
9 energy from the flow of the river, that in turn
10 will slow down water that has passed through them,
11 to some extent, and that in turn will encourage
12 dropping of whatever silt is in that flow to the
13 lead, to down stream and filling up the area is
14 below the turbines. And just curious, what
15 percentage of the energy content of the water
16 flowing through is actually being extracted? If
17 it's 5 percent, if it's 10 percent, if it's 1
18 percent, that has a varying impact on the amount of
19 dropped siltation down stream?

20 MS. SWAMINATHAN: I think there have
21 been a number of studies on this issue in
22 particular, and one of the commonalities of several
23 of the studies we've looked at is that about 15
24 percent of energy can be extracted from ambient
25 river currents without adverse environmental

1 impacts. And we believe that we're welcomed in
2 that. Not comfortable giving an estimate at this
3 point. And I can certainly take your information,
4 refer to, refer you to our chief technology
5 officer, but we believe we're welcome in that
6 range.

7 ALLAN CREAMER: Okay. Very good.

8 GARY HARRIS

9 GARY HARRIS: My name is Gary Harris
10 with the Tennessee Valley Authority, 50 North Front
11 Street, Memphis, Tennessee. I've got a question
12 about your generating capabilities to get the
13 energy out of the water into the local transmission
14 distribution system. And at what price points are
15 you looking at, say, at some varying competitive
16 wind resource or you haven't gotten that far yet?
17 But I'm also very concerned about how you move the
18 -- flow of the river into the low distribution
19 system?

20 MS. SWAMINATHAN: I think in terms
21 of price points, it's a little premature for us to
22 go there tonight to address that issue. And in
23 terms of interconnect, it's obviously another
24 absolutely critical issue.

25 We've had a lot of interests from

1 industrial and commercial customers up and down the
2 river interested in directly negotiating, and that
3 is certainly something of a concern, it's a very
4 viable and compelling thing we're connected to --
5 but in cases where that may not be true --
6 concerning industrial consumer directly adjacent to
7 our project sites is certainly connecting, but it
8 is certainly something we're considering.

9 We have contacted -- utilities up
10 and down the river. And again we're early in that
11 process, is what I would say.

12 ALLAN CREAMER: Any other questions,
13 comments? Going once, going twice. Okay. I think
14 we're done.

15 MS. FLORENTINO: All right. I will
16 just thank you all again for participating in the
17 scoping meeting. And we hope you will participate
18 in the following steps in the process. If you
19 would like to have a business card if any questions
20 occur to you later, I prefer you to call or email
21 me as the process proceeds. So thank you and I
22 will officially close the meeting.

23 - - -

24 (At 8:30 p.m., the meeting adjourned)

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C E R T I F I C A T E

I, Terence M. Holmes, a duly
qualified and commissioned notary public within and
for the State of Ohio, do hereby certify that at
the time and place stated herein, and in the
presence of the persons named, I recorded in
stenotypy and tape recorded the proceedings of the
within-captioned matter, and that the foregoing
pages constitute a true, correct and complete
transcript of the said proceedings.

IN WITNESS WHEREOF, I have hereunto
set my hand at Cincinnati, Ohio, this 12th day of
May, 2009.

My Commission Expires:
July 28, 2012

Terence M. Holmes
Notary Public - State of Ohio