FEDERAL ENERGY REGULATORY COMMISSION

OFFICE OF ENERGY PROJECTS

- - -

Free Flow Power Mississippi River

Hydrokinetic Lead Projects

SCOPING MEETING

Vicksburg Convention Center

1600 Mulberry Street

Vicksburg, Mississippi 39180

Tuesday, April 14, 2009

2:00 p.m.

APPEARANCES:

For Federal Energy Regulatory Commission

Sarah L. Florentino Environmental Biologist

Stephen Bowler, FERC Project Coordinator

Annie Blanchard Jones - Attorney-Advisor

Michael R. Pincus - Office of the General Counsel

SPEAKERS:

P R O C E E D I N G S

MS. FLORENTINO: Good afternoon, everyone, we're gonna get started here in a minute. I apologize for all of the technical difficulties we've had.

Okay. Again, I'm sorry we're starting a little bit late. Thank you for your patients with our technical difficulties.

Welcome, everyone, to the Vicksburg, Mississippi scoping meetings for Free Flow Power's proposed Mississippi River Hydrokinetic Lead Projects.

This meeting is hosted by the Federal Energy Regulatory Commission, or the F-E-R-C, or FERC as we call it at the office. I might also refer to it as the Commission as we go on with the presentation.

My name is Sarah Florentino and I'm one of the project coordinators for FERC licensing of the projects. My co-coordinator is Stephen Bowler, who'll be operating the slide show for us.

So thank you all for joining us today. And we hope to make this a very productive information sharing meeting.

If you haven't signed in, please do

so now. On the sign-in sheet, please print your name and your address and indicate whether you would like to be added to the mailing list for these projects. Also, at the bottom of the sign-in sheet, please indicate whether you would like to speak during the comment period today.

If you have prepared a written statement, you may submit it to the court reporter or file it with the Commission, and we will explain how to do that a little later.

Please feel free to pick up the handouts that we have. I guess they're at the back of the room; the scoping document Number 1, and our integrated licensing process regulations, and some tips for stakeholders to implement the process, as well as the brochure to help everyone sign up in our E-Library system.

We're hoping to present our slides as efficiently as possible, so that we allow plenty of time for the public comments at the end of the meeting. And in that regard, let me show you our agenda.

So we'll be doing introductions first. And, at least, we'll be introducing all of the FERC staff and contractor staff that are here

today.

There's additional FERC staff and contractor staff that you'll meet at other scoping meetings.

Again, make sure to fill out our registration form or our sign-sheet so we have an accurate record of the participants in today's meeting.

Following introductions, we will discuss the purpose of scoping, working with the Corps of Engineers, our anticipated schedule for preparation of the Environmental Impact Statement or the E-I-S, and our information needs for analysis of the proposals.

After that, Free Flow Power will provide brief project descriptions of the seven lead projects.

And, finally, we will provide our preliminary scope for cumulative effects analysis, and the procedures for spoken and written comments.

So I've already introduced the FERC project coordinators, which are myself, Sarah Florentino and Stephen Bowler. We also have here today our contractor project coordinator, Fred Winchell; waving here in the front, Bernward Hay is

our contractor water quality specialist, sitting over here to our area. Tom Kahl, contractor, civil engineer, John Hart, our contractor hydrologist, Annie Jones, one of our FERC counsel, and Michael Pincus, another FERC counsel member.

Okay. So just briefly to cover the overall proposal and lead project concepts. Ultimately Free Flow Power proposes to install 180,000 turbine-generators across 55 sites to produce 1,800 megawatts of average operating generation with a total installed capacity of 7,200 megawatts.

Free Flow Power proposed that seven of the 55 sites be treated as the "Lead Projects" and that pre-filing be initiated for those sites using the Commission's Integrated Licensing Process or the ILP. The "Lead Projects" include the proposed Greenville Bend, Scotlandville Bend, Kempe Bend, Ashley Point, Hopefield Point, Flora Creek Light, and McKinley Crossing and Hydrokinetic Projects. Descriptions of the proposed Lead Projects are provided in Section 3.0 of the scoping document. You could flip to that page if you have a copy of that with you.

After the seven Lead Projects have

been completed, the study determination phase have been completed, the study determination, basically the ILP, Free Flow Power plans to prepare license application for the other 48 sites under the Commission's Traditional Licensing Process or the TLP. Free Flow Power intends that the study plans established in the ILP can be used at the TLP sites.

The scoping meetings for the 48 TLP sites will be held at a later date.

So the purpose of scoping -- the next slide. The National Environmental Policy Act or NEPA, FERC's regulations, and other applicable laws, require evaluation of environmental effects of licensing or relicensing of hydropower projects. FERC staff analyze the effects of proposed projects on aquatic, terrestrial, recreation, cultural, tribal, aesthetic, and developmental resources.

The scoping process is apart of NEPA and is used to identify issues and concerns to be addressed in NEPA documents -- which are environmental assessments or in this case, environmental impact statements -- with input from solicited or with input solicited from federal, state, and local agencies, Indian Tribes,

Non-governmental organizations, and the public.

The Scoping Document 1 for the Lead Projects was issued on March 16, 2009.

Okay. And now we're going to take a moment to let a representative of the Corps speak for a moment. As you all know, the Corps is involved with virtually everything that goes on with the Mississippi River, so they'll be heavily involved in this process. And we'd like to give them a chance to speak.

JEFF ARTMAN

MR. ARTMAN: Good afternoon, my name is Jeff Artman Mississippi Valley Hydropower Business Line Manager. So I'm just speaking on behalf of the Corps of Engineers, and I just want to say, "The U.S. Army Corps of Engineers supports the development of renewable energy projects where these projects are feasible, and in the case of the Mississippi River, where these projects are compatible with Corps missions of Navigation, Flood Risk Management, Environmental Stewardship, and Recreation. The Corps has provided comments to FERC and Free Flow Power regarding the hydrokinetic projects on the Mississippi River. And the Corps will continue to work with FERC and Free Flow Power

to resolve these comments.

So we're working through the process with FERC and looking out for our Corps missions.

MS. FLORENTINO: Thank you, Jeff. Next we'd like to cover, just briefly, the environmental impact statement preparation schedule. This is the abbreviated schedule, of course. In your scoping document, in Appendix B, you'll find a more detailed schedule.

So we're currently conducting scoping, and we have additional meetings through May of 2009. Following scoping we'll have study planning process, which will go from May to November.

The applicant will present a license application in December 2010. We expect to have a Ready for Environmental Analysis or an REA Notice by March 2011, and issue an environmental impact statement by October 2011.

Okay. So here at the meetings they were requesting specific information. We are looking for significant environmental issues that should be addressed in the EIS.

We're looking for study requests, using Commission seven study requests criteria.

And those are outlined on the scoping document, as well.

We're also looking for information or data describing the past and present conditions of the project areas.

Resources plans and future proposals in the project area.

The comments can be provided orally today or written today by submitting them to the court reporter, sitting here to my right, or they can be mailed to FERC or filed electronically.

At this time we're going to allow Free Flow Power to provide a brief description of the seven Lead Projects.

DAN IRVIN

MR. IRVIN: Hi, I'm Dan Irvin, I'm CEO of Free Flow Power. We're gonna go through just a few quick slides. So the total number of projects on the Mississippi River is 55 is part of this process. They're between St. Louis, Missouri and just south of New Orleans.

So the FERC -- preliminary permits for these projects were issued in early 2008. The pre-application document was submitted on January 15th of this year.

Scoping meetings and site visits are really just the beginnings, so this is the first one, and there are seven ILP sites. And as Sarah mentioned, the other sites are being processed under the traditional licensing process.

What we're -- I think what's interesting for this region is that this is an area of the country, as many of you know, that doesn't have a great a solar or wind resources as many other areas of the country, but what it does have is a tremendous water resource. The Mississippi is the third biggest river system in the world. The other two river systems that are bigger are the Amazon and Congo which are actually still largely a flood plain river, so this is a pretty directive flow, and that's really what makes these projects viable in our view.

One thing just -- I'll mention is that, we think it's a major source of energy and clean renewable energy that satisfies a lot of the requirements that are being proposed by the facilities, both by the state and federally. There are a whole series of tax incentives that were passed just by the stimulus bill for projects like this. And it's also a fairly labor intensive

business, so it's gonna create a fair amount of bringing jobs, because these are high-maintenance projects, high maintenance.

This is a picture of our turbine. One on the right is a one-meter version that we are working to put in. We've tested it in controlled environments. We're working with the Corps and other agencies to put it into a test facility on the Mississippi River. One of the issues about these things is they do get a lot of debris. There's lot of suspended particles in the river, a lot of bearing wear, as well as trees and houses, and cars along the bottom of the river.

The one on the left is the version that we are building now. We have tooled for this. It's fully designed. We're in production, the first units, we'll probably be looking to put into test facilities starting this summer.

You know, the key issues that we've designed for is something that's extremely environmentally friendly. Most hydroturbines are very high-speed devices and they're -- the environmental mitigation is principally dealt with by keeping fish our of the turbine.

We use a very low tip-speed ratio,

so when you see a wind turbine, they're very efficiently designed, from a materials point of view, is that tip-speed ratio is very high, something like 5 and 6. And what I mean by that is, if the wind is going, for example, 20 miles an hour and the tip-speed ratio is six times, the outside edge of that device is going about 120 miles an hour, which is a fairly high speed. That's a more efficient way to design a device from an engineering point of view.

We purposely designed something with a very low tip-speed ratio. Our tip-speed ratio is 2 to 1, so if the water is going about about four and half miles an hour, the tip of the rotor and the outside rotor is going at about 9 miles an hour. And we're really focused on a lot of the literature that is -- and a lot of other studies that, for example, studies that have been done out of Erdek here on propellers on the Mississippi River about what kinds of speeds are dangerous to fish. And we believe that those speeds we're talking about, are not speeds that will result in fish mortality.

There are no high velocity regions inside the device, which is one of the things

that's been identified as being harmful eventually to fish, no gaps that a fish can get caught in. Really, there's no pressure grade, and one of the things that large head turbines have, hydroturbine is a big difference in pressure, which is not good for fish.

And then we're talking about deploying these under the navigational channel. We need to come up on shore to connect either to the grid or to an industrial user, but almost by definition, those are in areas where there's already a fair amount of infrastructure, so we're not coming into areas on shore that are, you know, pristine, sort of environmental areas. By definition we don't want to do that because that would require a lot of on-shore infrastructure.

And these are water lubricated bearings. We're not talking about grease packed or petroleum products bearing lubrication.

Do you want to spend a little time on this?

RAMYA SWAMINATHAN

MS. SWAMINATHAN: Hi, I'm Ramya Swaminathan -- introduce myself, and I'm at Free Flow, as well, Vice President of Development.

I think one of the things that we are committed to, and that's what this slide is really trying to address, is to be flexible and where and how we deploy the turbines, depending on the conditions of the river. We most certainly thought that that Rudge were in a much deeper drop part of the river where there's a lot more space for vertical arrangements in deployments of the turbines north of Baton Rudge in and around this area.

I think depending on depth or there are particular pockets that might tolerate more vertical stacking of turbines. We certainly are considering alternatives that I'll draw your attention to that are more horizontal or shallower in depth to address that particular depth, but we are looking at a major flexible plans, including affixed, affixing to single pilings, multiple pilings and the kinds of stacked arrays that you're looking at over there. Suspended between pilings, as I mentioned, you have two pilings, you might have one or two horizontal rows of turbines attached to bridge abutments potentially suspended from the surface.

Very simple point here, which is

that there is a lot of standard marine equipment procedures that exist for servicing of river operations, and we intend to use fairly, a simple modular ONM operations in the maintenance procedures, so that what essentially happens is you have a piling is depicted at the bottom over there on top of which sits a stack or an array or turbines, you would pretty standard equipment barges, cranes that would be able to lift that array or turbines off for periodic servicing pressure washing, potentially placement, to the extent that any of the turbines is damaged.

I think, ah -- It's a little dark in here, so I'm having trouble making it out myself, but what I'll try to do is just point your eye towards the middle of that.

This is one of our Lead sites, Site Number 8 down in the New Orleans area, and the visual here is really trying to give you a sense of scale of the deployed turbines. Let me describe what it is depicting. There are two rows, they're in green, and I see a lot of eyes squinting, so I'm hoping that -- thank you very much. They're two rows of turbines. The two rows are 75 feet apart. And as you look at the -- Thank you. There are two

rows here. And those two rows are 75 feet apart. There are 32 individual points, which are essentially the pilings, and each of those pilings have six turbines on top of them. I'm sorry that those in the back is having problems looking at some of the details here, but this is the area of this site that I wanted to draw your attention to.

Obviously this is a stylized rendering, but wanted to give you a scale of deployed turbine to begin this particular project site.

And then, finally, to give you a sense of some of the descriptions in each of the sites as both Dan and Sarah had mentioned, we have seven Lead sites, five of the lower Mississippi, two on the middle Mississippi. Two of them are in the New Orleans-Baton Rudge area, Greenville Bend and Scotlandville Bend, both of those areas fairly heavily industrialized and commercialized, respectively.

And a lot of the habitat notes here are well-known to folks that are fish and wildlife service, et cetera, but I think some of these green sites were chosen specifically with habitat variety and issues to that --

Kempe Bend, Project Number 32, is probably the closest to Vicksburg, it's in a fairly broad area in Tensas Parish, and then Ashley Point and Hope Field are much closer than them, because, actually being about 3500 south.

The last two sites I wanted to mention on the middle Mississippi are up in the St. Louis area in Flora Creek Light Project Number 54 and McKinley Crossing Project Number 57.

The last thing that we really wanted to mention here was that these resource areas, you know, we've been working with the various resource agencies and had taken careful note of some of their concerns, which obviously be addressed today during the entire scoping process. You know, navigation, water quality, aquatic, terrestrial species and cultural historic sites are explored in some detail to the materials that we put together over time, included with the application document, which is available on our website and on FERC's website. I just wanted to give you a snap shot. That's it for me.

MS. FLORENTINO: Okay. Thank you, Dan and Ramya. Okay. The next thing I wanted to cover is just a brief summary of what we've

determined so far to be the scope of cumulative effects for the projects.

So for the Resource Issues, water quality, fishery resources, wetland and terrestrial resources, commercial navigation, and recreation. There are some of the Resource issues.

In terms of Geographic Scope, is generally the middle and lower Mississippi River for the water quality fisheries, and terrestrial resources. The scope for navigation extends to the limits of significant commercial navigation in the drainage.

In terms of the Temporal Scope, looking at past, present, and foreseeable future actions, 30 to 50 years into the future.

Okay. For the remainder of the meeting, I just have some ground rules here before we begin to open comment period. Of course we ask everyone to please show respect for other participants, adhere to the time limit. If we -- I'm not sure if we will need them at this point, but just to make sure we allow everyone who wishes to speak, a chance to speak. If you haven't signed in and you do want to speak, please sign in and we'll be calling people up to the podium

one-by-one, basically in the order that you signed in to speak.

When you come to the podium, please provide your name, including the spelling for the court reporer, and also be careful when you're speaking, if you have any jargon or acronyms, please spell the acronyms out for the court reporter and for everyones' benefit before you start using acronyms. If you prefer to leave written comments, you can leave the written comments with the court reporer or mail them to the Federal Energy Regulatory Commission, or use the e-filing option on our website. The instructions for that are included in our scoping documents, and also in the brochure that should be towards the entrance of the comments row.

If anyone has any questions about how to e-file, please see me at the end of the meeting. Stephen Bowler will be -- order of speakers.

MR. BOWLER: I'm Stephen Bowler, FERC Project Coordinator and nominated name caller, and I'm the IT guy. The -- I just wanted to -- before I follow these procedures, this is the first scoping meeting of 10, and really this is the

beginning. We heard the summary of the applicant's proposal from Dan and Ramya, thank you, and we've heard a brief overview of the FERC process, and this is really at the beginning of analyzing that proposal, getting your comments, and then, and the comments that people send in written form, developing studies, Free Flow making those studies into an application, us rating it and analyzing that in the form of an environmental impact statement, working with the Corps, the navigation and other issues, and ultimately the Commission will make a decision about whether or not or under what conditions to license a project. So this is the very beginning, and then --

I would like to ask at this point, are there any other speakers who haven't signed or who didn't check that they wanted to speak that might want to speak now?

Another question, Jeff, have you -- you signed in as a speaker, but are you done?

MR. ARTMAN: I'm done.

MR. BOWLER: Okay. Well we're not gonna have to have any time constraints, 'cause we only have a couple of speakers signed up right now. And is Mayor Laurence, Laurence or Laurence. You

can either come up here or to that microphone, whatever you prefer.

MAYOR LAURENCE: I'm used to microphones, it relaxes me.

MAYOR DANIEL LAURENCE

MAYOR LAURENCE: Good afternoon, everyone, see a lot of local faces here. I just wanted to make a comment that the City of Vicksburg is very interested in this type of energy, renewal energy projects. We've now had informal meetings with two different companies, including Free Flow.

The City of Vicksburg spends 3.2 million dollar a year on electricity for city facilities and street lights, that's $6300.00 a day. We calculated that -- was for 3.5 megawatts, and we're interested in actually purchasing one of these turbines for the energy credit. We're working with the state to try to create a credit environment.

We think that Vicksburg is uniquely positioned, not only because of the Mississippi Valley Division, and the Corps are located in our community, be we also, Warren County owns the old Mississippi River bridge, which is an established navigational hazard, and we believe, from an

engineering perspective, that these turbines could be mounted to that bridge structure by the piers, and that the bridge could provide an opportunity to bring electrical harnesses in without creating new issues.

And I just wanted to encourage everybody here, we want to do a responsible project, and we wanted to, you know, assure that the environment is not being negatively impacted. But I wanted to encourage people to consider the sped-up project of these temporary permits, because at $6300.00 a day it's a lot from our community, and we have an investment opportunity where we could capitalize one of these turbines to meet the city's actual usage, pay for it in just three or four years, and actually be able to reduce our property taxes by 30 percent without having a negative impact on the environment.

So we're anxious to start today, literally, begging both companies, bringing a contracted proposal. And I just wanted to encourage everybody to consider looking at Vicksburg as a place to begin your evaluations, your studies, because the resources are here, and we have local government that's willing to

participate financially. Thank you.

MR. BOWLER: Thank you. Herscovici Julius.

HERSCOVICI JULIUS

MR. JULIUS: Good afternoon. I work all my life in energy construction here in Vicksburg. I was one of the first who worked at -- Badge Number 143.

When I come here to Vicksburg, with a lot of experience for my work coming from Europe. And I would like to support the project for this new renewable energy.

I mean as our mayor said, here is an idea place to start, and I don't want to talk too much about the economic advantage and good start that can come from a renewable energy. We can hear -- it's -- were impressed, but I would like to encourage the engineers school who are in charge of this project to take a very close look with our background and with our infrastructure for this kind of project.

One more thing that I would like you to take into consideration, we have here a very high-skill of laborers, carpenters, iron workers, you name it, mechanics, who can -- this project

with all the complexity in a very timely fashion with a budget constraint and with a high quality. Most of the people who work in our union are trained and for Gibson as a steel have an excellent record. Don't forget that this for Gibson power plant is the largest in the world, has many people, is the largest in the world, and was the best record as time on light with no problem with environmental or the health hazard.

One more time, please take a good look at these work and let's not cause this project as soon as possible. Thank you.

MR. BOWLER: Thank you. Is there anybody who signed up to talk, who I haven't called? Is there anybody who didn't sign up to talk who now wants to talk? Well, if that's the case, I will close the formal meeting.

There's a lot of people here who have knowledge of the process, the projects, and then I encourage you to discuss your things with us while we're here.

I just make the point that anybody that you want to be considered in our analysis does need to make it into our formal record, one way or another, whether you mail it to our Commission

secretary, whether you electronically file it, and using the information in the brochure we have, or whether you hand it into the court reporter today. And any information that you want to contribute to the analysis, please make sure it gets into the record.

With that, thank you for coming. Yes.

UNIDENTIFIED PERSON: Is there some place to get a copy of the slides from today?

MR. BOWLER: Our slides -- we can put them in the record, I think. Yeah, that's no problem. You guys have yours on, possibly on the website, Ramya and Dan?

MS. SWAMINATHAN: Not on the website.

MR. BOWLER: So, I think Free Flow slides said they can post on their website if -- or at least they can check into whether that's possible, and then we will put a, like a PDF file in the, file in the record so you can get it from the docket for any one of the seven projects, any one of the seven Lead projects.

Any other questions, even very -- other practical questions like that about filing

or? Yes, sir.

UNIDENTIFIED PERSON: What is dimensions of these turbines, what's the size of 'em, I'm talking about physical size, not megawatts or anything like that?

MR. BOWLER: For the details on the project, I would direct you to talk to the applicant directly or to go to the records on our e-library system. I don't want to get into too much back and forth. I don't want to give you information off the top of my head. But everything -- there's a pre-application document that describes their proposal and it's on that e-library website, on their website, as well, Free Flow Power's website. To get those details I'm sure you can talk to them today.

UNIDENTIFIED PERSON: It might be useful to mention your other meetings, when that might be and where they will be held.

MR. BOWLER: Yes. Thank you very much. We'll have another meeting tonight here at 7:00 o'clock, and then that obviously is to accommodate people who are at work right now. And then we have eight other meetings starting on April 27th. I'll run through them very quickly just what

the city and the -- On the 2:00 p.m. -- I'm sorry, on the 28th will be in New Orleans, and at 7:00 p.m. on the 28th we'll be in New Orleans. On Wednesday the 29th we'll be in Baton Rudge, and at 10:00 a.m. on Thursday we'll be in Baton Rudge. On Monday, May 4th, we'll be in Memphis at 7:00, and Tuesday -- at 7:00 p.m., obviously, and 10:00 a.m. the next day on the 5th we'll be in Memphis. And then we'll be in St. Louis at 2:00 p.m. on May 7th and 7:00 p.m. on May 7th.

And all this information is also available in the record. And do we have some -- We may have some handouts with it, as well, and we'll have those out on the table.

We have this meeting in the original scoping document, and then we notice the other eight meetings a week or two later.

And, again, the following date deadline is May 15th for the comments into the record for the scoping process. And there will be other opportunities through the process to comment, and there will be study plan during that phase or opportunities to comment on the study planning, and there's opportunities to comment when we do the environmental impact statement. So there's several

opportunities through the process.

With that, I guess I'll formally close the meeting. Thank you very much.

- - -

(At 3:00 p.m. the meeting adjourned)

- - -

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 17th day of April, 2009.

_____

My Commission Expires:
July 28, 2012

Terence M. Holmes
Notary Public - State of Ohio