From: Alan Isselhard [mailto:speedway2742@gmail.com]
Sent: Tuesday, January 15, 2019 10:49 PM
To: Butler, Matthew <matthew.butler@puco.ohio.gov>; Joe Krawczyk <joseph.w.krawczyk@usace.army.mil>; sfdaly@crrel.usace.army.mil
Subject: Icebreaker offshore project & USACE Dr. Daly's report

Mr. Butler - please add my comments in the attachment below to the Docket Number 16-1871-EL-BGN, Icebreaker Windpower, Inc.

record. Thank you.

Alan Isselhard

Wolcott, NY

Great Lakes Wind Truth

Re: Docket Number 16-1871-EL-BGN, Icebreaker Windpower, Inc.
ATTN: Mr. Matt Butler (OPSB)

Please add my following comments to the Icebreaker record.

To the Ohio Power Siting Board:

I question the Icebreaker mono bucket foundation for the proposed 6 Icebreaker turbines and feel that in a short period of time the mono bucket with tower, nacelle and rotor assy. - will, if built, soon topple over into Lake Erie as there's no positive secure means of holding the mono bucket to the lake bed. The mono bucket is merely stuck in the mud. Icebreaker Windpower Inc. claims that they will hold verticality to +/-.5 degree during installation of the turbine - but will it stay that way over time? Im wondering how much off verticality (in degrees) is tolerable before the entire assembly comes crashing into the lake? I believe the tower will buckle in the bottom third section when it topples as this is traditionally what happens when the collapse. It seems to me that the balance of the entire turbine assembly is super critical to maintain the +/-.5 degree verticality specification and I liken this to a golf ball on a tall T - the majority of all the mass and actions of the mass is at the very top. When I think when there's a strong wind over the lake and the rotor is stopped till the wind subsides to prevent turbine damage - the action of the wind against the stopped rotor blades must put a large force against the entire assembly and disturb the balance and ultimately impact the verticality. Also- when the nacelle and rotor assembly rotates both as an assembly and individually - I find it hard to believe everything stays in balance in a means that won't impact verticality and especially with added forces such as wind, rain, snow, waves, ice buildup on the components, especially the rotor and also what USACE Dr. Steve Daly warns.

Here are my thoughts. In reading the Icebreaker ice cover writeup by USACE engineer Dr. Steven Daly - his report - **Characterization of the Lake Erie Ice Cover** mentions a lake bed problems within Lake Erie during winter that may occur and says ice scours and ice ridges are formed in the lake bottom. Although Daly didn't says this - I feel these conditions could easily form under the mono buckets and disturb verticality to the point that the turbines topple in the lake. These situations might also impact the turbine-to-turbine electrical cables and turbine to shore electrical cables. This is the point of this comment to the OPSB - how ice scour and ice ridges could impact verticality! I do not remember reading anywhere in the information about verticality where Dr. Daly's information was considered.

Dr. Daly's report hardly ever mentions the "Icebreaker" project and never mentions the innovative mono bucket turbine foundation, never mentions the celebrated turbine "ice cone", or if the +/- .5 degree verticality spec. can be held throughout the project life and there really is no link between his highly technical report and the Icebreaker turbine assembly. (But I suppose its not DR. Daly's responsibility to review the engineering associated with the mono bucket and what's its designed to do) Daly's report shows 41 years of ice chart information history. Daly's report was made public AFTER the design

of the mono bucket foundation became public that will be used in this pilot project therefore he had an opportunity to review the mono bucket foundation design and comment. His conclusion does not make any positive recommendations for the turbine assembly nor endorse the engineering and design for the turbine mono bucket foundations. Dr. Daly's article mentions there are several unknowns. Someone should ask Dr. Daly to give a brief written report on whether he would recommend moving forward with the Icebreaker project, using the mono bucket foundation, as designed and if it is safe for the life of the project. Based on what I have read in Dr. Daly's report I would absolutely NOT recommend that the mono bucket foundation is acceptable for the Icebreaker. On the other hand - suppose the turbines collapse - maybe that would be the end of any future plans for offshore turbines in the Great Lakes. I wonder if USACE or DOE engineers have reviewed and approved the mono bucket design in view of points raised by Dr. Daly regarding ice scour and ice ridges that would be a threat to the mono bucket foundations verticality. Does USACE still recommend moving forward, as designed with mono bucket, despite the unknowns Dr. Daly refers to?

Has this all been studied and investigated and approved by an independent engineering group not associated with Icebreaker?

I believe USACE and the Coast Guard are taking a huge risk approving this pilot project as they have already done.

Alan Isselhard
Wolcott, NY
Great Lakes Wind Truth

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Case No(s). 16-1871-EL-BGN

Summary: Public Comment received via website electronically filed by Docketing Staff on behalf of Docketing.