

TO: Joshua W. Walters, Jeff Howard

FROM: Joel N. Gordes, Energy & Environmental Security Strategist

RE: Comment on Transmission for Offshore Wind

DATE: January 29, 2021

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I am not against offshore wind but I have reservations that any overdependence upon it, or any other single source, coupled with its required transmission may have severe, unintended, negative repercussions. My reasoning includes:

1) Has it not been recognized that offshore wind (OSW) has some inherent security problems, many related to transmission? These include but may not be limited to:

A) Distances from points of use may be significant,

B) Requires what are often lengthy, potentially vulnerable cables at sea and on land,

C) May be connected to potentially vulnerable dc-ac conversion stations,

D) Increasing future wind velocity, itself due to climate change, may damage wind turbines (w/potentially insufficient feathering capabilities) and;

E) Cyber/EMP attacks may be aimed at all aspects of the transmission facilities

If these are not considered problems, why was grid transmission identified as one prime weakness during the 2011, 2012 and 2020 storm events each time losing power to approximately 1 million people in CT?

2) Isn't this much dependence and funding for lengthy, transmission-dependent resources risky?

3) With climate change effects apparently increasing, won't storm damage to transmission be even more severe? Has DEEP engineered that into any modeling? To what extent? At what cost increase(s)? Please supply if available.

And if wind power fails, is there sufficient emergency back-up plans for transmission and other resources? Please describe them.

4) Would not distributed generation (microgrids), including wind, closer to points of use, be more secure than requiring lengthy transmission?

5) What has experience (good and bad) been in other nations with OSW and its transmission requirements and robustness? (I have seen photos of at least one destroyed ocean-based wind farm). Are they preparing their wind turbines for even more robust climate change induced weather? How?

In closing, I think it is wise to draw a line in the sand on how much dependency we want to place on any one source and the required transmission for it. As Carl Weinberg, who first developed distributed generation concepts at PG&E and was one of my mentors cautioned, "some is good, more is better BUT enough is best."