TCC
Pre-Filed Testimony
David Sharp
EXH-5404_RECON

BEFORE THE STATE OF WASHINGTON
ENERGY FACILITY SITING EVALUATION COUNCIL

In the Matter of the Application of: Scout Clean Energy, LLC, for Horse Heaven Wind Farm, LLC, Applicant.	DOCKET NO. EF-210011 TCC PRE-FILED REBUTTAL TESTIMONY: DAVE SHARP REBUTTAL OF GREG POULOS TESTIMONY

~~I have read the testimony of Greg Poulos submitted in EXH-1031_R and make the responses below.~~

1. ~~**Mr Poulos on Page 7, Lines 7-15 states** - *-it is proposed that it would be unprecedented for permitting agencies to issue open ended permits for a wind farm, if multiple turbine positions are under consideration. I am aware of numerous instances where permitting agencies, such as the Federal Aviation Administration, have issued authorizations for a variety of wind turbine array positions within a given project envelope.*"~~

~~**At Page 7, Line 13, t**he "permitting agencies" language refers to agencies or organizations that permit and have overall responsibility for performing the public process of gaining necessary approval for the overall project. The FAA mission is specific and is focused on the safety of airspace. Mr. Poulos' comment analogy does not apply to this situation. Mr. Poulos did not provide an example that counters or rebuts Mr. Simon's testimony.~~

~~EFSEC has a very complex, multi-faceted and difficult task made even more difficult by the way this ASC and updated ASC have been presented. The Applicant has been redesigning this project from an all-wind project to a hybrid project since December 15, 2020, 7 weeks prior to the first ASC submittal. That was when application was made to BPA for the first hybrid generation components.~~

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2. Poulos, Page 7, lines 18-25- Poulos discusses the Applicant's permitting approach.

My Comment: At what point in time does "a stake get driven into the ground" when the Applicant discloses what the as-built project will be? Is it after the Site Certification is granted? Is it after the project is financed? Is it after off-taker long term agreements are in place? Mr. Poulos cites "*the competitive nature of energy development, procurement of expensive equipment, and of postconstruction operations in the energy markets"* to explain having project optionality until "*permitting is complete and the projects are financed."* This is not correct and lacks any evidence of truth. Mr. Poulos is mistaken with regard to with timing of commercial decisions and project permitting. His testimony says it is not unusual, but he provides no comparable examples to buttress his assertions.

3. Mr. Poulos makes comment about the larger size of projects-Page 8, Line 2

My Comment: Poulos cites Shepherds Flat near Arlington as being nearly 1,000mw and states it has been operating for many years. Shepherds Flat is actually three projects that total 845mw. The nearest community is Arlington, OR, 5.0 Miles distant. Arlington had a 2022 population of 634 based upon US Census data. Compare that to the Tri-Cities area where the US Census Data indicates that over 100,000 people live within six miles of the Horse Heaven Hills Project.

4. Mr. Poulos Page 8, Lines 7-16, Poulos states: *"Pattern Energy is currently constructing the 3,500-MW SunZia wind farm in New Mexico. Our firm is engaged with numerous clients in the US and globally that are pursuing onshore wind farms of 500-2,000 MW nameplate capacity. There are numerous wind farm clusters near or above the size of Horse Heaven. In addition, many wind farms or clusters of wind farms overlook or are in the vicinity of large populations. The heavily built-out Altamont Pass wind farm complex in California, for example, overlooks the city of Livermore. Similarly, the San Gorgonio Pass wind farm and nearby wind farms, with hundreds of wind turbines collectively, are situated near Palm Springs and North Palm Springs, California (nearly 500,000 population).*

My comment: SunZia is a 3500mw facility in New Mexico. The closest communities are Corona, population 130, and Duran, New Mexico, population 19. The project is largely on BLM land. Compare that to the Tri-Cities area population demographics; 100,000 within 6 miles.

5. Mr. Poulos on Page 8 lines 12-16 mentions Altamont pass overlooking the City of Livermore, CA.

My Comment: Altamont pass is 9 miles from Livermore, population 87,000. San Gorgonio Pass is over 13 miles from Palm Springs and North Palm Springs is 10.5 miles distant. The populations of Pam Springs and North Palm Springs are 43,000, and 2,000 respectively. Compare that to the Tri-Cities where 100,000 people live within 6 miles of the Horse Heaven Hills Project.

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6. **Mr. Poulos Page 9, lines 9-14** Poulos makes a generalization when he states that long distance transmission cost "would reduce economic viability despite higher wind speed."

My Comment: Mr. Poulos fails to recognize that major Investor-Owned Utilities that serve customers in Washington or Oregon have coal fired generation assets with transmission in Montana. It is public knowledge that IOU's (Investor-Owned Utilities) are developing wind in Montana and Wyoming to take advantage of not only higher quality wind resources, but to utilize their **existing** transmission capacity that will be available when coal fired generation is not allowed to enter Washington state.

7. **Mr. Poulos at Page 9, lines 14-16 does acknowledges that lower wind resources are found in Washington**.

My Comment: Oregon also has marginal wind resources. Shepherds Flat Wind Project mentioned above is the closest late generation wind project to the HHH project. Shepherds Flat had a 5-year net capacity factor of 22.7% according to EIA data. This indicates that the HHH project is also likely to be only marginally effective.

8. **On Page 10, lines 10-13** Mr. Poulos fails to adequately respond to the points made by Mr Simon regarding wake turbulence and the impact on the Nine Canyon wind project. *Poulos states "It is common for new wind farms to produce wakes and many clusters of wind farms have been built over time across the United States and in the Pacific Northwest. I do not find the building of one wind farm that impacts another unusual*."

My Comment: Mr. Poulos did not address the main subject of Mr. Simon's testimony, that "Wakes from Horse Heaven will reduce the energy production from Nine Canyon". A quantitative determination of the potential wake impact would normally be required for evaluating the merits of a new wind farm, and in this case, it is public power that would be impacted. Has wake modeling been done? Mr. Poulos did not dispute Mr. Simon's assertion that wake turbulence would reduce the energy production form Nine Canyon; he does not answer the question and instead says he does not find it "unusual". Mr. Simon in his last sentence on this subject simply asks, Has wake modeling been done? Mr. Poulos's lack of a response indicates that none has been done.

Wake turbulence is a well-known phenomenon in the wind industry, and large arrayed wind projects remove energy from the wind over a broader area than a smaller project. In a multi-row array, the lead row of turbines will be the most efficient. A single row project, all else being equal, will be more efficient than a multi-row array. According to a quoted phrase used often by the Developer, the project "**wraps around**" the existing Nine Canyon Project. The Developer has used that phrase since the first application document by their legal team. The newly built project not only is upwind of the Nine Canyon facility, it "wraps around" it. The higher elevation siting, closer proximity, and much larger rotor diameter would dominate and overpower the smaller Nine Canyon turbines.

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There is no indication whether the Developer has calculated and evaluated the amount of wake loss and communicated that to the Nine Canyon Owner. This is yet another key aspect of this project that has not been adequately analyzed in accordance with WAC requirements. This unknown amount of loss needs to be assessed and mitigated.

9. **On Page 10, lines 10-13,** When discussing Nine Canyon being impacted by wake turbulence, Poulos states: *"It is common for new wind farms to produce wakes and many clusters of wind farms have been built over time across the United States and in the Pacific Northwest. I do not find the building of one wind farm that impacts another unusual."*

My Comment: I find it illogical that Poulos acknowledges that wake turbulence exists and that one wind farm impacts another yet no wake turbulence analysis has been provided.

i.

10. **Poulos on page 14, line 6,** *states "Mr. Sharp includes a litany of complaints. In my view the complaints are unfounded, for the following reasons:"*

a. First Bullet Item: *Revealing specific details and point measured data that shows proprietary wind speed information is not an accepted practice in the profession due to its critical role in understanding energy production from a complex, and therefore its competitive position in the industry.*

i. My Comment: Mr. Poulos has not established a legal basis for an assertion that the data used is proprietary.

ii. My direct testimony uses turbine locations based on information posted on the EFSEC website. I also personally did a survey of met towers that were located West of Highway 395 by driving around on roads with a map and a compass. I do not have, nor have I ever possessed proprietary wind speed information.

iii. The GPS locations of the wind turbines are contained in the Government Activities section of the EFSEC website for the project(these documents were not placed on the website until sometime in April or May 2023).

b. Second Bullet Item-*The 1,150-MW wind farm is clearly described and mapped, showing individual turbine locations on maps within the ASC.*

i. My Comment: This is incorrect. The ASC does <u>not</u> clearly describe and map turbine locations.

ii. **ASC Section 1.8 Full Disclosure by Applicant-WAC 463-60-065**: *"It is recognized that these guidelines can only be comprehensive in a relative sense. Therefore, and in addition to the other guidelines contained herein, the council adopts the basic guideline that an applicant for site certification* ***must*** *[emphasis added] identify in the application all information known to the applicant which has a bearing on site certification."*

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iii. The Applicant used the premise that the project was an 1150mw project because of a BPA Interconnection Application for 300mw nameplate generation that was submitted just prior to the original ASC submittal. However, that application was withdrawn shortly afterward.

c. When the Applicant resubmitted the updated ASC in December 2022, they did not disclose that the 300mw (plus 150mw Energy Storage) application had been withdrawn. They did not disclose that in the intervening time between the original ASC submittal and the updated submittal, and after withdrawing the 300mw from the original ASC, the Applicant made a replacement application for 100mw of solar.

d. This lack of clarity and lack of disclosure has a clear bearing on the site certification process. The Applicant has failed to make appropriate disclosures and correct the ASC in a timely manner. The applicant now intends to overbuild the project by 100mw. However, the Applicant also failed to disclose the net removal of 200mw of solar from Phase 1 of the project. That has the effect of overstating the total project nameplate by 200mw and led to the applicant avoiding mitigation for turbines on the basis of not being able to generate to a fictional project nameplate capability (1150mw).

e. Updated ASC, Page 2-16 states: *"Up to 650 MW of nameplate generating capacity, limited to a 350 MW grid injection capacity, could interconnect to the planned BPA 230 kV Bofer Canyon substation. Up to 500 MW of nameplate generating capacity/grid injection capacity could interconnect to the planned BPA 500 kV Webber Canyon substation."*

i. The first sentence pertains to Bofer Canyon (Phase 1). The second sentence referring to a planned Webber Canyon substation has not changed from the original to the updated ASC. It clearly states: **500mw nameplate capacity/grid injection capacity**. [emphasis added]

ii. However, the Applicant has made application for an additional 100mw of solar (plus 50mw energy storage) in Webber Canyon (Phase 2) in December 2021. EXH-5405_R, ***BPA Interconnection Queue request and System Impact Study***.

iii. That application put Phase 2 at 600mw generation capacity/grid injection capacity; beyond the ASC limit of 500mw. Furthermore, the Applicant failed to disclose this in the updated ASC.

iv. The Webber Canyon area is a highly sensitive phase location for many reasons including wildlife and habitat, loss of recreation opportunities, viewshed impairment, proximity to population, Native American issues, property value loss, firefighting impairment. Any change that increases nameplate and generation in Phase 2 and exceeds the existing ASC limit must be subject to full the EFSEC public review and analysis process. The Applicant is failing to disclose material changes to the application.

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11. Page 14, lines 14-15 Poulos states *Capacity applications have been applied for separately and are unnecessary for the EFSEC application to the best of my knowledge.*

My Comment: Any new or increased capacity applications that are outside of the limits contained in the Updated ASC need to be disclosed and go through the EFSEC review and comment process.

12. From Page 14, lines 15-18 "*A developer would not spend the money required to develop a near $2 billion wind/solar/battery facility unless they had clear guidance that the power could access and be sold at a competitive price on the grid, in my experience*"

My Comment: *This is pure conjecture with no factual basis at all.* Mr. Poulos also inflates the value of the project by $300 million. All previous cost estimates have been 1.7 billion "at full buildout".

The existing public documentation submitted to Bonneville Power Administration identifies that there are very clear restrictions to what the BPA system can accept. The documentation indicates that curtailment situations can occur. Taken as a whole, and including the BPA studies, this phrasing seems to indicate a merchant plant selling into a grid with a limit of 850mw injection would experience curtailments.

13. Page 13, Lines 19-20 Poulos states "*If the goal of the legislature includes generating clean electricity, then this Project fits that requirement.*"

My Comment: *Mr. Poulos does not quote the requirements appropriately and makes a declaration that is unsupported in fact.*

The goal of recent legislation is to provide ample clean energy at reasonable costs to the electric customers of the State of Washington. We see no indication that this project is being developed using Integrated Resource Principles, or that Washington customers will benefit. The Chief Energy Advisor for the State of Washington indicates Washington will import the vast majority of renewable energy from Montana and Wyoming. See report to Washington Senate Working group January 2023, EXH-5406_R.

Investor-Owned Utilities that have the responsibility to provide the power are well underway with new wind energy projects operating, in construction, or planned in Montana, and transmission infrastructure is being increased to the Northwest from Wyoming. This project appears out of sync with what our major utilities need. Absent interest from Washington IOU's, that leaves no options to sell to an out-of-region utility, or sell the facility to a Commercial or Industrial customer. Neither of those options would provide ample clean energy to the state of Washington. No pricing has been included, nor should they be, but a project with significant overbuild in an admitted (by Mr. Poulos' testimony) low wind resource area gives problematic indicators from the cost standpoint.

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14. Wind Speeds on page 14 at line 25 through page 3*: Mr. Poulos states: Mr. Sharp conveys that wind speed considerations are paramount in the development of a wind farm. That is true. The Project was designed with that notion squarely in mind, along with many other factors, as described earlier in this document. Mr. Sharp apparently does not consider the fact that wind turbine technology has evolved and become more efficient over time, rendering large swaths of the United States, that 10-15 years ago were not economical to develop, now economical. Such is the case here, and around the world. With this in mind, even though* ***the wind speed of Washington in general, and this location in particular*** *[emphasis added], is lower than other parts of the United States (e.g., much of the Midwest), it is also true that many areas, due to advancing technology and innovation, are now economic (that is, they can be designed to generate electricity at a low enough levelized cost of energy to be competitive within a given market while also remaining economically viable).*

My Comment:

a. Mr. Poulos uses generalizations instead of relevant data that shows that this project is economically viable, especially given the magnitude and severity of the project on the environment and people nearby.

b. The regional wind capacity data clearly shows that this location in the Eastern Horse Heaven Hills is at best average, and most likely inferior to other locations in Washington: Palouse County, the Gorge in Klickitat County, Ellensburg or Dayton areas, and other places where existing wind projects are located. This area has historically been passed over for a number of reasons. One of the foremost reasons is that the location is right next to a metropolitan area and is not suited for a large wind project. The second reason is simply because there are better locations elsewhere.

c. If one examines wind turbine design over the years, towers have gotten taller, blade rotor swept area or rotor diameter have gotten bigger, blades have made some aerodynamic improvements. However, there is just so much energy that can be extracted from wind.

15. Page 16, Lines 1-15 Poulos dismisses Sharp testimony on several issues that have to do with danger to people, including the topic of fires and firefighting.

My Comment: Mr. Poulos is incorrect regarding the risks posed by the project to people and the environment.

a. On June 13, there was a significant fire approximately 10 miles in length that burned the Horse Heaven Kiona Ridge area. The fire burned from West to East, and was contained where Webber Canyon Road ascended to the Horse Heaven Plateau. Aerial firefighters were instrumental in putting out the fire. It is plain to see that the large jet aircraft and helicopters would not be able to put out these fast-moving brush fires on steep slopes if there were 499-foot wind turbines in the flight paths. See EXH-5407_R.

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