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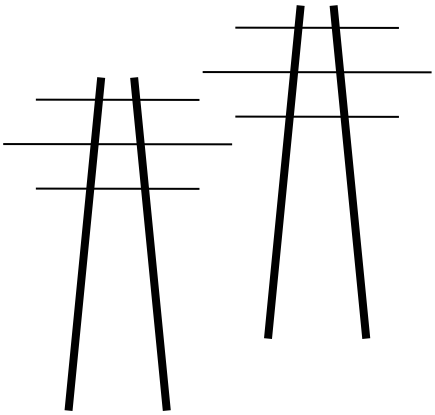


April 19, 2023

Kasey Prestwich, Project Manager
BLM Shoshone Field Office
400 West F Street
Shoshone, ID 83352

via E-mail only: BLM_ID_LavaRidge@blm.gov

RE: Initial Comments on Lava Ridge Wind Project DEIS

Dear Mr. Prestwich:

Thank you for the opportunity to submit comments on the Lava Ridge DEIS.

I learned of the Lava Ridge wind project on the radio after packing up our tent at Craters of the Moon and heading down towards I-80, with a stop at the Mindoka National Historical Society. A large part of my 28 year career focused on utility regulatory issues has been working with clients who have concerns about issues associated with living within or adjacent to wind project footprints. Their primary issues of concern have focused on noise, shadow flicker, changes in vistas, impacts on wildlife (bats and eagles in particular), land use and values, and airplanes and helicopters performing agricultural spraying.

SITING WIND TURBINE NEAR HISTORIC SITE – NEEDS 6.5 MILE SETBACK

The good news is that there is experience in siting the Big Bend Wind Project near an historic site in Minnesota, the settlement agreement[1], ALJ's Recommendation, and Commission Order offers suggestions on impacts, avoidance, and mitigation[2] See attached Exhibits A, B, B-1, C.

[1] Big Bend, Ex. 331 at 4 (Settlement Agreement). Filed in eDockets as:

20219-177943-02	PUBLIC	19-619	☐	WS	BIG BEND WIND, LLC	OTHER--2021-09-14 BIG BEND SETTLEMENT AGREEMENT FILING LETTER	09/14/2021
20219-177943-05	PUBLIC	19-619	☐	WS	BIG BEND WIND, LLC	OTHER--2021-09-14 BIG BEND FULLY EXECUTED SETTLEMENT AGREEMENT	09/14/2021
20219-177943-08	PUBLIC	19-619	☐	WS	BIG BEND WIND, LLC	OTHER--2021-09-14 BIG BEND SETTLEMENT AGREEMENT EXHIBIT A	09/14/2021
20219-177943-11	PUBLIC	19-619	☐	WS	BIG BEND WIND, LLC	OTHER--2021-09-14 BIG BEND SETTLEMENT AGREEMENT EXHIBIT B - PART 1 OF 4	09/14/2021

Discussion of impacts on the Mindoka National Historical Site are similar to those raised during the consideration of the Big Bend Wind Project[3] in Minnesota near Pipestone National Monument and Jeffers Petrogylphs Historic Site. See attached Exhibit A, Planned Minnesota wind farm to be moved farther from Jeffers Petroglyphs site. State law requires consultation with the state Historic Preservation Office, and federal law requires consultation with tribal governments. Many tribal and local officials and residents raised questions about the impact of the wind project on the Jeffers Petroglyphs Historic Site, a site sacred to area native tribes. A look of issues raised and how addressed could/would help inform the record in this docket.

The Jeffers Historical Site settlement specifics begin on page 58 of the ALJ's recommendation. **The bottom line is that turbines will now have at least a 6.5 mile set back from the Jeffers Historical Site.** Additional historic resources were addressed in the proceeding, and recommendation addresses these sites beginning on p. 62 of the Recommendation. Exhibit C.

The issues raised of impacts on the historical site and the settlement reached received broad attention[4] and provides guidance on Lava Ridge siting. The essential part of reaching a mutually agreeable/not-all-happy agreement was participation of the parties with an interest. The BLM has experience with consultation, and in this case, what's needed is consultation with the Dept. of Interior/Historic Preservtion and all the parties weighing in.

The DEIS, Section 3.5.9 addresses "Native American Resources" and addresses 1 mile and 2.5 mile setbacks, and states:

> Wilson Butte and Cave, Sid Butte, and other buttes and cultural resources of potential concern to Native American Tribes are within the up-to-2.2-mile operational noise zone where project-related noise would occur.

P. 3-149. **This 2.2 miles "noise zone" setback is NOT sufficient**, and there is precedent of siting wind near Native sites with a 6.5 mile setback.

> Tribal Treaty Rights span a variety of subjects, including rights reserved by

20219-177943-14	PUBLIC	19-619	☐	WS	BIG BEND WIND, LLC	OTHER--2021-09-14 BIG BEND SETTLEMENT AGREEMENT EXHIBIT B - PART 2 OF 4	09/14/2021
20219-177943-17	PUBLIC	19-619	☐	WS	BIG BEND WIND, LLC	OTHER--2021-09-14 BIG BEND SETTLEMENT AGREEMENT EXHIBIT B - PART 3 OF 4	09/14/2021
20219-177943-20	PUBLIC	19-619	☐	WS	BIG BEND WIND, LLC	OTHER--2021-09-14 BIG BEND SETTLEMENT AGREEMENT EXHIBIT B - PART 4 OF 4	09/14/2021
20219-177943-23	PUBLIC	19-619	☐	WS	BIG BEND WIND, LLC	OTHER--2021-09-14 BIG BEND SETTLEMENT AGREEMENT EXHIBIT C	09/14/2021

[2] To access all filings in the Big Bend wind docket (19-619), go to https://mn.gov/puc/ and then "eDockets" and then "Go to eDockets" and next "eDockets – Search Documents" and plug in "year" (19) and "Docket" (619). Other associated dockets are 19-408; 19-621; and Red Rock Solar 19-486 and 19-620.
[3] And in conjunction with Red Rock Solar.
[4] For reference: https://grist.org/energy/a-clean-energy-proposal-near-a-sacred-indigenous-site-divides-a-minnesota-community/; https://www.southernminnesotanews.com/settlement-reached-in-proposed-wind-farm-near-jeffers-petroglyphs/; https://www.startribune.com/planned-comfrey-minnesota-wind-farm-to-be-moved-farther-from-jeffers-petroglyphs-site-big-bend/600099755/

> Tribes in relation to natural resources (i.e., the right to hunt, fish, and gather on land ceded by or land retained by Tribes) (ACHP 2021) (see also 36 CFR 800.2(c)(2)(ii)(B)). Established treaties are binding federal law. Tribal Treaty Rights must be considered in the agency decision-making process, consistent with the federal government's trust responsibility to federally recognized Indian Tribes (ACHP 2021; ACHP et al. 2021).

DEIS, p. 3-153.

This siting proposal requires compliance with the U.S.' "trust responsibility," which goes further than the strict letter of the law, and requires heightened responsibility and respectful siting in light of the importance of these lands. See DEIS, first paragraph on page 3-153.

NOISE MODELING USING OTHER THAN 0.0 GROUND FACTOR IS MISLEADING

Noise information presented in the DEIS is misleading because potential for noise impacts is grossly understated due to use of improper ground factor in noise modeling.

First, regarding noise, the DEIS states:

> The average person **perceives** an increase in sound of above 3 dBa as readily noticeable, an increase of 10 dBa as doubling of the sound, and an increase of 20 dBa as a dramatic change (SWCA 2020a)…
>
> … a sound level of 60 dBa would be representative of normal conversation…

DEIS, p. 3-145 and 3-146 (emphasis added). This focus is "perception," but a 3 dB(A) is a doubling of sound. Normal conversation is close and direct, noise from a wind turbine in Minnesota is prohibited above 50 dB(A)[5], and in Wisconsin, 45 dB(A).

7030.0040 NOISE STANDARDS.

Subpart 1. **Scope.** These standards describe the limiting levels of sound established on the basis of present knowledge for the preservation of public health and welfare. These standards are consistent with speech, sleep, annoyance, and hearing conservation requirements for receivers within areas grouped according to land activities by the noise area classification (NAC) system established in part 7030.0050. However, these standards do not, by themselves, identify the limiting levels of impulsive noise needed for the preservation of public health and welfare. Noise standards in subpart 2 apply to all sources.

Subp. 2. **Noise standards.**

Noise Area Classification	Daytime		Nighttime	
	L_{50}	L_{10}	L_{50}	L_{10}
1	60	65	50	55
2	65	70	65	70
3	75	80	75	80

An NPS model predicted mean noise levels in 2015 (including the average existing sound level with the influence of humanmade sounds) at Minidoka NHS to be 6.0 dBA above the natural

[5] https://www.revisor.mn.gov/rules/7030.0040/

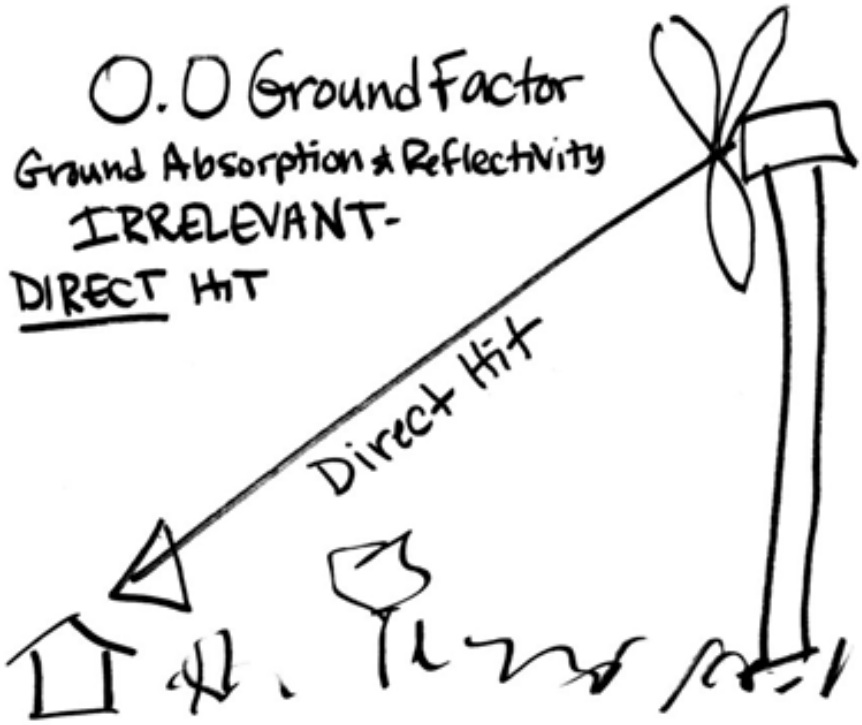
ambient sound level (NPS 2015)…

> … The results of the noise impact assessment (SWCA 2022a) indicate that operational noise levels near Minidoka NHS would range from 7.1 to 12.1 dBA above existing background levels and would range from 3.7 to 15.7 dBA above existing background levels from within Minidoka WRC (see Section 3.6 regarding Noise impacts on the Japanese American community). As noted in Section 3.6, these operational noise levels are all below the EPA's recommended noise standard of 55 dBA for residential land uses.

DEIS, p. 3-157-158.

Attached as Exhibit D please find a Comment I filed in a Minnesota Power Plant Siting Act hearing docket, raising the issue of misuse of ground factor. Misuse in modeling is use of a ground factor of other than 0.0 for an elevated source. The use of a 0.0 ground factor in modeling an elevated noise source has been addressed in testimony in Wisconsin dockets by two noise experts, that 0.0 is the ground factor to be used.

The 0.0 ground factor for elevated sources is necessary because for an elevated noise source, the path to "receptors" is uninterrupted, it's a direct line, there is no ground absorption:

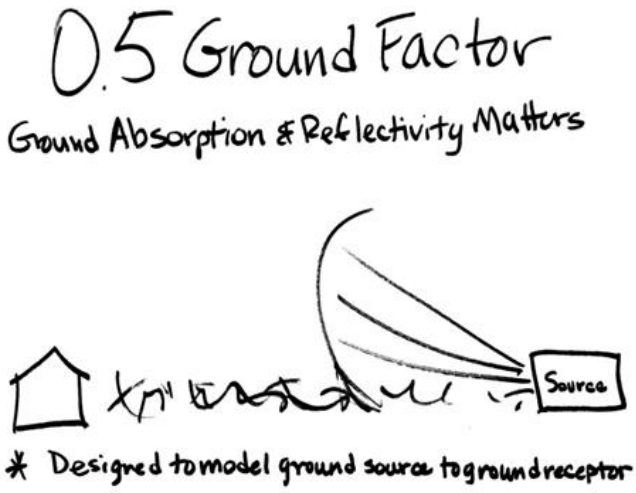


The use 0.0 of ground factor for wind is standard practice, and a 0.5 ground factor is NOT appropriate for wind because it's elevated. This was inadvertently confirmed by Applicant Badger Hollow's expert Mike Hankard's testimony in the **Badger Hollow solar docket before Wisconsin's Public Service Commission (PSC Docket 9697-CE-100)**:

A The model that we use has been shown to predict conservatively with 0.5. I mean, 0.5 ground factor is used in probably -- well, with the exception perhaps of wind turbine projects which are different because the source is elevated. But for projects like a typical power plant, a solar plant where the sources are relatively close to the ground, I would say 90 to 99 percent of the studies use 0.5. And when consultants like myself go out and measure these plants after they're constructed to verify our modeling assumptions, that assumption checks out as being, if anything, overpredicting the levels. So there's no need to -- there would be no justification to use something like a .2 or .3 which would predict yet higher levels because we're already demonstrating that the model is probably overpredicting. So that would not be justified for those reasons.

MR. NOWICKI: Thank you. No further questions.

The use of a 0.5 ground factor is only appropriate for modeling predicted noise impacts for a ground source to a receptor on the ground to address muffling interference in between:



The introduction of ISO 9613-2, attached in full as Exhibit E, explains this simply:

7.3 Ground effect (A_{gr})

7.3.1 General method of calculation

Ground attenuation, A_{gr}, is mainly the result of sound reflected by the ground surface interfering with the sound propagating directly from source to receiver.

Exhibit E, ISO 9613-2.

The DEIS' Noise Technical Report, at page 18, claims a definition of ground factor in ISO 9613-2, but this is FALSE! There is no citation provided, and the words in the bullet point paragraph are NOT found in ISO 9613-2. This is misleading at best, more like misinformation and disinformation. A 0.5 ground factor means that features on the ground prevent roughly half of the sound from reaching the receptor, and a 1.0 ground factor represents a sound impermeable feature between the source and receptor. Ground factors of other than 0.0 are not to be used for elevated source noise modeling.

Dr. Schomer, who was part of committee that developed the ISO 9613-2 noise modeling standard, had an even more specific explanation, this from another Wisconsin wind docket. See attached Exhibit F, Schomer Testimony, pps. 569, et seq. See p. 571 of that testimony:

A Yes. But to understand that is a question that was earlier. You've got a source up in the air and not on the ground, so does this standard really apply. And my answer was, it's the best we have, but you can't apply it exactly the way you would if it was on the ground because the source is as high in the air, it changes what the propagation is. So that the definition of what is hard and what is soft, you have a source that's 100 meters in the air on average. That's not on the ground as one of the other counsel's pointed out.

And on p. 572:

A No. It's only -- the only thing you have is an effect of the microphone height at your receiver. The other -- it doesn't -- it doesn't come down to the ground and then travel across the ground like this. It doesn't do that. What you're interested in is the path that goes straight from this up in the air source to your receiver, which may be near the ground, but you don't have any other path. If you do, it's because you don't have good propagation.

In short, again, page 574, with an elevated source, from that source to the receptor, it's a direct hit:

Q So if there's a source up in the air that's emitting sound, the sound's going to come down and it's going to hit the receptor before it hits the ground and absorbs; is that correct?

A It's going to hit the receptor directly. There will be -- it gets confusing.

And summing up on p. 576 of Dr. Schommer's testimony:

Q But considering we have to use this model because we don't have anything better, the best way to use this model for a source that's 100 meters in the air is to use that 0.0 coefficient?

A 0.00 is the best you can do with this.

Contrary to the experts' testimony, the Lava Ridge Noise Technical Report states that ground factors of the appropriate "0.0" was used, but also that the utterly unjustifiable and unsupportable ground factors of 0.6 and 1.0 were use for this elevated source!

- To better represent the actual conditions of the project and to ensure that both hard and soft ground absorption were considered, acoustically hard sites, including surfaces such as pavement and bare hard ground, were assumed to have high reflectivity properties, and a ground absorption coefficient of 0.0 was used. Ground cover near the project was analyzed using satellite imagery from Google Earth. A higher ground factor of 1.0 was defined for more absorptive ground, such as vegetation and loose soil. Semi-hard materials such as gravel were assumed to have a ground absorption coefficient of 0.6.

See Noise Technical Report, p. 19. **Noise modeling using anything but the 0.0 ground factor understates expected noise – garbage in, garbage out.**

Note that in the DEIS, Figure 3.5-3 confirms that there is NOTHING between the wind turbines, elevated, and the receptor on the ground:

Bottom line:

- The setbacks for this project, in light of impacts on cultural and historical resources are inadequate, and should be at least 6.5 miles from any turbine to the boundary of any cultural and/or historic resource.

- The Noise Technical Report is garbage. The Noise Technical Report and related sections of the DEIS should be tossed out; noise modeling performed using ONLY a ground factor of 0.0, and a corrected Noise Technical Report and the DEIS revised and filed with notice and opportunity for public review and comment.

FYI, I appreciated notice of the February 1, 2023 meeting, and look forward to incorporation of comment into the FEIS and expect that comments will be thoroughly addressed, and that Notice will be provided for comment when the noise modeling and DEIS is corrected.

Please keep me on the service list!!

If you have any questions about this comment, or about the attached exhibits, do not hesitate to contact me. Email is always best.

Very truly yours,

Carol A. Overland
Attorney at Law

Attachments: