

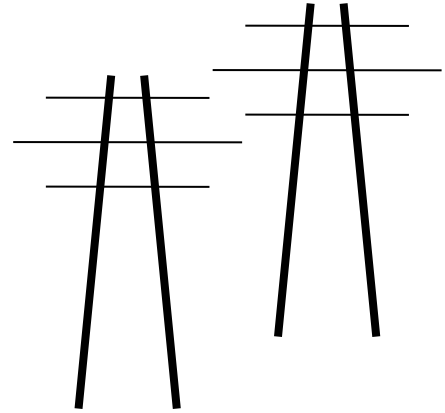
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May 24, 2022

Will Seuffert
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul MN 55101



via eDockets only

RE: Madson Comment – Continue Curtailment, False Statements and Material Errors in RSG Report, Request to Release Noise Monitoring Info, Suspend Permit Freeborn Wind WS-17-410

Dear Mr. Seuffert:

On behalf of Sue Madson, I’m writing to reiterate prior notice to the Commission of the material errors and misstatements in the RSG Noise Monitoring Report,¹ in particular a demonstrably false statement regarding use of a ground factor and another demonstrably false statement regarding the pre-construction noise modeling for this project. The project’s August, 2019 noise modeling was deceptive because it understates noise, the discrepancy demonstrated in the RSG monitoring results.

In its Notice of Comment Period, the Commission asks:

What if any actions should the Commission take concerning the February 1, 2022 Post-Construction Noise Monitoring Study for the Freeborn Wind Project and the May 2, 2022 Compliance Review by the Department of Commerce?

At this point, the Commission is attempting to shift the burden of proof to those unfortunate enough to live in the project footprint. Landowners cannot afford to hire a noise expert, and should not be expected to do so. It is the Commission’s job, and the job of EERA to regulate.

Continued curtailment is necessary, and should not, must not end -- but that only partially

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20222-182341-01	PUBLIC	17-410	WS	XCEL ENERGY	COMPLIANCE FILING--COVER LETTER-SECTION 7.4-RSG NOISE REPORT	02/01/2022
20222-182341-02	PUBLIC	17-410	WS	XCEL ENERGY	COMPLIANCE FILING--POSTCONSTRUCTION SOUND MONITORING FREEBORN WIND _PART 1 OF 2	02/01/2022
20222-182341-03	PUBLIC	17-410	WS	XCEL ENERGY	COMPLIANCE FILING--POSTCONSTRUCTION SOUND MONITORING FREEBORN WIND _PART 2 OF 2	02/01/2022

addresses the noise problems, because the turbines always make noise, not only at night. As the regulator, and as the enforcer, the Commission should require that the offending turbines be shut down and removed.

This noise monitoring study and Commerce-EERA's analysis is demonstration of a systemic problem in the siting of wind turbines. As of this date, there are still no siting-specific rules despite several petitions for rulemaking, and applicants continue to utilize the small wind standards and "guidance" issued by Commerce-EERA with ZERO input, ZERO opportunity for input, by the public and parties to these many wind dockets.

There is no excuse for acceptance of pre-construction noise modeling utilizing a ground attenuation factor of 0.5 or the absurd 0.7. This is a clear example of garbage in, garbage out.

Use of "binning" is nothing more than a "lies, damn lies, and statistics" GI/GO means of avoiding the truth and the consequences of the fact that the turbines are too noisy.

The Commission should be aware that the Dodge County Wind (DCW) developer corrected its error of use of a 0.5 ground attenuation factor in its initial application, later withdrawn, and in its revised application used the correct ground attenuation factor of 0.0.¹

It has been demonstrated in at least three projects now, Freeborn, Big Blue, and Blazing Star (and likely others) that noise modeling has not been predictive of ability to comply with noise standards. It has been demonstrated that there is a likelihood of a discrepancy between pre-construction noise modeling and post-construction noise monitoring, as has been found in Freeborn and Blazing Star, for example, and likely with other wind projects.

Ground attenuation used in modeling for the initial DCW project was 0.5, and was changed to usage of correct 0.0 input for the DCW2 noise modeling. Projects using 0.5 for modeling and basing siting on that have had noise issues – Freeborn, Big Blue, Blazing Star and probably others. Much smaller turbines, such as those in Bent Tree, were sited before noise modeling was required, and have experienced noise exceedences and landowner buyouts. Use of this 0.0 ground factor by DCW is much appreciated and increases credibility of DCW's noise modeling.

The Commission should be paying attention, and investigate the basis for that change by DCW and take that into account when considering noise issues of Freeborn County, and all others with noise issues.

That the DCW applicant recognized the correct ground attenuation factor of 0.0 should be used is something that the Commission and Commerce-EERA should also recognize and utilize to prevent continued noise exceedences issues and prohibit use of the improper 0.5 ground attenuation factor of 0.5 and even the absurd 0.7.

The Commission must act responsibly. The Commission is on notice that use of the 0.5 ground factor is inappropriate and post-construction is inflicting unreasonable noise on "receptors" that is taking away their use and enjoyment of their property and making their lives unbearable.

At this time, I will restate previously raised significant issues that the Commission should consider:

I. FALSE STATEMENTS ARE REASON TO REVOKE OR SUSPEND PERMITS

The Freeborn Wind permit states that:

The Commission may take action to suspend or revoke this permit upon the grounds that:

- (a) A false statement was knowingly made in ... studies required of the Permittee, and a true statement would have warranted a change in the Commission's findings..."

Freeborn Permit, Section 15.0, REVOCATION OR SUSPENSION OF PERMIT.

There are two false statements in the RSG Noise Monitoring report:

- 1) Pre-construction noise modeling was performed using G=0.5 ground factor inputs.
- 2) Use of a G=0.7 ground factor for modeling would be more conservative and would produce modeling predictions closer to the noise monitoring results.

There is a larger problem inherent in the noise modeling for this project and others. Xcel's July, 2019 filing of noise modeling, improperly using a G=0.5 ground factor that understates expected noise, constitutes a false statement knowingly made. The deceptive nature of this noise modeling is demonstrated by the discrepancies between modeling predictions and noise monitoring results.

Project noise and pre-construction noise modeling are at issue, with many resident complaints about excessive noise in several projects. Noise monitoring has revealed, as in the Blazing Star project, discrepancies between the pre-construction noise monitoring and the post-construction noise monitoring.

The ground factor inputs used in modeling are on a scale of 0.0 to 1.0, where "ground factor" is to account for expected interference with sound as it travels outward from the source, with G=0.0 used where there nothing blocking the sound between the source and receptor, and G=1.0 which would represent a complete blockage of sound between the source and the receptor.

In the Noise Monitoring Report's introduction, RSG states:

The Project received a site permit in December 2019 (fn. omitted). Prior to receiving a site permit, Hankard Environmental conducted a pre-construction noise assessment dated June 15, 2017 and August 19, 2019, the latter of which is referred to as the "Pre-Construction in this report. (fn. omitted). Updates to the sound modeling to reflect the as built layout were provided by Xcel Energy ("Xcel").⁴

⁴ Xcel Energy updated the model results (7/14/21) to reflect the as-built turbine locations. They used the same model parameters used in the Pre-Construction Study: G=0.5, receptor height of 1.5 meters, and a +) dB uncertainty factor.

RSG Noise Report, p. 1. It is a false statement that Pre-Construction noise modeling used $G=0.5$. Hankard Environmental's June 15, 2017, used a ground factor of 0.0. **The initial Freeborn noise modeling did not use $G=0.5$ as a ground factor.** Further, it was on the basis of the modeling using $G=0.0$ ground factor and testimony that the ALJ recommended that the permit be denied because ability to comply with Minn. R. 7939.0040 had not been demonstrated.

FreebornWind testified repeatedly in the contested case and in filings that this modeling was oh-so-credible because it was "conservative." That modeling was $G=0.0$, and not $G=0.5$ ground factor, and the Administrative Law Judge presiding over the Freeborn contested case recommended that the permit be denied because Freeborn had not demonstrated it could comply with the MPCA's noise standard. Minn. R. 7300.0400, Subd. 4.

The Administrative Law Judge concludes that Freeborn Wind has failed to demonstrate that the proposed Project will meet the requirements of Minn. R. 7030.0040, the applicable Minnesota Noise Standards. Therefore, the Administrative Law Judge respectfully recommends that the Commission either deny Freeborn Wind's Application for a Site Permit, or in the alternative, provide Freeborn Wind with a period of time to submit a plan demonstrating how it will comply with Minnesota's Noise Standards at all times throughout the footprint of the Freeborn Wind Project.

ALJ's Recommendation, p. 1, 119; see also FoF 177-247, May 14, 2018.

The "conservative" nature of the $G=0.0$ ground factor noise modeling was also repeated in Findings of Facts 230 and 234:

230. This modeling was conducted using conservative assumptions. The results of the modeling show the loudest one-hour levels expected to occur. To be most conservative, the modeling assumes all turbines are operating and producing maximum acoustic output, the emissions propagate out fully in all directions, and that atmospheric conditions will be relatively ideal for the propagation of sound.³⁵¹ In addition, the predicted turbine-only noise levels include the other conservative modeling inputs described in the Noise Analysis, resulting in the least amount of ground and atmospheric sound absorption and the highest levels of sound reaching the receivers.³⁵² Also, 52 of the northernmost turbines located in Iowa were included in the model.³⁵³ Accordingly, the results are the "loudest" one-hour levels expected to occur. Much of the time turbine noise levels would be expected to be less.³⁵⁴ Freeborn Wind's acoustical expert verified these conservative assumptions through field measurements at other operating wind projects.³⁵⁵

234. The results of this post-hearing analysis show that, when background noise levels are 45 dB(A) or less, total sound levels are 50 dB(A) or less regardless of the turbine-only noise level. When background noise levels are in the 45 to 50 dB(A) range, turbines contribute to the total when turbine-only noise levels are approximately 44 dB(A) or greater. Once background noise levels exceed 50 dB(A), the total sound level exceeds 50 dB(A).³⁶³ Freeborn Wind asserts that, due to the conservative nature of the turbine-only noise modeled for the Project, it can confidently conclude that the Project will comply with the Noise Standards once operational.³⁶⁴ The confidence that Freeborn Wind has in reaching this conclusion derives from the conservative assumptions Mr. Hankard input into his model.

Id, p. 230, 234.

The ALJ noted that Commerce-EERA indirectly adopted this notion that the noise modeling was

conservative:

³⁶⁴ Tr. Vol. 1B at 112 (Hankard). The EERA, which provided an edited version of Freeborn Wind's Proposed Findings of Fact, edited out language asserting that turbines are not a significant contributor to total sound levels exceeding 50 dB(A). However, the EERA left the statement that the conservative nature of the turbine-only noise modeling leads to the conclusion that the Project will comply with the Noise Standards once operational. DOC-EERA Proposed Findings of Fact, Conclusions of Law, and Recommendations at 27 (Apr. 4, 2018) (eDocket No. 20184-141695-01). This implies that the EERA agrees with that statement, although the EERA never stated so directly.

Id., fn. 364, p. 46. Similarly, FoF 235 relied on the “conservative” modeling as basis for confidence in compliance with noise standards:

236. The methodology Mr. Hankard employed has a margin of error to its noise level measurements of plus or minus three dB.³⁶⁶ An increase of three dB corresponds to a doubling of sound power but only a slightly noticeable increase in loudness. Mr. Hankard contends that, by using the most conservative values for the model's parameters, the margin of error with respect to underestimating sound levels is much smaller than three dB.³⁶⁷

Id., p. 47.

The Commission amended the ALJ's Findings of Fact to state that it was “very conservative.”

Finding 241

Table 2 in FR-18 shows that there are many instances where total noise will be quite close to, or could exceed, 50 dB(A). There are approximately 254 homes in the Freeborn Wind Project footprint.³⁷³ The turbines have yet to be built. However, pre-construction, it is the modeling Freeborn Wind conducted that is relevant for determining whether the Project will comply with the Noise Standards once operational. The record here demonstrates that Freeborn Wind included very conservative assumptions in its modeling and calibrated its modeling with real world data to ensure that modeled estimates are conservatively high.¹ If changes are made to the turbine layout, number of turbines, or turbine type, the Noise Analysis will be updated accordingly. According to Table 2, any time the ambient noise level is 50 dB(A), added wind turbine noise results in 53 homes experiencing levels of 51 dB(A) and 25 homes at levels of 52 dB(A), for a total of 78 homes experiencing more noise than permitted by Minn. R. 7030.0040.³⁷⁴ Two of the homes will experience 58 dB(A) if the ambient noise is 57 dB(A).³⁷⁵ None of these homes was predicted to experience wind turbine noise alone above 48.9 dB(A). Many were predicted to experience wind turbine noise alone in the very low-to-mid 40's range.³⁷⁶ Thus, the addition of ambient noise is significant in that it raises the predicted nighttime noise exposure of more than 30 percent of the homes in the footprint of the Project beyond what is allowed in Minn. R. 7030.0040. Table 2 in Ex. FR-18 shows that when background noise levels are 45 dB(A) or less, total sound levels are 50 dB(A) or less regardless of the turbine-only noise level. When background noise levels are in the 45 to 50 dB(A) range, turbines contribute to the total when turbine-only noise levels are approximately 44 dB(A) or greater.

Footnote(s)

1. See evidentiary hearing transcript Volume 1B at 111-112 (February 21, 2018 (Hankard)).

Order, p. 8, Attachment 1, Modification of ALJ's Findings of Facts (December 19, 2018); see also Application, Ex. B, p. 12-13, 18; Hankard Direct Testimony FR-5; ALJ Recommendation, FoF 230.

Despite the ALJ's recommendation, the Commission approved Freeborn's site permit without requiring a demonstration of compliance PRIOR to issuing the permit. And obviously, although the ALJ recommended the Freeborn site permit be denied, that did not occur.

Although the ALJ recommended that the Commission “in the alternative, provide Freeborn Wind with a period of time to submit a plan demonstrating how it will comply with Minnesota’s Noise Standards at all times throughout the footprint of the Freeborn Wind Project,” that did not occur either.

Instead, the Commission approved the Freeborn Wind site permit on December 19, 2018, without a demonstration of likely compliance, and offered the applicant a work-around to avoid addressing the anticipated noise issue!

It was not until August 19, 2019, eight months **AFTER** the Freeborn site permit was approved, that additional noise modeling was produced, and that noise modeling used a ground factor input of G=0.5 rather than 0.0.

No noise modeling demonstrating that the project could comply with noise standards was produced BEFORE the Freeborn site permit was granted by the Commission in December, 2018. Again, it was not until August 19, 2019, eight months **AFTER** the permit was approved, that noise modeling was produced using the improper ground factor of 0.5 rather than 0.0.

Now, in 2022, here we are, with many noise complaints, noise modeling demonstrating excessive noise, discrepancies with actual noise higher than modeling predicted, and the noise consultant firm arguing that a higher ground factor in modeling should be used, G=0.7 rather than G=0.5. How absurd! Use of a higher ground factor would predict less noise, not more. Use of a higher ground factor is misleading, because it understates the noise a project will produce. Hankard, Freeborn Wind’s own noise expert, explained his testimony in the Wisconsin Badger Hollow solar docket, that G=0.5 ground factor is appropriate for a solar project, but is not appropriate for wind, and that 0.0 should be used for wind, because wind is an elevated source, where there is nothing between the source high in the air and the receptor on the ground:

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

Freeborn's Hankard, testifying in the Badger Hollow evidentiary hearing, Tr. 122, Badger Hollow Solar, WI PSC Docket 9697-CE-100².

It can reasonable be inferred that Dodge County Wind, by changing the ground factor from the 0.5 of their original application, to 0.0 of their revised application, that the developer recognizes the risk and error of utilizing a 0.5 ground factor, one that understates the potential noise of a project.

Why are the Commission and Commerce-EERA so slow on the uptake?

The ground factor inputs used in modeling are on a scale of 0.0 to 1.0, where "ground factor" is to account for expected interference with sound as it travels outward from the source, with G=0.0 used where there nothing blocking the sound between the source and receptor, and G=1.0 which would represent a complete blockage of sound between the source and the receptor.

In its Freeborn noise monitoring report, RSG admits discrepancies between modeling and monitoring, ranging from 2 dB to 4 dB to 5 dB! 3 dB is a doubling of sound pressure level, and these discrepancies are significant. This same discrepancy issue between modeling and monitoring was found after noise monitoring in the Blazing Star project. There were multiple complaints by a resident in that project, and in that project also, the ground factor used in pre-construction noise monitoring was G=0.5. RSG is the firm that performed the noise monitoring in the Blazing Star project responsive to multiple complaints by Waverka, a resident in that area (this was not the requisite post-construction noise monitoring).³ RSG is well aware of the noise issues in projects where a G=0.5 ground factor was used.

RSG addresses the discrepancies between modeling and monitoring in Section 6.3, Comparison to Modeled Sound Levels, with one sentence clearly stating the truth:

The largest factor contributing to the model underestimate is the selection of model parameters used prior to construction.

RSG Noise Report, p. 54, claiming essentially that the error was use of a G=0.5 ground factor. This is what Madson and AFCL have repeatedly been saying to the Commission for years. Madson and AFCL have been arguing that use of G=0.5 for the ground factor input will understate the project noise, and that is exactly what has happened.

RSG, however, goes off the rails, and argues the opposite, the false claim that use of a 0.7 ground factor would produce predicted noise levels roughly 3-4 dB higher. Instead, the opposite is true, because a G=0.7 ground factor assumes that a majority of the noise of the source would be blocked from the receptor. The RSG notion that use of a G=0.7 ground factor for modeling

² Online at PSC's Electronic Filing,  [Tr. 45-234 Party Hearing Session](#).

³ There are a handful of other residents/landowners in the Blazing Star complaining of noise, evidenced in Xcel's compliance filings. Over 10 additional turbines are, or should be, the subject of scrutiny based on these complaints. See Blazing Star, WS-16-686.

would be more conservative and would produce modeling predictions closer to the noise monitoring results is patently false.

RSG claims that a $G=0.7$ ground factor is “more conservative” than 0.5:

The highest calculated Turbine-only sound levels at each monitor location were 2 to 5 dB greater than the turbine-only sound levels modeled during pre-construction. As discussed in Section 6.3, this is primarily due to the modeling parameters that were used in the Pre-Construction Study. Modeling parameters used in other projects RSG has conducted for Xcel projects in Minnesota use more conservative modeling parameters, which would yield sound levels that are more representative of the measured L_{50} .

RSG Noise Monitoring Report, p. 55. This is false.

The opposite is true, the higher the ground factor the higher the understatement of predicted sound. It will not “only” be Freeborn Wind and Blazing Star, but it is likely that every wind project will be experiencing discrepancies between modeling and monitored noise where $G=0.5$ and $G=0.7$ ground factor input is used, at least 13, and likely more since the Commission allowed use of $G=0.5$ as ground factor in pre-construction noise studies. The Commission as regulator and enforcer, and Commerce-EERA serving as staff for the Commission’s enforcement function, should take notice of this discrepancy and investigate every wind project with noise modeling based on any ground factor other than $G=0.0$.

Madson and AFCL have repeatedly raised this noise modeling issue and the understatement of noise if a ground factor other than $G=0.0$ is used. It’s hard to believe that RSG would make such preposterous statements about ground factor, and to recommend that $G=0.7$ be used as ground factor for wind modeling is utterly bizarre, with zero basis in fact or science. These false statements must be corrected. RSG and Freeborn Wind should be sanctioned for this false statement knowingly made in this noise monitoring study required of the Permittee.

The Commission has been warned. We’re now seeing noise monitoring studies that demonstrate measurable discrepancy with the pre-construction noise modeling, demonstrated noise issues resulting in multiple complaints, and noise monitoring demonstrating exceedences. This facts must not be ignored. The Commission is the regulator with the responsibility to assure compliance with the permit and rules and to sanction non-compliant permittees. The Commission also has a responsibility to protect the public living withing these projects and struggling to live with the impacts.

II. RSG’S NOISE MONITORING REPORT HAS FACTUAL ERRORS

The errors in the RSG report range from the extreme, as above, to minor errors, and perhaps some are typographical errors.

- The turbines nearest Madson’s home are T-20 and T-21, not T-11 and T-12 as is stated throughout the report. Each of these errors should be corrected, and if the T-11 and T-12 turbines have different noise related operating characteristics, or if

monitoring has inputs regarding turbines T-11 and T-12 that are different than those of T-20 and T-21, the monitoring report should be corrected.

- In the cover letter, it states that there were “1,100 hours of continuous monitoring over the two week monitoring period.” At four sites, over 14 days, it’s not clear what the 1,100 hours means, nor what “continuous monitoring,” means, as many turbines were turned off for much of the two weeks that monitoring equipment was in place. Does this mean a total of 1,100 hours of monitoring, or 1,100 hours of monitoring at each test location, or something else?
- The report states that turbines were periodically shut down at night, but Madson noticed that they were also shut down in the day. From her contemporaneous notes:
 - 11/3 –turbines on and off after 7:00 am (mostly off)
 - 11/3 - 12:40 pm turbines were loud, then T-20 was shut off. 4:22 pm noticed T-20 on.
 - 11/4 - 6:30 am T-21 was off. 7:15 am both T-20 and T-21 off. 7:20 T-20 was back on. 12:40 pm T-21 on again.
 - 11/5 - 7:40 am T-21 was off. 12:00 pm both still off. 1:10 pm T-21 back on. At 5:15 pm T-20 was still off.
 - 11/9 At 6:25 am T-20 was off. At 10:04 am T-20 was on again. 10:50 am T-20 was off again. 11:11 am both turbines were off. Around 12:00 pm T-20 was off and on. 2:00 pm both turbines off. T-20 was off at 3:40 pm, then both off and on.
 - 11/10 - T-21 was off at 10:34 am. T-21 going again by noon.
 - 11/11 T-21 was off at 7:20 am, then on again. T-20 was off at 8:40 am, then off and on in the morning (mostly off).
 - 11/12 9:30 am T-20 was off then on.
 - 11/14 6:55 pm turbines were off. At 10:45 pm they were still off.
- The Central Monitor section of the report states that:
 - Monitor is “closest to T-11” was in fact closest to T-20.
 - That monitor faces east, not west.
 - The Central Monitor’s “receptor” noise was modeled with maximum predicted at 43.6 dBA turbine only.
- The Central Monitor “Complete Time History Plot” again states T-11 and T-12, and not T-20 and T-21. Are the energy production and wind data from T-11 and T-12, and not T-20 and T-21? If so, the report should be corrected.
- Is not readily discernable whether the monitor was off or the turbine was off, as there are times of no production but at same time, high noise.
- The Central Monitor wind speed shows that the majority of time, particularly in the second week, the wind speed is usually above 11 mph. For this reason, wind specific noise standards are needed.

- The Central Monitor’s Shutdown 10, the report states, “The anomalous anthropogenic noises excluded during the shutdown included a passing train and other railroad activity.” Madson’s home is near track, but they have not been used in years. The nearest track in use is in Glenville, roughly 3.5 miles away. Shutdown 26 also mentions a passing train. There IS a train TRACK, but did a train pass through?



Photo taken by Sue Madson recently of train track near her property.

- In conclusions, over the 2 week monitoring period, 13 days from Madson’s observation, there was one hour reported over 50 dBA, and the west monitor reports the same. Is this identical result possible, credible?

This list is an indicator of problems found in the RGS Noise Monitoring Study, not all inclusive.

III. **RSG’S NOISE MONITORING REPORT DEMONSTRATES NOISE EXCEEDENCES BEYOND THE 47 dBA IN PERMIT SECTION 6.2**

RSG’s Freeborn Wind (MN) Post-Construction Sound Monitoring report released and eFiled on February 1, 2022 has significant and material errors that call its credibility into question.

The Freeborn Wind permit states:

6.2 Post-Construction Noise Monitoring

If the Noise Studies conducted under Section 7.4 document an exceedance of the MPCA Noise Standards where turbine-only noise levels produce more than 47 dB(A) L50-one hour at nearby receptors, then the Permittee shall work with the Department of Commerce to develop a plan to minimize and mitigate turbine-only noise impacts.

Order Amending Site Permit, p. 15, March 31, 2020.

Developing a plan to minimize and mitigate turbine-only noise impacts is inadequate if the Permittee is working only with the Department of Commerce, and the affected landowner is not a part of that process. Mitigation, shutting off all of the turbines surrounding the four test sites, must begin immediately. Further, additional monitoring must be performed to determine which of the receptors are subject to more noise than predicted by modeling, and then shut off, pending demonstration that residents are not experiencing excessive noise and determination of which turbines should be allowed to operate.

IV. RSG'S REPORT DEMONSTRATES DECEPTIVE UNDERSTATED PROJECT NOISE

RSG's Freeborn Wind Sound Monitoring report also demonstrates that in each of the four noise monitoring locations, the noise monitoring reported significantly higher noise than was predicted by modeling. The modeling provided by Xcel on August 19, 2019, using a $G=0.5$ ground factor was deceptive.

Xcel's filing of this deceptive Exhibit B in its Application for Permit Amendment that understates predicted noise is reason to revoke or suspend the permit. Xcel contracted with a sound expert for the June 15, 2017 report using the $G=0.0$ ground factor, and the $G=0.5$ ground factor report filed on August 19, 2019. This is the same noise expert who testified on January 16, 2019 that $G=0.5$ was an appropriate for solar projects, but that a $G=0.5$ ground factor should not be used because wind projects are elevated. It is not reasonable to believe that this noise expert suddenly believed months later that a $G=0.5$ ground factor was appropriate for the Freeborn Wind project. Xcel and the Commission knew or had reason to know that use of $G=0.5$ as a ground factor would understate the noise of the project.

The Commission was warned in many Madson and AFCL filings over several years that use of $G=0.5$ ground factor would understate the noise of a project.



The Freeborn Wind permit states that Commission may take action to suspend or revoke this permit upon the grounds that:

- (b) A false statement was knowingly made in ... studies required of the Permittee, and a true statement would have warranted a change in the Commission's findings..."

Freeborn Wind Siting Permit, Section 15.0, REVOCATION OR SUSPENSION OF PERMIT. Developing a plan to minimize and mitigate turbine-only noise impacts is inadequate if the turbine siting and the project site permit is based on noise modeling based on use of an improper ground factor of $G=0.5$ and deceptive prediction of project noise. Those producing the modeling cannot help but be aware that they are understating noise through this modeling.

The Freeborn Wind project should be immediately suspended in the entire project area, until noise monitoring has been completed for all receptors and turbines, and until the project has demonstrated that it can and will comply with permit conditions and noise standards.

V. THE FREEBORN WIND PROJECT'S PERMIT SHOULD BE SUSPENDED, PENDING ADDITIONAL NOISE MONITORING TO ESTABLISH WHETHER THE PROJECT CAN COMPLY WITH PERMIT CONDITIONS AND NOISE STANDARDS.

The Commission should suspend the Freeborn Wind siting permit as it investigates the material discrepancies and conducts noise monitoring for each turbine and receptor to identify other discrepancies between modeling and noise experienced by receptors. Where the results demonstrate systemic excessive noise, the Commission should revoke the Freeborn Wind site permit. The Commission should also order noise monitoring for each wind project sited based on a $G=0.5$ or $G=0.7$ ground factor, and where there are discrepancies, suspend the permit.

VI. MADSON AGAIN DEMANDS THAT XCEL RELEASE RESULTS OF 3 HOUR AND 22 DAY TESTING ON MADSON'S PROPERTY.

Scientific protocol requires replication, and thankfully a 3 hour and a 22 day period of noise monitoring was completed last summer on Madson's property. We need that data, the Commission needs that data, and it should be compared with the RSG noise monitoring results.

The Commission is aware of our repeated attempts to gain this data. The Commission is aware of the repeated complaints of excessive noise in this and other wind projects. We hope the Commission and Commerce-EERA are paying attention, and we hope that the Commission and Commerce-EERA are also interested in the results of the 3 hour May and 22 day June-July noise monitoring on Madson's property. Xcel Energy refuses to release that data, and the logical inference is that the results are damning.

VII. SUSPEND THE FREEBORN SITE PERMIT AND REQUIRE DEMONSTRATION OF COMPLIANCE WITH PERMIT AND NOISE STANDARDS

This noise problem has gone on too long. Madson requests that the Commission suspend the Freeborn Wind site permit for the turbines surrounding the RSG monitoring sites; institute noise

monitoring for **all** turbines and receptors, not just the “complainers,” to broadly identify the discrepancies between noise modeling and modeling. The Freeborn project should then be shut down as noise monitoring results are analyzed and a determination is made as to whether each turbine can meet permit conditions and the noise standard – only after such demonstration should any turbines resume operation.

Very truly yours,



Carol A. Overland
Attorney at Law

cc: All parties via eDockets

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20221-181456-05	PUBLIC	20-866	<input type="checkbox"/>	WS	DODGE COUNTY WIND, LLC	OTHER--AMENDED SITE PERMIT APPLICATION - APPENDICES B - E	01/12/2022
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