



To: MPSC Staff and Commissioners

From: Sarah Mills & Madeleine Krol, University of Michigan Center for EmPowering Communities

Date: September 11, 2024

RE: Case No. U-21547 Sound Report Guidelines comments

Dear MPSC Staff and Commissioners,

Thank you for further providing the opportunity to comment on the contents of Appendix I. Sound is commonly regulated within local renewable energy zoning ordinances but is a situation where we often recommend that communities bring in sound experts to vet their language and assess the project's conformity with the standards, and so we really appreciate the care that you are taking to this issue. We anticipate that the guidelines that you settle upon will be exceedingly useful to local governments for locally-approved projects, and so hope that the final version and any revisions made over time will be easily accessible online for local governments to reference.

We have just a couple of comments, largely reacting to many of the questions that came up during the meeting on September 4th.

- Façade versus dwelling: We looked back in the [“past workable ordinances” database](#) that we have developed and confirmed that, at least in Michigan, it's uncommon to regulate sound at the façade. In the data, there is one reference to façade: in Mount Haley Township's wind ordinance — but in that case it is to clarify that measurements should be taken “50 feet from the façade”. All of that is to say, the discussion about how to handle the reflecting surface and the science surrounding it will be extremely valuable not just to the Commission but also to the communities that adopt compatible renewable energy ordinances (CREOs).
- Measured versus modelled: The conversation about measured versus modelled was fascinating and again, because of the façade issue, makes things less straightforward for all parties involved. This is a no-win scenario because whether the “façade penalty” is applied during the modelling stage or measurements stage is greatly consequential. We would only offer that, in our [“past workable ordinances” database](#), we found the following sound regulations for non-participating property lines (note, many of these ordinances do not include explicit descriptors—Leq, Lmax—which are also consequential to both development and non-participating residents):
 - Solar (3 of 7 ordinances regulated for this):
 - Shiawassee County: The noise generated from an SES shall not exceed **forty (40) dB(A)** at the exterior of any habitable structure, also measured at the closest property line to the SES. This sound pressure level may be exceeded during short-term events such as utility shortages or severe wind storm. If the ambient sound pressure level exceeds forty (40) dB(A), the standard shall be the **ambient dB(A) plus five (5) dB(A)**.
 - Adrian Township: No component of any Solar Farm shall produce noise that exceeds any of the following limitations. ... **Forty-five (45) dBA**, as measured at

- any neighboring residence in existence at the time the Solar Farm is granted conditional use approval, between the hours of nine p.m. and seven a.m.
- Aurelius Township: The sound-noise generated from a Commercial SES shall not exceed **40 dB(A)** at the exterior of any habitable structure, also measured at the closest property line to the SES. This sound pressure level may be exceeded during short-term events such as utility shortages or severe wind storm. If the ambient sound pressure level exceeds 40 dB(A), the standard shall be the **ambient dB(A) plus five dBA**.
- Wind (10 of 14 ordinances regulated for this; only relevant parts of the ordinance were excerpted):
- Huron Township: ...On any nonparticipating parcel, audible noise or the sound pressure level from the operation of the Wind Energy Facility (WEF) shall not exceed **45 dBA, or the ambient sound pressure level plus five (5) dBA**, whichever is greater, for more than ten percent (10%) of any hour, measured at any residence, school, hospital, church or public library existing on the date of approval of any WEF site Permit...
 - Mt. Haley Township: The audible sound from a Utility Grid WES at a Noise Sensitive Facility may not exceed the Equivalent A-weighted Continuous Sound Level (LEQ) limits set forth in Table 12-1, measured in accordance with the methodology described in Subsections 12.e. and 12.f. ...Non-Participating Parcel; as measured 50' from the Noise Sensitive Facility at the point closest to the Utility Grid WES: **≤ 45**
 - Fairbanks Township: The sound pressure level shall not exceed either 55 dB(A) measured at the property lines or the lease unit boundary, whichever is farther from the source of the noise, or **45 dB(A)** measured at an existing dwelling, whichever measurement is less. This sound pressure level shall not be exceeded for more than three minutes in any hour of the day. If the ambient sound pressure exceeds 55 dB(A), the standard shall be **ambient dB(A) plus 5 dB(A)**.
 - Adams Township: Noise emanating from the operation of a L WET shall not exceed: **the greater of fifty-five (55) dBA or 5 dBA above ambient** preconstruction noise levels when measured from the nearest dwelling, school, hospital or church whose owner has not agreed in writing to a higher level.
 - Wheatland Township: Shall not exceed a maximum of **55 decibels** measured from any existing residence on a non-participating parcel unless such residence is more than 1,000 feet from the tower base.
 - Gratiot County: Wind Energy Facilities shall not exceed **55 dB(A)** at the habitable structure closest to the wind energy system. This sound pressure level may be exceeded during short-term events such as utility outages and/or severe windstorms. If the ambient sound pressure level exceeds 55 dB(A), the standard shall be **ambient dB(A) plus 5 dB(A)**.
 - Fairgrove Township: The sound pressure level generated by a Utility Grid wind energy system shall not exceed **55 dB(A)** as measured at an inhabited structure on non-participating parcels. This sound pressure level shall not be exceeded for

- more than 30 minutes in any 24-hour period. If the ambient sound pressure level exceeds 55 dB(A), the standard shall be **ambient dB(A) plus 5 dB(A)**.
- Pine River Township: Wind Energy Facilities shall not exceed **55 dB(A)** at the habitable structure closest to the wind energy system. This sound pressure level may be exceeded during short-term events such as utility outages and/or severe windstorms. If the ambient sound pressure level exceeds 55 dB(A) the standard shall be **ambient dB(A) plus 5 dB(A)**.
 - Bethany Township: Noise emissions from the operation of one or more WECS operating within a Wind Park shall not in any case exceed fifty-five (55) decibels on the dBA scale as measured at any point on the boundary between land within the Wind Park and land outside the Wind Park and not more than **fifty-five (55) decibels** on the dBA scale as measured at residences outside the Wind Park.
 - Columbia Township: Noise emissions from the operation of one or more WECS operating within a Wind Park shall not in any case exceed fifty-five (55) decibels on the dBA scale as measured at any point on the boundary between land within the Wind Park and land outside the Wind Park and not more than **fifty-five (55) decibels** on the dBA scale as measured at residences outside the Wind Park.
- Future proofing: We're not sure at what cadence you will revise the instructions and guidelines. There are two changes afoot that you may want to consider whether to accommodate now, or just put a note to revise in a year:
 - RSG mentioned that special procedures for solar and BESS facilities are currently under development, akin to what the draft appendixes references for wind starting on page 17. You might consider amending this guidance to accommodate those new procedures.
 - When asked the question about reporting on the octave band, RSG noted that the data is widely available for wind equipment but less so for solar and storage, but suggested that it is helpful information to have. We wouldn't suggest requiring applicants to include information that is unavailable, but you might consider adding a note that this information should be included if available in the application as long as it is available from the equipment supplier.
 - Sound monitoring: We want to underscore the value in having both pre- and post-construction sound monitoring protocol vetted as part of the application process.
 - Pre-construction: Pre-construction studies are very helpful for understanding whether there are preexisting conditions that are noisier than the proposed energy facility. But we also recognize that there is a cost to this and understand the commentor's point about how it may lead to more subjective assessments (e.g., while a proposed facility may comply with the 55 dBA limit, some regulators may assess the project differently if underlying conditions were at 30 dBA compared to 40 dBA. We might suggest that the Commission instead consider mirroring the approach for post-construction monitoring, where the petitioner submits a pre-construction sound monitoring protocol along with their application, but doesn't conduct the study—and incur the expense—until after the Commission approves the project.

- Post-construction: We want to underscore the value in having the post-construction sound monitoring protocol vetted as part of the application process. Agreeing upon the locations ahead of time, but also allowing flexibility to monitor in areas where there are complaints, seems like a fair approach to all involved. Also, it is excellent that the draft protocol allows for unattended monitoring, as it will allow for not just longer periods of time, but also monitoring throughout the evening, increasing the likelihood of having useable data during the collection period. It may be advisable to make clear who will pay for the monitoring and who will choose the qualified noise control engineer.
- Noise complaint and resolution (Page 11, Item 6g): Asking applicants to suggest protocols and processes along with their application is wise. We might recommend that the Commission suggests that these protocols include not just “under what circumstances” and “how” this monitoring will be done, but that the applicant also is clear on who will be responsible for paying for the monitoring.

Thank you again for all your work on this, both for projects that come through the MPSC and those regulated at the local level through CREOs or other ordinances.

~Madeleine and Sarah