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MEMORANDUM

DATE: 2025-05-23

TO: Alberta Utilities Commission **EMAIL:** engage@auc.ab.ca

FROM: RWDI AIR Inc.

RE: **Bulletin 2025-02**
Changes proposed to Rule 007: Facility Applications

The following provides RWDI's Written Feedback on the proposed blackline version of Rule 007 identified in Bulletin 2025-02.

Solar Glare Assessment

RWDI submits the following comments with respect to conditions SP14), SP15), and SP16) for consideration:

1. The distance criterion for highways is inconsistent with those of Alberta Transportation, which only requires *intersections* within 800 m to be included.
2. The criteria for runways and flight paths are inconsistent with the current requirements of the American FAA per their most recent guidance on the subject (86 FR 25801) which only requires glare assessments for air traffic control towers. This guidance is also commonly applied in Canada since TP1247E does not indicate *how* glare assessments should be undertaken or what is considered acceptable. Even looking at the previous FAA requirements, only approach/departure paths were required to be investigated, not runways nor flight paths in general.
3. The field of view definition should be clarified to clearly indicate if these are radial or total measurements. i.e. is the critical FOV for local roads +/- 15 degrees (30 deg total) or is it 15 degrees total (+/- 7.5 degrees).
4. Depending on the answer to the above, the critical/conservative FOVs for highways are inconsistent with Alberta Transportation and also with the older, (now superseded), FAA requirements for approach/departure paths.
5. Roads and railways are thus treated more strictly than the FAA currently requires for pilots in control of aircraft.
6. A justification for the 30 minutes per day / 30 hours per year criteria would be beneficial. Presumably this came from the reference to German/Austrian requirements noted in the

Zehndorfer report. However, it is important to note that these limits were simply taken from existing rules about noise and shadow flicker and was not based on an actual assessment on how impactful glare is.

7. Further to the above, the German/Austrian rules also allow the discounting of glare impacts when the sun is within 10 degrees of a glare source. No such allowance exists in the current requirements and therefore there is no consideration of a scenario where reflected light from a PV panel does not change a viewer's experience since they already experience glare from the sun.
8. To be consistent with the requirements for multiple driver eye heights, the required height(s) for dwellings should also be provided. A requirement for how dwellings of unknown height should be treated (i.e. assume 1 story or 2) should also be included to inform early studies that may be done in advance of detailed site inspections. Ideally these would be aligned with Rule 012 to improve consistency.
9. The criterion for roads should be clarified. It would be possible for the threshold to be exceeded because of very short duration instances of glare (which could be occurring at different times) spread out over a long distance that cumulatively add to exceed the limit. GlareGauge (the most used tool for this type of work) cannot distinguish how much glare occurs at different segments of a road, only the aggregate value for the entire route. An alternative approach would be to instead use the distance of the effected stretch(es) of road and the speed limit (which could be defined) to see how long a driver could be affected and set a criterion based on that duration.
10. The note in SP15 regarding discretionary permitting is unclear. It would be beneficial for the Commission to provide examples of situations or better, criteria, where higher or lower limits would be applied. This would help ensure consistency in the study requirements from project to project.
11. The AUC should commit to informing a proponent as early as possible if altered limits may be applied. This would streamline the application process by preventing unnecessary effort.

Shadow Flicker Assessment

RWDI submits the following comments with respect to conditions WP15), WP16), WP17), and WP18) for consideration:

1. The definition of the adjusted-case scenario needs additional detail. There are many methods for combining the relevant weather statistics and not all are equally valid (e.g. treating the probability of cloud and wind separately rather than jointly). It should also be made clear that turbine height wind speeds should also be used to define when a turbine would actually be spinning to be consistent with approaches used elsewhere.
2. The criteria are inconsistent with those used elsewhere in the world. Generally speaking, the 30/30 rules are only used for worst case analyses. Depending on the required assumptions for the adjusted-case, other limits are typically used.
3. We would suggest explicit definitions for the height above ground that the receptors should be for the study and if there is (or is not) a need to study multiple heights for multi-story dwellings.

Battery Energy Storage Facilities

RWDI submits the following comments with respect to conditions ES27) for consideration:

1. The AUC should adopt the need to complete a dispersion modelling study only if residences or occupied buildings are located within a specific distance from an ESS facility. Consultation with other jurisdictions or emergency response professionals familiar with this technology should be considered to identify a reasonable distance.
2. The AUC should remove any requirement for, or wording associated with, a risk assessment as part of the application as databases on failure types and failure modes are not sufficiently developed and would produce too much subjectivity. This equipment continues to have risks evaluated and reduced through standardized testing such as Underwrites Laboratory (UL), Canadian Standards Association (CSA), the American National Standards Institute (ANSI) and safety & regulatory standards such as National Fire Protection Agency (NFPA).
3. More prescriptive language with respect to the expected or recommended methodology to complete dispersion modelling including contaminants of interest, exposure limits for public and/or first responders, and appropriate modelling software would help ensure consistency in the study requirements from project to project.
4. The AUC should remove any requirement for assessment or providing model predictions at the project boundary. The project boundary would either be inside or outside of a hazardous environment and specific concentrations at a location would provide no additional detail and would be highly variable based on meteorological conditions.
5. The AUC should remove any requirements to assess animal toxicity as exposure limits are not defined. Published exposure limits are provided for the general public or worker exposure.

Visual Impact Assessment

RWDI submits the following comments with respect to conditions WP28), SP26), TP26), OP26), HE21), for consideration:

1. The AUC should add more clarity to the requirement for evaluating anticipated visual impacts. The use of a Zone of Theoretical Visibility for assessing impacts is common practice and should be adopted.
2. The AUC should define study area distances within which visual impacts must be assessed based on the type of proposed facility. Solar power projects are typically assessed to a maximum of 5 kilometres, and wind power projects are typically assessed to a maximum of 20 kilometres. Other power plants are not typically assessed for visual effects and should have smaller distances. These distances may require adjustment based on project-specific criteria.
3. Visual impact assessment expectations are uniform for all project types but expectations and criteria should be refined and tailored based on project type.
4. The AUC should provide a more detailed definition of what constitutes a valued viewscape, similar to the pristine viewscapes listed in Bulletin 2023-05.

5. The AUC should add clarity on whether visual simulations are required if there are no valued viewscapes in the viewshed of a project. The AUC should consider only requiring a desktop analysis (including a Zone of Theoretical Visibility) if there are no valued viewscapes within the study area.
6. The AUC should indicate whether visual simulations require the inclusion of substations, transmission lines, and fencing.