Bulletin 2018-10

June 28, 2018

AUC Rule 012: Noise Control consultation meeting on noise issues
Outlined technical noise issues will be discussed at the Calgary office on August 20, 2018
Please RSVP before August 3, 2018

The Alberta Utilities Commission regulates noise associated with electric and gas pipeline facilities. The Commission has initiated a consultation process on potential changes to certain provisions of Rule 012: *Noise Control*.

On December 13, 2017, the Commission issued Bulletin 2017-11 requesting that stakeholders provide written comments on noise issues associated with Rule 012. The Commission received 24 written submissions in response to Bulletin 2017-11. In their written submissions, many stakeholders requested an in-person meeting with the Commission to further discuss issues raised in Bulletin 2017-11. The Commission is therefore scheduling an in-person technical consultation meeting with stakeholders. The meeting will be held at the Alberta Utilities Commission Calgary office:

Eau Claire Tower, 1400, 600 Third Avenue S.W, Calgary, Alta.
Monday, August 20, 2018, 9 a.m. to 4 p.m.

The technical issues that will be discussed are found on the AUC website under Rule-related consultations> Consultation for Rule 012 Noise Control.

Stakeholders who would like to attend this technical meeting should reply by email to Raymond Lee at regulatorypolicy@auc.ab.ca before Friday, August 3, 2018. Because of the venue's space limitation, we encourage organizations to send no more than two participants to the meeting. Please be also advised that there is no tele-conferencing provision for this meeting.

If you have questions about the technical issues to be discussed please contact Brian Shand at brian.shand@auc.ab.ca or by telephone at 403-592-4434.

(original signed by)

Robert D. Heggie
Chief Executive

Overview of Bulletin 2017-11, summary of stakeholder comments, and discussion questions for a technical meeting

1. The technical meeting is intended to focus on high-level/conceptual issues that arose from Bulletin 2017-11 and associated stakeholder comments.

2. The following sections aim to provide an overview of Bulletin 2017-11, summarize associated stakeholder comments, and propose questions/topics for further discussion during the technical meeting.

Section 1: Construction near existing and approved facilities

3. The purpose of Section 1 of Bulletin 2017-11 is to identify a reasonable approach for determining permissible sound levels at a new dwelling that is built in proximity to an approved but not yet constructed facility. The Commission's objective when setting permissible sound levels at new dwellings is to balance the interests of licensees of the approved facilities with the interests of landowners who plan to build dwellings near an approved but not yet constructed facility where there is no clear indication that an approved facility may eventually be constructed in proximity to the dwelling.

4. Bulletin 2017-11 proposed, for discussion, that licensees be afforded a one-year window to begin construction of their facility, following approval. If a new dwelling is constructed within this one-year window, the permissible sound level at this dwelling would be set at the higher of the predicted cumulative sound level that would include the approved but not yet constructed facility, or at the permissible sound level determined in accordance with Table 1 in Rule 012. If a new dwelling is constructed after this one-year window, the permissible sound level at this dwelling would be determined in accordance with Table 1 in Rule 012, and licensees would be required to mitigate noise from their facility in the event of an exceedance.

5. Almost all the stakeholders that provided comments on this issue suggested that setting the threshold for consideration of new dwellings at one year after the facility approval would be overly constraining because approved facilities often require more than one year to complete local permitting, finalize detailed design, or coordinate construction financing. Stakeholders indicated that the time window should be extended and suggested a number of different periods ranging from 18 months to five years.

6. At the technical meeting, the Commission will seek additional feedback on a reasonable approach for determining permissible sound levels at a new dwelling built in proximity to an approved but not yet constructed facility. The Commission hopes to identify a realistic and reasonable time frame after facility approval for setting the permissible sound levels at new dwellings, in order to balance the interests of licensees and the interests of new dwelling owners.

Section 2: Time limits for approved facilities

7. The objective of this section of Bulletin 2017-11 is to define a reasonable time limit following the approval of a facility, after which environmental noise of an approved but not yet

constructed facility must be reassessed. Noise would only have to be reassessed in the event that an approved facility has not yet started construction and the licensee has requested a time extension for the approval.

8. Once a facility receives approval, the licensee is expected to follow approval conditions to construct and operate the facility. If an approved facility is not constructed within a reasonable time period, it may restrict the development of other energy-related facilities in the surrounding area. To optimize use of noise room in areas where energy resources (e.g., wind power) are limited but attractive to industrial developers or investors, a maximum time limit may be appropriate for an approved facility that has not commenced construction, after which a revised noise impact assessment may be required. In this context, "noise room" means the amount by which a facility could increase cumulative noise levels while maintaining compliance with the permissible sound levels at potentially affected dwellings.

9. Bulletin 2017-11 suggests that "[i]t may be fair to consider a maximum time limit after which a new application would be required." Stakeholder comments indicate that defining such a time limit in Rule 012 would not be widely recommended or supported.

- Some stakeholders argued against setting any maximum time limit. Instead, these stakeholders recommended that the Commission maintain the current process for time extension of approvals.
- Other stakeholders suggested that time extension requests should continue to be assessed by the Commission on a case-by-case basis.
- Other stakeholders suggested that establishing a time limit for submitting a new application is beyond the scope of Rule 012 and that any such time limit should be addressed in Rule 007.
- Some stakeholders offered different maximum time limits, ranging from three to five years, after which a new noise impact assessment would be required.

10. Approved facilities that are not constructed within a reasonable time period after approval may restrict the installation of other facilities in the surrounding area. Time extensions are often requested. At the technical meeting, the Commission will seek feedback on whether Rule 012 should include a maximum time limit. It will also seek feedback on whether Rule 12 should permit time extensions following the approval of a facility, and whether such time extensions would necessitate that a new application be filed.

Section 3: Post-construction comprehensive sound level survey requirements for wind turbines

11. This section of Bulletin 2017-11 aims to improve the data isolation criteria for post-construction comprehensive sound level surveys for wind turbines to consistently and effectively provide results.

12. Stakeholder comments in this area were primarily focused on the following isolation criteria:

- valid hours of daytime and nighttime data

- adequate electrical power output and associated sound power levels
- wind direction constraints (i.e., downwind condition)
- wind noise masking
- uncertainty of the ambient sound level

13. There were also numerous stakeholder comments about the appropriate criteria for determining whether a post-construction noise monitoring survey is required and at which receptors post-construction noise monitoring surveys should be conducted.

14. In their comments, stakeholders consistently indicated that the monitoring constraint of gathering three cumulative hours of valid data in a single nighttime or daytime period should be relaxed and that the combination of valid data gathered in multiple nighttime or daytime periods should be allowed.

15. With respect to minimum electrical power output and associated sound power levels of wind turbines during monitoring surveys, a number of stakeholders mentioned that 67 per cent and 85 per cent of maximum wind turbine output capacity are considered acceptable for noise monitoring surveys in Vermont and Ontario, respectively. Other stakeholders suggested that data validity should be determined based on wind turbine sound power levels rather than electrical power output.

16. With respect to downwind conditions during monitoring surveys, stakeholders consistently indicated that the ±45 degree limitation on wind directions is too constraining and should be relaxed.

17. Stakeholders suggested that wind noise masking might cause difficulties demonstrating noise compliance during post-construction monitoring surveys. Comments on this issue can be organized into two groups:

- Some stakeholders suggested that quantifying ambient sound levels for different wind speeds is essential to characterize wind noise masking and to determine the project-only contribution to cumulative sound levels.
- Other stakeholders recommended the use of secondary wind screens in post-construction noise surveys.

18. Stakeholders had many comments and suggestions on the criteria that the Commission should consider when deciding whether to direct a licensee to conduct a post-construction comprehensive sound level survey for wind turbines. These comments can be summarized as follows:

- Many stakeholders recommended that a noise complaint from a nearby dwelling should be considered a trigger for conducting a post-construction noise monitoring.
- Some stakeholders suggested that cumulative sound level predictions within 1 dB of permissible sound levels at noise receptors should be considered a trigger for conducting post-construction noise monitoring.

- Other stakeholders commented on how to use noise predictions to decide on specific receptors for post-construction monitoring, and suggested that cumulative sound level results and modelling parameters should both be considered when selecting noise receptors for monitoring.
- Other stakeholders recommended that dwellings for which noise from project wind turbines is expected to be dominant should be prioritized as monitoring locations over more distant dwellings, and stated that the benefit of this approach is to maximize signal-to-noise ratio and to minimize the influence of uncertain background sound levels at monitoring receptors.

19. At the technical meeting, the Commission will seek additional feedback on whether any of the isolation criteria identified above should be considered or relaxed and, if so, how the isolation criteria should be implemented for comprehensive sound level surveys. Feedback will also be sought on technical strategies for reducing wind noise masking during sound level measurements and on criteria for conducting a post-construction noise survey, including the selection of monitoring locations.

Section 4: Sound impact of approved, but not constructed, facilities in post-construction surveys

20. Bulletin 2017-11 proposes potential changes to Section 4.6.1 of Rule 012 to clarify how the sound levels and noise contribution of approved but not yet constructed facilities should be characterized in the results of a post-construction noise monitoring survey. It is proposed that the licensee of an operating facility directed to conduct a post-construction noise monitoring survey present cumulative sound levels as the sum of valid measured results from the post-construction survey and predicted project noise level contribution for any approved but not constructed facilities considered in the original application.

21. Most stakeholders do not support the addition of the predicted noise level contribution from approved but not yet constructed facilities to post-construction noise monitoring survey results. These stakeholders suggested that the Commission consider only constructed and operational facilities when assessing compliance. They argued that regardless of the predicted future noise contribution from approved but not yet constructed facilities, an existing facility should be considered compliant with Rule 012 if the measured comprehensive sound level is found to comply with the permissible sound levels.

22. At the technical meeting, the Commission will seek additional feedback on whether the predicted noise contribution from approved but not yet constructed facilities should be added to the measured comprehensive sound level of a facility when demonstrating noise compliance in post-construction noise surveys. It will also request comments on the appropriate steps to take when the sum of measurement results from a post-construction survey of a facility and the predicted noise contribution from an approved but not yet constructed facility exceeds the permissible sound levels in Rule 012.

Section 5: Use of post-construction surveys for noise model verification or for demonstration of compliance

23. This section of Bulletin 2017-11 attempts to clarify circumstances where post-construction surveys could or should be used for noise model verification. The majority of stakeholders requested clarification on the Commission's intention or purpose in requiring noise model verification during post-construction surveys. At the technical meeting, it will be useful to have a discussion about whether the proposed noise model verification approach should be kept or deleted in Rule 012.

Section 6: Deferred facilities (pre-1988) administration

24. This section of Bulletin 2017-11 addresses potential non-compliance issues raised by deferred (pre-1988) facilities. Rule 012 states that the deferred facility status of pre-1988 facilities will end on October 17, 2018 and that compliance with permissible sound levels is required after this date for a modification of a deferred facility, even if there is no noise complaint made to the Commission. Bulletin 2017-11 proposes two alternatives of administrating pre-1988 deferred facilities:

- the Commission would consider an extension of the October 17, 2018 date
- applications for modification of a deferred facility would be required to identify a noise mitigation plan to achieve compliance with permissible sound levels calculated in accordance with Table 1 in Rule 012 or to discuss reasons why noise mitigation measures are not practical for the deferred facility

25. A number of different perspectives are reflected in the stakeholder comments on this issue:

- Some stakeholders suggested that an extension of the October 17, 2018 date for pre-1988 facilities should be considered and may be a practical approach.
- Other stakeholders argued that efforts required to bring existing noise levels into compliance with permissible sound levels based on Table 1 of Rule 012 may be cost prohibitive for many pre-1988 deferred facilities.
- Other stakeholders indicated that responsible licensees have been diligently preparing their pre-1988 deferred facilities for the elimination of deferred facility status in 2018. In their view, a further extension of the deferred facility status would unreasonably punish these operators while accommodating operators who have not been planning for the change.
- Other stakeholders suggested that a pre-1988 deferred facility should be required to develop a noise mitigation plan or demonstrate compliance with permissible sound levels based on Table 1 of Rule 012 only in the event of a noise complaint from an affected resident.

26. At the technical meeting, the Commission will seek additional feedback on whether it should grant an extension to the deferred status of pre-1988 facilities. A discussion on a reasonable approach for requiring licensees to develop noise mitigation plans or demonstrating compliance with permissible sound levels will also be useful in making a decision on this issue.

Section 7: Investigation form clarification

27. Rule 012 states that after a noise complaint has been filed, a noise complaint investigation form identifying the representative conditions for noise monitoring must be completed and submitted to the Commission. However, the original noise complaint investigation form in Appendix 4 of Rule 012 does not work effectively for complainants. This section of Bulletin 2017-11 aims to clarify and improve the noise complaint investigation form.

28. The Commission received numerous comments and suggestions about how to improve the noise complaint investigation form in Appendix 4 of Rule 012. No further discussion is required on this issue at the technical meeting.

Section 8: Inclusion of third party proposed facilities in cumulative sound level assessments

29. This section of Bulletin 2017-11 aims to develop an approach to include the noise contribution from proposed third party facilities in the predicted cumulative sound levels in a noise impact assessment. It is suggested that third party proposed facilities be included using the best and most recent data that is publicly-available, regardless of whether the regulatory applications for these third party proposed facilities have been deemed complete. Stakeholders had different views on this issue:

- Some stakeholders argued that an administrative application completeness requirement (as in Section 3.2 of Rule 007) is necessary for the purpose of determining inclusion of a proposed facility in a proponent's noise impact assessment.
- Other stakeholders suggested that proponents should not be required to update previously filed noise impact assessments to retroactively consider third-party facilities that are proposed in the future. These stakeholders argued that projects should be considered "crystallized" at the time of filing an application with the Commission.
- Other stakeholders commented that in cases where multiple facilities are proposed in the same area and there is no clear priority among these facilities, the Commission should encourage negotiation of sound space (i.e., noise room) between adjacent proponents.
- Some stakeholders suggested that the term "proposed facility" should be redefined and the term "deemed complete" should be clarified in Rule 012.

30. At the technical meeting, the Commission will seek additional feedback on an approach for including proposed facilities in noise impact assessments, including comments on changes to or deletion of the definitions of "proposed facility" and "deemed complete" in Rule 012.

Section 9: Ambient adjustment

31. This section of Bulletin 2017-11 aims to clarify and refine requirements when applying a Class A2 ambient monitoring adjustment to permissible sound levels. Bulletin 2017-11 proposes a number of changes to the A2 ambient adjustment. Stakeholder comments flagged the following proposed changes as problematic:

- An application for an A2 adjustment can be made at the time of the original facility application or it can be made subsequently.
- An application for an A2 adjustment can be made by the operator of a facility or it can be made by a person impacted by a facility.

32. Some stakeholders noted that there is a risk that an approved facility may be non-compliant where it is approved based on unadjusted permissible sound levels and a Class A2 ambient monitoring adjustment is applied for after Commission approval.

33. Some stakeholders expressed concern that a resident could use the Class A2 ambient monitoring adjustment application process to force the temporary shutdown of an approved facility in order to collect measurements to support an A2 adjustment. Consequently, these stakeholders argued against the proposed change to Section 2.1 (11) (a) of Rule 012 to allow "a person impacted by the facility" to request an A2 adjustment.

34. The Commission will seek additional feedback on whether an application for an A2 adjustment can be made after the original facility application at the technical meeting. It will also seek feedback on whether an application for a Class A2 ambient monitoring adjustment can be made by a person claiming that the assumed ambient sound levels determined in accordance with Table 1 in Rule 012 are not representative of the true ambient levels at a dwelling.

Section 10: Wind noise masking adjustments

35. This section of Bulletin 2017-11 focuses on the wind noise masking adjustments (C1 and C2 adjustments) in Rule 012. Comments were sought on whether the current procedures for wind noise masking are sufficiently clear or could be enhanced with additional details.

36. A few stakeholders commented that current requirements for applying for a wind noise masking adjustment are too complicated and require the collection of too much receptor-specific data to be practically feasible. One stakeholder suggested that the Commission should eliminate the existing, dwelling-specific wind noise masking adjustments (C1 and C2) and replace them with simpler global adjustments similar to those used in the Ontario Noise Guidelines for Wind Farms.

37. Several stakeholders suggested that the Commission consider allowing for C1 and C2 adjustments as part of a post-construction noise survey, instead of restricting these adjustments to the application phase.

38. A number of stakeholders suggested that the Commission provide further explanation or examples of the C1 and C2 adjustments to help stakeholders and their consultants understand the applicability of these adjustments.

39. The Commission will seek additional feedback on whether the C1 and C2 adjustments should be modified or eliminated in Rule 012 at the technical meeting. It will also ask stakeholders for specific proposed approaches to improve the C1 and C2 adjustment process or to identify a simpler global adjustment.

Other issues identified by stakeholders

40. A number of other issues were raised by stakeholders in their submissions. Two major issues of interest are

- the use of the dBC minus dBA test to evaluate a potential low frequency noise issue and;
- the use of a no net increase approach to demonstrate compliance with the permissible sound levels.

41. Rule 012 requires that the potential for a low frequency noise issue in a noise impact assessment be predicted by calculating the difference between dBC for the predicted project sound levels (if available) and the dBA predicted project sound levels and comparing the difference to a 20 dB threshold. One stakeholder suggested that the application of this low frequency noise criterion is complicated by the fact that Rule 012 does not provide a method for estimating representative ambient sound levels in dBC. Consequently, it is currently not possible to calculate cumulative sound levels in dBC in a noise impact assessment.

42. Rule 012 currently allows compliance with the permissible sound levels to be demonstrated based on a no-net increase. One stakeholder requested that the Commission confirm how a no-net increase should be interpreted in situations where existing cumulative noise levels already exceed permissible sound levels.

43. The Commission will seek additional input on these two issues at the technical meeting.