

February 17, 2023

Attention: Joan Yu  
Alberta Utilities Commission  
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Client Reference No.: Bulletin 2022-12

**RE: Consultation on Potential Changes to AUC Rules 012 – SLR Consulting (Canada)**

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The Alberta Utilities Commission (AUC) has undertaken consultation on potential changes to certain provisions of Rule 012: Noise Control to streamline and improve regulatory and adjudicative processes. In Bulletin 2022-08, the AUC proposed changes to Rule 012 and requested written feedback on these changes.

The AUC is aware that urban PSLs and new dwelling PSLs were key topics in two recent noise complaint proceedings being Proceeding 27276 and Proceeding 27444:

- Decision 27276-D02-2022 recommended that the method of establishing PSLs in urban environments be further explored, specifically whether urban PSLs should be treated differently and whether changes related to urban PSLs should be implemented.
- Decision 27444-D01-2022 recommended that the wording associated with the new dwelling rule and the overall approach to the determination of urban PSLs be further examined.

The AUC has decided to conduct another round of written consultation on potential Rule 012 revisions, to address urban PSLs and new dwelling PSLs. This has been sought within Bulletin 2022-12.

This letter provides commentary and suggestions from SLR Consulting (Canada) Ltd. (SLR) regarding the above and the specific discussion questions in Bulletin 2022-12.

## **Consultation Discussion Questions Answers**

This section outlines SLR’s response to the discussion questions in Bulletin 2022-12.

### **Question 1:**

“Do you believe changes are required to Rule 012 to specifically address PSLs for urban environments in light of Decision 27276-D02-2022 or otherwise? Please explain.”

### **SLR Answer:**

Changes should be made to Rule 012 to prescribe the method for evaluating PSLs for urban environments. The approach in Rule 012 Table 1: Basic Sound Levels (BSL) for nighttime to define appropriate PSLs may not always be suitable for an urban environment location. This is due to the variance in background sound levels due to the nature of sources and geography in urban environments. There can be a difference between the Basic Sound Level adopted in a Noise Impact Assessment (NIA)

using Table 1 and the ambient baseline sound level in reality. This introduces uncertainty/error in the conclusions of the assessment. Many aspects such as acoustic screening from buildings, variance in sound source operation including intermittency mean that a general rule cannot be applied to all instances in an urban environment.

Assessment of sound and vibration from construction activities should be required along with an appropriate management plan and monitoring requirements. The increased number of people that could be affected in an urban environment compared to rural (Rule 012 general assumption) means that construction sound and vibration should have more regulation in an urban environment.

### Question 2.1:

“If you believe changes are required to Rule 012 to specifically address PSLs for urban environments:

2.1: Please discuss whether the existing provisions in Rule 012 for assessing ambient sound levels and the use of A2 adjustments are adequate to determine appropriate PSLs for urban environments. Please include a discussion of the pros and cons associated with using the existing provisions to determine PSLs for urban environments.”

#### SLR Answer:

SLR believes that the A2 adjustment process is suitable to evaluate appropriate PSLs in an urban environment with some changes.

The following pros apply to the method:

- Monitoring is necessary to evaluate the varying baseline acoustic environments in urban environments. Rule 012 was designed for more remote and rural settings, where the dominant existing sound sources are from transportation with few buildings and other acoustically screening objects to reduce the sound level. In urban environments, there is a lot of variances in the sound level depending on the proximity to sound sources but also how they are acoustically screened from them.

The following cons apply:

- The process for assessing the sound levels to inform an A2 adjustment is unclear. It is up to the practitioner to select the method. The process for sound monitoring to inform an A2 adjustment should be standardized with a clear set of instructions on how this should be undertaken. The standardized approach should include, but not be limited to, such things as the data and parameters to be collected, and how the data should be analysed and processed to quantify the baseline sound levels. This standardized approach would also be useful for Comprehensive Sound Level (CSL) Surveys.
- There is no option to provide sound level calculations/modelling for acoustic environments with high time variance and/or existing energy-based facilities that dominate the acoustic environment making it difficult to evaluate the baseline sound level through monitoring.
- There is no requirement to apply an A2 adjustment in Rule 012. Annoyance is linked to the amount the sound level of subject sound sources is above the baseline. The baseline assumption using Table 1 alone has uncertainty in it and is inappropriate for the complicated acoustic environment within an urban environment. Unrealistic estimation of the baseline sound levels can lead to an underestimation of the impacts of sound. Sound monitoring over a long enough

period increases the certainty in assessing the baseline acoustic environment. More generally speaking, the justification requirements around the selection of PSLs in Rule 012 has great uncertainty.

### Question 2.2:

“If you believe changes are required to Rule 012 to specifically address PSLs for urban environments: Please comment on how to define an urban receptor in Rule 012.”

The following changes should be implemented to specifically address PSLs for urban environments:

- There is no requirement by the AUC to do undertake an A2 adjustment assessment in practice. It is at the assessor’s discretion to seek approval from the AUC to apply an A2 adjustment. It is recommended that the AUC mandate an A2 adjustment sound monitoring survey as part of the Noise Impact Assessment (NIA) process. This is especially important to consider acoustic environments which have a sound level less than the assumed ambient of  $L_{eq} 35$  dB(A). This is the case for more rural settings also, but the question was asked specifically about urban environments. An option could be included for the NIA to justify why evaluating a baseline sound level though monitoring is inappropriate for the situation being assessed, and a modelled baseline would be more appropriate.
- Due to the variance in the acoustic environment in an urban environment, the minimum survey duration should be at least 96 hours to capture enough data to enable an assessment on an appropriate A2 adjustment. This would need to be applied and updated to the CSL survey method requirements for consistency.
- There should be an option to provide predictions of the existing acoustic environment at receptor locations in conjunction with an A2 adjustment monitoring survey. This would typically be used for situations where there is a high degree of time variance in the acoustic environment and/or with existing energy-based facilities that dominate the acoustic environment, and the baseline cannot be evaluated through measurement. In this case, an assessment and justification of the PSL would be provided.
- A publicly available geodatabase/online map should be created showing the PSLs from NIAs accepted by the AUC. This would avoid the potential for different PSLs for the same receptor under different NIAs.

### SLR Answer:

### Question 2.3:

“If you believe changes are required to Rule 012 to specifically address PSLs for urban environments: Please provide any recommendations for determining appropriate PSLs for urban environments, including any specific considerations for industrial versus residential areas. Please include a discussion of the pros and cons associated with the recommended method to determine PSLs for urban environments.”

### SLR Answer:

Details were provided in the answer to Question 2.2 above.

### Question 2.4:

“If you believe changes are required to Rule 012 to specifically address PSLs for urban environments: Please comment on any other factors that should be considered in the context of establishing PSLs for urban environments.”

#### SLR Answer:

Details were provided in the answer to Question 2.2 above.

### Question 3:

“Do you believe that changes are required to update the sections of Rule 012 that address PSLs for new dwellings (i.e., sections 2.3, 2.4 and 2.5 and the definition of new dwelling in Appendix 1 – Glossary) in light of Decision 27444-D01-2022 or otherwise? Please explain.”

#### SLR Answer:

In general, SLR agrees with the approach to establishing PSLs for new dwellings in the vicinity of existing or approved facilities. One of the main shortcomings and potential causes of conflict between residents and licensees not due to the Rule 012 regulations per se, but due to the lack of requirement to identify and licensed facilities and applicable noise regulations as part of the building permit process for new dwellings. Establishing a dialog between the regulators of industry and permitting authorities (municipalities) to develop a process to ensure that developers and new residents are aware of licensed facilities and noise regulations would be a recommended first step.

Beyond this jurisdictional issue, some clarification of sections 2.3-2.5 of Rule 012 could be helpful. Outside of existing wording, and regarding scenarios like in decision 27444-D01-2022, mentioning specifically that Noise Management Plans (NMP) as outlined in section 2.8 are the preferred solution to these edge cases could be a good first step.

### Question 4.1:

“If you believe changes are required to update the sections of Rule 012 that address PSLs for new dwellings: Please specify which paragraphs or sections of Rule 012 should be updated and provide any recommended updates. Please include a discussion of the pros and cons associated with the existing provisions and any recommended updates.”

#### SLR Answer:

Section 2.3, paragraph (2) allows for the rule protecting licensees to be discarded without establishing either a clear threshold for “exceptional circumstances” nor a defined alternative approach. Again, the Noise Management Plan would be the preferred approach, the cost of such measures should not automatically be borne by the licensee.

From Section 2.3, paragraph (3), “If there is no noise impact assessment for the facility, the licensee must conduct a post-construction noise survey at the new dwelling and provide the noise survey results to that person.”

If the licensee was not required to complete an NIA and complied with Rule 012 by way of other mechanisms (construction predating the regulation or approved licensed using the Summary Form or No-

Net-Increase mechanisms), it may not be reasonable for the to bear the cost of a sound monitoring survey.

If the licensee should have completed an NIA but has not for whatever reason, then they should be required to complete an NIA, noise survey, or commit to an NMP at their own cost. As well, in order to ensure that NIAs completed per Rule 012 requirements have all the necessary information to determine the PSL where a future residence may be constructed, the requirements for NIAs should be updated to include predicted sound level grids, plots, or contour lines.

#### **Question 4.2:**

“If you believe changes are required to update the sections of Rule 012 that address PSLs for new dwellings: Please explain how you believe PSLs for new dwellings should be established. In particular, please describe recommendations to provide enhanced clarity to the existing new dwelling provisions in Rule 012.”

#### **SLR Answer:**

An overhaul of language in these sections to simplify and improve readability and comprehension could be helpful, especially when the regulation relies on the public to read, understand, and act on the regulation for it to be applied in the case of new dwellings.

#### **Question 4.3:**

“If you believe changes are required to update the sections of Rule 012 that address PSLs for new dwellings: Please comment on any other factors that should be considered in the context of establishing PSLs for new dwellings.”

#### **SLR Answer:**

The regulation allows for the PSL for new dwellings to be the greater of existing measured levels or modeled cumulative levels. These two methods can yield considerably different results in either direction (modeled either greater or less than measured), especially if the Ambient Sound Level (ASL) assumed in the model is does not reflect the real acoustic environment of the area. In the interest of both protecting the public and licensees and establishing clarity, the ASL for NIAs should be based on measured baseline sound levels, unless good reasons to exempt a licensee during the application process exist, as discussed previously.

Yours sincerely,

**SLR Consulting (Canada) Ltd.**



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Hi Joan,

Please find a letter attached detailing SLR's Recommendations Response Letter for AUC Bulletin 2022-12 for your review.

We encourage any questions and further discussions on this important initiative. We're happy to be involved and provide guidance and support on helping shape this and provide input based on our experience dealing with acoustics assessments in urban environments.

You also requested some links to UK literature/policy and guidelines for your information:

- Noise and Vibration Management: Environmental Permits (England Industrial Process Regulator): <https://www.gov.uk/government/publications/noise-and-vibration-management-environmental-permits>
- BS 4142: Industrial Sound Assessment: <https://knowledge.bsigroup.com/products/methods-for-rating-and-assessing-industrial-and-commercial-sound/standard>
- Wind Farm Good Practice Guide: <https://www.ioa.org.uk/sites/default/files/IOA%20Good%20Practice%20Guide%20on%20Wind%20Turbine%20Noise%20-%20May%202013.pdf>
- BS 5228 (two parts 1&2) Construction noise and vibration assessment method: <https://www.en-standard.eu/bs-5228-1-2009-a1-2014-code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-noise/>
- Environmental Noise Directive: [https://environment.ec.europa.eu/topics/noise/environmental-noise-directive\\_en](https://environment.ec.europa.eu/topics/noise/environmental-noise-directive_en)
- ProPG (Planning Guidance for Noise): <https://www.ioa.org.uk/sites/default/files/14720%20ProPG%20Main%20Document.pdf>
- National Planning Policy Framework: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>
- Noise Policy Statement for England: <https://www.gov.uk/government/publications/noise-policy-statement-for-england>. I'd love to get something similar for Canada, going to try!
- Internal Design Criteria and Calculation Methodology British Standard: <https://knowledge.bsigroup.com/products/guidance-on-sound-insulation-and-noise-reduction-for-buildings/standard>
- WHO Night Noise Guidelines for Europe: [https://www.euro.who.int/\\_data/assets/pdf\\_file/0017/43316/E92845.pdf](https://www.euro.who.int/_data/assets/pdf_file/0017/43316/E92845.pdf)
- Defra Noise Action Plan: [https://assets.publishingservice.gov.uk/government/uploads/system/uploads/attachment\\_data/file/813664/noise-action-plan-2019-railways.pdf](https://assets.publishingservice.gov.uk/government/uploads/system/uploads/attachment_data/file/813664/noise-action-plan-2019-railways.pdf)
- Noise Insulation Regulations: <https://www.legislation.gov.uk/uksi/1975/1763/contents/made>

- BS 6472 – Human exposure to vibration in buildings: <https://knowledge.bsigroup.com/products/guide-to-evaluation-of-human-exposure-to-vibration-in-buildings-vibration-sources-other-than-blasting/standard>

Hope this helps.

Have a good weekend.

Thanks,  
Dan



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