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July 8, 2022

- via Electronic Filing -

Alberta Utilities Commission

Eau Claire Tower
1400, 600 Third Avenue S.W.
Calgary, Alberta T2P 0G5

Attention: Joan Yu & Brian Shand

Dear Joan Yu & Brian Shand

RE: ENMAX Corporation's Response on Bulletin 2022-08 regarding Rule 012: Noise Control

ENMAX Corporation ("EC"), on behalf of ENMAX Power Corporation and ENMAX Energy Corporation has enclosed its response to *Bulletin 2022-08 Initiation of stakeholder consultation process for AUC Rule 012: Noise Control*.

EC subsidiaries own and operate numerous noise-emitting facilities in and around the City of Calgary that are subject to the requirements of Rule 012, including 43 substations. Given the scope and scale of these operations, EC has had significant experience with the practical application of Rule 012 to facilities in a wide variety of circumstances (e.g., facility vintage, facilities located closer to or further from residences, etc.).

EC has reviewed the initial proposed changes in the document titled "2022-06-03-Rule012-Blackline.pdf" found on the AUC's Rule 012 consultation webpage and agrees with all proposed changes to the Rule.

EC also has identified two additional matters as per the attachments to this letter that it requests be considered as part of this consultation process:

1. clarification of the "New Dwelling Rule" in section 2.3 of Rule 012; and
2. mechanisms that would better tailor Rule 012 to an urban environment.

EC notes that Bulletin 2022-08 includes "initial proposed changes" for consultation. EC, therefore, understands that there could be scope for consideration of further changes to Rule

012 to the extent that they would meet the objectives of the Commission (i.e., “eliminating requirements that may have become outdated or unnecessary” and “streamline and improve regulation and adjudicative processes”). EC submits that the above matters meet these objectives. EC’s positions and suggestions on these matters are set out in Attachment 1.

EC appreciates the opportunity to participate in this consultation process. For any matter specifically related to substations and transmission lines, please contact Janene Taylor, Vice President Business Operations and Regulatory at (403) 514-2731 or by email at jtaylor@enmax.com. For all other matters please contact Tracy Coutts at (403) 514-2756.

Sincerely,

Tracy Coutts

Tracy Coutts (Jul 7, 2022 11:38 MDT)

Tracy Coutts
Director, Compliance

Cc: Janene Taylor
Vice President, Business Operations & Regulatory – ENMAX Power Corporation

Attachment 1

New Dwelling Rule and Urban Facility Considerations

The following provides EC's positions and suggestions on the following Rule 012-related matters:

1. clarification of the "New Dwelling Rule" in section 2.3 of Rule 012; and
2. mechanisms that would better tailor Rule 012 to an urban environment.

EC submits that the changes detailed below are consistent with the objectives of the Bulletin 2022-08 consultation process, being to "eliminate requirements that may have become outdated or unnecessary" and "streamline and improve regulation and adjudicative processes."

New Dwelling Rule

Under section 2.3 of Rule 012, a resident of a new dwelling is assumed to accept area noise at the time of dwelling construction, including from an existing AUC-regulated facility, as the applicable PSL. EC understands that the purpose of this rule is to achieve a fair result that balances the interests of a licensee whose facility pre-dates a dwelling against the interests of a resident of a dwelling constructed near a pre-existing facility.

There are no restrictions or exclusions in the New Dwelling Rule with respect to the type or age of the facilities to which it applies. On its face, the New Dwelling Rule applies to all existing AUC-regulated facilities that pre-date the construction of proximate dwellings.

The key elements of section 2.3(1) can be broken out as follows:

- The applicable PSL for a new dwelling constructed within 1.5 km from the boundary of an existing facility will be the greater of (1) the sound level existing "at the start of new dwelling construction" or (2) the PSL as determined in Section 2.1 of Rule 012.
- The determination of "the sound level existing at the start of new dwelling construction" depends on whether the facility has a formal noise impact assessment (NIA). A sound survey will qualify as a formal NIA if it meets the conditions in section 3.2 of Rule 012 (comprehensive sound surveys and ambient noise surveys do not qualify as formal NIAs).
- If there is an NIA for the facility, the *modelled cumulative sound levels* at the new dwelling will apply. Rule 012 does not specify any *timeline* for the NIA or derivation of the modelled cumulative sound levels, although EC notes that an NIA is currently required at the time of facility application for a new substation or transformer addition within an existing substation.¹ An NIA reflects the modelled cumulative sound levels at the most

¹ Rule 007: Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines, TS28, PDF page 77.

affected dwelling(s) *at that specific point in time* based on existing, approved and applied-for energy facilities, as well as the assumed ambient sound level (or measured ambient sound level in cases of a Class A2 adjustment (A2 Adjustment)).

- If there is no NIA for the facility (potentially because the facility pre-dates any associated application requirement), the *measured sound levels at the new dwelling* apply. Rule 012 does not specify any *timeline* within which such measurements must be undertaken relative to the construction of the new dwelling or otherwise.

Given the purpose outlined above, EC submits that the New Dwelling Rule should be available to all existing AUC-regulated facilities that pre-date nearby dwelling construction, particularly if the noise level has not increased as a result of facility additions, upgrades, or condition changes. EC submits that revisions to Section 2.3 (see below suggestions) would help capture the current elements of the rule and reinforce and clarify its application, regardless of the circumstances, vintage of the facility or timing of existing NIA (if any).

In this context, EC has rarely, if ever, had a request from a resident to undertake an NIA at the start of new dwelling construction near its existing facilities and EC is not aware of other operators receiving any such requests. EC's own experience suggests that it would be unlikely that an operator would have prepared an NIA or assessed cumulative sound levels from an NIA at the start of new dwelling construction. EC submits that it is unlikely that the New Dwelling Rule was only intended to apply in the limited (and likely rare) situation where there is an NIA for an existing facility undertaken at the start of new dwelling construction.

While not necessarily exhaustive, EC notes three potentially more likely scenarios where the current version of the New Dwelling Rule could benefit from further clarity:

1. Facilities constructed before the new dwelling without an NIA. This could be the case, for example, for facilities that did not require an NIA under the regulatory regime in place at the time of permitting.²
2. Pre-existing facilities with an NIA undertaken some period of time prior to dwelling construction, where sound levels at the location of the dwelling have changed in the interim period (due to construction of energy-related or non-energy-related facilities between the date of the NIA and the start of new dwelling construction).
3. Pre-existing facilities with an NIA undertaken some period of time after dwelling construction, where sound levels at the location of the dwelling have changed in the interim period (due to construction of energy-related or non-energy-related facilities between the start of new dwelling construction and the date of the NIA).

² EC understands that the first iteration of noise regulation came into effect in or about 1973 (ERCB Directive 73-1).

In respect of scenarios 2 and 3, EC notes that NIAs represent a point-in-time assessment of sound levels and, therefore, may not accurately reflect sound levels at the start of new dwelling construction or any other time. Such a discrepancy is more likely in an urban setting where the noise environment can change on a regular basis.

Rule 012 does not currently require a licensee to undertake an NIA at any specific time, including at the time of new dwelling construction unless requested by a resident. EC submits that an ongoing obligation on licensees to monitor for new dwelling construction and undertake an NIA each time construction at a new dwelling commences would be unduly onerous, particularly in urban settings with potentially frequent residential construction. Even leaving this consideration aside, such an obligation would be problematic for utility operators in the absence of an associated regulatory requirement and mechanism and/or approved revenue requirement for such work.

In cases of a noise complaint or where otherwise requested by a person living within 1.5 km of a facility, the Commission could consider a requirement that a licensee develop a model that estimates the *facility noise* that would have existed at the start of new dwelling construction (recognizing that an exception pursuant to Section 2.3(2) might be warranted where historical information and records are not available). Such an approach would allow for a determination of facility noise at the start of new dwelling construction and confirm whether facility noise has increased over time. However, it is important to note that there is no reliable way to determine historic ambient sound levels at the time of new dwelling construction given potential changes over time.

To address the comments above and resolve any ambiguity or uncertainty that might be associated with the current version of Rule 012, EC suggests that section 2.3 be revised to specifically address the question of when a licensee must assess the sound levels at the new dwelling, regardless of whether there is an NIA for the facility or the timing of any NIA that might have been undertaken. While it is the Commission that must determine any revisions to Rule 012, EC proposes the following revisions for consideration:

2.3 Permissible sound level at new dwellings in proximity to an existing facility

(1) Where a person builds a new dwelling or receives a permit to build [a new dwelling](#) within 1.5 km from the boundary of an existing and operational facility, the permissible sound level at the [location of the](#) new dwelling will be the greater of the sound levels existing at the start of the new dwelling construction, or the permissible sound level as determined in Section 2.1 of this rule.

If there is a noise impact assessment for the facility, the phrase, “sound levels existing at the start of new dwelling construction,” refers to the modelled cumulative sound levels at the [location of the](#) new dwelling [at the time that noise](#)

impact assessment was undertaken, so long as it represents the sound levels at the facility at the start of dwelling construction.

If there is no noise impact assessment for the facility or no noise impact assessment that represents the sound levels at the facility at the start of new dwelling construction, the phrase, “sound levels existing at the start of new dwelling construction,” refers to: (a) ~~the~~ measured sound levels at the location of the new dwelling which represent the sound levels from the facility at the start of new dwelling construction; or (b) a noise model that represents the sound levels from the facility at the start of new dwelling construction.

(2) On the application of a person who builds a new dwelling or receives a permit to build a new dwelling within 1.5 km from the boundary of an existing and operational facility as referred to in Subsection 2.3(1), the Commission may, in exceptional circumstances, grant an exemption from the rule established by that subsection.

(3) In case of a noise complaint made to the Commission or if requested by a person who builds a new dwelling or receives a permit to build a new dwelling within 1.5 km from the boundary of an existing and operational facility, as referred to in Subsection 2.3(1), the licensee must communicate information on the permissible sound level to that person, as determined under the rule established by that subsection. If there is a noise impact assessment for the facility undertaken in accordance with Subsection 2.3(1), the licensee must provide a copy of the assessment and the modelled cumulative sound levels at the new dwelling to that person. If there is no noise impact assessment for the facility, the licensee can either conduct a noise impact assessment or a post-dwelling construction noise survey at the new dwelling in accordance with Subsection 2.3(1) ~~must conduct a post-construction noise survey at the new dwelling~~ and provide the noise survey results to that person.

EC submits that the above changes would fairly and appropriately balance the interests of licencees and residents and increase regulatory certainty and efficiency in the application of the New Dwelling Rule to existing facilities.

Urban Facility Considerations

EC understands that the Rule 012-assumed PSL is based on a rural environment and, in this respect, is not always suited to application in an urban setting like the City of Calgary in which EC operates. In urban settings, ambient sound levels are generally greater and more varied than in rural settings and are subject to regular change based on ongoing development. As a result, the current Rule 012-assumed PSL is not necessarily representative of the ambient sound levels in the surrounding environment in these areas. EC, therefore, requests that the Commission

consider amendments to Rule 012 as part of this consultation to account for urban sound levels, including the potential addition of an assumed PSL for an urban environment (Urban PSL).

Many EC facilities are located near or within urban centres, which, in certain cases, has made it difficult to meet the Rule 012-assumed PSL without an A2 Adjustment. EC submits that an A2 Adjustment application that is only required because of an incremental exceedance of the assumed PSL where the urban ambient sound level is already high (and not because the facility itself is exceedingly noisy), adds a level of complexity and regulatory burden for the Commission, impacted stakeholders and EC. In this regard, a requirement for an A2 Adjustment could be triggered by the current PSLs assumed by Rule 012 (i.e., 61 dBA (daytime) and 51 dBA (nighttime)) even though facility noise contribution is a negligible component of the cumulative sound levels calculated at surrounding receptors.

While further work would be required to establish the details, EC submits that these issues would be addressed by any of the following:

- The implementation of a non-cumulative facility-only Urban PSL similar to other Canadian urban centers (e.g., the City of Vancouver and the City of Toronto). Please see the attached table summarizing the Urban PSLs in certain jurisdictions.
- Revisions to Table 1 of Rule 012 (basic sound levels (BSL) for nighttime), to incorporate higher population density, higher transportation activity (including traffic volume, traffic speed and road size), permissible land use in the relevant area (i.e., zoning) and other urban activities.
- The use of a measured ambient sound level to determine the BSL (given the many unregulated noise sources in urban areas).

Regardless of which (if any) of the above measures is implemented, EC also recommends that the Commission revise section 2.1(10)(a) of Rule 012 to provide a threshold for (or definition of) the required difference between the assumed PSL and the measured ambient sound level to help licensees understand when an A2 Adjustment may be implemented.³

The changes outlined above would avoid the regulatory burden for the Commission, impacted stakeholders and EC associated with an A2 Adjustment application that is required under Rule 012 where an incremental noise exceedance is largely driven by an already high urban ambient sound level (and not excessive facility noise).

³ Section 2.1(10)(a) currently states: "A Class A2 adjustment is an adjustment to the permissible sound level for locations where the measured ambient sound level is different from the assumed ambient sound levels set out in Table 1. See Example 1 in Appendix 6."

Overview of Select Urban Permissible Sound Levels in Canadian Jurisdictions

| Jurisdiction | Location | Notes |
|--------------|-------------------|--|
| Municipal | City of Vancouver | Noise Control By-Law No. 6555 Zone-based thresholds for the following: <ul style="list-style-type: none"> • Activity or Event Zone: 70 dBA daytime and 65 dBA nighttime within the zone. • Intermediate Zone: 70 dBA daytime and 65 dBA nighttime within the zone. • Quiet Zone: 55 dBA daytime and 45 dBA nighttime within the zone. A Quiet Zone is any portion of the City not defined as an activity zone, intermediate zone or event zone. |
| | City of Toronto | Toronto Municipal Code Chapter 491. Permissible noise is the <u>higher of the following</u> : <ul style="list-style-type: none"> • 55 dBA daytime and 50 dBA nighttime, or • Ambient Sound Level. |
| Provincial | BC | Similar to Alberta AER Directive 038 and Rule 012 |
| | Ontario | MOECC NPC-300 <ul style="list-style-type: none"> • Noise limit is the <u>higher of the applicable exclusion limit</u> (see Table B-1 below) for different classes or the background sound level for the point of reception. • Point of reception is the opened window pane of a noise-sensitive space. Zoning – Class 1, Class 2, Class 3 (Rural), Class 4 <ul style="list-style-type: none"> • "Class 1 area" means an area with an acoustical environment typical of a major population centre, where the background sound level is dominated by the activities of people (usually road traffic) often referred to as "urban hum." • "Class 2 area" means an area with an acoustical environment that has qualities representative of both Class 1 and Class 3 areas: sound levels characteristic of Class 1 during daytime (07:00 to 19:00 or to 23:00 hours); and low evening and night background sound level defined by natural environment and infrequent human activity starting as early as 19:00 hours (19:00 or 23:00 to 07:00 hours). • "Class 3 area" means a rural area with an acoustical environment that is dominated by natural sounds having little or no road traffic, such as: a small community; agricultural area; a rural recreational area such as a cottage or a resort area; or a wilderness area. • "Class 4 area" means an area or specific site that would otherwise be defined as Class 1 or 2 and which: |

| Jurisdiction | Location | Notes | | | | | | | | | | | | | | | |
|---------------|--------------|---|--------------|--------------|--------------|--------------|--------------|---------------|----|----|----|-----|---------------|----|----|----|----|
| | | <ul style="list-style-type: none"> ○ is an area intended for development with new noise-sensitive land use(s) that are not yet built; ○ is in proximity to existing, lawfully established stationary noise source(s); and ○ has formal confirmation from the land use planning authority regarding application of the Class 4 area classification, which is determined during the land use planning process. ○ Areas with existing noise-sensitive land use(s) cannot be classified as Class 4 areas. <p style="text-align: center;">Table B-1 Exclusion Limit Values of One-Hour Equivalent Sound Level (L_{eq}, dBA) Outdoor Points of Reception</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Time of Day</th> <th style="text-align: center;">Class 1 Area</th> <th style="text-align: center;">Class 2 Area</th> <th style="text-align: center;">Class 3 Area</th> <th style="text-align: center;">Class 4 Area</th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">07:00 - 19:00</td> <td style="text-align: center;">50</td> <td style="text-align: center;">50</td> <td style="text-align: center;">45</td> <td style="text-align: center;">55</td> </tr> <tr> <td style="text-align: left;">19:00 - 23:00</td> <td style="text-align: center;">50</td> <td style="text-align: center;">45</td> <td style="text-align: center;">40</td> <td style="text-align: center;">55</td> </tr> </tbody> </table> | Time of Day | Class 1 Area | Class 2 Area | Class 3 Area | Class 4 Area | 07:00 - 19:00 | 50 | 50 | 45 | 55 | 19:00 - 23:00 | 50 | 45 | 40 | 55 |
| Time of Day | Class 1 Area | Class 2 Area | Class 3 Area | Class 4 Area | | | | | | | | | | | | | |
| 07:00 - 19:00 | 50 | 50 | 45 | 55 | | | | | | | | | | | | | |
| 19:00 - 23:00 | 50 | 45 | 40 | 55 | | | | | | | | | | | | | |
| Quebec | | <p>Noise emissions of a facility may not exceed the maximum value of <u>either</u>:</p> <ul style="list-style-type: none"> • the level of the Residual Sound (the Sound Level present in an area without the impact of the facility in question), or • the maximum sound level according to the zoning and time of day according to the following table: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Zone</th> <th style="text-align: center;">Night (dBA)</th> <th style="text-align: center;">Day (dBA)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">I</td> <td style="text-align: center;">40</td> <td style="text-align: center;">45</td> </tr> <tr> <td style="text-align: center;">II</td> <td style="text-align: center;">45</td> <td style="text-align: center;">50</td> </tr> <tr> <td style="text-align: center;">III</td> <td style="text-align: center;">50</td> <td style="text-align: center;">55</td> </tr> <tr> <td style="text-align: center;">IV</td> <td style="text-align: center;">70</td> <td style="text-align: center;">70</td> </tr> </tbody> </table> <p>Zone categories:</p> <p><i>Sensitive Zones</i></p> <p>I: Areas with single family or double family occupancy, schools, hospitals or other institutions of learning, health care or health recovery, existing dwellings in an agricultural area.</p> <p>II: Areas designated for multi-residential living units, mobile home parks, institutions or campgrounds.</p> <p>III: Areas designated for commercial use or as leisure parks. In every case the nighttime value only applies at establishments that have a residential use. In all other cases the daytime noise limit also applies to the nighttime.</p> <p><i>Non-Sensitive Zones</i></p> | Zone | Night (dBA) | Day (dBA) | I | 40 | 45 | II | 45 | 50 | III | 50 | 55 | IV | 70 | 70 |
| Zone | Night (dBA) | Day (dBA) | | | | | | | | | | | | | | | |
| I | 40 | 45 | | | | | | | | | | | | | | | |
| II | 45 | 50 | | | | | | | | | | | | | | | |
| III | 50 | 55 | | | | | | | | | | | | | | | |
| IV | 70 | 70 | | | | | | | | | | | | | | | |

| Jurisdiction | Location | Notes |
|--------------|----------|---|
| | | <p>IV: Areas zoned for industrial or agricultural use. In the case of an existing dwelling in an industrial area that was erected in accordance with the municipal bylaws at the time of its construction, the noise limits are 50 dBA for the nighttime and 55 dBA for the daytime.</p> <ul style="list-style-type: none"> • The zones are assigned based on the permitted uses by the municipal land zoning. In case an area or part of an area has not been considered in a municipal land zoning plan, the actual usage will determine the category of zoning for noise purposes. • Daytime is between 7 AM and 7 PM and nighttime is between 7 PM and 7 AM. • The criteria apply to all stationary noise sources within a facility fenceline including moving sources on the facility terrain. Mobile noise sources outside the facility fenceline are not included. • There are penalties for tonal, impulse and low frequency noise and recognizability of sound like music or speech. Ambient sound is not included. • Determining noise limits is the responsibility of municipalities. However, municipal noise limits must not exceed the noise limits in this provincial document. |