



## **Wilson Creek Energy Corp.**

### **Wilson Creek Power Plant and Connection Order**

**August 23, 2022**

**Alberta Utilities Commission**

Decision 27249-D01-2022

Wilson Creek Energy Corp.

Wilson Creek Power Plant and Connection Order

Proceeding 27249

Applications 27249-A001 and 27249-A002

August 23, 2022

Published by the:

Alberta Utilities Commission

Eau Claire Tower

1400, 600 Third Avenue S.W.

Calgary, Alberta T2P 0G5

Telephone: 310-4AUC (310-4282 in Alberta)

1-833-511-4AUC (1-833-511-4282 outside Alberta)

Email: [info@auc.ab.ca](mailto:info@auc.ab.ca)

Website: [www.auc.ab.ca](http://www.auc.ab.ca)

The Commission may, no later than 60 days of the date of this decision and without notice, correct typographical, spelling and calculation errors and other similar types of errors and post the corrected decision on its website.

## Contents

<b>1</b>	<b>Decision summary</b> .....	<b>1</b>
<b>2</b>	<b>Applications</b> .....	<b>1</b>
<b>3</b>	<b>Discussion and findings</b> .....	<b>3</b>
<b>3.1</b>	<b>Noise impacts</b> .....	<b>4</b>
<b>3.1.1</b>	<b>What is the applicable nighttime permissible sound level at Receptor R6? .....</b>	<b>5</b>
<b>3.1.2</b>	<b>What noise mitigations are required for the project?.....</b>	<b>7</b>
<b>3.1.3</b>	<b>Is post-construction noise monitoring required?.....</b>	<b>8</b>
<b>3.1.4</b>	<b>Summary</b> .....	<b>9</b>
<b>3.2</b>	<b>Other factors considered</b> .....	<b>9</b>
<b>4</b>	<b>Decision</b> .....	<b>10</b>
	<b>Appendix A – Summary of Commission conditions of approval in the decision</b> .....	<b>11</b>

## List of figures

<b>Figure 1.</b>	<b>Proposed Wilson Creek Power Plant location</b> .....	<b>2</b>
<b>Figure 2.</b>	<b>Noise study area</b> .....	<b>4</b>

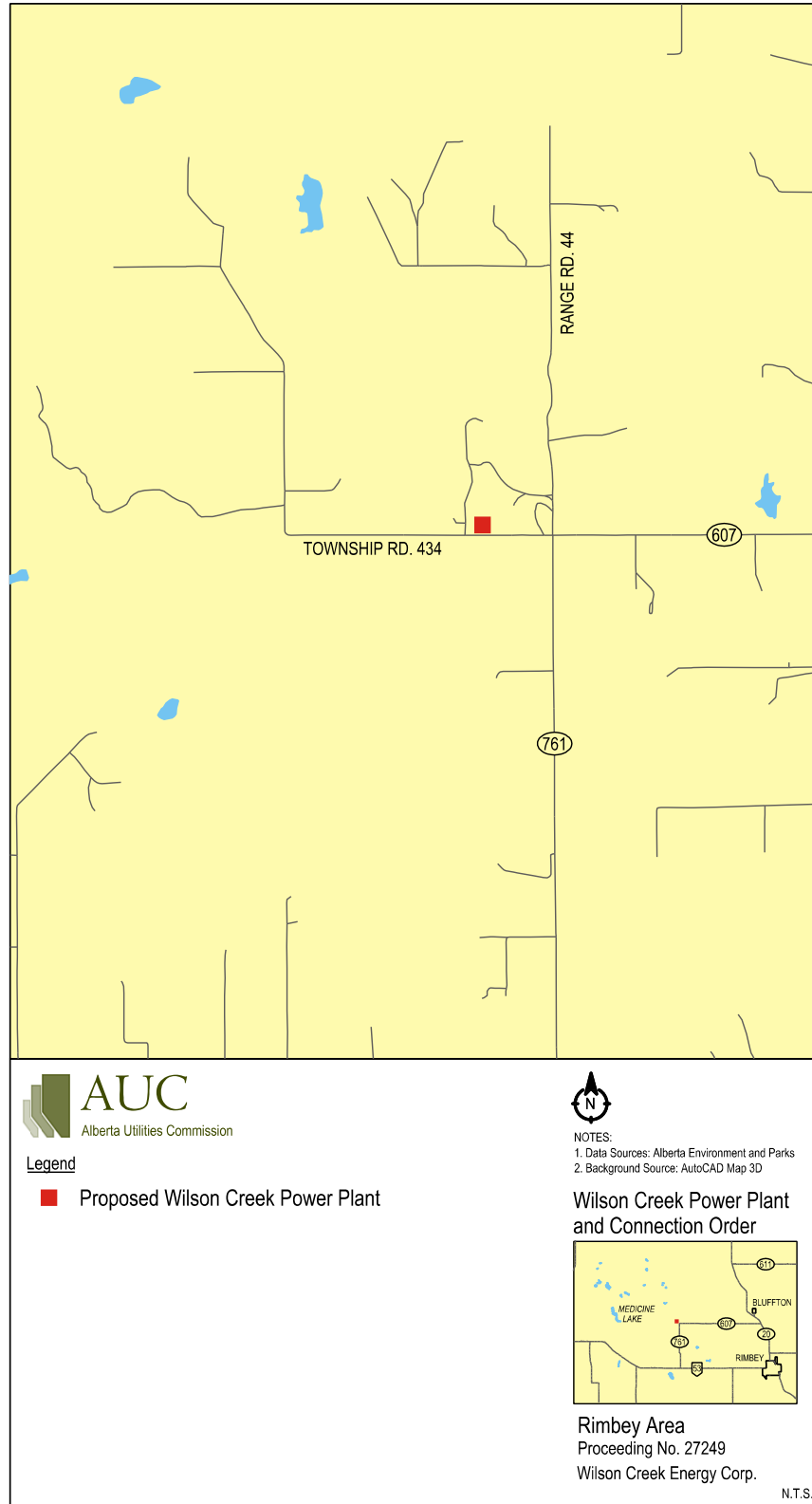
## **1 Decision summary**

1. In this decision, the Alberta Utilities Commission approves applications from Wilson Creek Energy Corp. (WCEC), to construct and operate the Wilson Creek Power Plant, located in Ponoka County. The project consists of a natural gas-fired power plant with six reciprocating engines with a maximum total capability of 8.8 megawatts (MW).

## **2 Applications**

2. WCEC filed applications with the Commission for approval to construct and operate the power plant, and connect it to the FortisAlberta Inc. electric distribution system (collectively, the project). The project is located 30 kilometres northwest of Rimbey, Alberta, as shown on the map in Figure 1. The power plant would be located adjacent to the existing Tamarack Wilson Creek sweet gas processing plant (Tamarack Gas Plant), on 0.25 hectares of private land, already cleared for industrial purposes.

Figure 1. Proposed Wilson Creek Power Plant location



3. The project would include four 1.2-MW MWM TCG2020 V16 reciprocating engines, two 2-MW Cummins QSV91 C2000 reciprocating engines, and associated electrical equipment, fuelled by local sweet, dry natural gas.
4. WCEC's applications included:
  - A participant involvement program, which summarized its discussions with stakeholders.<sup>1</sup>
  - A noise impact assessment (NIA), completed by dBA Noise Consultants Ltd. (dNCL), which predicted that the project would comply with Rule 012: *Noise Control*.<sup>2</sup>
  - An air quality assessment report, completed by Horizon Compliance Group Inc., which confirmed that air emissions from the power plant are not predicted to significantly impact air quality and would be below the *Alberta Ambient Air Quality Objectives*.<sup>3</sup>
  - Correspondence from FortisAlberta Inc., confirming that it is prepared to allow the interconnection of the power plant to its distribution system.<sup>4</sup>
  - An environmental evaluation<sup>5</sup> and an environmental protection plan,<sup>6</sup> prepared by Horizon Compliance Group Inc., which concluded that there would be no significant environmental impact and confirmed that WCEC will be applying to Alberta Environment and Parks for an industrial approval for the facility.
5. WCEC expected construction to begin shortly after receiving approval from the Commission, with an in-service date of August 31, 2022, however, it requested a construction completion date of December 31, 2022, to allow for any unforeseen delays.
6. The Commission issued a notice of applications and received statements of intent to participate from Jason Bakx and from Kevin Reimer. The interveners raised concerns regarding noise created by the power plant, the potential increase of vehicle traffic, and visual impacts.
7. On May 16, 2022, the Commission granted standing for J. Bakx and K. Reimer.<sup>7</sup> The Commission held a virtual oral hearing on June 28, 2022. K. Reimer was unable to join the hearing so written argument was accepted after the hearing, followed by written reply from WCEC.

### 3 Discussion and findings

8. For the reasons outlined below, the Commission finds that approval of the project is in the public interest having regard to the social, economic, and other effects of the project, including its effect on the environment.

---

<sup>1</sup> Exhibit 27249-X0016, TP28 – PIP Summary.

<sup>2</sup> Exhibit 27249-X0015, TP24 – Noise Impact Assessment.

<sup>3</sup> Exhibit 27249-X0021, TP19 – Air Quality Assessment.

<sup>4</sup> Exhibit 27249-X0006, IC1-TP12 – DFO Non-Objection.

<sup>5</sup> Exhibit 27249-X0022, TP20 – Environmental Evaluation.

<sup>6</sup> Exhibit 27249-X0023, TP22 – Environmental Protection Plan.

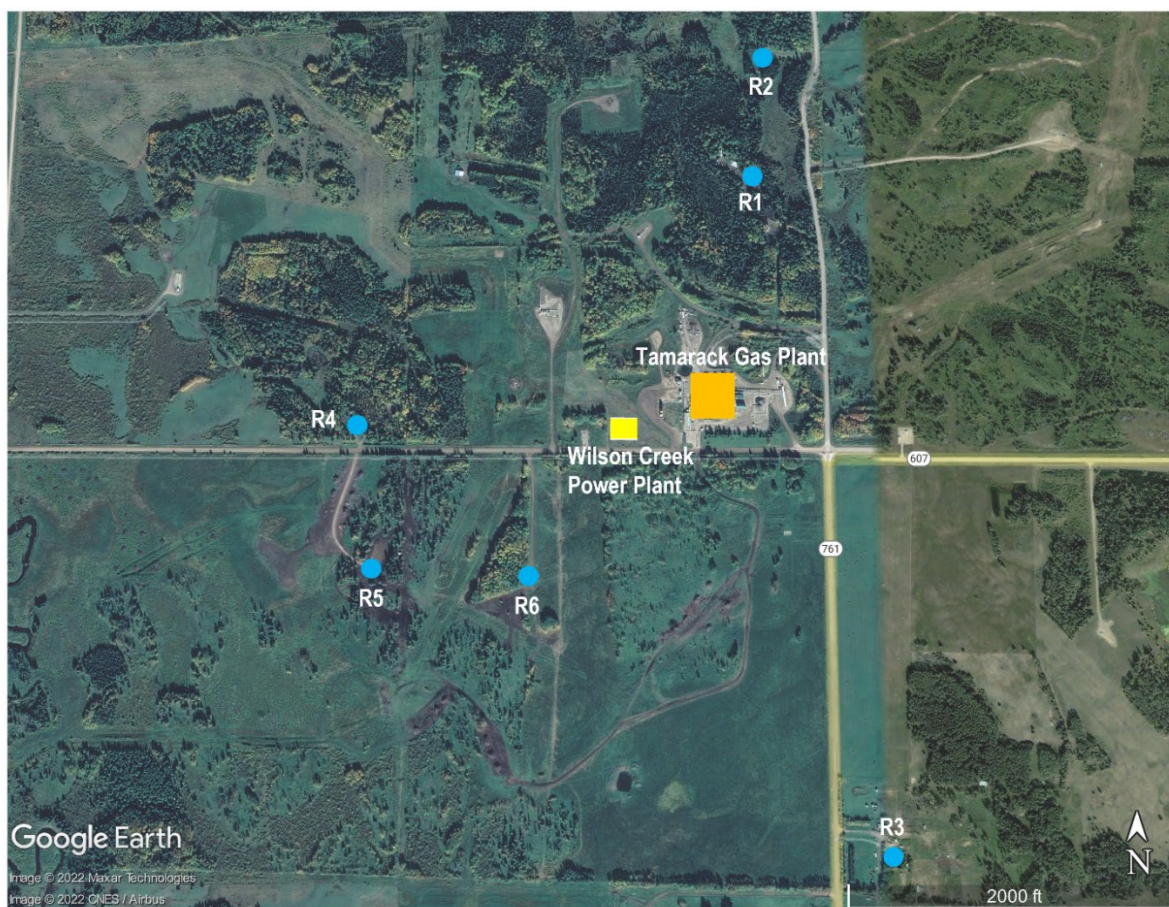
<sup>7</sup> Exhibit 27249-X0033, Ruling on standing.

9. The Commission has reviewed the applications and has determined that the information requirements specified in Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines* have been met. Additionally, the Commission finds that WCEC's participant involvement program satisfied the requirements of Rule 007.

### 3.1 Noise impacts

10. WCEC retained dNCL to conduct an NIA for the project. The NIA identified six dwellings located within 1.5 kilometres of the project boundary as receptors (R1 through R6). Locations of the noise receptors, the existing adjacent Tamarack Gas Plant and the proposed Wilson Creek Power Plant are shown in the figure below.

Figure 2. Noise study area



11. The NIA determined the applicable permissible sound levels (PSLs) to be 40 A-weighted decibels (dBA) nighttime and 50 dBA daytime at receptors R1 through R5. The NIA indicated that Receptor R6 was constructed after the existing Tamarack Gas Plant. Consequently, Receptor R6 is considered a new dwelling in the context of Rule 012, and the applicable nighttime PSL at Receptor R6 is 44 dBA because this was the sound level existing at the time the dwelling was constructed.<sup>8</sup>

<sup>8</sup> Exhibit 27249-X0015, TP24 - Noise Impact Assessment, PDF page 22.

12. The NIA specified noise mitigation measures for the project's building materials and equipment, and recommended WCEC implement these mitigation measures to achieve compliance with Rule 012. The NIA predicted the project will be compliant with the PSLs at all receptors, assuming WCEC implements the recommended mitigation measures. WCEC committed to implement the mitigation measures recommended in the NIA and to conduct a post-construction noise survey to verify project compliance.

13. J. Bakx and K. Reimer expressed concerns about existing noise from the Tamarack Gas Plant and potential cumulative noise impacts from the proposed power plant.

14. In the subsections that follow, the Commission discusses the applicable nighttime permissible sound level at Receptor R6, noise mitigations required by WCEC to achieve compliance with Rule 012 and the requirement to conduct a post-construction comprehensive sound level (CSL) survey to verify compliance with Rule 012 in the remaining subsections.

### **3.1.1 What is the applicable nighttime permissible sound level at Receptor R6?**

15. The NIA considered Receptor R6 a new dwelling with respect to the existing Tamarack Gas Plant because it was built after development of the most recent noise model for the Tamarack Gas Plant in 2016 (2016 model). WCEC clarified that the Tamarack Gas Plant received approval from the Alberta Energy Regulator (AER) in 2015, while according to the information from Ponoka County, Receptor R6 was built in 2021. WCEC further clarified that the 2016 model was built to verify post-construction noise emissions from the Tamarack Gas Plant.<sup>9</sup>

16. Rule 012 defines "new dwelling" as "A dwelling that is built after submission of the noise impact assessment for a proposed facility (i.e., a circumstance in which the noise impact assessment does not present modelled cumulative sound levels at the new dwelling)." Based on this definition, the Commission finds that Receptor R6 is a new dwelling relative to the existing Tamarack Gas Plant.

17. Because the Tamarack Gas Plant is regulated by the AER and the proposed power plant is regulated by the AUC, both AUC Rule 012 and AER Directive 038: *Noise Control*, apply to cumulative sound levels from these two facilities.

18. With respect to the determination of PSLs at a new dwelling, Directive 038 states that "The receptor-oriented approach does not protect a licensee against local landowners, residents, or developers wanting to build a dwelling on a location near a facility where the PSL (as determined by Section 2) may be exceeded... In cases where landowners, residents, or developers build dwellings near an existing facility and ignore the obvious noise impact, the PSL will be the existing noise level at the new dwelling coming from the facility."<sup>10</sup>

19. Similarly, Rule 012 states that "Where a person builds a new dwelling or receives a permit to build within 1.5 kilometres from the boundary of an existing and operational facility, the permissible sound level at the new dwelling will be the greater of the sound level existing at

---

<sup>9</sup> Exhibit 27249-X0027, WCEC Response to AUC IRs 001-007 (20 Apr 2022), PDF page 2.

<sup>10</sup> Directive 038: *Noise Control*, PDF page 9.



the start of the new dwelling construction, or the permissible sound level as determined in Section 2.1 of this rule.”<sup>11</sup>

20. The NIA used the 2016 model to establish the sound level at Receptor R6 at the time this dwelling was being constructed. Based on the 2016 model, the sound level at Receptor R6 at the time of construction was 43.7 dBA, which is greater than the PSL of 40 dBA established in Section 2.1 of Rule 012. Because PSLs are typically expressed as whole numbers, the NIA used 44 dBA (i.e., 43.7 dBA rounded to the nearest whole number) as the nighttime PSL applicable at Receptor R6.<sup>12</sup>

21. As part of the NIA, a noise model was developed to represent conditions as they would exist once the project commences operations (2021 model). The 2021 model was used to predict cumulative sound levels at noise receptors R1 through R6. The 2021 model predicted the nighttime cumulative sound level at R6 will be 42.3 dBA, which is less than the 43.7 dBA sound level predicted using the 2016 model. In other words, the NIA predicted that development of the proposed project (i.e., addition of project buildings and equipment to the existing environment) will reduce the cumulative sound level at Receptor R6 relative to the sound level predicted by the 2016 model.

22. dNCL explained that the cumulative sound level predicted for Receptor R6 using the 2021 model is less than the sound level predicted using the 2016 model because:<sup>13</sup>

- The proposed Wilson Creek Power Plant building would partially block noise propagation from the existing Tamarack Gas Plant to Receptor R6.
- The 2021 model includes acoustically absorptive elements that were not considered in the 2016 model (e.g., natural foliage and detailed ground cover).

23. The Commission notes that the existing Tamarack Gas Plant is a dominant sound source at nearby receptors and is predicted to contribute more noise than the project.<sup>14</sup> Because the proposed power plant will be located between the existing Tamarack Gas Plant and Receptor R6, the Commission finds it reasonable to expect that project buildings will partially screen noise propagation to this receptor. The 2021 model is a higher fidelity noise model as it considers absorptive elements not used in the 2016 model, which provides for a higher accuracy prediction of noise propagation. As such, the Commission finds that it is reasonable to expect the cumulative sound level at Receptor R6 following development of the project will be less than the sound level predicted using the 2016 model.

24. The Commission finds the NIA correctly established the nighttime PSL at Receptor R6 in a manner consistent with both Directive 038 and Rule 012. Accordingly, the Commission accepts that the applicable nighttime PSL at Receptor R6 is 44 dBA.

---

<sup>11</sup> Rule 012: *Noise Control*, PDF page 13.

<sup>12</sup> Exhibit 27249-X0015, TP24 - Noise Impact Assessment, PDF page 22.

<sup>13</sup> Exhibit 27249-X0027, WCEC Response to AUC IRs 001-007 (20 Apr 2022), PDF page 5.

<sup>14</sup> Exhibit 27249-X0015, TP24 - Noise Impact Assessment, PDF page 4, Table 1.

### 3.1.2 What noise mitigations are required for the project?

25. To achieve project compliance with Rule 012, the NIA recommended a number of noise mitigation measures, which are summarized below.<sup>15</sup>

- The gensets will be housed inside a standard rigid frame metal industrial building.
- The gensets will be equipped with hospital grade silencers. The expansion joints in the exhaust duct will be clad with a rockwool and covered with a metal jacket.
- The gensets will draw air from inside the building.
- The engine coolers will be located inside the building, and equipped with a silenced air intake louver and a duct to the roof. The connection from the duct to the cooler top will be closed by a rubber flap. The interior of the duct will have perforated liners.
- The air intake, air exhaust openings and ridge vent will be equipped with acoustical louvres.
- The building will include an insulated overhead door in the east wall.

26. Furthermore, the NIA provided dimensions, building materials and acoustic specifications for the recommended mitigation measures (e.g., insertion loss values for air intake louvers and engine exhaust silencers), and recommended WCEC implement mitigation measures with similar or better sound specifications to achieve compliance with Rule 012. The 2021 model predicted that the project will be compliant with the PSLs at all receptors with the incorporation of all these mitigation measures.

27. K. Reimer requested that noise mitigation be implemented at the Tamarack Gas Plant if necessary and that Tamarack and WCEC work together to mitigate noise from both facilities.

28. WCEC confirmed its commitment to implement the mitigation measures recommended in the NIA. WCEC confirmed that the project generators will be housed in a standard metal industrial building and will be equipped with mitigation measures comparable to those suggested in the NIA.<sup>16</sup> During the hearing, WCEC confirmed that noise mitigation will be implemented during project construction.<sup>17</sup>

29. WCEC submitted that if a post-construction noise survey were to conclude that cumulative sound levels at nearby receptors are non-compliant with applicable PSLs, it would implement additional mitigation measures required to achieve compliance. In the case of a post-construction non-compliance, WCEC indicated that additional mitigation measures could be applied to the proposed power plant, the existing Tamarack gas plant, or both facilities.<sup>18</sup>

---

<sup>15</sup> Exhibit 27249-X0015, TP24 - Noise Impact Assessment, PDF page 28.

<sup>16</sup> Exhibit 27249-X0027, WCEC Response to AUC IRs 001-007 (20 Apr 2022), PDF page 7.

<sup>17</sup> Transcript, Volume 1, page 15, lines 22-25; page 16, lines 1-25.

<sup>18</sup> Transcript, Volume 1, page 19, lines 4-25; page 20, lines 1-17; page 21, lines 7-19.

30. Given that the NIA indicates noise mitigation is necessary for the project to comply with Rule 012, the Commission requires WCEC to implement noise mitigation prior to commencing project operations. The Commission imposes the following condition of approval:

- a. Before the project commences operations, Wilson Creek Energy Corp. shall implement the noise mitigation measures recommended in the project's noise impact assessment, or alternative mitigation measures that meet or exceed the acoustic specifications described in the noise impact assessment. On or before the date the project commences operations, Wilson Creek Energy Corp. shall file a letter with the Commission detailing the mitigation measures it has implemented.

### 3.1.3 Is post-construction noise monitoring required?

31. WCEC has committed to conduct a post-construction noise survey to verify project compliance. WCEC specified that the noise survey will occur within six months of the start of project operations, and will test noise impacts "with all units operating at full capacity concurrently (business-as-usual operating mode)".<sup>19</sup>

32. The Commission requires WCEC to conduct a post-construction CSL survey to verify project compliance, and to determine if additional mitigation is required. The Commission finds receptors R1, R5 and R6 are suitable monitoring locations for the CSL survey because the NIA predicts that cumulative sound levels at receptors R1 and R5 are close to the nighttime PSL and that Receptor R6 has the maximum noise contribution from the project.<sup>20</sup> Accordingly, the Commission imposes the following condition of approval:

- b. Wilson Creek Energy Corp. shall conduct a post-construction comprehensive sound level survey, including an evaluation of low frequency noise, at receptors R1, R5 and R6. The post-construction comprehensive sound level survey must be conducted with all generating units operating simultaneously at full capacity and in accordance with Rule 012: *Noise Control*. Within one year after the project commences operations, Wilson Creek Energy Corp. shall file a report with the Commission presenting measurements and summarizing results of the post-construction comprehensive sound level survey.

33. If the post-construction CSL survey finds that cumulative noise levels exceed applicable PSLs at one or more receptors, the Commission expects WCEC to implement additional noise mitigation to achieve compliance with Rule 012. Depending on the nature of the non-compliance, additional noise mitigation could be applied to the proposed WCEC power plant, the Tamarack Gas Plant, or both facilities.

34. K. Reimer requested that routine and thorough noise monitoring be completed frequently over the project's life. The Commission acknowledges K. Reimer's request; however, the Commission finds that it is unnecessary to require WCEC to conduct routine noise monitoring because Rule 012 requires compliance with PSLs during representative operations and the CSL survey ordered by the Commission will be conducted during a period when all generating units at the proposed power plant are operating at full capacity and the Tamarack Gas Plant is operating

---

<sup>19</sup> Exhibit 27249-X0041, WCEC Post-Hearing Correspondence (08 Jul 2022); Transcript, Volume 1, page 23, lines 2-8.

<sup>20</sup> Exhibit 27249-X0015, TP24 - Noise Impact Assessment, PDF page 4, Table 1.

under representative conditions. The Commission notes that Rule 012 provides a process for addressing noise complaints, and residents are free to make use of this complaint process if project noise emissions were to increase following completion of the post-construction CSL survey.

### 3.1.4 Summary

35. The Commission accepts that the applicable nighttime PSL at Receptor R6 is 44 dBA, and finds that the NIA meets the requirements of Rule 012 with the implementation of noise mitigation measures set out in the NIA. The Commission directs WCEC to implement the mitigation measures recommended in the NIA (or comparable mitigation measures), and directs WCEC to conduct a post-construction CSL survey at receptors R1, R5 and R6 to verify compliance with Rule 012.

### 3.2 Other factors considered

36. The Commission has reviewed the applications and has determined that the information requirements specified in Rule 007 have been met.

37. The Commission finds that the project will have minimal environmental effects and those can be mitigated to an acceptable degree. WCEC stated that prior to filing a full application for an industrial facilities approval under the *Environmental Protection and Enhancement Act* with Alberta Environment and Parks (AEP), an overview of the Wilson Creek Power Plant was presented to AEP in November 2021. To date, no feedback has been received regarding the environmental aspects of the project and no recommended mitigation measures and monitoring activities have been directed by AEP.

38. The primary air contaminant associated with the power plant is nitrogen oxides (NO<sub>x</sub>) emitted from the natural gas-fired equipment. The new equipment will be constructed with pollution prevention control technologies to meet applicable equipment/technology and sector standards. The results of the dispersion modelling indicate that the predicted ground-level concentrations of NO<sub>2</sub> from emission sources at the power plant and nearby sources comply with the applicable *Alberta Ambient Air Quality Objectives* using the ambient ratio methodology.

39. No species of special concern per Schedule 1 of the *Species at Risk Act*, decontamination zones, or wildlife zones were identified. The power plant will be located on lands that have been previously cleared, and currently used for industrial purposes, and the surrounding land use consists of a mix between agricultural and industrial purposes; therefore, a risk to local wildlife is not anticipated.

40. No specific historic resource concerns were identified and WCEC stated that clearance under the *Historical Resources Act* was not required for this location.

41. The Commission finds that the participant involvement program for the proposed project meets the requirements of Rule 007 and meets the objectives of effective consultation. WCEC stated that it notified all landowners, occupants, and residents within a 1,500-metre radius of the project and responded to the concerns of J. Bakx and K. Reimer when they were received. The Commission notes that these individuals were given the opportunity to participate in the Commission's hearing process to speak to their concerns.

42. For the above reasons, the Commission considers approval of the applications to be in the public interest in accordance with Section 17 of the *Alberta Utilities Commission Act*.

#### 4 Decision

43. Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approves Application 27249-A001 and grants Wilson Creek Energy Corp. the approval set out in Appendix 1 – Power Plant Approval 27249-D02-2022 to construct and operate the Wilson Creek Power Plant.

44. Pursuant to Section 18 the *Hydro and Electric Energy Act*, the Commission approves Application 27249-A002 and grants Wilson Creek Energy Corp., the approval set out in Appendix 2 – Connection Order 27249-D03-2022 to connect the Wilson Creek Power Plant to the FortisAlberta Inc. electric distribution system.

45. The appendices will be distributed separately.

Dated on August 23, 2022.

#### Alberta Utilities Commission

*(original signed by)*

Neil Jamieson  
Panel Chair

*(original signed by)*

Matthew Oliver, CD  
Commission Member

## Appendix A – Summary of Commission conditions of approval in the decision

This section is intended to provide a summary of all conditions of approval specified in the decision for the convenience of readers. Conditions that require subsequent filings with the Commission will be tracked as directions in the AUC's eFiling System. In the event of any difference between the conditions in this section and those in the main body of the decision, the wording in the main body of the decision shall prevail.

The following are conditions of Decision 27249-D01-2022 that require subsequent filings with the Commission and will be included as conditions of Power Plant Approval 27249-D02-2022:

- Before the project commences operations, Wilson Creek Energy Corp. shall implement the noise mitigation measures recommended in the project's noise impact assessment, or alternative mitigation measures that meet or exceed the acoustic specifications described in the noise impact assessment. On or before the date the project commences operations, Wilson Creek Energy Corp. shall file a letter with the Commission detailing the mitigation measures it has implemented.
- Wilson Creek Energy Corp. shall conduct a post-construction comprehensive sound level survey, including an evaluation of low frequency noise, at receptors R1, R5 and R6. The post-construction comprehensive sound level survey must be conducted with all generating units operating simultaneously at full capacity and in accordance with Rule 012: *Noise Control*. Within one year after the project commences operations, Wilson Creek Energy Corp. shall file a report with the Commission presenting measurements and summarizing results of the post-construction comprehensive sound level survey.