



**Agrium Inc.**

**Redwater Nitrogen Operations Cogeneration Plant**

**October 28, 2021**

**Alberta Utilities Commission**

Decision 26825-D01-2021

Agrium Inc.

Redwater Nitrogen Operations Cogeneration Plant

Proceeding 26825

Application 26825-A001

October 28, 2021

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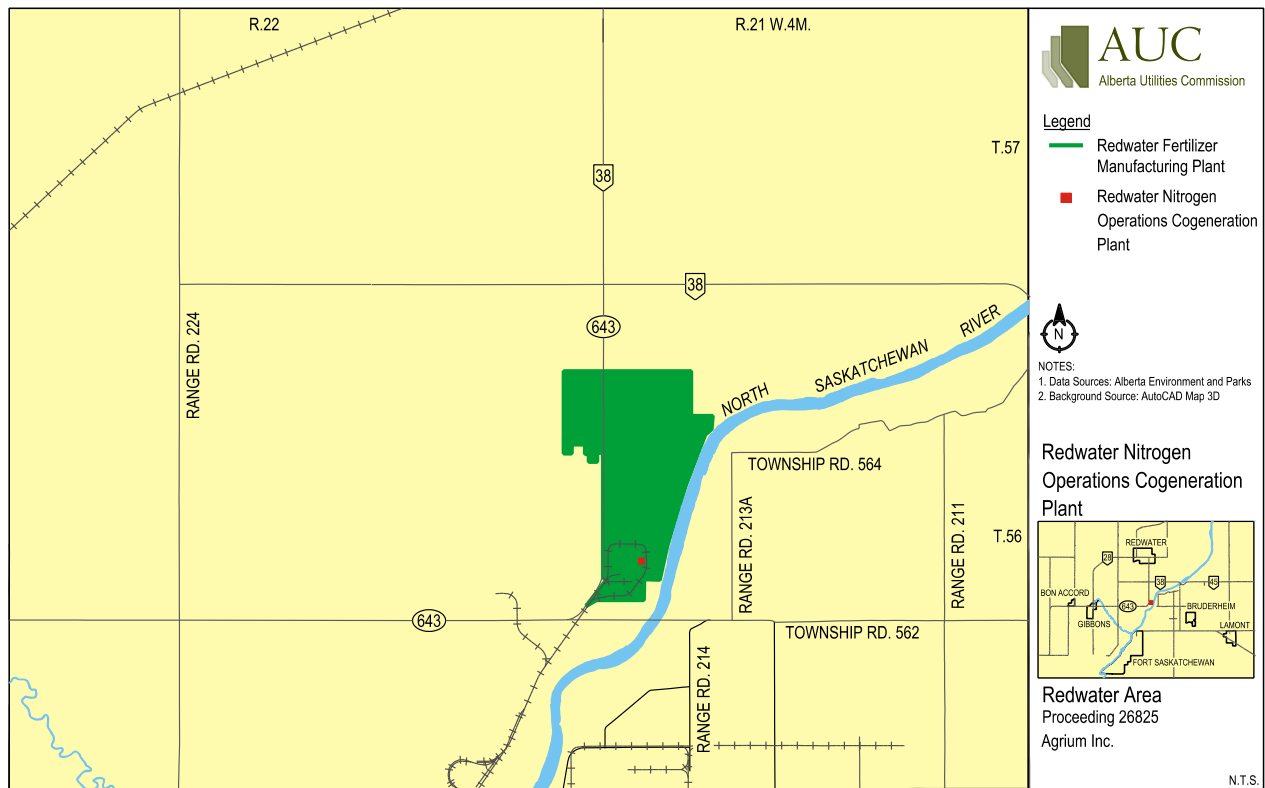
**1 Decision summary**

1. In this decision, the Alberta Utilities Commission approves an application from Agrium Inc. to construct and operate a 30-megawatt cogeneration power plant, within the existing Redwater Fertilizer Manufacturing Plant, located near Redwater, Alberta.

**2 Application**

2. Agrium Inc. filed an application with the Commission for approval to construct and operate the Redwater Nitrogen Operations Cogeneration Plant (the power plant). The project is located 12 kilometres south of Redwater, Alberta in the northwest quarter of Section 17, Township 56, Range 21, west of the Fourth Meridian, within the Redwater Fertilizer Manufacturing Plant, as shown on the map in Figure 1.

**Figure 1. Project location**



3. The power plant would include two 15-megawatt gas turbine generators and waste heat recovered steam production from two heat recovery steam generators, with a total typical output of 30 megawatts. Agrium stated that the power generated from the power plant will connect to the internal electrical distribution system within the Redwater Fertilizer Manufacturing Plant and no power would be exported to the Alberta Interconnected Electric System.

4. Agrium's application included:

- A participant involvement program, which confirmed that there were no outstanding objections from adjacent landowners or stakeholders.<sup>1</sup>
- A noise impact assessment, completed by Stantec Consulting Ltd., which confirmed that the project would comply with Rule 012: *Noise Control*.<sup>2</sup>
- An air quality assessment report, completed by Stantec Consulting Ltd., which concluded that potential changes to air quality from the project are expected to be minimal on a local and regional scale, and that the maximum predicted ground-level nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), and fine particulate matter (PM<sub>2.5</sub>) concentrations are less than their respective *Alberta Ambient Air Quality Objectives and Guidelines*.<sup>3</sup>
- An environmental evaluation report, completed by Stantec Consulting Ltd., that considered the potential environmental effects, mitigation, and monitoring associated with project construction and operation activities, which determined that the potential adverse effects associated with the project can be mitigated and that residual adverse effects are predicted to not be significant.<sup>4</sup>

5. Agrium expects the project to be in-service by the second quarter of 2024, with construction starting in the third quarter of 2022.

6. The Commission issued a notice of application and no submissions were received in response to the notice.

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<sup>1</sup> Exhibit 26825-X0001, Agrium Inc - AUC Application, PDF pages 9-10, 18-19 and 37-43.

<sup>2</sup> Exhibit 26825-X0001, Agrium Inc - AUC Application, Appendix E Noise impact assessment, PDF pages 95-142.

<sup>3</sup> Exhibit 26825-X0001, Agrium Inc - AUC Application, Appendix G Air quality assessment, PDF pages 147-250.

<sup>4</sup> Exhibit 26825-X0001, Agrium Inc - AUC Application, Appendix C Environmental evaluation, PDF pages 45-90.

### 3 Discussion and findings

7. 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.

8. The Commission has reviewed the application 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 the participant involvement program complies with the requirements of Rule 007.

9. Agrium provided notification to occupants, residents and landowners within two kilometres of the edge of the power plant site boundary. There is one resident, nine disposition holders and two counties within the two-kilometre notification radius. No responses or concerns were received by Agrium.

10. With respect to noise impacts, Agrium retained Stantec to complete a noise impact assessment for the project. The proposed project is located in the Alberta Industrial Heartland, where noise from energy-related facilities is managed by the Northeast Capital Industrial Association through its Regional Noise Management Plan (RNMP). The RNMP is recognized and approved by the Alberta Energy Regulator and endorsed by the Commission. In its endorsement of the RNMP, the Commission outlined its requirements in a letter to the Northeast Capital Industrial Association, which specifies that new facilities should result in “no net increase” above baseline case sound levels at nearby receptors.<sup>5</sup>

11. Stantec found that the daytime cumulative sound levels for Receptor R1 and the nighttime cumulative sound levels for receptors R1, R2, R3 and R4 exceeded the permissible sound levels. The exceedances were attributed to the fact that the corresponding baseline sound levels already exceed the permissible sound levels. The net increases due to the power plant for receptors R1, R2, R3 and R4 are between 0.0 and 0.2 dB. The Commission finds the noise impact assessment has demonstrated the project is expected to comply with the no net increase requirement for noise from new facilities in the Alberta Industrial Heartland, as managed by the Northeast Capital Industrial Association’s RNMP.

12. In its air quality assessment, Stantec modelled seven scenarios<sup>6</sup> and found the maximum predicted one-hour NO<sub>2</sub>, annual NO<sub>2</sub>, one-hour PM<sub>2.5</sub>, and 24-hour PM<sub>2.5</sub> concentrations are less than the relevant *Alberta Ambient Air Quality Objectives and Guidelines* for five scenarios. The 24-hour PM<sub>2.5</sub> concentrations under the Base Case Maximum Emissions scenario and Application Case Maximum Emissions scenario slightly exceeded the *Alberta Ambient Air Quality Objectives and Guidelines* by 0.5 per cent. This exceedance occurred along the southeastern part of the fenceline for a single receptor for one day over the five-year period. Stantec concluded that the change in maximum predicted concentrations associated with power plant’s emission sources are negligible (less than or equal to 0.1 per cent) for all substances and

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<sup>5</sup> Increase in sound level above the baseline case should be no greater than 0.4 decibels.

<sup>6</sup> Base Case (representative of background concentrations under normal and maximum emissions), Project Case (the cogeneration plant alone), Facility Case (includes the cogeneration plant and existing emissions sources under normal and maximum emissions), and Application Case (all emission sources under normal and maximum emissions).

averaging periods and that residual environmental effects from the project on air quality are not predicted to be significant with the application of recommended mitigation measures. The Commission finds the impacts on air quality from the power plant to be minimal since the emissions under the normal operation scenario are predicted to be less than the *Alberta Ambient Air Quality Objectives and Guidelines*. The 24-hour PM<sub>2.5</sub> concentration exceedance was predicted under the Base Case Maximum Emissions scenario, before the addition of the power plant, and the inclusion of the power plant results in an increase of less than 0.1 per cent. Given the exceedance only occurs over a small localized area for one day over the five-year period, the Commission agrees that the power plant's effect on air quality is not significant.

13. In regard to environmental impacts, the Commission accepts Agrium and Stantec's submission that the potential adverse effects associated with the power plant can be mitigated with standard mitigation measures and industry best practices, as detailed in the environmental evaluation and that the residual adverse effects of the power plant are not predicted to be significant. The Commission finds that the power plant is located on a brownfield site within the existing Redwater Fertilizer Manufacturing Plant and agrees that the power plant will not result in any significant adverse effects to the environment.

14. The Commission considers the application to be in the public interest in accordance with Section 17 of the *Alberta Utilities Commission Act*.

#### **4 Decision**

15. Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approves Application 26825-A001 and grants Agrium Inc. the approval set out in Appendix 1 – Power Plant Approval 26825-D02-2021 – October 28, 2021, to construct and operate the Redwater Nitrogen Operations Cogeneration Plant.

16. The appendix will be distributed separately.

Dated on October 28, 2021.

#### **Alberta Utilities Commission**

*(original signed by)*

Cairns Price  
Commission Member