Grande Prairie Generation, Inc.

Northern Prairie Power Plant

November 27, 2015
Alberta Utilities Commission
Calgary, Alberta

Decision 20292-D01-2015
Proceeding 20292
Application 20292-A001

1 Introduction and background

1. Grande Prairie Generation, Inc. (Grande Prairie Generation), pursuant to Approval U2007-218\(^1\) is the owner and operator of a power plant, designated as the Northern Prairie Power Plant, in the county of Grande Prairie (the existing power plant).

2. Grande Prairie Generation filed an application with the Alberta Utilities Commission for approval to increase the approved generating capability of the existing power plant from 85 megawatts (MW) to 105 MW (increase in approved generating capability). The application was registered on March 30, 2015, as Application 20292-A001.

3. After reviewing the application, the Commission issued four rounds of information requests to Grande Prairie Generation on May 12, 2015, June 5, 2015, August 5, 2015, and November 10, 2015. Grande Prairie Generation responded to the information requests on May 27, 2015, August 5, 2015, August 13, 2015, October 30, 2015, and November 16, 2015, respectively.

4. The Commission issued a notice of application on August 17, 2015, with a deadline of September 9, 2015, to file submissions. The notice was sent directly to the postal code addresses provided by Grande Prairie Generation for all occupants, residents and landowners within 2,000 metres of the power plant, as well as other potentially affected parties. The notice was automatically emailed to eFiling System users who had chosen to be notified of notices of application issued by the Commission and was also published on the AUC website.

5. No submissions were received in response to the notice of application.

2 Discussion

6. Grande Prairie Generation stated that the existing power plant consists of one General Electric Model MS7001/EA (Frame 7EA) natural gas-fired turbine generator unit, with a nominal output of 85 MW, as stipulated in Approval U2007-218. The existing power plant is located in the southeast quarter of Section 19, Township 73, Range 8, west of the Sixth Meridian.

7. Grande Prairie Generation submitted that it had upgraded the turbine control system so that the efficiency of turbine was improved. The turbine-generator unit is capable of generating electric energy at 105 MW under its current configuration. However, the maximum generating capability of the power plant was limited to 99 MW because there were transmission system constraints in the area. Grande Prairie Generation submitted that it had applied to the

---

Alberta Electric System Operator (AESO) to remove the operating constraints, in order to operate the power plant at its maximum generating capability of 105 MW.

8. Grande Prairie Generation stated that the proposed increase in approved generating capability would not require any further design change to the power plant.

9. Grande Prairie Generation stated that the power plant currently operates under Environmental Protection and Enhancement Act Approval No. 238762-00-02\(^2\) issued on January 11, 2008. Alberta Environment and Sustainable Resource Development, now Alberta Environment and Parks, confirmed by way of a letter dated April 2, 2015\(^3\) that an amendment of Environmental Protection and Enhancement Act Approval No. 238762-00-02 is not required for the proposed generating capability increase. The existing power plant is authorized to emit up to 0.03t/h of nitrogen oxides (NO\(_x\)) under the Environmental Protection and Enhancement Act Approval No. 238762-00-02. The air emissions from the proposed generating capability increase will continue to comply with an Alberta Air Emission Standard of 0.3kg/MWh.

10. Grande Prairie Generation submitted that it conducted an updated air dispersion modelling assessment for the power plant, taking into consideration of the proposed increase of the maximum capability because Alberta Air Quality Model Guideline and Alberta Ambient Air Quality Objectives had changed since an original air dispersion modelling assessment for the power plant was completed in 2007. The updated air dispersion modelling indicated that the ground-level concentrations of NO\(_x\) would meet the current Alberta Ambient Air Quality Objectives.

11. Grande Prairie Generation submitted a noise impact assessment (NIA),\(^4\) completed by Patching Associates Acoustical Engineering Ltd., for the proposed increase of the maximum capability. The NIA evaluated the cumulative sound levels at six receptor locations in the study area, with the nearest residence being approximately 1,570 metres south of the power plant. The NIA indicated that some of the existing facilities located in the study area, such as ConocoPhillips Wembley gas plant, are deferred facilities and as such qualify for a higher permissible sound level.

12. The NIA contained two noise study cases, referred to as the “Existing Case” and the “Application Case”. The Existing Case included measurements and modelling of all noise sources associated with the power plant generating at a capability of 85 MW and other existing facilities in the study area and predicted the cumulative sound levels at six receptor locations in the study area. The Application Case included measurements and modelling of all noise sources associated with the power plant generating at a capability of 105 MW and other existing facilities in the study area and predicted the cumulative sound levels at six receptor locations in the study area.

13. In the Existing Case, the NIA predicted that the existing cumulative sound levels at five of the six receptor locations in the study area currently exceed the permissible sound levels for nighttime as stipulated in the Table 1 of Rule 012: Noise Control. In the Application Case, the NIA predicted that the cumulative sound levels at each of the six receptor locations in the study area would increase between 0.1 and 0.2 dBA.

\(^2\) Exhibit 20292-X0001, Attachment B.
\(^3\) Exhibit 20292-X0006, Attachment B.
\(^4\) Exhibit 20292-X0016.
14. In the NIA, Grande Prairie Generation stated that it is committed to evaluating noise control by assessing options such as changing the fan speed at nighttime, changing the cooler fans, installing silencers or adding low-noise cooler banks. However, in response to information requests, Grande Prairie Generation stated that it did not intend to implement any additional noise mitigation measures for the proposed increase in the approved capability increase because the proposed generating capacity increase would only result in an insignificant sound level change and the noise contributions would result in no-net increase in the cumulative sound levels and would be in compliance with Rule 012.

3 Findings

15. The Commission finds that the application meets the information requirements stipulated in Rule 007: Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations and Hydro Developments.

16. The Commission is satisfied that no significant environmental impacts are expected from the proposed increase in the approved generating capability.

17. The Commission understands that the air emissions from the power plant are expected to be compliant with the Alberta Ambient Air Quality Objectives. In Decision 2001-111, the Alberta Energy and Utilities Board stated the following on the subject of air quality:

The Board views that the AAAQG [Alberta Ambient Air Quality Guidelines] and other reference criteria accepted by AENV are the appropriate benchmarks for assessing predicted ambient air quality impacts of the proposed project. That is, the Board finds that these standards, guidelines and other environmental and health protection criteria define the maximum predicted cumulative effects that would be permissible. The Board views that emissions reductions or other mitigation would have to be incorporated into projects should substantive exceedances of the criteria be predicted.  

18. The Commission has adopted the above approach in this application. As such, the Commission finds that the incremental change in air emissions from the increased generating capability have not raised public interest concerns.

19. With respect to noise, the Commission notes that the predicted existing cumulative sound levels at five of the six receptor locations in the study area currently exceed the standard permissible sound levels for nighttime outlined in Table 1 of Rule 012. Section 2.3 of Rule 012 states that where a facility is proposed to be constructed near a deferred facility, the permissible sound level is determined based on the deferred facility status and this permissible sound level may be used while the deferred facility is operating or until October 17, 2018, at the latest. In this case, the power plant is in close proximity to the ConocoPhillips Wembley gas plant, which is classified as a deferred facility by the Alberta Energy Regulator Directive 038: Noise Control (AER Directive 038), and therefore the existing sound levels constitute the permissible sound levels at the receptor locations in the study area.  

---

6 For a deferred facility in absence of a noise complaint.
20. The Commission finds that the predicted cumulative sound level from the proposed increase in the approved generating capability complies the requirements of Rule 012 because of the existence of the AER deferred facility. However, as described below, the Commission has also considered that Grande Prairie Generation will be required to meet the standard permissible sound levels stipulated in Rule 012 after October 17, 2018, and will have to implement noise mitigation measures where applicable at that time.

21. Section 2.2 of AER Directive 038\(^7\) states that the Alberta Energy Regulator intends to eliminate the deferred status for pre-1988 facilities as of October 17, 2018. After October 17, 2018, all the deferred facilities under the Alberta Energy Regulator’s jurisdiction will be required to meet the permissible sound levels outlined in Section 2 of the AER Directive 038.

22. Based on the above, the Commission finds that the increase in the approved generating capability would result in a predicted cumulative noise increase of between 0.1 and 0.2 dBA for the receptor locations evaluated in the study area. The Commission accepts this sound level increase as a no-net increase in sound level as defined in Rule 012.

23. Grande Prairie Generation shall not operate the plant at its full capability of 105 MW until it has received an authorization from the AESO to operate beyond the current constraint of 99 MW.

24. The Commission finds that there are no outstanding public or industry objections or concerns. Consequently, a hearing is not required because the Commission considers that its decision will not directly and adversely affect the rights of a person pursuant to Section 9 of the Alberta Utilities Commission Act.

25. The Commission has reviewed the application and finds that the increase in the approved generating capability to 105 MW is in the public interest in accordance with Section 17 of the Alberta Utilities Commission Act.

4 Decision

26. Pursuant to Section 11 of the Hydro and Electric Energy Act, the Commission approves the application and grants Grande Prairie Generation Inc. the approval set out in Appendix 1 – Power Plant Approval 20292-D02-2015 – November 27, 2015 (Appendix 1 will be distributed separately).

Dated on November 27, 2015.

Alberta Utilities Commission

(original signed by)

Tudor Beattie, QC
Commission Member

---