



**TransCanada Energy Ltd.**

**Bear Creek Power Plant Alteration**

**February 11, 2015**

**Alberta Utilities Commission**

Decision 3572-D01-2015

TransCanada Energy Ltd.

Bear Creek Power Plant Alteration

Proceeding 3572

Application 1611067-1

February 11, 2015

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## **1 Introduction**

1. TransCanada Energy Ltd. (TCE), pursuant to Approval [U2001-233](#),<sup>1</sup> is the owner of a power plant designated as the Bear Creek power plant, in the Grande Prairie area.
2. TCE filed an application with the Alberta Utilities Commission for approval to alter and operate the power plant. The application was registered on December 11, 2014, as Application 1611067-1.

## **2 Discussion**

3. TCE applied to the AUC to alter and operate the Bear Creek power plant, an industrial cogeneration facility located in the Weyerhaeuser Grande Prairie pulp and sawmill complex. The power plant consists of one gas-fired turbine, one heat recovery steam generator and one steam condensing turbine generator.
4. TCE stated it replaced the Rolls-Royce Trent 60 DLE gas turbine with a Rolls-Royce 60 WLE turbine in 2014 because the older model was no longer supported by the manufacturer. The other components of the power plant were not changed. TCE stated it replaced the turbine with a similar make and model and that it viewed the replacement as a continuation of its regular maintenance program. The replacement was conducted during a planned outage at the power plant and was inspected and declared safe for operation under the authority of a qualified professional engineer. TCE met with AUC staff on October 7, 2014, and was directed to file a power plant amendment application, pursuant to Section 11 of the *Hydro and Electric Energy Act* and Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations and Hydro Developments*.
5. The new turbine has a slightly higher rating than the previous turbine, and has a maximum capability of 64 megawatts (MW) resulting in an increase of the maximum capability for the power plant from 94 MW to 100 MW. TCE stated that at International Standards Organization conditions, the DLE turbine produced 50 MW while the WLE turbine produced 58 MW.
6. TCE stated that the replacement unit is housed in the same enclosure, within the fenced industrial complex and no structural changes were required. TCE stated the change does not have a significant environmental effect because there was no ground disturbance and no additional land or access points were required. TCE stated that the new turbine model reduces nitrogen oxide (NO<sub>x</sub>) emissions.

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<sup>1</sup> Approval U2001-233, Application 2001192, October 12, 2001.

7. TCE conducted a participant involvement program for the alteration. The program consisted of notification and consultation for stakeholders. TCE identified stakeholders as Crown disposition holders and trappers within a 2,000-metre radius, government agencies, elected representatives, government departments, local authorities, and companies and industrial stakeholders with land interests. These stakeholders were sent a project-specific information package in November 2014, which included an overview of the project, project fact sheets, company contact information, maps, and engagement and participation brochures. TCE contacted select key stakeholders via telephone to ensure the information package was received and that an opportunity was provided for questions or concerns to be addressed.

8. TCE located a cabin 2.4 kilometres from the power plant, which belongs to the identified trapper, as the closest dwelling. TCE stated that none of the stakeholders requested further consultation with TCE and no concerns or opposition were received with regard to the replacement. The trapper raised concerns with garbage along the Weyerhaeuser haul road near his access road, and smells and noise from the nearby industries. TCE told the trapper that the power plant disposed of garbage in a responsible manner and would work with the county on the garbage concern. It also stated that the power plant operation would not cause odours and that the noise from the power plant at the cabin was within applicable sound levels. TCE stated the cabin was built following construction and operation of the power plant.

9. TCE did not expect significant effects on the biophysical and physical environment because the alteration occurred within the same existing building as the old turbine. No new land was disturbed. TCE stated that the original approval<sup>2</sup> required environmental monitoring, which is adequate following the turbine replacement. Water is supplied by Weyerhaeuser under its existing water licence.

10. TCE provided measured NO<sub>x</sub> and fine particulate matter (PM<sub>2.5</sub>) emissions for the older gas turbine and the replacement unit. The replacement unit decreased NO<sub>x</sub> emissions by 50 per cent while PM<sub>2.5</sub> emissions remained unchanged. TCE stated that ground-level concentrations were expected to meet the applicable Alberta Ambient Air Quality Objectives. TCE stated that its *Environmental Protection and Enhancement Act* approval was renewed in 2011, at which time, a replacement of the DLE turbine with the WLE turbine was contemplated. TCE notified Alberta Environment and Sustainable Resource Development (ESRD) of the replacement and has not been notified of any concerns from ESRD.

11. TCE submitted a noise impact assessment for the proposed project, prepared by Stantec Consulting Ltd. The nighttime permissible sound levels (PSL) was determined to be 45 dBA based on the assumption of an existing 40 dBA baseline sound level (that included the existing ambient sound level and the sound level contribution of the Weyerhaeuser facility). The nighttime PSL was determined in the original application for the cogeneration facility submitted in 2001 to the Alberta Energy and Utilities Board, predecessor to the AUC.

12. Stantec stated that the manufacture specified performance guarantees of the approved 50-MW Rolls Royce Trent 60 series Dry Low Emissions (DLE) gas turbine was 65 dBA at a distance of 100 metres. Since the power output of the replacement WLE gas turbine is 58 MW, Stantec prorated the sound emission level of the proposed replacement gas turbine by an increment of one decibel to 66 dBA at a distance of 100 metres to account for the increase of power output.

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<sup>2</sup> Approval No. 151812-01-00.

13. Stantec modelled the WLE gas turbine noise contribution and predicted the daytime and nighttime noise contribution of the project at the 1.5-kilometre criteria boundary in the absence of a dwelling to be 41 dBA. The noise contribution at the trapper's cabin is also estimated to be 41 dBA.

14. Stantec stated that the nighttime cumulative sound level at the 1.5-kilometre criteria boundary in the absence of a dwelling is 43.5 dBA (based on the assumed ambient sound level that included the existing ambient sound level and the sound level contribution of the Weyerhaeuser facility in the 2001 application).

15. TCE discovered some typographical errors in two related approvals and requested that the AUC approve an errata to correct these approvals. Bear Creek Substation Permit and Licence [U2001-234](#)<sup>3</sup> and Connection Order [U2001-489](#)<sup>4</sup> designate Bear Creek substation as 678S; the correct designation is 679S.

### 3 Findings

16. The Commission has reviewed the application and has determined that the technical, siting, emissions, environmental and noise aspects of Rule 007 with respect to the power plant alteration have been met. TCE's participant involvement program has been conducted and there are no outstanding public or industry objections or concerns.

17. The Commission finds that the environmental impacts of the alteration to be negligible as the replacement was done within the existing building, no new land was disturbed and air emissions are unchanged or improved with the new unit.

18. The Commission finds that the power plant is compliant with Rule 012: *Noise Control* regarding the cumulative sound level at the 1.5-kilometre distance and at the closest dwelling.

19. The Commission did not issue a notice of application for this application because the project changes occurred within the existing structure without expansion of the project site and the alteration had already been completed and the plant was in operation, with no concerns received. There are also no landowners within 1.5 kilometres of the project.

20. The Commission notes that since the power plant capacity was increasing, TCE should have applied for the alteration prior to conducting the work, or contacted the Commission for direction beforehand. The Commission notes that TCE contacted ESRD in 2011 when it contemplated the gas turbine change. This would have been an ideal time to contact the Commission as well. The absence of an application before the Commission prior to completing the work also resulted in consultation not being done prior to the work. While the consultation did not result in concerns with the work, TCE would not have been able to proactively address concerns if any were present.

21. Section 48 of Rule 001: *Rules of Practice* indicates that “[t]he Commission may correct typographical errors, errors of calculation and similar errors made in any of its orders, decisions or directions.” With regard to the errata request for Approval U2001-234 and Connection Order

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<sup>3</sup> Permit and Licence U2001-234, Application 2001192, October 12, 2001.

<sup>4</sup> Connection Order U2001-489, Application 2001192, March 22, 2002.

U2001-489, the Commission finds that the error is not subject to an errata because Application 2001192 lists the substation as Bear Creek substation 678S and it is not a typographical error in the approval and connection order.

22. The Commission will issue a new Permit and Licence, and rescind Approval U2001-234 to properly refer to the Bear Creek 679S substation. Connection Order U2001-489 is for the connection of the Bear Creek power plant to Bear Creek 679S substation, both belonging to TCE. Connection orders are normally issued when connecting facilities between different owners; therefore a connection order between the two TCE facilities is not required. The associated Connection Order U2001-490 connects TCE's transmission line 7LA13 to ATCO Electric Ltd.'s transmission line 7L13. This connection order will remain active as it does not reference Bear Creek 679S substation. Permit and Licence U2001-240 is for TCE's transmission line 7LA13. While the transmission line is not being altered by this application, the associated map within the approval makes reference to Bear Creek 678S substation. A new permit and licence will be issued for the transmission line and Permit and Licence U2001-240 will be rescinded to reference the proper designation for Bear Creek 679S substation.

#### 4 Decision

23. Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants TCE the approval set out in Appendix 1 – Power Plant Approval 3572-D02-2015 – February 11, 2015, to alter and operate the Bear Creek power plant.

24. Pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants TCE the licence set out in Appendix 2 – Substation Licence 3572-D03-2015 – February 11, 2015, to operate the Bear Creek 679S substation.

25. Pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*, the Commission grants TCE the licence set out in Appendix 3 – Licence 3572-D04-2015 – February 11, 2015, to operate transmission line 7LA13.

26. The appendices will be distributed separately.

Dated on February 11, 2015.

#### Alberta Utilities Commission

*(original signed by)*

Neil Jamieson  
Commission Member