

NAT3 GP Inc.
Jenner 20MW Power Facility
Alberta Utilities Commission
Rule 007 Application for Power Plants

August 2nd, 2016

**Alberta Utilities Commission
Fifth Avenue Place, Fourth Floor
425 First Street SW
Calgary, Alberta T2P 3L8**

Dear Sirs/ Madame's:

RE: Alberta Utilities Commission Rule 007 Applications for Power Plants.

NAT3 GP Inc., hereby makes application pursuant to Section 11 of the *Hydro and Electric Energy Act*, R.S.A 2000, CH-16 ("HEEA") for approval to construct and operate the proposed NAT3 20MW Jenner Power Plant "NAT3". An electric-power plant greater than 1MW, to supply 20MW to the distribution system.

Pursuant to Section 18(5) of the *Hydro and Electric Energy Act*, R.S.A. 2000, CH-16 ("HEEA") *The owner or operator of a power plant, transmission line or electrical distribution system applying for an order for the connection of its works or proposed works shall file with the Board.*

The *Activities Designation Regulation* AR276/2003 (ADR) defines the activities that require an approval, resignation or notice under the Environmental Protection and Enhancement Act "EPEA". The ADR defines a power plant requiring an EPEA approval *as a plant that produces steam or thermal electrical power and has a rated production output of greater than one megawatt under peak load.* NAT3 is required to obtain an approval, therefore under the EPEA Act, an Industrial Approval Application is in process for submission, approval to be obtained prior to construction.

NAT3 is applying for the approval to construct, operate and connect the proposed 20MW power plant in Jenner Alberta in the Special Areas No. 2 Jurisdiction located at the NE ¼ of Section 19 Township 20 Range 08 west of the 4th meridian. There are no existing approvals for facilities directly affected by this project. A draft of the approval being requested can be found at Schedule PP3.

The proposed project site is located within the Special Areas No.2, local jurisdiction of the Special Areas Board for which a Miscellaneous Lease is in process with NAT3 Limited Partnership. A development permit application has been submitted to the Special Areas Board for the purpose of the project. The Miscellaneous Lease and Development Permit will be obtained prior to construction, both anticipated by August 15th, 2016.

Potentially affected parties by the project have expressed no concerns or objections regarding the application. A list of all potentially affected parties can be found in Schedule PP6. A Consent to Work within Proximity was received from AltaLink for the proposed project and can be found at Schedule PP6A.

NAT3 consulted with Scott Stevens, AEP Wildlife Biologist for the Red Deer Region. Project specific information was provided by NAT3 including an environment review including survey performed by a local wildlife biologist, Project Summary Table and NAT3 site survey. Mr. Stevens has advised given the small footprint of the proposed development and existing infrastructure in the immediate area few wildlife concerns were raised with the proposed project. It was recommended that wildlife surveys of the impacted areas be updated prior to construction if its occurring within any restricted activity periods. NAT3 will conform to the recommendation provided by Mr. Stevens. Consultation with Mr. Stevens, Wildlife Biologist with the Red Deer Region can be found in Schedule PP10 with supporting documentation as follows:

Schedule PP10A NAT3 Environmental Review

Schedule PP17 Project Summary Table

Schedule PP19A NAT3 Site survey

Schedule PP10B Government Departments and Agencies which approval is required.

An *Historical Resources Act* clearance has been obtained, a historical impact assessment is not required for the proposed project. Schedule PP11 Historical Clearance

Our preliminary Pool Asset ID with the Alberta Electric System Operator “AESO” is JEN1.
Schedule PP12 Preliminary Pool Asset ID JEN1

NAT3 is applying for the approval to construct, operate and connect the proposed 20MW power plant in Jenner Alberta in the Special Areas No. 2 Jurisdiction located at the NE ¼ of Section 19 Township 20 Range 08 West of the 4th meridian, to be connected to the Fortis distribution line located at the SE ¼ of Section 19 Township 20 Range 08 west of the 4th meridian. The proposed site is located in a rural area therefore there is no municipal address for delivery.

The facility will have ten Cummins N6C 2,000kW units for a total capability of 20MW/20MVA.

Land use at NE 19-20-8 W4M is native prairie pasture grazed by livestock. In addition to agricultural activities, the surrounding area is developed with high voltage transmission lines and an associated substation, oil and gas pipelines, well sites and access roads.

The proposed project resides in the southeast of the Red Deer Region, the Land Use Secretariat of the Alberta Government confirms there are no regional land use plan in force. Schedule PP16A Regional Land Use Planning Map

A project summary table was submitted to Alberta Environment and Parks for consideration of the environmental assessment process for the proposed NAT3 facility. It was advised that pursuant to Section 44 of the Environmental Protection and Enhancement Act (EPEA) our application was considered, with the conclusion this activity is not a mandatory activity for the purpose of environmental assessment. Having regard to the consideration set out in Section 44(3) of EPEA, it was decided further assessment of the proposed activity is not required. Therefore, an impact assessment report is not required for the purpose of NAT3.

Schedule PP17 Project Summary Table_NAT3

Schedule 17A Letter: No EIA Required-NAT3

The project site does not occur within the plan boundaries of a regional land use plan in force. Schedule PP18 Consultation confirming no regional land use plan for the Red Deer Region

Public notifications mailed to occupants, residents, landowners and potentially affected parties within 2,000 meters of the proposed power plant site boundary on May 17th, 2016 resulted in zero concerns or objections to the proposed NAT3 project. A list of all occupants, residents, land owners and potentially affected parties on lands within the appropriate 2,000m notification radius was determined using Appendix A1 Guidelines. The notification packages included detailed project specific information along with the AUC Public Involvement Brochure and site survey.

Schedule PP19 NAT3 Notification Letter
 Schedule PP19A NAT3 Site Survey,
 Schedule PP19B AUC Public Involvement Brochure
 Schedule PP19C NAT3 Notification Line List.

A list of mailing addresses with corresponding land locations can be found in Schedule PP19C Notification Line List, with 2 sets of printed mailing labels of those parties mentioned can be found in Schedule PP20 Mailing Labels for NAT3 Notifications.

NAT3 confirms no concerns were raised with potentially directly or adversely affected persons with regards to the proposed project.

The proposed power plant is not located within an oil and gas facility. The NAT3 Noise Impact Assessment in accordance with the current AUC Rule 012 can be found in Schedule PP27. Results of the assessment, including contributions from other energy related facilities in the study area, indicate that the cumulative sound levels will comply with the permissible sound level of 40 dBA.

Details of the power generating equipment:

Make	Cummins
Model	C2000N6C
Rated Power	2,000kW
Fuel Type	Natural gas
Heat Rate	8 GJ/MW-h
Compressor Ratio	12.5:1
Electrical Efficiency	39.9%
Frequency	60Hz
Generator Type	Synchronous
Generator Voltage	13.8kV
Cooling System	Closed Loop Radiators

The cooling system will be closed loop, two-circuit radiators; a dedicated radiator will be installed on each genset. The advantage of independent radiators for each genset is that it reduces the need for the proposed facility to use water as a cooling medium. Propylene glycol, a benign coolant medium, will be used for the closed loop cooling system. The system does not require

blowdown or disposal of the cooling medium. The radiators are equipped with instrumentation to address leak detection, temperature and pressure control.

Schedule PP28 C2000N6C Generator Data Sheets

Schedule PP30 Cooling System Technical Specifications & Drawings

The generator units are natural gas fueled from a commercial grade natural gas pipeline to be supplied at the proposed project site. The environmental effects of the fuel source are consistent with those of a standard natural gas pipeline and connection as set out in the ERCB directives. NAT3 confirms there will be no processing or storage of fuel on site for the facility.

A legible plant site drawing showing all major equipment components can be found in Schedule PP32 NAT3 Plot Plan.

A legible map showing the power plant site boundaries and land ownership, including any residences and dwellings within the appropriate notification radius as determined using Appendix A1- Participant involvement program guidelines, as well as any additional energy-related facilities within the project are can be found in Schedule PP33 NAT3 Legible Map, also suitable for use in NAT3 public notice.

Expected in-service date for the NAT3 power facility is July 1st, 2016, ramification if the date cannot be met include but not limited to, increase of cost for stakeholders.

Emission Rates per Generator

Emission Components	Emission Rate (kg/MWh)
NO _x	0.126 Kg/MWh
S ₀₂	0
Primary Particulate Matter	>less than 0.08kg/MWh

Emissions of the project will comply with the current Alberta Air Emission Standards for Electricity Generation. Dispersion modeling for the project demonstrated that the project is unlikely to affect ambient air quality and predicted ground-level concentrations of S₀₂, NO_x and PM are below the Alberta Ambient Air Quality Objectives (AAAQO) This is achieved through selective catalyst reduction “SCR” units located on the back end of the generators connected to the exhaust piping. The SCR units use a urea solution (32.5% solution dissolved with deionized water) as a reductant, converting residual NO_x into N₂ for a greater than 90% removal of NO_x.

Schedule PP37 Dispersion Modeling_NAT3

Schedule PP37A Safety Power SCR Specifications

Schedule PP37B Process Flow Diagram

As a new natural gas-fired electrical generating facility with a production capability of 20MW, NAT3 confirms it is not a designated project under *Canadian Environmental Assessment Act, 2012* “CEAA 2012”.

The pertinent section of the CEAA 2012 *Regulations Designating Physical Activities* (the Regulations) reads as follows:

2. *The construction, operation, decommissioning and abandonment of (a) a new fossil fuel-fired electrical generating facility with a production capability of 200 MW or more.*

The project falls below the threshold stipulated in the Regulations thus a federal environment assessment is not required.

Pursuant to Section 44 of the *Environmental Protection and Enhancement Act* "EPEA", the application of the environmental assessment process was considered for the NAT3 project. It was decided by Alberta Energy and Parks "AEP" that further assessment of the activity is not required. Schedule PP17A No EIA Required Letter from AEP

Fortis Alberta Inc. is prepared to allow the interconnection of the proposed facility pending final execution of an Interconnection Agreement. The interconnection to the 25 kV distribution system is scheduled for July 1st, 2016. Schedule PP40 Fortis Letter to the AUC.

For further information and inquiries please contact Myself,

Thank you,



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