

Approval

5000-4100-59240-16



December 28, 2012

5000-4100-59240-16

Davin Yee
Progress Energy Ltd.
1200, 205 - 5th Avenue SW
Calgary, AB T2P 2V7

Dear Mr. Yee:

**RE: ACID GAS DISPOSAL ORDER 96-16-002, AMENDMENT #1
PROGRESS ET AL JEDNEY a-79-J/94-G-01; WELL PERMIT # 9637
BALDONNEL FORMATION**

Commission staff have reviewed the application, by Fekete Associates Inc. on behalf of Progress Energy Ltd., dated June 26, 2012, requesting an amendment to the approval to dispose of acid gas into the Baldonnel formation of the subject well. Additional supporting information has been submitted in response to Commission requests.

The subject well a-79-J has operated as an acid gas disposal well since December 1996. The source of acid gas is the processing of raw natural gas at the Spectra Duke Jedney Gas Processing Plant. Increasing the disposal rate from 114 e³m³/d to 228 e³m³/d will allow disposal of the entire plant byproduct stream, should the other utilized disposal well b-19-A/93-P-9 (WA 464) become unavailable.

Attached please find Order 96-16-002 Amendment #1 designating an area in the Baldonnel formation as a Special Project under section 75 of the *Oil and Gas Activities Act*, for the operation and use of a storage reservoir for the disposal of acid gas.

Please note that, as per section 75 of the *Regulation*, a record of the volume of acid gas disposed of through this well and wellhead injection pressures, must be included on a Monthly Injection or Disposal Statement (BC-S18), which must be submitted to the Oil and Gas Commission no later than the 25th day of the month in which activity occurred. Also, as per condition 2(m) of the Order, 6 month reporting requirements must be met to continue the Order. The operation of the acid gas disposal project will be subject to periodic review and the Commission may modify the Order, if deemed appropriate.

Should you have any questions, please contact Michelle Gaucher at (250) 419-4482 or Ron Stefik at (250) 419-4430.

Sincerely,

A handwritten signature in blue ink, appearing to read 'James O'Hanley', written over a horizontal line.

James O'Hanley
Deputy Commissioner, Resource Development
Oil and Gas Commission

Attachment

cc: Jason Benoit, Fekete Associates Inc.

IN THE MATTER of the application from Progress Energy Ltd. (submitted by Fekete Associates Inc.) to the Commission dated June 26, 2012 for the operation and use of a storage reservoir.

ORDER 96-16-002 Amendment #1

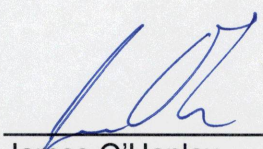
1 Under Section 75(1)(d) of the *Oil and Gas Activities Act*, the Commission designates the Baldonnel formation as a special project for the operation and use of a storage reservoir for the disposal of acid gas within the following area:

NTS 94-G-01 Block J – Units 78, 79, 88 and 89.

2 Under section 75(2) of the *Oil and Gas Activities Act*, the special project designation in this Order is subject to the following conditions:

- a) Acid gas shall be injected only into the Baldonnel formation (1847.0 – 1537.0 mKB) through the well a-79-J/94-G-01 (WA 9637).
- b) The wellhead injection pressure must be continually measured and recorded, and must not exceed 9,790 kPag.
- c) The maximum average reservoir pressure must not exceed initial pressure of 11,121 kPaa.
- d) The injection rate must not exceed $228 \times 10^3 \text{ m}^3/\text{d}$ expressed at 101.325 kPaa and 15 degrees Celsius.
- e) The cumulative volume injected must not exceed $850 \times 10^6 \text{ m}^3$ expressed at 101.325 kPaa and 15 degrees Celsius, or condition (c), whichever is reached first
- f) The Permit Holder must conduct reservoir pressure (fall-off) tests of the Baldonnel formation in the subject well during each plant shut-down, with a shut-in period of sufficient length to provide data for calculation of the formation pressure.
- g) Annual bottom hole pressure tests must be conducted on the well Progress et al Jedney b-88-J/94-G-1 (WA 427).
- h) The Permit Holder must maintain hydraulic isolation of the Injection zone.
- i) The Operator must implement appropriate corrosion protection measures and conduct annual packer isolation tests.
- j) Every 4 yrs (or during plant turn-around) casing inspection and cement bond logs must be conducted.
- k) A barricade must be installed around the wellhead that is capable of withstanding vehicle collision.
- l) The Wellhead Emergency Shut-Off Device and Subsurface Safety Valve must be installed to operate “fail-safe” and these should be linked to H₂S detector heads at the wellhead.
- m) All injection operations must be immediately suspended if any injection equipment, monitoring equipment or safety devices considered necessary for safe operation should fail.

- n) The permit holder must submit a Progress Report to the Commission for each six month period the project is in operation. The Progress Report must be filed within 60 days after the end of each period and must contain the following :
- i) details of any workover or treatment program done on the well with reasons for the workover and results of the workover,
 - ii) a discussion of any changes in injection equipment and operations,
 - iii) a general review of the operation of the project including identification of problems, remedial action taken and results of the remedial action on project performance,
 - iv) submit results of annual packer isolation tests and quadrannual casing and cement inspection logs,
 - v) a table showing annual bottomhole pressure test results as specified in item (g) above,
 - vi) a table showing results of annual gas sample analysis from 3 nearest producing wells,
 - vii) an evaluation of all monitoring done during the reporting period including corrosion protection, fluid analyses, logs and any other data collected,
 - viii) a discussion of the overall performance of the project,
 - ix) a table showing monthly volumes of injected fluid, corresponding maximum wellhead injection pressures and calculated bottomhole pressures, maximum daily injection rates, average wellhead temperatures and hours on injection,
 - x) the volume-weighted average composition and formation volume factor for the injected fluid,
 - xi) a plot showing monthly injection volume and average pressure versus time on an ongoing basis,
 - xii) a table showing tonnes of sulphur and carbon dioxide disposed on a monthly and cumulative basis.



James O'Hanley
Deputy Commissioner, Resource Conservation
Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this day of December 2012.