



Natural Resources and Northern Development  
Petroleum Branch  
Box 1359, 590 Wellington St. East  
Virden, MB ROM 2CO  
Phone (204) 748-4260

October 7, 2022

Attn: Petroleum Inspectors

**RE: (14-8)100.14-17-3-29 Pierson  
New Battery Application – flare stack at single well battery**

As per subsection 75(1) of the *Drilling and Production Regulation* Tundra Oil & Gas Partnership is submitting an application to construct a new battery to be located at (14-8)100.1417-3-29WPM. A vapour collection system complete with separator and flare is to be installed at this single well battery to control H<sub>2</sub>S odors, ensure ambient air quality off lease and ensure worker safety. This well is several miles from the nearest tie in point and is likely to remain producing to a tank for several years. Please review the following application.

- A) The application fee of \$1,000 has been requested and will be submitted via EFT. I will forward the confirmation email to Landon Fraser and Scott Westbrook.
- B) Performance deposit for Tundra is currently topped up and up to-date.
- C) A survey plan of the well site has been included in the application package.
  - C.1) The description of landowner consultation is attached in **Appendix A**. This appendix also includes the names and addresses for all landowners and occupants within 1.5 km of the proposed battery. There was one landowner that did not respond after several forms of communication. There were no objections from the landowners that did respond. Note that the consultation letter indicated 2-400bbl tanks would be installed but we have since set 1-750bbl tank on site.
- D) (14-8)100.14-17-3-29, well license 11726, will be the only well that will produce to this battery.
- E) This well is currently producing 3 m<sup>3</sup>/day oil, 27 m<sup>3</sup>/day water, and 0.08 e3m<sup>3</sup>/day gas. The well has an assumed GOR of 26 m<sup>3</sup>/m<sup>3</sup>. Gas testing is currently being done to confirm the GOR. It is assumed that 100% of the gas will separate out in the separator and go to flare. A scrubber will be utilized to prevent odors when loading a truck to haul the fluid.
  - E.1) A representative gas analysis has been attached for the 100.4-11-3-29 well that is in proximity to this well and was used as an analog for the gas dispersion modeling.

F) Equipment specification.

- There will be a separator, 750bbl test tank, flare stack, and a scrubber on site. Currently only one test tank is required. The well is electrified.
- *The CRN and Serial numbers of the separator and flare stack will be forwarded to the Branch when they are installed, the equipment will be from Tundra's surplus equipment.*
- Separator Building Specs:
  - 8 x10' building on a skid
  - Vessel is 6' high x 24" OD. MAWP 500 PSI. 2 Phase separator
  - 2" Taylor PSV "G" orifice set at 500 PSI
  - MB CRN # TBD, SN# TBD
  - 3-way divert actuated on high level and high pressure
  - Scanner 2000 gas meter run with bypass
  - Air compressor
  - Building heater
- The flare stack is:
  - Fre-Flo 3" dia. by 40' freestanding flare stack, Serial #TBD, mounted c/w the following: 13'x 8' nom. wide flange skid collapsible stack lowered/raised by wide flange support system
  - hand winch to raise/lower stack c/w cable
  - 3" 150# Enardo detonation type flame arrestor, (Serial #TBD).
  - Mactronic 120V ignitor system for stack c/w slip stream ignition chamber
  - ignitor head with retractable ignitor head assembly manual or automatic operation

G) This well will produce through the separator with a meter, and it is the only well producing to the tank, so it is therefore "tested" daily.

G.1) Flare and vapor system. This battery will collect all gas off the separator and will direct it to flare. The scrubber will be utilized by the trucker to further eliminate odors associated with that task. These two systems will control off lease odors.

G.2) The results of gas dispersion modelling for SO<sub>2</sub> at the proposed battery are included within **Appendix B**.

All gas is being directed to the flare stack. As per the Dispersion Modeling Guidelines for Oil Batteries in the Province of Manitoba within Informational Notice 02-215 it is assumed that the combustion conversion of H<sub>2</sub>S to SO<sub>2</sub> is 100% and the radiation heat loss is assumed to be 25%. Therefore, if 100% of the gas is collected and passes through the flare this location will be in compliance with ambient air quality for H<sub>2</sub>S.

Air dispersion modeling for SO<sub>2</sub> was completed at various production rates and show result of 18.96 to 31.39 µg/m<sup>3</sup>. These results are in compliance with the regulation.

H) Plot Plan: a proposed plot plan has been included in the application package. Tundra will complete an as-built survey of the site and forward it to the branch. For well site planning, we will ensure the tanks are 25 meters away from the wellhead and the flare is 25 meters away from the tanks and the wellhead.

I) A process flow diagram has been included in the application package.

K) The oil & water from this location will be hauled to the 04-01-002-28WPM Lyleton battery where it will be processed. The water will be disposed of in the 01-02-002-28WPM and 16-02/102.01-11-002-28WPM disposal wells.

If you have any additional questions, comments, or concerns please contact myself, Lindsey Flannery in the Virden office at (204)748-4445.

Sincerely,

*Lindsey Flannery*

Lindsey Flannery, B.Sc. (Hon.)  
Facilities Technologist