



Manitoba Heritage Habitat
For: SE ¼ 26-12-27 WPM

April 1, 2015

Attn: Manitoba Heritage Habitat

**RE: 4-23-12-27 WPM North Hargrave Battery Application
Tundra Oil & Gas Partnership**

Tundra Oil & Gas Partnership is making application to the Petroleum Branch under section 75 of the *Drilling and Production Regulation* to build a new oil battery, at 4-23-12-27 WPM. As part of this application Tundra must consult with all landowners and occupants within 1.5 km of the proposed battery site.

Proposed Battery

The proposed battery at 4-23-12-27 WPM will allow Tundra to join our test tank wells in the area into a central facility for emulsion processing and separation and nearby water disposal. Tundra feels that the 4-23-12-27 site will be well suited for a new battery as this location is approximately 2 km away from the nearest residence, has many wells already drilled in the area and is central to future planned development and there is a good built up road allowing access to this facility of Highway 83.

At this time Tundra is planning to tie-in 5 wells. The facility will be designed to handle 200 m³/d oil and 1400m³/d water- our current production and then some- which will allow any future wells drilled in the area to be tied into the proposed battery without major modifications. Tundra is planning for additional wells to be drilled within the next 1-5 years.

Wells will be joined into the facility with flowlines to reduce trucking in the vicinity of the battery. Tundra has made application to the Branch to convert the 4-26-12-27 well, on section directly north of the battery. Salt water will be flowlined from the battery to the 4-26 disposal well. All gas collected at the battery will be flared. Clean oil will be trucked out of the proposed battery.

Tundra will build this facility in compliance with Government regulations. The major components of the battery will be as follows:

- 1 inlet header, and building- which directs all the fluid from the field to the test separator or treater vessel. This header will have an Emergency Shut Down (ESD) valve which, when activated, will shut down the entire battery system including the wells in the field

- 1 vertical test separator- to ensure that all wells are properly tested as per the regulation and to ensure accurate production accounting
- 1 8'x 30' treater which will separate water from the oil using electrical heat to transfer heat to the fluid.
- 1 Free Water Knock Out
- 2-3 1000 bbl Fiberglass Water Tanks
- 2-3 1000 bbl Steel Oil Tanks
- 1 100 Bbl Pop Tank to contain fluid in the event that a pop valve is activated off the test separator or the treater
- 1 disposal pump
- 1 recycle pump and building
- 1 3" x 40' Flare Stack
- 1 - MCC building that contains alarms and electrical equipment

The oil and water tanks will be located inside a metal containment system complete with impermeable liner to prevent contamination of underlying soil. Tundra has not completed the final design of the facility at this time but these are all of the main components that make up a battery and are very likely to be installed at this site.

This facility will have very little produced gas. The Gas-to-Oil Ratio (G.O.R.) in the North Hargrave area is $5.0 \text{ m}^3/\text{m}^3$. This value is very low as compared to other fields in which Tundra operates. Gas quality is also an issue at this facility. This gas also holds approximately 5.5% H₂S, which is quite high. The gas is also of moderate quality but with low volumes and ~40% nitrogen this gas will be inefficient to use in our vessels as the sole source of fuel. It is for this reason that Tundra will use electric heat to heat all vessels and will collect all produced gases and direct them to the flare. This will ensure no offsite odours related to H₂S.

Battery Application Process

The battery application process is a public notice application that is submitted to and approved by the Petroleum Branch, Manitoba Mines and Mineral Resources. The applicant must consult with all landowners and occupants within 1.5 km of the proposed facility. The complete application is then submitted to the Petroleum Branch for internal review. The Petroleum Branch will publically advertise the application for a period of public consultation prior to granting final approval to start construction. A battery operating permit is only granted once the facility has completed construction and has passed all government inspections as required by law.

Tundra Oil & Gas Partnership has been building facilities for many years and always builds our facilities to meet our Core Values. At Tundra our Core Values consist of relationships, environment, safety, people, enhanced recovery, community and integrity. We want to work with you to build this new facility in full compliance with all regulations and to satisfy your needs as a neighbor.

If you have any questions, comments or concerns regarding this matter, please provide details on the attached page and return it in the envelope provided. If you approve of the above operation,

please indicate by signing in the space provided below, and return one signed copy in the envelope provided, on or before **April 24, 2015**.

The information contained in this letter is a condensed version of the full battery application that will be submitted to the Petroleum Branch at the end of April 2015. I can be contacted at 204-748-4427 if you have any additional questions regarding the proposed facility. Or, if you prefer, you can contact Chris Masson, Land Manager at 204-748-4411. Both of us would be very happy to answer any of your questions.

Yours truly,

Jennifer Abel, P.Eng
Senior Facilities Engineer

I, _____ have no objections with the building of the
4-23-12-27 WPM battery.

Signature: Manitoba Heritage Habitat

Date

I, _____ have the following objections with the building of the
4-23-12-27 W1M battery.

Signature: Manitoba Heritage Habitat

Date