

October 11, 2013

Sahtu Land and Water Board
Box 1
Fort Good Hope, NT
X0E 0H0

Via email: ian.brown@slwb.com

Attention: Ian Brown, Regulatory Specialist

Dear Ian,

Re: Husky Oil Operations Limited Land Use Permit S13X-003 and Water Licence S13L1-006 Applications – Letter of Comment from the Sahtu Renewable Resources Board

Husky Oil Operations Limited (Husky) has received three letters of comments from the Sahtu Renewable Resources Board (SRRB); two dated October 4, 2013 and one dated October 9, 2013 regarding the subject applications. Husky would like to point out that we did not receive the last two letters until the review and comment period had closed and, to our knowledge, without any extension being granted. Despite the fact that the MVLWB's Late Comment Submission Policy states that the contents of those late submissions will not be considered by the Board, they will still be placed on the public registry. Husky is concerned about the public perception of not responding to all of the SRRB's comments; therefore Husky hereby submits the following information. SRRB's comments are listed below with their respective responses. For tracking purposes, Husky has given each SRRB recommendation a reference number.

General Recommendation

The Board has general concerns about the construction and further expansion of all-weather facilities, because year-round operations have significantly greater impacts on wildlife than winter-only operations. We understand that construction of these facilities may take place during the winter; however we urge the Sahtu Land and Water Board (SLWB) to consider what these facilities are designed to be used for. For example, drilling and activities that involve a lot of road and/or air traffic could have significant impacts on wildlife during the fall (rutting season for moose and caribou and bird migration), and during the spring (nesting season and calving season). Moreover, all-weather access roads and well pads will create irreversible changes to the wetlands and hydrology of the area.

Response to General Recommendation

To be clear, this Site Wide Services application is a consolidation of already approved land use permits and water licences with only minor scope changes. Husky has been very transparent with all stakeholders that in order to determine the economic viability of the Canol formation, Husky must have the ability to perform long term testing of the wells. The all-weather road was applied for and permitted in anticipation of requiring year-round operations that may include drilling in the summer and fall. Husky is aware

of the fall rutting season and bird migration, and spring nesting season and calving season. Husky has committed to limited use of the all-season facilities between May 1 and June 20 of each year in order to avoid the important spring seasonal wildlife activities. During this identified period of time, road use will be restricted to small vehicle traffic.

Proposed future activities may occur in the fall during important boreal woodland caribou seasonal activities and movement through the area. As a means to mitigate potential future impacts, Husky is conducting a baseline wildlife assessment that includes modelling caribou habitat suitability across the exploration licences. The goal is to identify caribou habitat and develop an adaptive set of mitigation measures that will reduce impacts to caribou and important caribou habitats.

Recommendation 1

Harvesters attempting to hunt near the Husky lease this past fall found that the helicopter traffic scared away the animals and interfered with harvesters' experience of being out on the land. **The Board asks Husky to consult with ?ehdzo Got'ıne (Renewable Resource Councils, or RRCs) and local harvesters before the fall hunt, and reroute helicopter traffic over those identified hunting areas. We suggest Husky should follow the Sahtú Land Use Plan recommendation for horizontal setbacks of 2000 metres and minimum altitude of 300 metres for ungulates.**

Response 1

To our knowledge, no harvester has approached Husky with a complaint that helicopter traffic has interfered with their hunting this past fall. Husky is also not aware of any fall hunting activities in our project area.

Husky agrees to hold discussions with the RRCs regarding the fall hunt over those identified hunting areas and will take appropriate measures to respect harvesters' activities during that time.

Husky is unable to find the reference that the SRRB is referring to in the approved, April 29, 2013 version of the Sahtu Land Use Plan (SLUP). "Table 4. Wildlife Setbacks, Minimum Altitude and Sensitive Periods" found in the SLUP speaks to setbacks of habitat types. Husky is committed to abiding by the conditions of the Sahtu Land and Water Board (SLWB) LUP. The existing LUPs that Husky is consolidating [(S12F-007, condition H.20) and S11T-002, condition 26 (1) (H)] states that we must maintain a vertical distance of 300m and horizontal setback of 500m from sensitive species. Husky also, where safe to do so, follows the Government of the Northwest Territories recommendations found in the, "Flying Low? Think again..." brochure.

In the event Husky has missed the reference to ungulate setbacks in the SLUP, please provide further information including section and page number. Husky's understanding is that the setbacks in the SLUP generally refer to known sites such dens, nesting areas, and lambing areas rather than an individual animal, which would be difficult to see from 2000m away.

It should also be noted that all-weather facilities, such as the all-weather road, will allow Husky to conduct more program-wide transportation and movement of materials via ground rather than by helicopter. Minimum fly-over distances will continue to be implemented wherever possible in order to minimize aircraft-induced mortality. Husky has always been committed to maintaining the required setbacks for over-flights as prescribed in the Land Use Permits however; Husky feels that it is unrealistic to impose a 2000 metre horizontal setback in all situations. Adhering to the SRRB's

recommendation would prevent Husky from being able to land on our airstrip or helicopter landing sites in certain situations such as during an emergency response.

Recommendation 2

The proposed activities will be adding to the permanent footprint within the lease area and the region. Cumulative impacts are still a major concern to the Board. **The Board feels thresholds for levels of impact on wildlife must be established as soon as possible. We would like to re-emphasize the importance of a regional cumulative effects assessment and management plan.**

Response 2

Again, Husky would like to remind the SRRB that this Site Wide Services application is a consolidation of already approved land use permits and water licences with only minor scope changes.

As stated in Husky's response letter dated December 3, 2012 to previous SRRB comments with regards to a cumulative effects assessment (filed on the SLWB public registry under LUP S12F-007 as "S12F-007 – Response from Husky to SRRB – Dec 3_12.pdf"), Husky agrees that a regional cumulative effects assessment is warranted prior to any proposed oil and gas development for the area. In Husky's opinion, conducting a regional cumulative effects assessment is premature at this time. All of the licensees are in early stages of exploration of their respective properties and there is a lack of historical baseline data with which to do an assessment. A primary objective of the exploration phase is to gather the information necessary to properly evaluate the hydrocarbon potential of a property and long term development plans. It should also be noted that during the exploration phase it is very difficult to predict the long term plans of other operators in adjacent exploration licences.

Although Husky believes a regional cumulative effects assessment and management plan is premature during the exploration phase, Husky is committed to collecting environmental baseline data for wildlife, habitat, surface water and ground water. Husky is willing to share the baseline data with other operators and the public, and is willing to cooperate with the SRRB and government agencies in compiling a regional environmental database.

Recommendation 3

While the SLWB has included conditions related to reclamation within Husky's land use permit for the all-weather road—requiring Husky to facilitate natural revegetation and reshape the landscape to a pre-construction profile—it is important to understand that once a wetland area is changed into an upland area, the area will never host the same kind of vegetation or habitat as before. **The Board asks the SLWB to require the development and approval of a detailed reclamation plan before Husky is allowed to proceed with the proposed operations.** Community consultation with regard to the reclamation plan should continue throughout the life of operations, and amendments can be made as necessary; however, it is important to have a detailed initial reclamation plan to guide operations from the outset.

The Board once again urges the Sahtu Land and Water Board to work towards the development of minimum NWT standards for reclamation of oil and gas related projects as a matter of urgency.

Response 3

Although this comment is directed to the SLWB, Husky provides the following response:

Husky does not plan to disturb wetlands; it is unclear in the SRRB comment which wetlands they feel will be affected.

Husky has submitted a Closure and Reclamation Plan in Section 4.14 of the Environmental Protection Plan submitted with the applications. The Closure and Reclamation Plan recognizes that stakeholder needs and input regarding the fate of the development must be reviewed periodically throughout the life of the disturbance. Husky is committed to incorporating input from local stakeholders into the closure and reclamation planning process, for example, presently some community members are in favour of keeping the all-weather road. Husky's Engagement Plan will be updated, as per the SLWB *Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits*, to include reclamation planning as a trigger for engagement with stakeholders. Husky is of the opinion that the submitted Closure and Reclamation Plan is sufficiently scoped for the level of exploration activity. However, it is important to note that Husky is taking a phased approach to reclamation and, as clearings are no longer required, they are being reclaimed. A recent example of this is Quarry B where the site is actively being reclaimed. In keeping with our original Quarry Management Plan, the site is being progressively landscaped to control drainage. Surface drainage is controlled by ditching, proper landscaping, and erosion control features and structures, such as silt fencing, where required. Current activities include landscaping, contouring, and topsoil replacement. Natural re-vegetation will be considered upon consultation with AANDC.

Recommendation 4

Appropriate baseline studies are critical before more permanent infrastructure is constructed/expanded and before further year-round wildlife disturbance occurs. **The Board urges the Sahtu Land and Water Board to create appropriate standard requirements as soon as possible for project-related monitoring of surface water, groundwater, and wildlife.**

Response 4

Although this comment is directed to the SLWB, Husky provides the following response:

This comment is unclear as to what the SRRB finds lacking with regards to the baseline assessments Husky has completed or is in the process of completing. Husky acknowledges that some of the studies were unable to be completed on the timeframe as originally intended in 2012 due to logistical and timing issues, including delays in governmental field permit approvals however steps were taken to initiate those assessments in 2013. Husky remains committed to obtaining baseline data as described in the Environmental Protection Plan submitted with the applications, in the following sections:

- 8.3.3.1 Geophysical Permafrost Assessment
- 8.3.2.1 Soils
- 8.3.4.4 Vegetation
- 8.3.5.5 Wildlife
- 8.4.1.2 Surface Water Quality
- 8.4.2.1 Groundwater Quality
- 8.4.3.4 Fish Population

Husky has made the decision not to conduct drilling operations this winter season. This will allow Husky more time to analyze the data obtained from the baseline studies and complete the biophysical baseline reports for 2013.

Husky is not aware of the SLWB's plans to develop standard requirements for baseline studies. In the absence of guidelines, Husky has self-initiated a broad base of baseline data collection and has actively collaborated with regulators, Aboriginal organizations,

and other industry representatives with regards to environmental baseline data collection principles.

Recommendation 5

With regard to the conversion of groundwater monitoring well MW-09 to a water source, the Board would like further assurance that the removal of groundwater will not impact (in the short-term or long-term) groundwater or surface water levels in the area. While the Board appreciates the initial groundwater testing completed by Husky, as outlined in the Groundwater Investigation Report, more information is required as to whether the extraction will impact surface water bodies. **We urge Husky to provide the following information:**

- **a cross-section showing the location of the wells, geometry of the aquifer, and its relationship to nearby water bodies; and**
- **how pumping is expected to affect the water table of the aquifer and any connected water bodies.**

It may be valuable to perform pump tests on MW-09A using the second existing groundwater well (MV-09B) as a monitoring well to determine how drawdown in MV-09A affects groundwater levels a short distance away.

In addition, **groundwater levels should be monitored closely for the duration of Husky's operations to verify whether Husky's predictions about recharge rates and impacts on surface water bodies are correct.**

Response 5

The hydraulically connected sandstone aquifers in which MW-09A and MW-09B are completed, are overlain by low permeability shale units and 55 m of permafrost. Each well is screened more than 80 metres below ground (mbg) and have static water levels of approximately 12 mbg. This is strong evidence that the aquifer is hydraulically isolated from surface water bodies and therefore no impact to surface water is anticipated.

MW-09A and MW-09B are separate boreholes that were installed prior to downhole stimulation of nearby N-9, so as to obtain baseline values of groundwater quality and quantity. Downhole instruments have been installed that record water levels several times a day. If licensed for use, only one well would be used for supply at a time, while the other will act as a monitor well. Any changes to groundwater quality or quantity would be readily detected through daily use and monitoring of pumped volumes and water levels, in addition to the annual sampling.

Husky did perform a 72-hour pumping test on MW-09B while monitoring MW-09A. This was done to be in alignment with Alberta regulations, in the absence of NWT regulations for water well testing. As presented in the supporting documentation for the water licence application, the water wells MW-09A and MW-09B have theoretical estimated safe yields (Q_{20}) of 941 and 1,220m³/day respectively. Husky has provided an additional measure of caution by proposing to restrict daily pumping volumes to a maximum rate of 600m³/day which is 64% and 50% of the respective estimated 20-year safe yields for MW-09A and MW-09B.

During water well operations, the volume pumped and water levels will be monitored daily. The wells will continue to be included in the annual groundwater monitoring program and a summary report will be provided to the SLWB that will include water levels and pumped volumes.

We hope the SLWB finds these responses satisfactory. Please contact the undersigned if you have any questions or require further clarification.

Sincerely,
HUSKY OIL OPERATIONS LIMITED



Kenneth F. Hansen, P. Geol.
Project Manager - Slater River, NWT