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October 11, 2013

Sahtu Land and Water Board
Box 1
Fort Good Hope, NT
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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 Environment Canada

Husky Oil Operations Limited (Husky) has received comments from Environment Canada (EC) dated October 4, 2013 regarding the subject applications. Husky submits the following information in response to the letter. The recommendations provided by EC are listed below with their respective responses. For tracking purposes, Husky has given each EC recommendation a reference number.

Wildlife

EC notes that Section 8.3.5 of the Environmental Protection Plan should be updated with the recent listing of species noted in the table.

Terrestrial Species at Risk ¹	COSEWIC Designation	Schedule of SARA	Government Organization with Lead Management Responsibility ²
Common Nighthawk	Threatened	Schedule 1	EC
Olive-sided Flycatcher	Threatened	Schedule 1	EC
Barn Swallow	Threatened	Pending	EC
Horned Grebe (Western population)	Special Concern	Pending	EC
Peregrine Falcon	Special Concern (<i>anatum-tundrus complex</i>) ³	Schedule 1	GNWT
Short-eared Owl	Special Concern	Schedule 1	GNWT
Rusty Blackbird	Special Concern	Schedule 1	GNWT

Woodland (Boreal population)	Caribou	Threatened	Schedule 1	GNWT
Woodland (Northern population)	Caribou Mountain	Special Concern	Schedule 1	GNWT
Grizzly Bear		Special Concern	Pending	GNWT
Wolverine (Western population)	(Western)	Special Concern	Pending	GNWT

¹ The Department of Fisheries and Oceans has responsibility for aquatic species.
² Environment Canada has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the Migratory Birds Convention Act (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Populations that exist in National Parks are also managed under the authority of the Parks Canada Agency.
³ The *anatum* and *tundrus* subspecies of Peregrine Falcon were reassessed by COSEWIC in 2007 and combined into one subpopulation complex. This subpopulation complex was assessed by COSEWIC as Special Concern, and was added to Schedule 1 of SARA in July 2012.

Response to Wildlife Note

Husky acknowledges EC’s note that Section 8.3.5 of the Environmental Protection Plan should be updated based on the supplied table. Husky currently lists all the Species at Risk in the NT in the Environmental Protection Plan and further elaborates on the species that may be encountered in the project area (both species at risk and species not at risk). For future applications, Husky will consider updating “Table 8-10: Species at Risk in the NT” of the Environmental Protection Plan to highlight the species that may be encountered in the project area.

Recommendation 1

EC recommends the Proponent continue to provide updated shapefiles of the final access routes, staging areas, storage areas, camps and wellsites upon project completion to aboriginal, territorial and federal agencies responsible for the management of boreal caribou and their habitat in the Northwest Territories in order to keep track of habitat disturbance within the NT1 boreal woodland caribou range.

Response to Recommendation 1

Husky remains committed to providing updated shapefiles to the agencies responsible for the management of boreal caribou and their habitat in the Northwest Territories. Husky currently provides the shapefiles to Environment Canada (EC), GNWT- Environmental and Natural Resources, and the Sahtu Land and Water Board.

Recommendation 2

EC recommends the proponent provide further details regarding the communication tower (i.e. if the tower will have guy wires) and include mitigation and monitoring measures in their Environmental Protection Plan.

Response 2

The communication tower is 25 metres in height and will be installed and operated by Northwestel. Husky will contact Northwestel to confirm if the tower is anticipated to be a self-supported or guyed mast structure and will forward the information to EC once received. Once that information is confirmed, Husky will work with EC to discuss possible mitigation and monitoring measures. Husky has reviewed the document provided by EC titled “Bird-Friendly Best Management Practices for Tall Structures”; and has taken the initiative to contact a representative from EC regarding this matter.

Husky is confirming that the tower will be installed on the existing base camp site along with ancillary structures such as the camp trailers, fresh water and waste water treatment facilities and will be monitored during routine camp site inspections.

Groundwater

While EC may have additional comments or questions for the Proponent, at a later date, regarding the Ground Water Investigation document, at this time EC has the following questions:

Recommendation 3

What further research does the Proponent intend on doing with respect to drawdown effects as a result of the use of wells MW-09A and MW-09B as water sources for project activities? How will the Proponent monitor and determine possible effects of drawdown to the surrounding groundwater and surface water regime?

Response 3

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.

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.

Recommendation 4

If MW-09A and MW-09B are used as water sources, what plan does the Proponent have for further developing or enhancing the groundwater monitoring program to ensure appropriate monitoring for potential project effects on groundwater is conducted? How dependable will MW-09A and MW-09B be for use as monitoring wells if they are used as source water wells? Does the Proponent anticipate drilling additional bedrock monitoring wells; if yes, when?

Response 4

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 is currently considering the option of installing additional groundwater monitoring wells on future exploration well pads but no sites have yet been selected.

The operator of the water treatment plant at the camp works 24 hours/day to maintain the operating systems. Water samples are collected every two weeks and submitted to an accredited third party lab in Yellowknife for routine potability analysis. In the event

that water from MW-09A and -09B was sent through the treatment plant, any changes to water quality would be readily detected by the plant monitoring systems.

Recommendation 5

While the Proponent has provided detailed information regarding the bedrock aquifers, EC notes information regarding the 7 shallow monitoring wells and the 7 permafrost monitoring wells has not yet been provided. When does the Proponent intend on filing information related to these wells to the Sahtu Land and Water Board?

Response 5

Husky intends to file the Shallow Well Investigation Report, the Bedrock Well Drilling Summary Report, along with the Baseline Hydrological Assessment report in the Annual Report to the SLWB, which includes data from the groundwater, surface water and sediment monitoring programs. In addition, Husky just completed a field program during which information from the thermistors on the groundwater program was downloaded. This recent data along with the initial thermistor data in the auger drilling investigation will be compiled into a report and Husky anticipates submitting the report by January 2014.

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