Environment Canada Environnement Canada

Prairie & Northern Region
Environmental Protection Operations Directorate
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Our File No.: 4706 001 036
Your File No.: S12X-006

Angela Love
Regulatory Specialist
Sahtu Land and Water Board
P.O. Box 1
Fort Good Hope, NT, X0E 0H0

Via Email at Angela.love@slwb.com

Attention: Ms. Love

RE: S12X-006 – Husky Oil Operations Limited – Slater River Groundwater Baseline Drilling Program – Type A Land Use Permit Application

Environment Canada (EC) has reviewed the information submitted with the above-mentioned application. The following specialist advice is provided pursuant to EC's mandated responsibilities arising from the *Canadian Environmental Protection Act, 1999* (CEPA 1999), the pollution provisions of the *Fisheries Act*, the *Migratory Birds Convention Act* (MBCA) and the *Species at Risk Act* (SARA)

It is our understanding that Husky Oil Operations Limited (the Proponent) is applying for a land use permit (LUP) to support their proposed groundwater investigation program. The purpose of the program is to establish baseline groundwater conditions prior to further exploration activities and to assess the extent and quality of bedrock aquifers in the program area. The program would consist of drilling up to 20 shallow (30 meters) boreholes. In addition, the program would involve a bedrock aquifer investigation program with 5 locations having up to 3 deep (150 meters) boreholes per location (up to 15 in total) to assess the baseline conditions of shallow groundwater aquifers and deeper bedrock aquifers. The program would also assess potential bedrock aquifers as a source of water to support future operations in the area. The proposed survey would take place January 1, 2013 to March 31, 2013, located approximately 40 kilometres south-southeast of Norman Wells, NT. The Proponent has also submitted a multiyear scientific research license to the Aurora Research Institute for this program.

The revised Project would include:

- Mobilization of a wheeled air/water/mud-rotary drilling rig by winter road to the program area;
- Demobilization of the drilling rig and related equipment using the GNWT winter road (access permitted under LUP S11T-002);
- Storage of fuel, motor, and hydraulic fluids on site;
- Use of a track/truck mounted auger drilling rig for shallow investigation;

- Completion of the wells using steel casing and well screen (maximum of one per well), filter sand pack and grouting
- Installation of monitoring wells to test aquifers for productivity; and
- Collection of water samples for analysis of baseline chemical parameters (i.e. microbiology, hydrocarbons, etc)

EC offers the following recommendations and comments for the proposed Project:

General

1. All mitigation measures identified by the Proponent, and the additional measures suggested herein, should be strictly adhered to. This will require awareness on the part of the Proponents' representatives (including contractors) conducting operations in the field. EC recommends that all field operations staff be made aware of the Proponents' commitments to these mitigation measures and provided with appropriate advice / training on how to implement these measures.

Water Quality

2. Meeting the requirements of the *Fisheries Act* is mandatory, irrespective of any other regulatory or permitting system. The pollution provisions of the *Fisheries Act* specifies that unless authorized by federal regulation, no person shall deposit or permit the deposit of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water. The legal definition of deleterious substance provided in subsection 34(1) of the *Fisheries Act*, in conjunction with court rulings, provides a very broad interpretation of deleterious and includes any substance with a potentially harmful chemical, physical or biological effect on fish or fish habitat.

3. EC notes that that drilling waste for waterwells is anticipated to consist of rock cuttings, fresh water, and/or clay-based, freshwater drilling fluid. Chemical additives or drilling muds used in connection with the drilling portion of this program shall be disposed of such that they do not enter any waterbody either by surface or ground water flows.

4. EC notes that clearing of scrub spruce and shrubs using low ground pressure bulldozers or mulchers will occur. Slash, debris, or sediment shall not be deposited in any definable watercourse, and should be disposed of above the normal high water mark. To prevent loss of bank stability, and subsequent erosion, trees should not be skidded or winched across any definable water course.

5. The Proponent should ensure the use of appropriate sediment/erosion control measures which may include the placement of clean rip rap, use of silt screen/fencing, matting, straw bales and/or re-vegetation with natural flora especially in areas that are sensitive to erosion and/or sedimentation. Control measures should be monitored as necessary to ensure water quality is protected.

Fuel / Spill Contingency

6. EC notes that it is estimated that 30 000L of diesel and 180kg of propane will be stored at the staging site The CEPA *Storage Tank System for Petroleum Products and Allied Petroleum Products Regulations* apply to both outside, aboveground and underground storage tank systems (including the piping and other tank associated equipment) under federal jurisdiction containing petroleum and allied petroleum products that have a capacity greater than 230 litres. This includes tanks located on federal or Aboriginal lands. Exceptions are pressurized tanks, mobile tanks, tanks regulated by the National Energy Board, and outdoor, aboveground storage tank systems that have a total combined capacity of 2500 litres or less and are connected to a heating appliance or emergency generator. All storage tank system owners must identify their tank systems to EC and installation of new systems must comply with the regulation's design requirements. Further information on these regulations can be found at www.ec.gc.ca/st-rs.

7. Please note that any spill of fuel or hazardous / deleterious materials, adjacent to or into a water body, **regardless of quantity** must be reported immediately to the NWT / NU 24-hour Spill Line, (867) 920-8130. Please note that in the event of an environmental emergency, EC's focal point for coordination and provision of science and technical advice (including spill modelling) during a response will originate from the National Environmental Emergencies Centre (NEEC) in Montreal via notification through the appropriate territorial/provincial spill line

8. EC offers the following comments for fuel transfer operations:
    - Transfer operations should be attended by trained personnel at all times;
    - A dedicated area should be used for refuelling equipment with measures taken to ensure capture and containment of drips and potential spills.
    - The Proponent should not store any materials on the surface ice of lakes or streams.
    - Secondary containment or a surface liner (drip pans, etc.) should be used when refuelling any equipment on site and should also be used at all fuel drum locations. Secondary containment should be of adequate size and volume to contain and hold fluids for the purpose of preventing spills (the worst-case scenario). An appropriate spill kit with absorbent material should be located at all fuel storage and transfer sites and at drill sites

Waste Treatment

9. According to the Environmental Protection Plan, the Proponent intends to incinerate domestic and food wastes from the campsite. EC has developed a *Technical Document for Batch Waste Incineration*. The technical document provides information on appropriate incineration technologies, best management and operational practices, monitoring and reporting and can be found at the following web link:
   http://www.ec.gc.ca/gdd-mw/default.asp?lang=En&n=5F6E5596-1

   The Proponent should develop a detailed incineration management plan in consultation with EC and the Government of the Northwest Territories Department of Environment and Natural Resources that is consistent with the *Technical Document*

for Batch Waste Incineration. The management plan should include an annual report to provide details on, but not limited to, the following:

- Incineration technology selected;
- Waste audit -- amount and types of waste incinerated;
- Operational and maintenance records;
- Operator training;
- Emission measurements; and
- Incineration ash disposal.

Comments previously submitted on behalf of EC regarding LUP S11A-003 and WL S11L1-003 as well as LUP S11T-002 and WL S11L3-002 on 30 November 2011 still apply. If there are any changes in the project proposal or more information becomes available, EC should be notified, as further review may be necessary. Please do not hesitate to contact me at (867) 669-4744 or Loretta.Ransom@ec.gc.ca with any questions concerning the above points.

Sincerely,

Loretta Ransom
Senior Environmental Assessment Coordinator, EPO

cc: Ken Hansen (Project Manager, Husky Oil Operations Limited)