



June 16, 2017

Mardy Semmler
Executive Director
Inuvialuit Water Board
P.O. Box 2531
125 Mackenzie Road
Suite 302, Professional Building
Inuvik, NT X0E 0T0

**Re: Shell Canada Energy
Water Licence Extension Application – N7L1-1834
Type B Municipal Water Licence
Request for Review and Comments**

Dear Ms. Semmler,

The Department of Environment and Natural Resources (ENR), Government of the Northwest Territories has reviewed the application at reference based on its mandated responsibilities under the *Environmental Protection Act*, the *Forest Management Act*, the *Forest Protection Act*, the *Species at Risk (NWT) Act*, the *Waters Act* and the *Wildlife Act* and provides the following comments and recommendations for the consideration of the Board.

Topic 1: Preceding Review and Comments

Comment(s):

ENR has previously commented on the remediation activities by Shell Canada Energy (Shell) at Camp Farewell, most recently on the proposed 2016 Decommissioning and Remediation Program for the Environmental Impact Screening Committee (EISC) review (File No. 01/15-08) and (01/16-07) in which ENR expressed some concerns with proposed reclamation activities, monitoring, and security for the site. ENR notes that the EISC has accepted the 2016 Decommissioning and Remediation Program but did not address ENR comments in the Reasons for Decision. It also appears there is no security review process associated with this Water Licence Renewal Application. ENR had requested a security review due to updated information on the extent of contamination at the site which was provided by Shell in various reports and plans submitted in 2015 and 2016.

The Water Licence Renewal Application from Shell does not provide the specific details associated with groundwater monitoring, assessment of polyurethane foam layer integrity, etc. which were items ENR previously requested. It now appears that the 2016 program encountered some remediation difficulties with treating and removing contaminated soil.

ENR feels that its previous EISC comments and recommendations are still applicable (See Attached ENR comment letter dated June 9, 2016). In particular, ENR encourages the Board and Shell to initiate a security review process for Camp Farewell in support of this Water Licence renewal process.

Recommendation(s):

- 1) ENR recommends that the Board require that Shell respond to ENR's previous comments on the Proposed 2016 Decommissioning and Remediation Program (See attached ENR comment letter to the EISC dated June 9, 2016). If Shell has responded to ENR's comments from June 2016, ENR requests the letter be posted to the public registry, and that ENR have the opportunity to respond to any comments.
- 2) ENR recommends that the Board initiate a security review process for Camp Farewell in support of the Water Licence Renewal Application process. ENR would like to see the planned remediation activities proposed for 2017-2020 to support this security estimate.

Topic 2: Water Licence Term

Comment(s):

ENR supports the extension of the current Water Licence term to 2020; however, as discussed above, ENR requests additional information on remediation activities which are to be included in the 2016 Annual Report. The Annual Report was due to the Board on March 31, 2017.

Recommendation(s):

- 1) ENR recommends that Shell submit the 2016 Annual Report which would include detailed information on activities undertaken in 2016 which should include and describe any challenges and setbacks experienced in the remediation and/or decommissioning of the site. Also, ENR would like to review the 2016 Annual Report after being accepted by the Board.

Comments and recommendations were provided by ENR technical experts in the Water Resources Division and the Inuvik Region and were coordinated and collated

by the Environmental Assessment and Monitoring Section (EAM), Conservation, Assessment and Monitoring Division.

Should you have any questions or concerns, please do not hesitate to contact Patrick Clancy, Environmental Regulatory Analyst at (867) 767-9233 Ext: 53096 or email patrick_clancy@gov.nt.ca.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Clancy', written in a cursive style.

Patrick Clancy
Environmental Regulatory Analyst
Environmental Assessment and Monitoring Section
Conservation Assessment and Monitoring Division
Department of Environment and Natural Resources
Government of the Northwest Territories

Att: June 9, 2016 Letter – ENR to EISC - Camp Farewell Remediation Project



June 9, 2016

Darrell Christie
EIS Coordinator
Environmental Impact Screening Committee
Joint Secretariat, Inuvialuit Settlement Region
Inuvialuit Corporate Centre, Suite 204, 107 Mackenzie Road
Inuvik, NT X0E 0T0

Dear Mr. Christie,

**Re: Shell Canada Energy
EISC Application – 01/16-07
Camp Farewell Remediation Project
Request for Review and Comments**

The Department of Environment and Natural Resources (ENR), Government of the Northwest Territories has reviewed the application at reference based on its mandated responsibilities under the *Environmental Protection Act*, the *Forest Management Act*, the *Forest Protection Act*, the *Waters Act* and the *Wildlife Act* and provides the following comments and recommendations for the consideration of the EISC.

Topic 1: Closure and Remediation Activities

Comment(s):

ENR notes that over the years considerable work has been completed to remediate the site infrastructure at Camp Farewell. Historic buildings, lagoon and tank farm have all be decommissioned and dismantled. ENR commends Shell Canada for their efforts to begin the remediation program at Camp Farewell.

Recommendation(s):

None

Topic 2: Groundwater Monitoring

Comment(s):

The 2015 Annual Report and the 2016 Decommissioning and Remediation Program Plan indicate elevated groundwater sample results for metals and naphthalene. However, the proposed 2016 Decommissioning and Remediation Program Report has no reference to groundwater sampling for this year's program. However, the previous

Closure and Reclamation Plan (2015) suggests that groundwater monitoring would continue annually.

The continuation of groundwater monitoring should be included in the 2016 remediation program, as well as in future years, until such time no exceedances in guidelines and or limits occur.

Recommendation(s):

- 1) ENR recommends Shell Energy Canada (Shell) collect groundwater samples from monitoring at all wells. Metals, petroleum hydrocarbons and PAHs should be collected and analyzed. Monitoring and reporting is especially required for those wells where metal and naphthalene exceedances occurred in 2015, specifically wells P06-1, P06-7 and P06-3.
- 2) ENR recommends that groundwater samples be analyzed annually for the entire period of reclamation, for assessment and confirmatory purposes, until final closure occurs at the site and groundwater quality is below appropriate guidelines and limits.

Topic 3: Groundwater Piezometers

Comment(s):

Section 6.0 of the Report notes that groundwater samples were collected from existing piezometers that were found to be in functional condition. ENR notes that historic groundwater monitoring across the site has identified contamination for various parameters above established guidelines and limits.

ENR understands that Shell's current plans are to allow the groundwater to attenuate until such time as they achieve the appropriate guidelines or limits for closure. However, they have not provided any groundwater quality trend assessments to demonstrate that conditions have been improving since the installation of the piezometers.

Recommendation(s):

- 1) ENR recommends that the piezometers be maintained such that samples can be taken annually as part of closure and reclamation planning and assessment. If the piezometers become compromised, Shell should install new piezometers for monitoring and performance assessment purposes.
- 2) ENR recommends that groundwater quality trends should be provided as part of this review to assess if groundwater quality is improving over time. These trends may provide supporting rationale for the proposed closure option of attenuation or

indicate that alternate closure strategies are required for areas with a high degree of groundwater contamination.

Topic 4: Soil and Water Remediation Mapping

Comment(s):

The 2015 Annual Report and the 2016 Decommissioning and Remediation Program report do not provide details on the amount of soil and water remediated in previous years. Additionally, there are no maps, tables or figures illustrating where soil has been excavated and confirmatory testing was completed. Information on the amount of soil removed from site, remediated on site and the locations of confirmatory testing would provide important information about the success of the remediation program.

Recommendation(s):

- 1) ENR recommends Shell provide a map, table and figures (e.g. site map) illustrating the amount of soil and water remediated to date. A map, and table displaying results of confirmatory results, would provide reviewers a better understanding of the status of the remediation program.
- 2) ENR recommends that if boreholes were located in areas that were previously excavated and treated, that they should be identified in the report to assess the success of previous remediation efforts.

Topic 5: Borehole Tests and Soil Contamination

Comment(s):

In 2015, IEG site assessment activities included installation of 124 boreholes and collection of groundwater samples from the existing piezometers on-site. Soil contamination was highlighted at a number of borehole locations across the site which included: the airstrip, burn pit area, tank farm area, shed #1 area, laydown area, camp area, etc. ENR notes that in the 2015 Closure and Reclamation Plan, there was some discussion as to the standard for soil remediation that would apply to Camp Farewell site.

Further it is states, that the boreholes were driven to a depth of 6 m. However, there is no description of whether the polyurethane foam was encountered in any or all boreholes. Further, the removal of burial material that was located by EM surveys does not specify if this material was located above or below the polyurethane foam. ENR is concerned as to the integrity of this foam layer and is unclear if it is present beneath all of the gravel pad area. If the foam is not continuous beneath the gravel it may not be acting as an insulator to the degree anticipated in its design. ENR understands that at

this time removal is not being proposed to address contamination that may exist at depth beneath the foam.

Recommendation(s):

- 1) ENR recommends that the soil at the site must meet acceptable closure criteria for parkland/residential if final reclamation of the site is being proposed.
- 2) ENR recommends that Shell Canada provide information about which boreholes intercepted the polyurethane foam layer. Using this information, Shell Canada should provide an assessment of the spatial extent as well as the condition of the foam liner.
- 3) ENR recommends that Shell Canada describe if contaminated soil exists below the polyurethane layer.
- 4) ENR recommends that the conditions, below areas where the foam liner does not exist, be assessed to determine if soil/groundwater contamination exists and if soil/groundwater remediation should occur, if or as required by the EISC.

Topic 6: Security Estimate

Comment(s):

It has been years since the security for Camp Farewell was reviewed. As per recent efforts, much of the surface infrastructure has been removed by Shell Canada. However, the amount of soil and groundwater contamination has only recently been characterized by the company. Further, the plan for 2016 is that any soil that is not treatable on site will be packaged and transported to an appropriate facility for disposal.

ENR is of the opinion that given a revised Closure and Reclamation Plan is to be provided in 2017, and that Shell Canada's current Water Licence is set to expire in July 2017, a formal process to review and renew security for the site is implemented.

Recommendation(s):

- 1) ENR recommends that the EISC initiate a security review process for Camp Farewell in anticipation of the 2017 Closure and Reclamation Plan and Water Licence renewal.

Comments and recommendations were provided by ENR technical experts in the Water Resources Division and the North Slave Region and were coordinated and collated by the Environmental Impact Assessment Section, Conservation, Assessment and Monitoring Division (CAM).

Should you have any questions or concerns, please do not hesitate to contact Patrick Clancy, Environmental Regulatory Analyst at (867) 767-9233 Ext: 53096 or email patrick_clancy@gov.nt.ca.

Sincerely,

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Patrick Clancy
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