



8 Wing Environmental Management
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20 December 2019

Licensing Department,
Nunavut Water Board
P.O. Box 119
Gjoa Haven, Nunavut X0B 1J0

**Re: DND RESPONSE TO THE CIRNAC WATER LICENCE INSPECTION
FORM: CROWN-INDIGENOUS RELATIONS AND NORTHERN AFFAIRS
CANADA (CIRNAC), 8AC-ALT1929 - CANADIAN FORCES STATION ALERT
PROJECT; DEPARTMENT OF NATIONAL DEFENCE-8 WING TRENTON
ENVIRONMENTAL MANAGEMENT OFFICE**

Dear Director of Licensing,

The Department of National Defence (DND) - 8 Wing Trenton Environmental Management Office is providing this response letter to the CIRNAC Water Licence Inspection Form, Canadian Forces Station (CFS) Alert Project electronic mail attachment dated December 2, 2019.

DND - 8 Wing Trenton Environmental Management Office appreciates the dedicated efforts of the NWB and the constructive action items by CIRNAC to address action items as identified during their water licence inspection for CFS Alert.

Please see DND - 8 Wing Trenton Environmental Management Office's responses to the CIRNAC Inspection Form. For the purposes of this letter, only action items as indicated in the inspection form will be addressed as specified in their above noted water licence inspection form:

- 1) **Airfield Fuel Tank Farm:** "This authorization permits DND to hold fuel onsite for various uses. DND holds, on this site ALT-8, 6 fuel tanks within an unlined berm. 2 white fuel storage tanks approximately 455,000L each and 4 orange fuel storage tanks approximately 236,000L each. During the inspection of this facility it was noted that water is contained within the berms (see photo 7). During the inspection of this facility it was noted that signs of historic overflows are apparent with slumping throughout the berm walls. CFS Alert staff informed the inspector that in years past and in previous reports water from this facility has vanished. This leads to the inspector to believe that this facility is not operating as intended and potential unauthorized discharges have occurred with no quality control of

potentially contaminated water. This is in contravention of the Act (Nunavut Waters and Nunavut Surface Rights Tribunal Act) NWNSRTA Section 12(1), (2) & (3). The inspector believes that water from this facility percolated through the berm wall to the east of the fuel storage facility downhill towards the contaminated soil facility and through to the far east side of the facility filling it beyond capacity and breaching the northeast corner of the contaminated soil facility and releasing into the environment (see photos 8, 9, 10, 11). The inspector noted a drum style spill kit located in the vicinity of the fuel tank farm that has been damaged and its contents appear to be removed.(see photo 12) It is important to keep emergency response equipment up to date in the event of an emergency. The inspector is requesting a new spill response kit to be replaced along with its appropriate contents to ensure proper mitigation measures are in place in the event of an emergency.”

DND Response: The CIRNAC report indicates that 6 storage tanks (4 orange and 2 white tanks) do not have a liner. For correction, DND would like to clarify that the four orange tanks’ liners has been compromised over time; the 2 white tanks (later construction) have operational containment and impermeable liners. Subsequently, DND has established an infrastructure Project File to remove the four orange tanks and replace them with smaller doubled-walled tanks (secondary containment) with a lined berm for tertiary containment. This project will include the removal and proper decommissioning of the old orange tanks and the removal of the old berm. The replacement of the tanks is expected to take place over the next several years. DND would like to remind CIRNAC that infrastructure and construction projects in the High Arctic takes time (years) to plan and action, especially due to the logistical and transportation constraints in being at a remote high arctic location. DND has since replaced the noted broken spill response kit on-site with a new kit and yellow drum overpack.

- 2) **Contaminated Soil Land farm:** “During inspection of this facility it was noted that the facility appeared to be at full capacity. It was also noted that the northeast corner of the berm containing the contaminated soil has washed out due to water levels being too high for the berm wall to contain (see photo 10, 11). This is an unauthorized discharge of contaminated water and in contravention of the Act NWNSRTA Section 12(1), (2) & (3) The inspector is request CFS Alert to repair the damaged berm prior to further deposition of contaminated soil into this facility. This event also fails to satisfy Part D Item 11 of the licence which states “*Effluent discharged from the Fuel Storage Facilities and the Landfarm at monitoring program stations ALT-8, 9, 10 and 11 shall not exceed the following Effluent quality limits*”. With the release of material from this facility a contaminated soil farm the inspector believes that the substance fails to meet criteria in Part D Item 11 of the licence. The substance can be classified as a hazardous substance and must be disposed of off-site.

Failure to adhere to this request will result in further enforcement action by CIRNAC to ensure compliance.”

DND Response: DND will initiate repairs and management actions to correct the compromised berm before the spring freshet. Also, while on-site and after the compromised berm was pointed out by the CIRNAC Inspector in July 2019, DND obtained several soil samples directly down-gradient of the breached area for analytical testing. All sample results were below criteria for contamination (hydrocarbon). The laboratory analytical certificates will be included in the 2019 Annual Report submission.

Furthermore as additional measures, a water filtration treatment unit (Granular Activated Carbon unit with heavy metal filtration) will be deployed on site during the melt period to recycle water within Soil Land Farm. The bio-remediation process requires the soil to be moist. Water will be taken from low gradient and returned to highpoint to further reduce hydrocarbon impacted water and to account for evaporation in a polar desert environment. As no water will leave the site, DND intends that all water will be contained within the Soil Land farm.

- 3) **Day Tank Farm:** “The day tank farm located adjacent to the contaminated soil ALT-10.1 along the road to the CFS Alert airport runway. This facility appears to be in good order with no signs of leaks. The inspector noted tracks leading up onto and through the berm surrounding the Day Tank (see photo 14). DND is reminded that this activity compromises the structural integrity of the berm walls and could lead to an unauthorized release of fluid from this facility. No concerns other concerns regarding this facility.”

DND Response: DND has since placed a large blast rock, to function as a vehicle protection bollard, in the direct travel route to eliminate this access route. Also, written reminders and warnings have been issued to the facility operators.

- 4) **Contaminated Soil Adjacent to the Day Tank Farm:** “This facility appears to be in an unusable condition. The liner beneath the berm intended for contaminated soil is no longer an impermeable layer separating the contaminated soils from the environment (see photo 15). The Inspector was notified that contractors unknowingly damaged this facility. The inspector was also notified that the facility was not in commission during this time. DND was advised not to use this facility as a contaminated soil facility until such time as a new liner be installed to prevent contamination. No other concerns noted regarding this facility.”

DND Response: DND recognizes the liner has been damaged by the facility operators. Operations at this facility has been rendered not-in-service, with access prohibited, until the liner is repaired.

- 5) **Sewage Terrace:** “As a result of below freezing temperatures for long periods of time DND is continually running water to ensure the piping on site does not freeze. The outfall to the sewage terrace system is unsatisfactory to the Inspector. Sewage is freely flowing around the terrace system with little to no obstacles in its path (see photo 16). This is not an acceptable form of waste disposal as the facility is not operating as designed. DND is required by the licence to ensure controlled deposition is in order in Part D Item 8. DND shall mitigate this deposition to ensure controlled release of sewage is in place. The Licensee reports that all criteria set regarding the release of the sewage are met with the exception of TSS due to the nature of the building material used during construction. All criteria from the licence must be met. DND is to seek approval from the Nunavut Water Board granting the deposition of the high TSS into Parr Inlet. Any request to modify discharge criteria, including TSS, shall be done through the NWB.”

DND Response: Annually, DND implements repair efforts to the sewage terrace. This past year was no exception. Yearly, the spring thaw damages the terraces. When safe to do so, repairs are then made. During the time of investigation (July), the repairs to the terrace had not been made. Repairs to the system were conducted in August 2019. Designs to the system have also been approved which include a more robust solution to the originally designed system to handle the high spring melt conditions. It is expected that these improvements will lower the slightly elevated TSS results previously reported.

- 6) **Water Fording:** “During the course of this inspection, we visited the site where a bridge was washed out and no longer usable. Andrew TAM and Nathan KOUTROULIDES have informed us that DND has been installing multiple antenna. At this site the inspector observed evidence of water fording which is not authorized under this water licence and the inspector under the impression that DND is water fording multiple times daily. The exact location is N 82 27' 30.32 " W 62 24' 57.23" (see *photo* 17). DND was unsure of this water body being fish bearing and is actively neglecting the bridge going around it and fording water to get to the site of construction. (See *photo* 18, 19, 20). Water Fording is not an approved activity in the Water Licence held by DND and is in contravention of the Water Licence *Part C Item 6 & 7*. DND is to cease the fording of water immediately or until such time as DND is able to cross water in a way that does not alter the sides or the bottom of the water body. DND is reminded that other legislation both territorial and federal likely apply to this use of water and should ensure compliance with all relevant regulations.”

DND Response: DND has issued an administrative action to inform all operators to cease all water fording immediately and DND will investigate the site conditions. A new bridge will need to be built in this location in order to access the project area and to prevent future water fording.

NOTE: The CIRNAC inspection, which took place July 10, 2019, was conducted following the 3BC-ALT1015 licence parameters which were in place during the time of inspection. Since then, the new 8AC-ALT1929 has come into effect on November 1, 2019. Only items addressed under the old licence (3BC-ALT1015) have been addressed as indicated throughout the CIRNAC inspection form.

DND - 8 Wing Trenton Environmental Management Office is committed to work with the NWB and CIRNAC; we are supportive of all inter-departmental communications to collaboratively help support environmental stewardship at CFS Alert.

Should you have any further questions or comments, please do not hesitate to contact me.

Yours truly,

//Nathan Koutroulides//

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