

REVIEW COMMENT TABLE

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S18L3-001 - Operation and Maintenance Plan for the New Solid Waste Facility in Deline (Deline Gotine Government) (SLWB)

File(s): [S18L3-001](#)
Proponent: Deline Got'ine Government
Reviewer Comments Due By: Oct 22, 2020
Proponent Responses Due By: Nov 13, 2020
Documents: [S18L3-001 - Deline New Solid Waste Facility O and M plan - Sep 10 20.pdf](#) 5005 KB
[Supplementary Information - S18L3-001 - Inspector's Letter - Incinerators at the New Solid Waste Facility - Oct 7 20.pdf](#) 157 KB
Item For Review Distributed On Oct 7 at 11:22 [Distribution List](#)

Item Description

Update (October 7, 2020): Supplementary information added: Inspector's letter regarding the incinerators at the new solid waste facility at Deline.

Deline Gotine Government (the Licensee) submitted the **Operation and Maintenance Plan** for its **New Solid Waste Facility**, on September 10, 2020. This Plan is required by the Licence S18L3-001, Part D, condition 4. Construction of the new solid waste facility was completed recently.

Using the Online Review System (ORS), reviewers are invited to submit comments and recommendations on the document(s) linked below by the review comment deadline specified.



General Reviewer Information

All documents that have been uploaded to this review are also available on our public Registry. If you have any questions or comments about the ORS or this review, please contact Aswathy Mary Varghese, Regulatory Specialist, at ash.varghese@slwb.com.

For general inquiries and assistance on the online review system, please contact Jenna Grandjambe, Board and Administrative Support Clerk at 867-598-2413 ext. 221 or jenna.grandjambe@slwb.com.

Contact Information Aswathy Varghese 8675982413 Jenna Grandjambe

Comment Summary

GNWT - ENR - EAM (Environmental Assessment and Monitoring): Central Email GNWT				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Response
34	General File	Comment  ENR Letter with Comments and Recommendations Recommendation		
1	Topic 1: Facility Design, Page 5	Comment The plan states that the facility has a geosynthetic clay liner (GCL). It isn't clear if the facility has liner for just the active landfill cell or for the entire area, including where the hazardous/household hazardous wastes are stored. Recommendation 1) ENR recommends that the proponent specify the lined areas of the facility. Since the operators may rely on the Solid Waste Facility Operations and Maintenance Plan (SWF O&M Plan) for daily operations of the landfill, it would be beneficial to know where the lining is available to prevent contamination.	Nov 17: The GCL is installed only in the sedimentation pond.	The response is acceptable.
2	Topic 2: Accepted Materials, Page 6 – Table Specifying Materials Accepted	Comment The table specifying materials accepted and the disposal method has not been completed. What materials are not accepted at the facility? Are any components of the accepted waste stream burned on-site? Recommendation 1) ENR recommends that the proponent specify what waste streams (if any) are not accepted at the facility and if any open burning of wastes is practiced.	Nov 17:  Table has been completed showing different streams; potentially the PDF viewer being used is not showing it correctly. PDF reattached. Clean wood and tree trimming should have been identified as Burned.	The response is acceptable.
3	None	Comment None Recommendation 2) It should be noted that waste materials other than untreated wood, paper products and paperboard packaging should not be burned according to the guideline on Municipal Solid Wastes Suitable for Open Burning found at the following link:	Nov 17: Acknowledged	The response is acceptable.

		(https://www.enr.gov.nt.ca/sites/enr/files/guidelines/solid_wastes_suitable_open_burning.pdf)		
4	Topic 3: Accepted Materials, Pages 6-8	<p>Comment The plan does not specify what waste streams are accepted at the facility. Waste acceptance is an essential part of the SWF O&M Plan for a solid waste facility, as it helps ascertain the potential leachate and landfill gas generation; and subsequently, helps determine the required environmental controls.</p> <p>Recommendation 1) ENR recommends that the proponent identify what types of wastes are accepted at the facility. The proponent should also determine how unacceptable waste will be prevented from being disposed of at the facility, as the operator is available only twice a week.</p>	<p>Nov 17: Table has been completed showing different streams and per previous comment reuploaded in case there was technical issue. Clean wood and tree trimming should have been identified as Burned. Locked access will manage unacceptable wastes from being deposited.</p>	The response is acceptable.
5	Topic 4: Landfilling Operations, Page 13 – Intermediate/Daily Cover	<p>Comment The plan does not state if an intermediate cover/daily cover will be placed at the landfill. According to Solid Waste Management for Northern and Remote Communities Planning and Technical Guidance Document, ideally, 150 mm cover should be applied on days the waste is received at the facility. This can be found at the following link: http://publications.gc.ca/collections/collection_2017/eccc/En14-263-2016-eng.pdf The requirement for cover during summer is higher, as it can attract wildlife and cause odour problems. Considering the availability of granular material in Deline, frequency of cover should be increased.</p> <p>Recommendation 1) ENR recommends that the proponent specify, the day/month or time of the year during which the cover shall be placed.</p>	<p>Nov 17: Intermediate cover of 150mm will be placed at the beginning of spring, twice during summer and prior to winter freeze up. Site perimeter fencing and waste cell fencing will further aid in minimizing windblown and wildlife issues. Significant distance from public minimizes concern with odour.</p>	The response is acceptable.
6	None	<p>Comment None</p> <p>Recommendation 2) ENR recommends that the frequency of cover be increased to meet the best practices for landfills (to at least three times a year during spring, summer, and end of summer) This should be achievable considering the availability of aggregates at the quarry.</p>	<p>Nov 17: Agreed</p>	The response is acceptable.
7	Topic 5: Security and Control of SWF	<p>Comment In reference to the following: • Telephone numbers for facility manager and local fire protection services; • List of waste/materials that are not accepted at the new Solid Waste Facility (SWF); and • Electric fence around areas that may attract animals, including decomposable waste products.</p> <p>Recommendation 1) ENR recommends that contact information for the facility manager and local fire protection services be available to the public by posting the telephone numbers on signs that currently exist, or are erected, at the facility. An alternate contact in lieu of the facility manager should be available should the facility manager be unavailable.</p>	<p>Nov 17: Requested information will be provided on the site with signage.</p>	The response is acceptable.
8	None	<p>Comment None</p> <p>Recommendation 2) ENR recommends a list of waste/materials, that are not accepted at the SWF, are posted for the general public's information.</p>	<p>Nov 17: Agreed</p>	The response is acceptable.
9	None	<p>Comment None</p> <p>Recommendation 3) It is recommended that, after the first year of facility operation, an electric fence be installed to avoid wildlife becoming habituated to the facility.</p>	<p>Nov 17: ~Perimeter chain link fence is installed limiting wildlife access. Additional fencing to be reviewed after first year of operation.</p>	The response is acceptable.
10	Topic 6: Hazardous Waste Management	<p>Comment All Proponents that generate hazardous wastes must be registered as a generator of hazardous waste in the NWT. The Guideline for the General Management of Hazardous Waste in the NWT defines hazardous waste and outlines the roles and responsibilities of generators, carriers, and receivers of hazardous waste in the NWT. The ENR, Environment Division (ED) registers generators, carriers, receivers, and tracks the disposal of hazardous waste generated in the NWT to registered receiving facilities on hazardous waste movement documents (manifest). The definition of hazardous waste includes all waste materials that are 'dangerous goods' according to the Transportation of Dangerous Goods Regulations, and any additional waste of special concern that the ED has determined hazardous until proven otherwise, including but not limited to: a) incinerator waste and/or residuals (including bottom ash and fly ash); b) any liquid or solid wastes contaminated with refined petroleum products; c) bilge wastes; d) vehicle or vessel servicing wastes e) drilling wastes; f) produced fluids (Glycol / Hydrocarbon / Inorganic Mixtures); g) tailings; and h) any hydrocarbon, lead, mercury or other forms of contaminated soils. The Guideline for the General Management of Hazardous Waste in the NWT and the Transportation of Dangerous Good Regulations may be found at the following sites: http://www.enr.gov.nt.ca/sites/enr/files/guidelines/general_management.pdf http://www.tc.gc.ca/eng/tdg/clear-menu-497.htm</p> <p>Recommendation 1) If the Proponent is using or generating hazardous waste, they must register as a generator of hazardous waste in the NWT and track the disposal of hazardous</p>	<p>Nov 17: Only household hazardous wastes are deposited at segregated area. Each of the following waste type is stored in its own area: pails and small containers of waste oil; drums and totes of waste oil/fuels; pressurized tanks; and batteries on pallets. These are annually removed and shipped to a receiving facility outside of the community.</p>	The response is acceptable.

		waste from the site activities to registered receivers on hazardous waste movement documents provided by ENR. Please contact the Environment Division, ENR to register or for more information contact Mr. Lee Ross, Hazardous Waste Management Specialist, Environmental Protection and Waste Management Division by email (Lee.Ross@gov.nt.ca) or by phone (867) 767-9236 extension 53187.		
11	None	Comment None Recommendation 2) ENR recommends that the proponent provide proof in their application they are registered as a generator of hazardous waste, keep an inventory of such wastes and that the facility is designed, maintained and approved to accept store, and ship hazardous wastes.	Nov 17: ~Please clarify if the noted above acceptance of household hazardous waste only still requires a registration.	Hazardous waste does not include a contaminant that is household in origin. Therefore, it does not require registration.
12	Topic 7: Hazardous Waste Management - General	Comment • Describe the frequency of inspections and how records of inventories are maintained. The site is observed three times weekly; however, it is inspected on a monthly basis. To ENR's knowledge no records are being kept. • The large bulk area needs to be closed off with fencing before opening, as this area contains waste deposited by GNWT, the GNWT are planning to ship these materials out during the winter road season. Recommendation 1) It is recommended that the inspections discussed above are recorded in an inspection log.	Nov 17: Additional perimeter "snow fencing" will be installed around the current bulk steel wastes A log will be started and maintained for this new facility.	The response is acceptable.
13	None	Comment None Recommendation 2) ENR recommends installing fencing around the large bulk area.	Nov 17: ~Additional perimeter "snow fencing" will be installed around the current bulk steel wastes	The response is acceptable.
14	Topic 8: Hazardous Waste Management, Page 22	Comment The maximum number of vehicles stored on-site is listed as 25. A section of the new SWF is being used as a staging ground for derelict vehicles to be removed by the Department of Municipal and Community Affairs (MACA) as part of the closure and reclamation of the old landfill. There are significantly more than 25 cars in this area, as evident from a recent visit. Recommendation 1) ENR recommend the proponent indicate how they intend to ascertain that the hazardous materials stored on-site do not exceed the maximum quantity stated in the SWF O&M Plan, considering it may already have been exceeded in the past for at least some waste categories, such as automobile wastes.	Nov 17: ~Once MACA removes the collected vehicles, Deline will maintain a log of future disposed vehicles and complete annual removals for wastes over the 50% quantity.	The response is acceptable.
15	Topic 9: Heavy Equipment List	Comment ENR notes that the original application indicates only the use of a "dozer" on-site. Recommendation 1) ENR recommends that a detailed list of the heavy equipment used in the operation and maintenance of the SWF be submitted to the SLWB.	Nov 17: Additional equipment list can be provided on an as & when needed basis. There is a significant availability of equipment from the Hamlet and private construction companies as needed. It is not appropriate to ask construction companies to provide a listing of all their equipment that the Hamlet could use for the landfill operations. If absolutely required as part of approval for the operation of the new landfill, the Hamlet will try to develop a comprehensive list and provide to the Board at time of landfill operation start.	A detailed list of the heavy equipment used in the operation and maintenance of the SWF be submitted to the SLWB.
16	Topic 10: Facility Design – Monitoring the SWF Liner	Comment It isn't clear to ENR how the SWF liner is monitored for leaks. Recommendation 1) ENR recommends that the proponent provide the details of how the SWF liner will be monitored for leaks.	Nov 17: Liner is only at the sedimentation pond; visual observations are only expected to view if a rip, tear or failure is observed. No additional measures are possible.	The response is acceptable. Board staff expects the licensee to regularly monitor liner integrity and promptly replace the liner as required. Monitoring is to be done every year

				along with the SNP sampling.
17	None	<p>Comment None</p> <p>Recommendation 2) ENR also recommends that a monitoring log be utilized containing details of monitoring locations, activities and results. This should include the actions taken in the event a leak is discovered.</p>	<p>Nov 17: ~Existing water license SNP locations will be monitored and recorded - a log will be started to aid in recording this.</p>	Licensee is advised to make plans to install groundwater monitoring wells to check for leachate from the new SWF.
18	Topic 11: Waste Generation and Site Capacity – Page 10	<p>Comment In reference to the “Surveyed volume of remaining empty space:” this amount has not been filled out by the proponent. It is required to subtract the “Calculated space required for the next 10 years” from the “Calculated volume” of the landfill. ENR has determined that amount to fill in is 14,337 cubic meters in excess capacity over 10 years.</p> <p>Recommendation 1) ENR recommends the proponent fill in the “Calculated Volume” with the number 14, 337 cubic meters.</p>	<p>Nov 17: ~This was completed and filled in indicating sufficient space for the next 10 years. It appears that the PDF viewer being used caused this info to not be visible. The PDF was reuploaded.</p>	The response is acceptable.
19	Topic 12: Acceptable Materials, Page 8 of 29	<p>Comment It is indicated, under Acceptable Materials, that items shipped out of the community are on an annual basis.</p> <p>Recommendation 1) ENR recommends that more specific times of the year be submitted for shipments out of the community.</p>	<p>Nov 17: ~Annual shipment during winter road which is February of each year.</p>	The response is acceptable.
20	Topic 13: Waste Generated Outside of Municipal Boundaries and Site Capacity	<p>Comment This section provides an estimate of the amount of waste and recyclable materials being generated by the community, and the amount of space required at the SWF to deposit these wastes and materials. Are any types of wastes, or industrial wastes, being accepted from outside the community boundaries?</p> <p>Recommendation 1) It is recommended that waste generated outside of community boundaries can be accepted by the Deline Gotine Government on a case by case basis with approval from the Inspector and SWLB. In the past, hazardous waste has been temporarily stored in the community of Deline at the SWF. Any acceptance, storage, tracking or transport of hazardous waste should be in accordance with ENR’s recommendation in Topic 6: Hazardous Waste Management.</p>	<p>Nov 17: Noted</p>	The response is acceptable.
21	Topic 14: Community Waste Collection and Handling	<p>Comment “Other waste collection (describe): Community clean-up in Spring of each year. This includes big items such as furniture.”</p> <p>Recommendation 1) ENR recommends that a list of big (large) items needs to be included for other waste collection for spring clean-up. This list should include, but is not limited to, waste oils, waste antifreeze, used batteries, mercury switches, waste fuels, used oil filters, used oily rags/pads, vehicles, fuel tanks, sewer tanks, waste steel(pipes, etc), old paint and other items as required.</p>	<p>Nov 17: ~Deline does not want to be responsible to complete collection of additional waste items such as those listed. Only "large" items such as furniture will be completed. All other items are responsible by the generating party.</p>	Provide information on the by-laws for prevention of spillage of hazardous chemicals into the environment by community members.
22	Topic 15: Unacceptable Wastes, 11, Record-Keeping for Unacceptable Wastes	<p>Comment The following is indicated by the proponent in Part 11: • “If the generator is identified and refuses to take responsibility of the hazardous waste, they may be charged for the clean-up and proper management of the waste at the facility. It is important to keep good records of correspondence as well as the situation in which the unacceptable waste was encountered.” • “Are records kept for unacceptable waste that arrives at the facility? If yes, where are these records kept? Community Garage” Also, ENR notes that there is no document provided as to how the SWF operator and owner will maintain records of the wastes deposits going in and out of the landfill.</p> <p>Recommendation 1) ENR requests a copy of the manifest or record sheet that is will be utilized to maintain a record of waste deposits or shipments. This is in line with ENR’s Topic 6: Hazardous Waste Management.</p>	<p>Nov 17: Agreed, the example log sheet will be provided to the Board at the time of operational start of the landfill.</p>	The response is acceptable. Example log sheet must be attached to the revised O and M Plan.
23	Topic 16: Litter and Wildlife Control	<p>Comment In reference to the following statement: “What strategies (other than cover placement and fencing) are used to reduce litter and manage wildlife at the facility? (Check all that apply.) Routine litter clean-up.”</p> <p>Recommendation 1) ENR recommends the proponent submit the specific times throughout the year that the routine litter clean-up will take place, and how will the activities will be recorded.</p>	<p>Nov 17: Annually during each spring and will be noted in the annual water licence report.</p>	The response is acceptable. The clarification must be updated in the O and M Plan.
24	Topic 17: SNP Sampling and Record-Keeping	<p>Comment When ENR inspectors travel to the communities they often request to see records of water usage, waste deposit tracking and SNP sampling results. In the past, it has been difficult for Inspectors to access that information.</p> <p>Recommendation 1) ENR recommends that detailed records should be kept daily, uploading information to an excel spread sheet or log book and signed off by the site foreman.</p>	<p>Nov 17: Agreed</p>	The response is acceptable.
25	Topic 18: Inspection and Monitoring, Page 16-17	<p>Comment The plan does not specify what the inspection and monitoring plans are with respect to ponding of water on-site or groundwater monitoring wells. There can be significant amount of leachate production especially due to snow melt. A plan should be in place to respond to potential ponding, runoff and groundwater contamination. These items discussed in the following recommendation are all important to monitor.</p> <p>Recommendation 1) ENR recommends monitoring more frequently, and daily and weekly checks are suggested for the following items: • Currently hydrocarbon contamination of the lagoon is monitored weekly. Considering the incident that occurred this past summer when</p>	<p>Nov 17: Noted and agreed</p>	The response is acceptable.

		waste fuel dumped was into the new sewage lagoon; I suggest this item be monitored more frequently. • Signs of large mammals should be monitored at least once daily. • Ground water monitoring, and above ground monitoring, should be monitored monthly. This is more critical during the summer months, during heavy rainfall events and spring melt. • Signage should be monitored weekly to sure proper maintenance of signage. • Sedimentation and drainage structures should be monitored more frequently, especially during the spring and summer months.		
26	None	Comment None Recommendation 2) ENR recommends that the proponent revisit inspection and monitoring protocols for ponding, runoff and groundwater contamination.	Nov 17: Noted; as noted earlier, a log will be kept which will help clarify and ensure inspections and monitoring will be completed.	The response is acceptable.
27	Topic 19: Surveillance Network Program	Comment The proponent should include current and proposed SNP sampling locations for the New Solid Waste Facility. There are currently two included in the Water Licence, SNP locations 0555-6 and 05557. Both these SNP sampling sites have no records. SNP sampling training needs to be completed by the foreman and his employees as soon as possible, then at least yearly, to establish a routine sampling record of these areas. SNP signage should be updated as necessary and records of the SNP must be maintained. Recommendation 1) ENR requests to update SNP sampling locations to the areas where the drainage is located at the new SWF.	Nov 17: ~These two SNP location 555-6 and 555-7 are the locations where drainage is located at the new SWF. Samples were conducted and acknowledged by Alex Lynch (ENR) in the June 14, 2018 Inspection Report.	The response is acceptable.
28	None	Comment None Recommendation 2) ENR recommends that all staff involved in the SNP program receive training for sampling, monitoring, recording and maintenance of the SNP program. This training should occur as soon as possible, and then take place on a yearly basis.	Nov 17: ~Agreed that additional training is beneficial. Previous training was completed and acknowledged by Alex Lynch (ENR) in the June 14, 2018 Inspection Report.	SLWB advises the licensee to conduct SNP training program especially if there are any new staff members involved in SNP sampling.
29	None	Comment None Recommendation 3) ENR recommends that SNP signage for the new SWF be update/relocated as necessary and that detailed records of SNP monitoring be strictly maintained.	Nov 17: Agreed	The response is acceptable.
30	Topic 20: Interim Closure and Post-Closure	Comment ENR suggests an interim SWF Closure and Post Closure Plan be included. Recommendation 1) ENR recommends including a requirement for an interim SWF Closure and Post Closure Plan in the SWD O&M Plan.	Nov 17: ~This is a brand new facility designed with over 10 years of life. Suggest an interim closure plan be provided at 50% capacity or two years prior to closure tasks.	The licensee is required to submit an interim closure and reclamation plan within a year.
31	Topic 21: Waste Facility Plan	Comment The plan shows a proposed sedimentation pond near landfill cells. Does this sedimentation pond serve as a retention pond? The section B-B shows that the pond will have a Bentofix GCL. The pond also seems to be connected directly to the drainage ditch. The drawings however, do not indicate locations of monitoring stations. Recommendation 1) ENR recommends that the proponent state if the proposed pond is used as a retention pond for the leachate. It should be noted that mere sedimentation would not suffice as a treatment prior to releasing the leachate into drainage.	Nov 17: The pond is only for retention of surface water from the facility.	The response is acceptable. The clarification must be updated in the O and M Plan.
32	None	Comment None Recommendation 2) The proponent should be monitoring the effluent before releasing it to the drainage ditch. The SLWB in a previous communication had asked for the Sampling Network Program (SNP) to be revised for the new facility. The document also tentatively identified two surface water monitoring locations. This document can be found at the following link: http://registry.mvlwb.ca/Documents/S12L3-006/S12L3-006%20-%20Staff%20Report%204%20-%20Revised%20SNP%20for%20New%20Lagoon%20and%20Landfill%20-%20Oct%2015_13.pdf This should be clarified and presented clearly in the submitted drawings.	Nov 17: ~Effluent from the pond will be sampled to confirm acceptable results to either release to the environment, dispose at the lagoon, or remove to a registered receiving facility outside the community. One of the three methods will be determined dependent on the sample results.	The response is acceptable. SNP locations 0555-6 and 0555-7 are for monitoring the surface water runoff from the new Solid Waste Disposal Facility (surface water runoff locations for landfill commissioned in 2013; as noted in revised SNP locations Oct 2013). Please confirm the GPS coordinates for the SNP locations 0555-6 and 0555-7, describe and record the

				information in the 2020 Annual Water Licence Report. References: 1) Water Licence S18L3-001 and 2) S12L3-006- Revised SNP locations October 24, 2013.
33	None	Comment None Recommendation 3) It is recommended proponent should also specify if the GCL has been already installed for the retention pond.	Nov 17: ~Yes, already installed.	The response is acceptable.



October 22, 2020

Aswathy Varghese
Regulatory Specialist
Sahtu Land and Water Board
Box 1, Fort Good Hope
Northwest Territories
X0E 0H0

Dear Aswathy Varghese,

**Re: Deline Got'ine Government
Water Licence – S18L3-001
Solid Waste Facility Operation and Maintenance Plan
Request for Comments**

The Department of Environment and Natural Resources (ENR), Government of the Northwest Territories has reviewed the plan 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: Facility Design, Page 5

Comment(s):

The plan states that the facility has a geosynthetic clay liner (GCL). It isn't clear if the facility has liner for just the active landfill cell or for the entire area, including where the hazardous/household hazardous wastes are stored.

Recommendation(s):

- 1) ENR recommends that the proponent specify the lined areas of the facility. Since the operators may rely on the Solid Waste Facility Operations and Maintenance Plan (SWF O&M Plan) for daily operations of the landfill, it would be beneficial to know where the lining is available to prevent contamination.

Topic 2: Accepted Materials, Page 6 – Table Specifying Materials Accepted

Comment(s):

The table specifying materials accepted and the disposal method has not been completed. What materials are not accepted at the facility? Are any components of the accepted waste stream burned on-site?

Recommendation(s):

- 1) ENR recommends that the proponent specify what waste streams (if any) **are not accepted** at the facility and if any open burning of wastes is practiced.
- 2) It should be noted that waste materials other than untreated wood, paper products and paperboard packaging should not be burned according to the guideline on Municipal Solid Wastes Suitable for Open Burning found at the following link:

(https://www.enr.gov.nt.ca/sites/enr/files/guidelines/solid_wastes_suitable_open_burning.pdf)

Topic 3: Accepted Materials, Pages 6-8

Comment(s):

The plan does not specify what waste streams are accepted at the facility. Waste acceptance is an essential part of the SWF O&M Plan for a solid waste facility, as it helps ascertain the potential leachate and landfill gas generation; and subsequently, helps determine the required environmental controls.

Recommendation(s):

- 1) ENR recommends that the proponent identify what types of wastes are accepted at the facility. The proponent should also determine how unacceptable waste will be prevented from being disposed of at the facility, as the operator is available only twice a week.

Topic 4: Landfilling Operations, Page 13 – Intermediate/Daily Cover

Comment(s):

The plan does not state if an intermediate cover/daily cover will be placed at the landfill. According to Solid Waste Management for Northern and Remote Communities Planning and Technical Guidance Document, ideally, 150 mm cover

should be applied on days the waste is received at the facility. This can be found at the following link:

http://publications.gc.ca/collections/collection_2017/eccc/En14-263-2016-eng.pdf

The requirement for cover during summer is higher, as it can attract wildlife and cause odour problems. Considering the availability of granular material in Deline, frequency of cover should be increased.

Recommendation(s):

- 1) ENR recommends that the proponent specify, the day/month or time of the year during which the cover shall be placed.
- 2) ENR recommends that the frequency of cover be increased to meet the best practices for landfills (to at least three times a year during spring, summer, and end of summer) This should be achievable considering the availability of aggregates at the quarry.

Topic 5: Security and Control of SWF

Comment(s):

In reference to the following:

- Telephone numbers for facility manager and local fire protection services;
- List of waste/materials that are not accepted at the new Solid Waste Facility (SWF); and
- Electric fence around areas that may attract animals, including decomposable waste products.

Recommendation(s):

- 1) ENR recommends that contact information for the facility manager and local fire protection services be available to the public by posting the telephone numbers on signs that currently exist, or are erected, at the facility. An alternate contact in lieu of the facility manager should be available should the facility manager be unavailable.
- 2) ENR recommends a list of waste/materials, that are not accepted at the SWF, are posted for the general public's information.
- 3) It is recommended that, after the first year of facility operation, an electric fence be installed to avoid wildlife becoming habituated to the facility.

Topic 6: Hazardous Waste Management

Comment(s):

All Proponents that generate hazardous wastes must be registered as a generator of hazardous waste in the NWT.

The Guideline for the General Management of Hazardous Waste in the NWT defines hazardous waste and outlines the roles and responsibilities of generators, carriers, and receivers of hazardous waste in the NWT. The ENR, Environment Division (ED) registers generators, carriers, receivers, and tracks the disposal of hazardous waste generated in the NWT to registered receiving facilities on hazardous waste movement documents (manifest). The definition of hazardous waste includes all waste materials that are 'dangerous goods' according to the Transportation of Dangerous Goods Regulations, and any additional waste of special concern that the ED has determined hazardous until proven otherwise, including but not limited to:

- a) incinerator waste and/or residuals (including bottom ash and fly ash);
- b) any liquid or solid wastes contaminated with refined petroleum products;
- c) bilge wastes;
- d) vehicle or vessel servicing wastes
- e) drilling wastes;
- f) produced fluids (Glycol / Hydrocarbon / Inorganic Mixtures);
- g) tailings; and
- h) any hydrocarbon, lead, mercury or other forms of contaminated soils.

The Guideline for the General Management of Hazardous Waste in the NWT and the Transportation of Dangerous Good Regulations may be found at the following sites:

http://www.enr.gov.nt.ca/sites/enr/files/guidelines/general_management.pdf

<http://www.tc.gc.ca/eng/tdg/clear-menu-497.htm>

Recommendation(s):

- 1) If the Proponent is using or generating hazardous waste, they must register as a generator of hazardous waste in the NWT and track the disposal of hazardous waste from the site activities to registered receivers on hazardous waste movement documents provided by ENR. Please contact the Environment Division, ENR to register or for more information contact Mr. Lee Ross, Hazardous Waste Management Specialist, Environmental Protection and Waste Management Division by email (Lee.Ross@gov.nt.ca) or by phone (867) 767-9236 extension 53187.

- 2) ENR recommends that the proponent provide proof in their application they are registered as a generator of hazardous waste, keep an inventory of such wastes and that the facility is designed, maintained and approved to accept store, and ship hazardous wastes.

Topic 7: Hazardous Waste Management - General

Comment(s):

- Describe the frequency of inspections and how records of inventories are maintained. The site is observed three times weekly; however, it is inspected on a monthly basis. To ENR's knowledge no records are being kept.
- The large bulk area needs to be closed off with fencing before opening, as this area contains waste deposited by GNWT, the GNWT are planning to ship these materials out during the winter road season.

Recommendation(s):

- 1) It is recommended that the inspections discussed above are recorded in an inspection log.
- 2) ENR recommends installing fencing around the large bulk area.

Topic 8: Hazardous Waste Management, Page 22

Comment(s):

The maximum number of vehicles stored on-site is listed as 25. A section of the new SWF is being used as a staging ground for derelict vehicles to be removed by the Department of Municipal and Community Affairs (MACA) as part of the closure and reclamation of the old landfill. There are significantly more than 25 cars in this area, as evident from a recent visit.

Recommendation(s):

- 1) ENR recommend the proponent indicate how they intend to ascertain that the hazardous materials stored on-site do not exceed the maximum quantity stated in the SWF O&M Plan, considering it may already have been exceeded in the past for at least some waste categories, such as automobile wastes.

Topic 9: Heavy Equipment List

Comment(s):

ENR notes that the original application indicates only the use of a “dozer” on-site.

Recommendation(s):

- 1) ENR recommends that a detailed list of the heavy equipment used in the operation and maintenance of the SWF be submitted to the SLWB.

Topic 10: Facility Design – Monitoring the SWF Liner

Comment(s):

It isn't clear to ENR how the SWF liner is monitored for leaks.

Recommendation(s):

- 1) ENR recommends that the proponent provide the details of how the SWF liner will be monitored for leaks.
- 2) ENR also recommends that a monitoring log be utilized containing details of monitoring locations, activities and results. This should include the actions taken in the event a leak is discovered.

Topic 11: Waste Generation and Site Capacity – Page 10

Comment(s):

In reference to the “Surveyed volume of remaining empty space: ” this amount has not been filled out by the proponent. It is required to subtract the “Calculated space required for the next 10 years” from the “Calculated volume” of the landfill. ENR has determined that amount to fill in is 14,337 cubic meters in excess capacity over 10 years.

Recommendation(s):

- 1) ENR recommends the proponent fill in the “Calculated Volume” with the number 14,337 cubic meters.

Topic 12: Acceptable Materials, Page 8 of 29

Comment(s):

It is indicated, under Acceptable Materials, that items shipped out of the community are on an annual basis.

Recommendation(s):

- 1) ENR recommends that more specific times of the year be submitted for shipments out of the community.

Topic 13: Waste Generated Outside of Municipal Boundaries and Site Capacity

Comment(s):

This section provides an estimate of the amount of waste and recyclable materials being generated by the community, and the amount of space required at the SWF to deposit these wastes and materials. Are any types of wastes, or industrial wastes, being accepted from outside the community boundaries?

Recommendation(s):

- 1) It is recommended that waste generated outside of community boundaries can be accepted by the Deline Gotine Government on a case by case basis with approval from the Inspector and SWLB. In the past, hazardous waste has been temporarily stored in the community of Deline at the SWF. Any acceptance, storage, tracking or transport of hazardous waste should be in accordance with ENR's recommendation in Topic 6: Hazardous Waste Management.

Topic 14: Community Waste Collection and Handling

Comment(s):

In reference to the following comment:

“Other waste collection (describe): Community clean-up in Spring of each year. This includes big items such as furniture.”

Recommendation(s):

- 1) ENR recommends that a list of big (large) items needs to be included for other waste collection for spring clean-up. This list should include, but is not limited to, waste oils, waste antifreeze, used batteries, mercury switches, waste fuels,

used oil filters, used oily rags/pads, vehicles, fuel tanks, sewer tanks, waste steel(pipes, etc), old paint and other items as required.

Topic 15: Unacceptable Wastes, 11, Record-Keeping for Unacceptable Wastes

Comment(s):

The following is indicated by the proponent in Part 11:

- “If the generator is identified and refuses to take responsibility of the hazardous waste, they may be charged for the clean-up and proper management of the waste at the facility. It is important to keep good records of correspondence as well as the situation in which the unacceptable waste was encountered.”
- “Are records kept for unacceptable waste that arrives at the facility? If yes, where are these records kept? Community Garage”

Also, ENR notes that there is no document provided as to how the SWF operator and owner will maintain records of the wastes deposits going in and out of the landfill.

Recommendation(s):

- 1) ENR requests a copy of the manifest or record sheet that is will be utilized to maintain a record of waste deposits or shipments. This is in line with ENR’s Topic 6: Hazardous Waste Management.

Topic 16: Litter and Wildlife Control

Comment(s):

In reference to the following statement:

“What strategies (other than cover placement and fencing) are used to reduce litter and manage wildlife at the facility? (Check all that apply.) Routine litter cleanup.”

Recommendation(s):

- 1) ENR recommends the proponent submit the specific times throughout the year that the routine litter clean-up will take place, and how will the activities will be recorded.

Topic 17: SNP Sampling and Record-Keeping

Comment(s):

When ENR inspectors travel to the communities they often request to see records of water usage, waste deposit tracking and SNP sampling results. In the past, it has been difficult for Inspectors to access that information.

Recommendation(s):

- 1) ENR recommends that detailed records should be kept daily, uploading information to an excel spread sheet or log book and signed off by the site foreman.

Topic 18: Inspection and Monitoring, Page 16-17

Comments:

The plan does not specify what the inspection and monitoring plans are with respect to ponding of water on-site or groundwater monitoring wells. There can be significant amount of leachate production especially due to snow melt. A plan should be in place to respond to potential ponding, runoff and groundwater contamination.

These items discussed in the following recommendation are all important to monitor.

Recommendation(s):

- 1) ENR recommends monitoring more frequently, and daily and weekly checks are suggested for the following items:
 - Currently hydrocarbon contamination of the lagoon is monitored weekly. Considering the incident that occurred this past summer when waste fuel dumped was into the new sewage lagoon; I suggest this item be monitored more frequently.
 - Signs of large mammals should be monitored at least once daily.
 - Ground water monitoring, and above ground monitoring, should be monitored monthly. This is more critical during the summer months, during heavy rainfall events and spring melt.
 - Signage should be monitored weekly to sure proper maintenance of signage.

- Sedimentation and drainage structures should be monitored more frequently, especially during the spring and summer months.
- 2) ENR recommends that the proponent revisit inspection and monitoring protocols for ponding, runoff and groundwater contamination.

Topic 19: Surveillance Network Program

Comment(s):

The proponent should include current and proposed SNP sampling locations for the New Solid Waste Facility. There are currently two included in the Water Licence, SNP locations 0555-6 and 05557. Both these SNP sampling sites have no records. SNP sampling training needs to be completed by the foreman and his employees as soon as possible, then at least yearly, to establish a routine sampling record of these areas.

SNP signage should be updated as necessary and records of the SNP must be maintained.

Recommendation(s):

- 1) ENR requests to update SNP sampling locations to the areas where the drainage is located at the new SWF.
- 2) ENR recommends that all staff involved in the SNP program receive training for sampling, monitoring, recording and maintenance of the SNP program. This training should occur as soon as possible, and then take place on a yearly basis.
- 3) ENR recommends that SNP signage for the new SWF be update/relocated as necessary and that detailed records of SNP monitoring be strictly maintained.

Topic 20: Interim Closure and Post-Closure

Comment(s):

ENR suggests an interim SWF Closure and Post Closure Plan be included.

Recommendation(s):

- 1) ENR recommends including are requirement for an interim SWF Closure and Post Closure Plan in the SWD O&M Plan.

Topic 21: Waste Facility Plan

Comment(s):

The plan shows a proposed sedimentation pond near landfill cells. Does this sedimentation pond serve as a retention pond? The section B-B shows that the pond will have a Bentofix GCL. The pond also seems to be connected directly to the drainage ditch. The drawings however, do not indicate locations of monitoring stations.

Recommendation(s):

- 1) ENR recommends that the proponent state if the proposed pond is used as a retention pond for the leachate. It should be noted that mere sedimentation would not suffice as a treatment prior to releasing the leachate into drainage.
- 2) The proponent should be monitoring the effluent before releasing it to the drainage ditch. The SLWB in a previous communication had asked for the Sampling Network Program (SNP) to be revised for the new facility. The document also tentatively identified two surface water monitoring locations. This document can be found at the following link:

[http://registry.mvlwb.ca/Documents/S12L3-006/S12L3-006%20-%20Staff%20Report%204%20-%20Revised%20SNP%20for%20New%20Lagoon%20and%20Landfill%20-%20Oct%202015 13.pdf](http://registry.mvlwb.ca/Documents/S12L3-006/S12L3-006%20-%20Staff%20Report%204%20-%20Revised%20SNP%20for%20New%20Lagoon%20and%20Landfill%20-%20Oct%202015%2013.pdf)

This should be clarified and presented clearly in the submitted drawings.

- 3) It is recommended proponent should also specify if the GCL has been already installed for the retention pond.

Comments and recommendations were provided by ENR technical experts in the Environmental Protection and Waste Management Division and the Sahtu Region and were coordinated and collated by the Environmental Assessment and Monitoring Section (EAM), Environmental Stewardship and Climate Change 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
Environmental Stewardship and Climate Change Division
Department of Environment and Natural Resources
Government of the Northwest Territories