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Grand Conseil des Cris (Eeyou Istchee)

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Cree Nation Government
Gouvernement de la Nation Crie

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Capital Works and Services
Travaux et services d'immobilisation

Whapmagoostui ᐊᐱᒪᑯᐟᐧᑐᐃ
Chisasibi ᒋᔑᓯᐱ
Wemindji ᐃᒥᐢᒋ
Eastmain ᐃᐧᒉᐣ
Waskaganish ᐊᔨᑲᐣᐃᑲᓂᐟᐣ
Nemaska ᓄᒥᑲᐧ
Waswanipi ᐊᐧ ᐊᓂᐱ
Ouje-Bougoumou ᐅᒉᐳᑯᒪ
Mistissini ᒥᔑᑎᓯ
Washaw Sibi ᐊᔪᐅ ᓯᐱ
MoCreebec ᒪᑲᓀᐯᐦ

October 8, 2021

Ms. Melissa Saganash
Chairperson, JBACE
1080, Côte du Beaver Hall, Bureau 1420
Montréal (Québec), H2Z 1S8

Mr. Joseph Zayed
Président de la Commission d'enquête sur l'état et la gestion des résidus ultimes
Bureau d'audiences publiques sur l'environnement
140 Grande Allée Est, bureau 650
Québec (Québec), G1R 5N6

SUBJECT: Complementary Information - Status and Management of Final Waste in the James Bay Territory – Portrait in Eeyou Istchee

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Dear Ms. Saganash, Mr. Zayed,

The Cree Nation Government representatives participated to the consultation co-chaired by the James Bay Advisory Committee on the Environment (JBACE) in collaboration with the Bureau d'audiences publiques sur l'environnement (BAPE) held on September 16, 2021, on the Status and Management of Final Waste in the James Bay Territory. Following this consultation, the Cree Nation Government submits this complementary information on the status and management of final waste in Eeyou Istchee. This information is based on a recent review of the current situation with regards to waste management in each of the nine Cree communities conducted by Chamard Environmental Strategies for the Cree Nation Government.

We trust that this complementary information will be helpful to you. Please accept Madam Chairman, Mr. Chairman, and Commissioners the expression of our respectful salutations.

John Longchap
Director, Capital Woks Services Department

cc. Mr. Bill Namagoose, Executive Director – Cree Nation Government
Mr. Isaac Voyageur, Director Environment and Remedial Works Department – Cree Nation Government
Ms. Michèle Leduc-Lapierre, Executive Director, James Bay Advisory Committee on the Environment

Encl.: 2021-10-08_CNG_Complementary Information on Status and Management of Final Waste in Eeyou Istchee

Status and Management of Final Waste in Eeyou Istchee

Complementary Information submitted to the JBACE-BAPE
by the Cree Nation Government
October 2021

1. The Cree Nation

The Cree Nation of Eeyou Istchee counts more than 20,000 Eeyouch, or Cree, occupying our traditional territory of Eeyou Istchee. This territory covers around 400,000 square kilometers, and is located mainly to the east and south of James Bay and Hudson Bay. We occupy and intensively use the entire area of Eeyou Istchee, both for our traditional way of life of hunting, fishing and trapping and, increasingly, for a wide range of modern economic activities, such as forestry, mining, hydroelectric development, construction, transportation and others.

The Grand Council of the Crees (Eeyou Istchee) and the Cree Nation Government represent the coming together of the executive and the administrative branches of the Cree government. We work to promote and protect the interests of the Eeyouch. Each Cree First Nations is administered independently through their local governments, and at the same time, each elected Chief sits on the Board of Directors of the Grand Council of the Crees (Eeyou Istchee) and the Council of the Cree Nation Government to address common Cree Nation issues. There are currently nice Cree communities incorporated into our Treaty, the James Bay and Northern Quebec Agreement.

The Cree Nation Government oversees the development of capital plans for waste management facilities of Eeyou Istchee and manages the funding program for their implementation. In 2021, as most local waste disposal sites are reaching their maximum capacity, the Cree First Nations are planning the construction of new landfilling infrastructure. They are also working towards the implementation of waste diversion projects already undertook by a few Cree First Nations. In parallel, the Quebec Government adopted the 2019-2024 Action Plan of its Waste Management Policy, including audacious objectives for waste reduction and recovery rates for recyclable waste, organic waste, and construction waste. The government has also adopted in 2020 a new authorization scheme much more detailed than before. It will impact the way waste management capital projects are planned and designed. In that context, the Cree Nation Government asked Chamard environmental strategies (Chamard) to review the current situation with regards to waste management in each of the nine (9) Eeyou communities. The following portrait is based on this regional waste management study conducted in 2020-2021 for the Cree Nation Government.

2. Current waste management system

<u>Legal Framework and Environmental and Social Protection Committees</u>

The laws and regulations governing the management of residual materials and the environment in Quebec are applicable to the James Bay Territory, the main one being the Regulation respecting the landfilling and incineration of residual materials (REIMR). The Cree First Nations, local self-governance through councils, have the powers to enact local laws related to land and natural resources management, including waste management. The Cree Nation Government can also make laws to regulate the environment and essential sanitation services over category I and II lands.

The James Bay Advisory Committee on the Environment (JBACE) is the privileged forum established by the James Bay and Northern Quebec Agreement (JBNQA) to oversee its environmental and social protection regime. To do so, the JBACE analyzes issues that may affect the environment or the communities in the Territory, advises the governments concerning the formulation of policies, laws, and regulations, and facilitates dialogue between stakeholders. The JBACE reviews and comments the legal framework changes respecting waste management, recovery, or reclamation, and ensure the applicability to the Territory.

The Section 22 environmental and social protection regime provides for a two-tiered environmental and social impact assessment and review procedure (ESIA) that is unique to the James Bay Territory. The procedure, embedded in the Environment Quality Act, Title II, is explicitly designed to account for the JBNQA Section 22 guiding principles when assessing and reviewing projects. It addresses the special status of involvement of the Cree which goes beyond that provided for in procedures involving the public. Cree representation on the assessment and review bodies is also assured, at each step of the procedure.

The procedure is built around a set of authorities and bodies composed of appointed representatives which exercise different responsibilities in its application. Solid waste collection and disposal, including land fill and incineration are automatically subject to assessment and review (JBNQA, S.22 Schedule 1, 5b) or EQA Schedule A, l)). When a project is not listed under Schedule 2 (project automatically exempted from review), proponents must submit preliminary information to the Administrator for assessment by the Evaluating Committee.

The Evaluating Committee (COMEV) assesses the preliminary information provided by proponents and recommends to the relevant Administrator if reviews are needed (or not), and if needed, provides recommendations on the contents of the environmental impact statements and on the scope of reviews to the Administrator.

The Provincial Review Committee (COMEX) reviews environmental impact statements provided by proponents, organizes formal public information sessions and hearings for projects under review (discretionary) and provides recommendations on project authorizations (or not), and on conditions and/or mitigations applicable to the project to the relevant Administrator.

Waste Management Responsibilities and Services

Waste management is under shared responsibility between the Cree Nation Government and each First Nation of Eeyou Istchee.

Cree Nation Government

The Cree Nation Government is responsible for managing funding programs, assisting individual Eeyou First Nations in their waste management projects, as well as conducting regional interest studies and actions.

Funding for current waste management is mainly obtained through agreements under the responsibility of the Cree Nation Government, including the *Agreement Concerning a New Relationship Between Le Gouvernement du Québec And The Crees of Quebec* “Paix des braves” (2002) and the *Agreement Concerning a New Relationship Between the Government of Canada and the Cree of Eeyou Istchee* (2008), the “NRA/PdB program”. The following activities are covered, both for capital expenditures and operation and maintenance costs:

- Landfill site construction and operation, including machinery and door-to-door garbage collection
- Eco-center construction, including roll-off trucks and containers

Projects related to essential sanitation services in each Cree community, which include the management of residual materials, are funded by these programs.

Suitable location is not always available close to the communities. Environmental and social criteria, as well as natural constraints make suitable sites often relatively distant from communities, sometimes in Category II or III lands.

Support to First Nations is offered by the Cree Nation Government for the technical, regulatory and project management aspects of waste management. The Cree Nation Government also participates in the evaluation of the projects impacts through the environmental and social impact assessment procedure.

Regional studies are also conducted by the Cree Nation Government periodically for general planning purposes, as in 2009, 2014 and 2021. On a broader scale, the regional entity keeps a regulatory watch and represent the communities on the provincial and federal level.

Eeyou First Nations

Each Eeyou First Nation is responsible for its own local waste management services, including infrastructure construction and operation, as well as door-to-door collection services. They rely solely on their own internal expertise, workforce and machinery for all local day-to-day operations at the landfill site, at the recyclable waste building, and at the eco-center, as well as for door-to-door collection. Awareness measures are also carried out by some First Nations.

Garbage collection is carried out with community-owned compactor trucks two (2) to three (3) days per week (6 communities), or up to five (5) days per week (3 communities). The lack of recyclable and organic waste collection, the absence of eco-centers, the risk of nuisance with hunting and fishing waste, and a high occupancy rate of housing units are all factors that explain these high collection frequencies in some communities. High birth rates also suppose a higher concentration of certain waste types, like baby diapers.

Mechanical collection of domestic garbage using standard wheeled plastic bins and metal bins is carried out in four (4) communities. Five (5) other communities collect garbage manually, some of them from wooden garbage bins, either for individual houses, or from drop-off depots that serve groups of two (2) up to ten housing units. Bulky waste is collected either on a weekly basis (5 communities), once per month (1 community), or on demand (3 communities).

Recyclable waste collection is done door-to-door one (1) day per week in two (2) communities, using standard pick-up trucks. Bagged recyclable containers and cardboard are collected by hand from standard wheeled plastic bins and metal containers. Two (2) other communities have drop-off containers in public places, and most grocery stores and cooperatives offer beverage bottles recovery.

Capital projects are managed by the First Nation personnel, including call for tenders and project management for engineering and construction. Feasibility studies, the authorization process, as well as engineering plans and specifications are prepared by private firms, including one based in Wemindji: Waptum. Infrastructure is built by private contractors, including two based in Chisasibi: Chee-Bee Construction Company and Cree Construction and Development Company (CCDC).

Shipping of certain waste categories out of the communities is under contract between First Nations and private companies (metal, hazardous waste, and recyclable waste), non-for-profit organizations (hazardous waste under extended producer's responsibility), and RECYC-QUÉBEC (tires). Operation and maintenance costs for collection, transportation and sorting are funded by RECYC-QUÉBEC to 70% of eligible costs.

Existing Infrastructures

Each First Nation has its own waste management infrastructure. There are no shared services for the eight (8) communities accessible by road, due to distances ranging from 148 to 357 km to the nearest community.

Trench landfills (LEET) are situated at an average distance of 14 km of each of the eight (8) Eeyou communities accessible by road (ranging from 3 to 30 km). Waste segregation is done at most of these sites for further shipment of metal, tires, and hazardous waste. However, they are in some cases accumulated in inadequate conditions because of the high cost of transportation and lack of infrastructure. In some communities, wood is set aside to by chipped for weekly garbage cover, and concrete is crushed to be used in road works.

A northern landfill (LEMN) is situated 1 km from the Whapmagoostui First Nation, a community only accessible by maritime or air transportation. There is an agreement to use this infrastructure owned and operated by the Inuit Village of Kuujjuarapik. Nuisance and health issues are related with smoke from this landfill site, the only one in Eeyou Istchee where garbage burning is permitted by provincial regulation. Each of these two (2) communities have a distinct accumulation place for bulky waste, with an important historical stockpile of end-of-life vehicles, machinery, and hazardous waste, some dating back to the 1950's.

Landfilling capacity is reached or nearly reached in eight (8) of the nine (9) Eeyou communities. Times is running out for all of them, despite efforts to lengthen the landfill sites lifespans. For instance, they have all moved from individual trenching to continuous trenching throughout the years. A heavy-duty compactor is even used in Nemaska to gain some landfilling space.

New landfill sites have been constructed in recent years in two (2) communities:

- Mistissini: actual capacity of 200,000 m3 in 2016, for an estimated 25-years lifespan, ending in 2041
- Waswanipi: authorized capacity of 183,250 m3 for a 25-years lifespan, constructed to 66 % of this capacity.

The latter landfill site is not used yet.

Recyclable waste management buildings are present in Mistissini, Wemindji and Chisasibi. They are basically machinery garages converted for reception and preliminary sorting of recyclable waste and baling of cardboard. Shipment is made by closed roll-off containers to private transfer stations situated in Amos and Chibougamau. These buildings are not adapted to the reception of mechanically collected recyclable waste and their capacity is already exceeded.

Eco-centers are present in Mistissini, Wemindji, and Nemaska, including raised platforms with unloading docks for bulky waste recovery, roll-off containers, a roll-off truck, as well as hazardous waste recovery containers. Gravel platforms for the storage of bulky waste have also been constructed by the three (3) communities where eco-centers are present. Proximity services to community members are enhanced by eco-centers as they are closer to the communities and are safer than the landfill sites. However, they suffer the lack of adapted outputs for recovered waste with the following consequences:

- Hazardous waste is accumulated in inadequate conditions for these reasons:
    - Services from extended producer's responsibility organisms are not adapted
    - Supplied storage equipment and training are insufficient
    - There is no funding for hazardous waste not covered by extended producer's responsibility
- Most of construction waste is landfilled for these reasons:
    - Construction waste sorting centers are too far away
    - There is no storage infrastructure nor sorting machinery in the communities
    - Chipping and crushing services are not locally available and mobilization costs are high
    - Landfilling is free of charge for construction contractors working in the communities.

As it is presented in the next section, construction waste represents nearly half of waste landfilled in Eeyou Istchee.

Annual Waste Generation

Waste generation for every Eeyou community was estimated in 2021 as part of a regional study conducted for the Cree Nation Government. It was thus found that approximately 14,700 tons of waste is generated annually in Eeyou Istchee, only 17 % of which is currently recovered, leaving over 12,200 tons landfilled. This exercise presents the following limits:

- There are no truck scales at the landfill sites and no waste characterization studies
- Eliminated waste volume estimations are only available from three (3) communities
- There is a lack of compiled data on institutions and businesses present in the communities

Recovery potential and currently recovered quantities were estimated with working hypotheses based upon:

- Provincial averages adapted to the community's reality
- Available data for recyclable waste quantities from Mistissini
- Characterization results from the Inuit Village of Kuujjuaq

Residential Sector

The residential sector accounts for 59 % of waste generated annually in Eeyou Istchee, with:

- 8,730 tons generated
- 6,980 tons landfilled, recyclable waste (3,500 tons) and organic waste (2,770 tons)
- 1,750 tons currently recovered, vehicles, tires, and other metallic bulky waste (1,450 tons)

There is a strong potential to recover an additional 1,170 tons of recyclable waste and 350 tons of food waste with the implementation of door-to-door collection in all communities. Smaller industrial, commercial and institutional (ICI) materials are included in the residential sector. Larger ICI materials are unknown due to lack of data to make estimates.

Construction Sector

The construction sector accounts for 41 % of waste generated annually in Eeyou Istchee, with:

- 5,990 tons generated
- 5,160 tons landfilled, mainly wood (2,160 tons), aggregates (1,010 tons), and mixed waste (840 tons)
- 840 tons currently recovered, mainly aggregates (670 tons) and metal (170 tons)

There is a strong potential to recover 1,080 tons of wood and an additional 670 tons of aggregates with the implementation of construction waste management in all communities.

3. Improvements to the Waste Management System

Capital projects are in active preparation phase in every Eeyou community, either for the replacement of landfill sites and/or the construction of waste diversion infrastructure. Although there is no politically adopted regional residual material management plan, an ambitious action plan is part of the regional waste management study made for the Cree Nation Government in 2021.

Ongoing Infrastructure Projects - Elimination Infrastructure

Waste elimination infrastructure and equipment are funded by the NRA/PdB program, with confirmed budgets ending in 2028.

An incinerator was used in Wemindji up to a fire accident in 2018 that caused its shutdown and demolition. The First Nation is presently using the landfill site that was designed originally only for construction waste and ash from the incinerator. Pre-feasibility studies for new incinerators have been made for Wemindji (2018), Nemaska (2018) and Waskaganish (2012). However, this solution has been reconsidered for environmental and security reasons, and instead, landfill site projects are in preparation.

Trench landfill projects (LEET) are in preparation by six (6) First Nations, with varied levels of progress: site selection stage (3 communities), authorization process (2 communities), and design (1 community). These projects are planned to be at an average distance of 22 km to the communities (ranging from 3 to 30 km).

A northern landfill project (LEMN) is in preparation (design stage) by the Whapmagoostui First Nation five (5) km from the community. This landfill project is planned to have a 25 to 35-year lifespan, given it would also be used by the Inuit Village of Kuujjuarapik. The First Nation is reconsidering the practice of garbage burning and aims to make a transition towards trench landfilling operations by 2028.

Shipping of accumulated bulky waste, followed by a site audit and soil remediation are in preparation phase in Whapmagoostui. The same type of exercise was done in Chisasibi in 2018 and will be needed in each community as all waste management sites reach final closure.

Ongoing Infrastructure Projects - Waste Diversion Infrastructure

Eco-centers are the only waste diversion infrastructure funded by the NRA/PdB program, with confirmed budgets ending in 2028. Gravel platforms for bulky waste and organic waste processing facilities have been funded by the First Nations Waste Management Initiative (Indigenous Services Canada) a program with confirmed budgets ending in 2021.

Eco-center projects are in preparation in six (6) communities, with varied levels of progress: site selection stage (1 community), concept design (3 communities), and engineering design (3 communities). Gravel platforms for bulky waste are also part of some of these projects, but this type of infrastructure is not sufficient to meet provincial standards described in the REAFIE regulation adopted in 2020. For instance, a sheltered concrete platform is needed for chipping wood and storing wood chips.

An organic waste processing facility was constructed in Mistissini in the end of 2019, but the pilot project for door-to-door collection was delayed because of the COVID pandemic. Pre-feasibility studies for similar projects have been made in Nemaska (2018) and Chisasibi (2018).

Residual Material Management Plan (RMMP)

According to the Environment Quality Act (Q-2), regional county municipalities are entitled by to adopt a residual material management plan (RMMP). However, Category I lands are not subject to a regional county municipality.

The Cree Nation Government is not considered a regional municipality, although “it may by resolution declare with respect to all or any part of Category II Lands that it shall exercise any of the jurisdictions, powers, and functions attributed from time to time by the law to an MRC” , notably with regards to waste management. In

fact, the landfill site of the Cree Nation of Mistissini is the only Eeyou waste management operation in Category II land at the moment.

The Eeyou Istchee James Bay Regional Government (EIJBRG) is a regional governance structure that encompasses the territory of Eeyou Istchee as well as Jamesian communities and municipalities. The EIJBRG is not considered a regional municipality, but may also, by resolution, declare with respect to all or any part of Category III Lands that it shall exercise any jurisdiction, function, and power attributable by law to an MRC. In fact, the landfill sites of the Cree Nation of Nemaska and of the Ouje-Bougoumou Cree Nation are the only Eeyou waste management operations in Category III land.

Municipalities of Chibougamau and Chapais have adopted voluntary RMMP's in 2017, thus allowing them to receive funding from the MELCC to coordinate the implementation of these plans. The Eeyou First Nations don't have access to that funding partly because no RMMP was adopted on a regional level.

Action Plan of the Regional Waste Management Study

A regional waste management study was conducted in 2021 for the Cree Nation Government. This study was completed after meeting the waste management personnel of each Eeyou community and analyzing all available data and documents. It is now serving as the foundation of a preliminary action plan for waste management in Eeyou Istchee for the next 10 years. At this stage, the action plan is still under discussion and development. The following section describes the proposed orientation of the action plan.

- Hiring a regional waste management coordinator at the Cree Nation Government level is strongly suggested to assure efficient implementation of the proposed projects, develop internal expertise, promote collaboration between communities, and work towards a regional approach on waste management.

- The waste inventory should be refined by the Cree Nation Government to help communities choose and size proper waste management equipment and infrastructure. For this purpose, the following actions are needed:
  - Conduct a waste characterization study in at least two (2) communities
  - Conduct a study on wastewater sludge recovery potential
  - Organize group purchases of onboard truck scales and/or full-scale truck scales
  - Implement waste registry tools and protocol on a regional basis

- Extended producer's responsibility services need to be adapted to the reality of Eeyou Istchee, for instance by negotiating with Éco Entreprises Québec (ÉEQ), and later on with the designated stewardship organization (DSO) for recyclable waste collection, transport, and sorting. Funding should cover equipment and infrastructure, as well as operation and maintenance costs. A regional coordination of services for hazardous waste would also facilitate the relationship between communities and the stewardship organizations, and funding should be secured for storage equipment.

- Secure funding from government sources with the NRA/PdB programs, ISC and the MELCC for capital expenditures of waste diversion equipment and infrastructure like sheltered concrete platforms for bulky waste and organic waste processing facilities. Funding for operation and maintenance expenditures for organic waste and construction waste operations should also be added to the NRA/PdB programs.

- Implement charging mechanisms for construction contractors, businesses and institutions that presently use Eeyou waste management services and infrastructure for free. For instance, a coherent regional

tipping fee scheme could be proposed, along with the development of standard regulatory tools to implement it in each community. Standard wording to add items in tender documents could also be proposed (e.g. construction and demolition contracts), and to include in agreements with governmental agencies that have buildings and activities in the communities.

- Optimize bulky waste outputs by coordinating a rented machinery route between communities to reduce mobilization costs for the chipping of wood, the crushing of aggregates, the compaction of end-of-life vehicles and the shipping of metal. Feasibility studies to develop alternative weekly cover materials could also be done at the regional level.

- A residual material management plan based on the action plan presented in the next could be adopted, which could include a study to evaluate the opportunity of a regional waste elimination strategy. As part of a larger scale approach, other opportunities with neighboring industries and municipalities could be explored.

Potential Project Implementation by First Nations

The potential action plan aims at optimizing collection services by implementing mechanical collection of garbage and recyclable waste and lowering garage collection frequency as new services are offered to the community. This will make machinery and work force available for the implementation of waste diversion projects.