

Imperial Oil – BAR-C Tununuk Point Remediation
Waste Management Plan

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1. Introduction and Project Details

1.1 Introduction

<i>Company Name:</i>	Imperial Oil
<i>Site Name:</i>	BAR-C Tununuk Point, NT
<i>Site Location:</i>	69.01237 N and 134.68258 W
<i>Effective Date of Plan:</i>	June 1, 2014
<i>Plan Revisions:</i>	June 23, 2014 June 27, 2014

Distribution List:

1.2 Project Details

In 2013, a Remedial Action Plan (RAP) was prepared by Worley for remediation of the BAR-C Site. Much of the information provided in this Waste Management Plan (WMP) has been taken from the RAP, including descriptions of existing conditions and references to specific tables and figures.

1.2.1 Site Location and History

BAR-C, Tununuk Point is located on Inuvialuit 7(1), a private land within the Inuvialuit Settlement Region (ISR), approximately 80 kilometres (km) north-northwest of Inuvik, NT at 69.01237 N and 134.68258 W. The site is located on a low plateau on the southern tip of Richard's Island at the divergence of the Yaya River and Neklek Channel and the confluence of Neklek Channel and East Channel of the Mackenzie River (Figure 1, RAP).

1.2.2 Site Description

The site is located above the treeline in the Tununuk Low Hills physiographic unit which is characterized by gently rolling hills underlain by sands and gravels in thermokarst-modified glaciofluvial deposits. Vegetative cover includes extensive alder-willow in sheltered valleys and over many disturbed areas, as well as typical tundra vegetation, which is comprised of a dense mat of mosses, grasses, and low lying shrubs. Low lying areas tend to naturally collect and retain surface water, and can have an influence over existing permafrost conditions, but erosion is not a serious problem. No archaeological sites were noted in the remediation work areas.

There are over 1,200 lakes on Richard's Island covering approximately 23.5% of the surface. The Project's activities will have requirements for water withdrawal from nearby waterbodies. The water will be used for camp operations and moisture applications in the remediation processes (i.e., for compaction and dust suppression).

Historical structures and activities on the Project site broadly included garages, warehouses, fuel storage and modular buildings. The infrastructure was removed and the site left unoccupied for more than 30 years. Detailed environmental assessments were completed in 2010-11. In 2012, a demolition program completed at the Site removed four large tanks, 300 tons of steel, and an extensive network of pipelines.

The areas of remedial activity are listed and are shown in Figure 2 in the RAP (Worley 2013):

- Area A (DEW Line Station Area South)
- Area B (DEW Line Station Area North)
- Area C (IOL Explosive Storage Area)
- Area D (IOL Tank Farm)
- Area E (Former Exploration Well Area)
- Area F (Airstrip and former Camp Site)
- Area G (Ravine Landfill)
- Area I (Inuit House)
- Area J (POL Dock and Pipelines junction)

1.2.3 Previously Documented Waste On-Site

The following briefly describe the findings of the previous investigations at the site. Tables 1 – 3 (RAP, Worley 2013) summarize the volumes, locations and nature of known hazardous materials, waste and impacted soil found at BAR-C that may require remediation to meet the Abandoned Military Site Remediation Protocol (AMSRP) (INAC 2009) guidelines.

1.2.3.1 Landfills and Waste Disposal Areas

Four landfills have been identified on Site in Areas A, B, E and G. The landfills contain demolition debris, general camp waste, mechanical parts and barrels. Barrels containing waste oil and fuel have also been identified in Landfill E. Waste disposal areas (WDAs) with small volumes (<1,000 square metres; m²) of buried debris or concentrated locations of surface debris are referred to as debris areas. Area F has three buried debris areas that appear to contain waste wood and metal. No exceedances of AMSRP guidelines were found in the samples analyzed from these debris locations.

1.2.3.2 Demolition

There were a number of facilities from the original DEW Line operations and subsequent IOL operations that required demolition and removal from the site. The majority of these facilities were demolished and removed from the site in 2012. At present, there are remnants of the DEW Line garage at Area A, wood pilings at Area C, a concrete pad in Area F and the dock in Area H.

1.2.3.3 Impacted Soil

Based on the results of the past investigations, a summary of the estimated volumes of soil with concentrations of petroleum hydrocarbon (PHC), metals, and polychlorinated biphenyls (PCBs) exceeding the AMSRP guidelines to be remediated are provided in Tables 1 and 2 in the RAP (Worley 2013).

1.2.3.4 Hazardous Materials

Only a minor amount of hazardous waste has been estimated for this site based on previous assessments. The anticipated hazardous waste consists of used oil, aerosol cans, batteries and fibrous insulation encountered in the Ravine landfill and Landfill E. Creosote treated timbers are not considered hazardous waste (AECOM 2010) and have not been included in the hazardous materials volume.

Similar to the materials encountered during the 2012 demolition program, hazardous waste that could be found within landfills may include asbestos containing materials (ACMs), PCBs, items painted with PCB amended paint

(PAP), items painted with lead based paint, batteries and waste fuel/oil. The estimated volume of hazardous waste at the site is provided in Table 3 in the RAP (Worley 2013).

1.2.3.5 Barrels

Previous investigations at the site identified buried barrels containing product at the Area E Landfill. The contents of three punctured barrels were found to be a mixture of oil and diesel. The number of barrels containing product at the Area E Landfill is not known but is expected to be more than 10. In addition, there are several empty barrels in the former water supply lake to the west of Area F that will require removal.

There were approximately 45 empty barrels removed from the Site as non-hazardous waste during the 2012 demolition program.

1.2.3.6 Non-Hazardous Waste

The vast majority of non-hazardous surface debris was removed from site during the 2012 demolition program.

A reassessment of the information from the previous investigations was used to estimate the volumes of waste remaining at the Site for the RAP (Worley 2013). The estimated volume of non-hazardous buried debris at the site is provided in Table 3 in the RAP (Worley 2013). The non-hazardous waste is assumed to be primarily composed of wood, metal and concrete debris. Concrete will be used as fill for the excavations at the Project Site.

There is a stockpile of willows, which were cut down during the demolition program that will require on site incineration or use during the remediation program.

1.2.4 Objectives

The primary purpose of the remediation program is to remove and treat or package for offsite disposal all materials and soils exceeding the AMSRP guidelines where practical to do so, thus returning the site to a point where the land may be used for unrestricted use. Based on the site setting, the following remedial methodologies are generally proposed for the site:

- Surface debris will be collected, removed from site and disposed of at an IOL approved disposal facility
- Soil impacted with light-end PHC (i.e. diesel) (Type B PHC) will be excavated, treated then backfilled on site
- Soil impacted with heavy-end PHC (Type A PHC) within 0.3 m of surface will be excavated, treated and/or disposed of at an approved disposal facility
- Soils impacted with metals or PCBs (Tier I and II) soil above AMSRP guidelines located outside of Landfills A and B will be removed from the site and disposed at an approved disposal facility
- Impacted soil above AMSRP guidelines located inside Landfills A and B will remain in place
- An Engineered Containment System (i.e. liner with key trench) will be constructed as per the Landfill Closure Cap and Associated Earthworks Job Specification to cap the impacted soils and debris within Landfills Area A and B
- Additional granular cover will be placed on the Area F debris areas as per the Landfill Closure Cap and Associated Earthworks Job Specification to cap the Waste Disposal Areas (WDAs) within Area F
- Debris from landfills in unstable locations (Landfills E and G) will be excavated, removed from the site and disposed of at an approved disposal facility
- All readily accessible hazardous materials encountered during the decommissioning of Landfills E and G or during other excavations will be removed from the site and disposed of at an approved disposal facility
- All readily accessible soils with concentrations exceeding AMSRP guidelines encountered during the decommissioning of Landfills E and G or during other excavations will be removed from the site and disposed of at an approved disposal facility

- Non-metallic, non-hazardous debris such as unpainted wood and brush removed from roadways or remediation areas will be incinerated on the site
- Areas used for borrow material for backfill, capping and sloping will be reclaimed as per the Borrow Pit Reclamation Plan
- Remediated areas will be left in a condition to promote positive drainage, geothermal and geotechnical stability, and self-sustaining vegetation cover
- Soil and debris removed from the site will only be sent to approved waste management facilities

1.2.5 Proponent's Principle

This waste management plan incorporates the basic principles of waste management, which include source reduction, reuse, recycle/recover, treatment and disposal. The Project is committed to conduct operations within the accepted environmental standards of the construction industry. These methods are important to the construction industry in reducing the environmental footprint of operations.

- Source reduction is the elimination or decrease of the volume or toxicity of waste by adopting practical methods such as using alternative materials or processes. This can be achieved by material elimination, inventory control and management, material substitution, process modification and improved housekeeping, maintenance and training.
- Reuse is achieved by using a product more than once for the same application or different purposes. Reusing material such as certain food and beverage containers, pallets etc. can reduce the amount of waste generated.
- Recycling of products that typically have one use is an excellent method of reducing the volume of waste generated at a worksite, sorting products so they can be managed in bulk eliminates the need for additional handling and allows for different products to be managed by efficient recycling processes.
- Waste treatment is used to reduce the volume, mass and/or toxicity of the material prior to disposal due to contaminants contained within the waste. There are a number of treatment options including biological and physical processing which may be used separately or combined to be the most effective and efficient.
- Disposal of waste is the final option for waste management. When disposing of waste, the type of waste, volume, location and final containment must be considered. The waste disposal options available to this project include offsite landfills, solid waste sites, and municipal sewage lagoons. The physical and chemical characteristics as well as the regulatory requirements and liability associated with disposal may limit which options are available for waste disposal.

1.2.6 Purpose of the Waste Management Plan

The Project has prepared the following Waste Management Plan (WMP) for all wastes associated with construction activities identified in the Remediation Action Plan for the BAR-C Tununuk Point site. The WMP will apply to the Project staff and contractors involved in the generation, treatment, transferring, receiving, and disposing of waste materials for the project. This plan will be effective immediately and throughout the pre-construction and construction phases of the Project.

2. Waste Types

2.1 Waste Definitions

The following provides definitions on the different specific types of waste that may be encountered in carrying out the project. If doubt exists whether a material is a “hazardous waste” or a “dangerous good” consult with the Project Supervisor or On-Site Health and Safety representative.

2.1.1 Waste

A waste is a product or substance that is no longer of any use to the company and is intended for disposal.

2.1.2 Hazardous Materials

Hazardous materials, in most cases, belong in the waste category “dangerous goods”. They include hazardous products such as poisons, corrosive agents, flammable substances, ammunitions, explosives, radioactive substances, or any other material that can endanger human health or well-being or the environment if handled improperly.

Hazardous Waste - A hazardous waste is a “hazardous chemical” disposed of or to be disposed of as a waste. They are usually hazardous materials (or dangerous goods under the Transportation of Dangerous Goods Act (TDGA)) which have no further use.

2.1.3 Hazardous Chemicals

A hazardous chemical can be any substance, class of substance or mixture of substances that is entering or is capable of entering the environment in a quantity or concentration that may constitute a danger to:

- The environment
- Plant or animal life
- Human health

2.1.4 Dangerous Goods

Materials that are regulated by the *Transportation of Dangerous Goods (TDG) Act* may be either one of the 3,400 chemicals identified by name in Schedule 1 of the TDG Regulations or may have chemical properties that fall within one of nine TDG Classes.

2.2 Waste Characterization

Waste characterization is used in assessing the appropriate handling, treatment, transportation and disposal of the waste. Characterization is the assessment of the physical, chemical and toxicological properties of the waste product. These properties are used to determine the dangers relating to handling, storage, and transportation of the waste on public roads, as well as to determine the environmental consequences of the waste so that an appropriate disposal option can be determined. This allows the determination of a hazardous or non-hazardous waste. Waste transportation and disposal is regulated by the Government of the Northwest Territories (GNWT) or Environment Canada (EC) and the receiving jurisdiction. Regulated wastes include any waste material which is specifically regulated hazardous (in *Canadian Environmental Protection Act (CEPA)*) or through various guidelines issued by Environmental Protection Services (EPS) or Government of the Northwest Territories – Environment and Natural Resources (GNWT-ENR)), and dangerous for transport (in CEPA and TDGA).

The following are properties that wastes may have that require additional personal protective equipment, and safe work procedures when handling, storing and disposing:

2.2.1 Ignitability

This will apply to liquids, solids or gases; however, the most common are liquids or solutions which have a flash point of 23°C or below. Other materials included in this class are oxidizers which readily yield oxygen to support the combustion of organic materials, waste which can spontaneously combust, and flammable compressed gases. Examples of ignitable wastes include acetone, hexane, methanol, and isopropanol.

2.2.2 Corrosives

This classification applies to liquids only. A waste is corrosive if its pH is equal to or less than two, or equal to or greater than 10. Liquids which corrode steel at rates greater than 6.35 millimetres per year (mm/yr) are also considered corrosive. Examples of corrosive waste include mineral acids, sodium, and potassium hydroxide.

2.2.3 Reactivity

This classification encompasses two types of hazards; physical and health. Wastes with reactive physical characteristics are those with the potential of reacting violently, presenting fire hazards, and/or capable of explosion at normal temperatures and pressures. Wastes with reactive health hazards are those which will release toxic or irritating vapors or fumes when mixed with water or acids. Examples are reactive laboratory wastes, such as sulphide solutions and water-reactive metals.

2.2.4 Toxicity

This classification includes those substances which are capable of causing acute, chronic or adverse effects in humans and/or the environment. Examples of toxic wastes include biocides, carcinogens and heavy metals such as lead, chromium and arsenic.

Generally, a waste is considered non-hazardous if it does not possess any of the above mentioned characteristics; however extreme caution must be used when following these guidelines. Although some materials do not fall into these hazard classes, they still may pose a threat to the environment or humans and will be handled accordingly. The following compounds could be considered in this class:

- Sulfur dioxide and other sulfur compounds
- Oxides of nitrogen compounds
- Carbon monoxide
- Organic compounds, in particular hydrocarbons (except methane)
- Heavy metals and their compounds
- Dust, asbestos, glass and mineral fibers
- Chlorine and its compounds
- Fluoride and its compounds

2.3 Waste Treatment Methods

2.3.1 Incineration

Incineration is another means of reducing the mass and volume of waste, including paper products, domestic rubbish, and kitchen wastes. It is also a method used to prevent wildlife scavenging. It is important to segregate the plastics and heavy metals from normal waste to meet dioxin, furan and mercury standards. A forced air, diesel fired

incinerator with properly trained personnel will be used. The resulting ash will be packaged and sent out of site to an approved landfill located out of the Northwest Territories (NWT).

2.3.2 Evaporation

Evaporation may be used to reduce the quantities of a waste that contains a fluid that can be readily evaporated at low temperatures [100°C or less] such as water. Snow contaminated with hydraulic oil or motor oil from various equipment or vehicle spills are evaporated using a diesel fired evaporator to reduce volume. The resultant liquid is placed in drums or tanks and either disposed of locally at a facility with an approved used oil burner or transported out of the NWT for recovery or disposal at an approved facility.

2.3.3 Physical Methods

Physical methods such as gravity separation, filtration and centrifugation are means of reducing solids and ease of handling liquid and solid wastes. Pumping contact water through a barrel with filtration membranes and hydrocarbon sorbent pads will be one treatment method utilized.

3. Waste Handling

The Project is committed to handle and dispose of wastes as outlined in the following section.

3.1 Hazardous Industrial and Domestic Waste

Hazardous industrial waste will consist of PCB and lead amended paints, asbestos containing materials (ACMs), batteries, waste oil, oil and fuel filters, and historical, highly contaminated soils. Hydrocarbon contaminated materials that may result from spills may also fall into this category.

Excavation of the Area E Landfill will require care not to rupture barrels. Each barrel will need to be evaluated as per the AMSRP Barrel Protocol. In order to inspect, sample and process barrels found on Site, a barrel processing area will be established according to the AMSRP guidelines.

All Hazardous waste will be properly packaged in approved transport containers and shipped to an approved disposal site.

The GNWT Department of Environment and Natural Resources (ENR), Environmental Protection Section developed the Guideline for the General Management of Hazardous Waste in the NWT, which outlines the registration and tracking of generators, carriers and receivers of hazardous wastes in the NWT. IOL is registered as a generator of hazardous waste with the GNWT (IOL Hazardous Waste Generator Registration # NTG-339). The Project will contract registered shipping companies and will track the transport of hazardous waste from the site to the appropriate, IOL approved, provincially registered facilities. All required documentation will be requested, completed and kept on file.

3.1.1 Shipping Procedure for Offsite Disposal of Hazardous Waste

As per the email communication between AECOM and Gerald Enns, a Hazardous Waste Specialist with the Environment Division of GNWT-ENR on June 16, 2014 (**Attachment A**), the following manifesting procedure shall apply for shipment of hazardous waste for disposal from the BAR-C Site;

- The Transportation of Dangerous Goods (TDG) certified shipper is to fill out one (1) manifest for each barge shipment of goods that is sent off the Site. This will be a preliminary movement document, to travel with the shipment from BAR-C to the point where ground transportation begins. This will not be used for official tracking for the GNWT-ENR, although AECOM will submit the forms to their office regardless, at their direction.
- Once the shipment is transferred to flatbed trucks, one (1) manifest should be filled out for the goods on each truck. These manifests will be the official movement document for the material under TDG, and will be treated according to TDG practices (i.e. Six copies sent by the responsible parties to the appropriate locations).
- It should be noted that 'Box 27', in the upper right-hand corner of the manifest, should be used to reference other manifests associated with a shipment. For example, if a quantity of soil that is shipped on the barge is moved on manifest '1A', then split into trucks travelling under manifests '2A', '2B', and '2C', box 27 on each of these manifests should reference manifest '1A'.

GNWT-ENR will ensure the amount of material transported by barge equals the amount of material received at the appropriate registered receiving facility, at the conclusion of the shipment. The procedures outlined in the attached Guideline for the General Management of Hazardous Waste in the NWT (**Attachment B**), and the Manifest User Guide for the NWT (**Attachment C**), will be followed at all times.

3.2 Non-hazardous Commercial and Domestic Waste

Non-hazardous industrial and domestic waste will consist of paper, food, tin cans, plastic packaging, metal and non-recyclable glass jars. Any domestic waste such as paper and food waste will be incinerated. All other items will be compacted, stored in wildlife-proof containers, transported and disposed of appropriately (e.g., at the Inuvik landfill facility).

Other non-hazardous commercial waste is expected to be composed of plastic packaging, flagging tape, stakes, and similar items. All waste and debris will be collected daily and stored along with the non-hazardous domestic waste.

3.3 Hydrocarbon Treatment Cell Operation

There will be one or two Hydrocarbon Treatment cells constructed onsite to facilitate the mechanical aeration of the soils excavated from the site. These facilities will be lined. There is a possibility of hydrocarbon impacted contact water generation during rainfall events. The cells are design to have storage capacity for a rainfall of about 70 mm. The facility will be inspected daily and accumulated water will be tested and discharged immediately following a rainfall event. In the event of greater precipitation or additional rain prior to discharge, additional berm height can be constructed quickly on the down-gradient side from the adjacent borrow areas.

3.4 Grey Water and Human Waste

Wastewater will include sewage and grey water from the camp. The barge camp has storage facilities for this waste. The sewage waste will be stored for the project duration, then transported to Inuvik and offloaded to their Municipal Waste water treatment system.

3.5 Recyclables

Recyclable beverage containers will be collected in clearly labelled containers. All staff will be made aware of the recycling program and notes will be posted in the camp. Recyclables will be collected and transported to the Town of Inuvik and donated for their “Cash in your Trash” program.

4. References

Remedial Action Plan, Worley Parsons. September 2013.

AECOM Canada Ltd. (AECOM). 2010. Remedial Action Plan, PIN-D Ross Point DEW Line Site.

INAC (Indian and Northern Affairs Canada). 2009. Abandoned Military Site Remediation Protocol (AMSRP); Volume I – Main Report. March 2009.

Transport Canada. 2011. Transportation of Dangerous Goods Act

Environment Canada (Canadian Environmental Protection Act; CEPA; 1999)

Guideline for the General Management of Hazardous Waste in the NWT, GNWT ENR Environmental Protection Section

Guidelines for Developing a Waste Management Plan, MVLWB. March 2011.

Attachment A

Sloane, Thaidra

From: Gerald Enns <Gerald_Enns@gov.nt.ca>
Sent: Monday, June 16, 2014 6:58 PM
To: Sloane, Thaidra
Cc: Kari VanGeffen
Subject: soil from Bar C tracking
Attachments: 1_Gen Haz Waste GuideLn.pdf; userguidetohazwasteM D _2009_09_SUP.pdf

Hello Thaidra,

Further to our conversation please find attached the Guideline for the General Management of Hazardous Waste in the NWT and the manifest user guide.

We track contaminated soil on hazardous waste movement document from generators to carriers to receivers.

I understand you need to utilize two modes of transport, barge and road. Based on my conversation an estimated 1500 bags of soil will be transported on a few barges and then transported onto many trucks.

We will use one manifest per barge, and then one manifest per truck. We will ensure the amount of soil on barges equals the amount of soil received at registered receiving facility.

Please send us the address you would like 75 manifests mailed to and include Kari VanGeffen on the email.

Please confirm the contact from Imperial Oil and their office address so we can assign the correct generator number.

Gerald Enns
Hazardous Waste Specialist
Environment Division
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Attachment B

Guideline for the General Management of Hazardous Waste in the NWT

1 Introduction

1.1 Definitions

2 Roles and Responsibilities

2.1 Environmental Protection Service

2.2 Generators of Hazardous Waste

2.3 Carriers of Hazardous Waste

2.4 Receivers of Hazardous Waste

2.5 Other Regulatory Agencies

3 Storage and Management of Hazardous Waste

3.1 General

3.2 General Requirements for Storage Containers

3.3 General Requirements for Storage Facilities

3.4 Registering a Hazardous Waste Management Facility

3.5 Registering Hazardous Waste Generators, Carriers and Receivers

3.6 Waste Manifest Requirements

4 Waste Management

4.1 Pollution Prevention

4.2 Treatment or Disposal

4.3 Disposal Outside of the Northwest Territories

4.4 Alternative Management Methods

5 Conclusion

Schedule I: Registration Volumes

6 Bibliography

Appendices

February 1998

Guideline for the General Management of Hazardous Waste in the NWT

1 Introduction

Waste is produced in the normal course of operation of any industrial, commercial or institutional operation. Because of their chemical, physical or biological properties, some wastes are more dangerous than others. These are known as a hazardous waste and require special handling and disposal to prevent impact on human health and the environment.

This guideline has been developed by the Environmental Protection Service of the Department of Resources, Wildlife and Economic Development. Its intent is to:

- provide information for the proper management of hazardous waste in the Northwest Territories,
- increase awareness of hazardous waste in the Northwest Territories, and
- establish a "cradle to grave" monitoring system for hazardous waste from generation to final disposal.

Section 2.2 of the *Environmental Protection Act* (EPA) gives the Minister of Resources, Wildlife and Economic Development of the Government of the Northwest Territories (GNWT) the authority to develop, coordinate and administer guidelines. This guideline complements existing acts and regulations concerning hazardous waste which should be consulted for interpretation and application. Section 2.5 of the guideline provides additional information on regulatory roles and responsibilities.

This guideline is for the general management of hazardous waste and should be read in conjunction with applicable specific hazardous waste guidelines. Contact the Environmental Protection Service for a listing of these guidelines.

1.1 Definitions

<i>Carrier</i>	Any person engaged in the transport of hazardous waste whether or not for hire or reward.
<i>Commercial</i>	Actions undertaken for hire or reward.
<i>Commissioner's Land</i>	Lands in the Northwest Territories that have been transferred by Order-in-Council to the Government of the Northwest Territories. This includes highways, block land transfers and most lands within municipalities.
<i>Consignor</i>	A person who offers a consignment of hazardous waste for transport.
<i>Contaminant</i>	Any noise, heat, vibration or substance and includes such other substances as the Minister may prescribe that, where discharged into the environment, (a) endangers the health, safety or welfare of persons,

- (b) interferes or is likely to interfere with normal enjoyment of life or property,
- (c) endangers the health of animal life, or
- (d) causes or is likely to cause damage to plant life or property.

Environmental Protection Act

<i>Dangerous goods</i>	Any product, substance or organism included by its nature or by the <i>Transportation of Dangerous Goods Regulations</i> (TDGR) in any of the classes listed in the schedule provided in the <i>Transportation of Dangerous Goods Act</i> (TDGA). Transportation of Dangerous Goods Act (Canada)
<i>Empty container</i>	A container that has been emptied, to the greatest extent possible, using regular handling procedures, but its contents shall not exceed 1% of the container's original capacity or 2 litres, whichever is less. This does not include containers which previously contained mercury or class 2.3, 5.1, or 6.1 materials of TDGR.
<i>Generator</i>	The owner or person in charge, management or control of a hazardous waste at the time it is generated or a facility that generates hazardous waste.
<i>Hazardous waste</i>	A contaminant which is a dangerous good that is no longer used for its original purpose and is intended for recycling, treatment, disposal or storage. A hazardous waste does not include a contaminant that is: <ul style="list-style-type: none"> (a) household in origin; (b) included in class 1, Explosives or class 7, Radioactive materials of TDGR; (c) exempted as a small quantity; (d) an empty container; or (e) intended for disposal in a sewage system or by landfilling that meet the applicable standards set out in schedules I, III or IV of the <u>Guideline for Industrial Waste Discharges in the NWT</u>.
<i>Hazardous waste management facility</i>	A facility which is used for the collection, storage, treatment, recycling or disposal of hazardous waste.
<i>Incompatible waste</i>	Hazardous wastes which, when in contact with one another or other substances under normal conditions of storage or transportation, could react to produce heat, gas, fire, explosion, corrosive substances or toxic substances.
<i>Landfilling</i>	The deposit of waste, on land, as described in the GNWT Department of Municipal and Community Affairs' document <u>Guidelines for the Planning, Design, Operation & Maintenance of Solid Waste Modified Landfill Sites in the Northwest Territories</u> .
<i>Long term storage</i>	The storage of hazardous waste for a period of 180 days or more but does not include materials in transit.

<i>Manage</i>	To handle, transport, store, recycle, treat, destroy or dispose of hazardous waste.
<i>Receiver</i>	A person to whom a quantity of hazardous waste is being or intended to be transported. Also referred to as a consignee.
<i>Sewage system</i>	A system for the collection, transmission, treatment or disposal of any liquid waste containing animal, vegetable, mineral, human or chemical matter in solution or in suspension.
<i>Small quantity</i>	Hazardous waste that is generated in an amount that is less than 5 kilograms per month if a solid or 5 litres per month if a liquid; and where the total quantity accumulated at any one time does not exceed 5 kilograms or 5 litres. This does not apply to wastes that are mercury or in classes 2.3, 5.1 or 6.1 of TDGR. These wastes must be generated in an amount less than 1 kilogram per month if a solid or 1 litre per month if a liquid; and where the total quantity accumulated at any one time does not exceed 1 kilogram or 1 litre.
<i>Transport authority</i>	The regulations controlling the management of hazardous waste under that mode of transport. These include: Road and rail - <i>Transportation of Dangerous Goods Act (TDGA) and Regulations (TDGR)</i> . Air - <i>International Civil Aviation Organization Technical Instructions (ICAO)</i> . Marine - <i>International Maritime Dangerous Goods Code (IMDG)</i> .
<i>TDGA/TDGR</i>	The <i>Transportation of Dangerous Goods Act and Regulations (Canada)</i> .
<i>Treatment or Treat</i>	The handling or processing of a hazardous waste in such a manner as to change the physical, chemical or biological character or composition of the hazardous waste in order to eliminate or reduce: (a) one or more environmental hazard of the waste; and/or (b) the volume.

2 Roles and Responsibilities

2.1 Environmental Protection Service

The Environmental Protection Service (EPS) of the Department of Resources, Wildlife and Economic Development is the Government of the Northwest Territories' (GNWT) agency responsible for initiatives which control the discharge of contaminants and their impact on the natural environment. EPS is responsible for ensuring that environmentally acceptable management procedures, emission levels and disposal methods are maintained. By practise EPS programs are applied primarily to Commissioner's Land, lands administered by municipal governments or GNWT undertakings. Legislative authority is provided by the *Environmental Protection Act* (EPA) and *Pesticide Act*. Contact EPS for a listing of relevant regulations and guidelines.

EPS monitors the movement of hazardous waste from the generator to final disposal through use of a tracking document called a waste manifest. A waste manifest form must accompany all hazardous waste in transit regardless of the means of transport. In order to complete the manifesting requirements, all parties (the generator, carrier, receiver) must be registered by EPS and the registration number entered in the appropriate location on the waste manifest form. Registration numbers and waste manifest forms are available from EPS.

Under the EPA, the *Spill Contingency Planning and Reporting Regulations* set the standards for reporting spills of contaminants and preparing spill contingency plans.

2.2 Generators of Hazardous Waste

The responsibility for proper waste management rests with the generator and should be considered part of the cost of doing business.

The generator is ultimately responsible for ensuring hazardous waste will be properly managed from the time it is generated to final disposal. Waste must be properly stored, transported, treated and disposed. Contractors can manage waste on behalf of the generator however, the generator is responsible for ensuring, in advance, that the waste management method is acceptable.

In general, the generator is responsible for the following:

- Classifying, labelling and storing the hazardous waste properly.
- If waste is to be transported off site the generator should:
 - register as a generator of hazardous waste;
 - ensure a waste manifest is properly completed and accompanies the shipment; and
 - ensure the waste is transported by a registered hazardous waste carrier to a registered receiver.
- Registering their hazardous waste management facility, if required.
- Ensuring the proper disposal of hazardous waste by an acceptable method.

- Ensuring workers are trained in the management of hazardous waste including emergency response in the event of a discharge.
- Complying with all other regulatory requirements for hazardous waste management including transportation, occupational health and public health.

2.3 Carriers of Hazardous Waste

Carriers must be registered with EPS prior to transporting hazardous waste. Hazardous waste must be transported in accordance with the appropriate transport authority: *Transportation of Dangerous Goods Regulations* (TDGR); *International Civil Aviation Organization* (ICAO) or *International Maritime Dangerous Goods Code* (IMDG). TDGR requires that drivers be trained in the aspects of transporting dangerous goods related to their assigned duties.

2.4 Receivers of Hazardous Waste

Receivers (consignees) of hazardous waste in the NWT must be registered with EPS as a receiver. The operator of a hazardous waste management facility in the NWT may be required to register the facility with EPS. Section 3.4 provides information on registering a hazardous waste management facility.

2.5 Other Regulatory Agencies

The following agencies are involved in activities relevant to hazardous waste management in the NWT:

The Motor Carrier Services of the GNWT Department of Transportation is responsible for administering the *Transportation of Dangerous Goods Act and Regulations* (NWT). The Department is also responsible for driver, vehicle and load safety under additional transport legislation.

Under the NWT *Safety Act, Occupational Health and Safety Regulations* address the safety of workers and the work place. The Act states that the employer shall maintain their establishment and take all reasonable precautions to ensure the safety and health of every person in the establishment. The Regulations also prescribe standards for protective clothing and equipment to be used by workers. *Work Site Hazardous Materials Information System Regulations* (WHMIS) were adopted to ensure employee training and safe storage and handling of controlled products at the employer's work site. Consultation with a Safety Officer from the Prevention Services Division of the Workers' Compensation Board is the responsibility of every waste generator or employer.

The Office of the Fire Marshal has authority over the storage of flammable, combustible and hazardous materials under the National Fire Code. Consult with the GNWT Department of Municipal and Community Affairs' regional Fire Marshal or your community Fire Chief.

Waste management activities may affect public health. Environmental Health Officers of the regional Public Health Boards should be consulted regarding requirements under the *Public Health Act*.

The GNWT Department of Municipal and Community Affairs (MACA) administers Commissioner's Lands. MACA's responsibility includes the granting of leases, licences and land use permits on these lands and is also involved in the planning, funding, operation and maintenance of municipal infrastructure such as landfills and sewage treatment systems.

Indian and Northern Affairs Canada is responsible for hazardous waste management on federal lands through the *Territorial Lands Act* and *Northwest Territories Waters Act*.

Environment Canada is responsible for the management of hazardous waste from federal facilities and lands under the *Canadian Environmental Protection Act* (CEPA). CEPA regulates the release to the environment and storage of polychlorinated biphenyls (PCBs) under the *Chlorobiphenyls Regulations* and *Storage of PCB Material Regulations*. Because they regulate these areas, sections 3.2, 3.3, 3.4 and 4.4 of this guideline do not apply to PCBs. International shipments of waste dangerous goods are monitored under the *Export and Import of Hazardous Waste Regulations*.

The National Energy Board regulates frontier exploration, drilling, production and inter-jurisdictional transmission in the oil and gas industry. The management of land based drill sumps is in conjunction with the appropriate land regulator.

Natural Resources Canada has the authority to administer explosives under the *Explosive Act*. Atomic Energy Control Ltd. (AECL) administers the handling and disposal of radioactive materials in Canada. The Atomic Energy Control Board (AECB) licenses institutions and companies to possess and use radioactive materials.

Under land claim agreements, renewable resource management institutions have been given broad authority for land use planning, impact assessment, and administration of land and water activities in settlement areas outside municipal boundaries. Through the setting of terms and conditions in licensing and permitting procedures, such institutions will have authority over waste disposal.

Figure 1 provides a flow chart to assist in determining the primary regulatory contact for hazardous waste management. Contact the Environmental Protection Service if assistance is required.

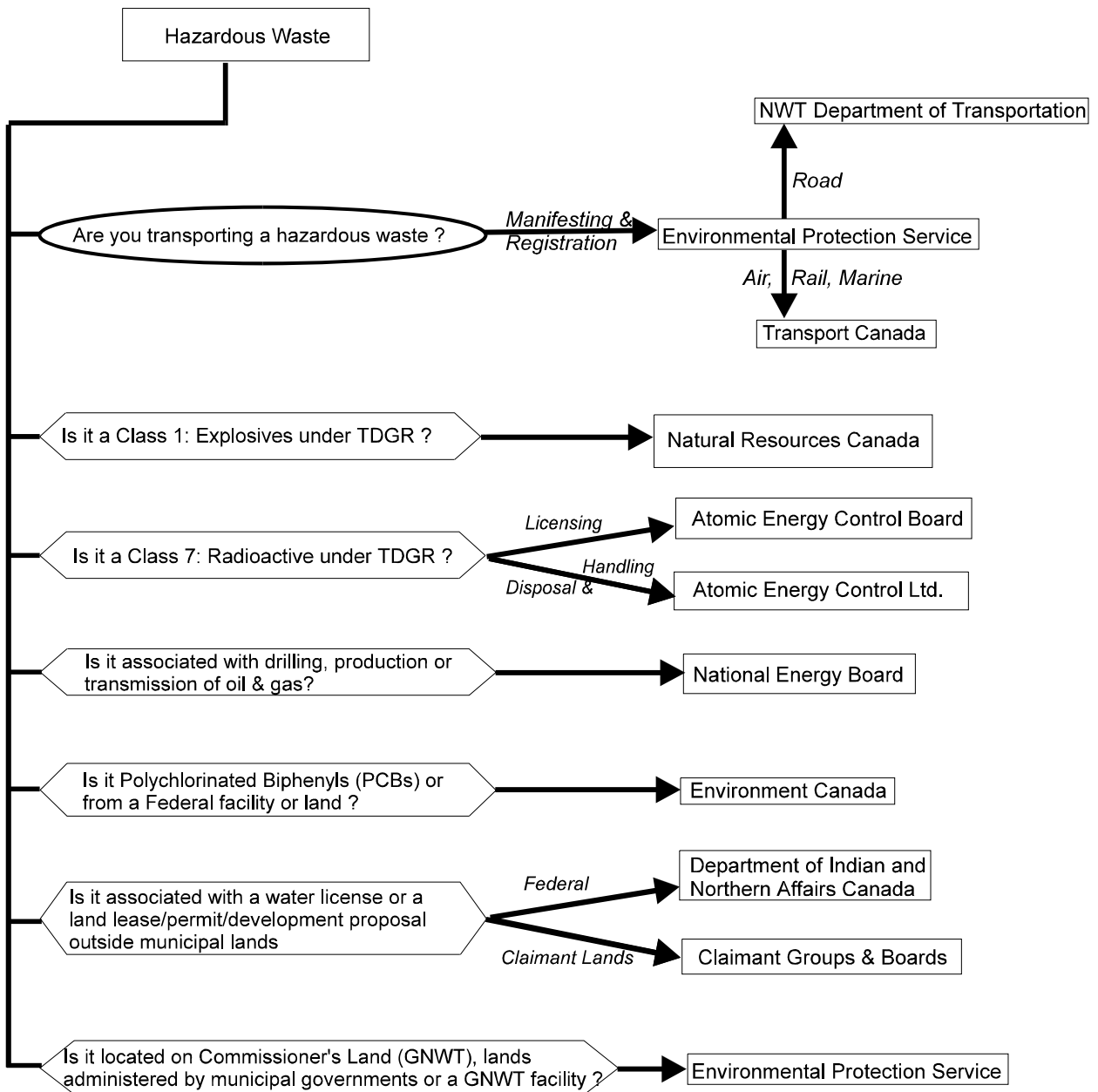


Figure 1: Primary Regulatory Contact for Hazardous Waste Management

3 Storage and Management of Hazardous Waste

3.1 General

The definition of hazardous waste in this guideline incorporates the term "dangerous goods" which is defined in the *Transportation of Dangerous Goods Act* (Canada). The *Transportation of Dangerous Goods Regulations* (TDGR) has a system for classifying dangerous goods. Because the term "dangerous goods" is used in the definition of hazardous waste, the classification system used in TDGR can be applied to hazardous waste. Appendix A indicates the 9 chemical classes used.

Hazardous waste must not be mixed or diluted with any substance or divided into smaller quantities to avoid meeting the definition of a hazardous waste.

Figure 2 is a flow chart illustrating the decision process for managing a hazardous waste under this guideline.

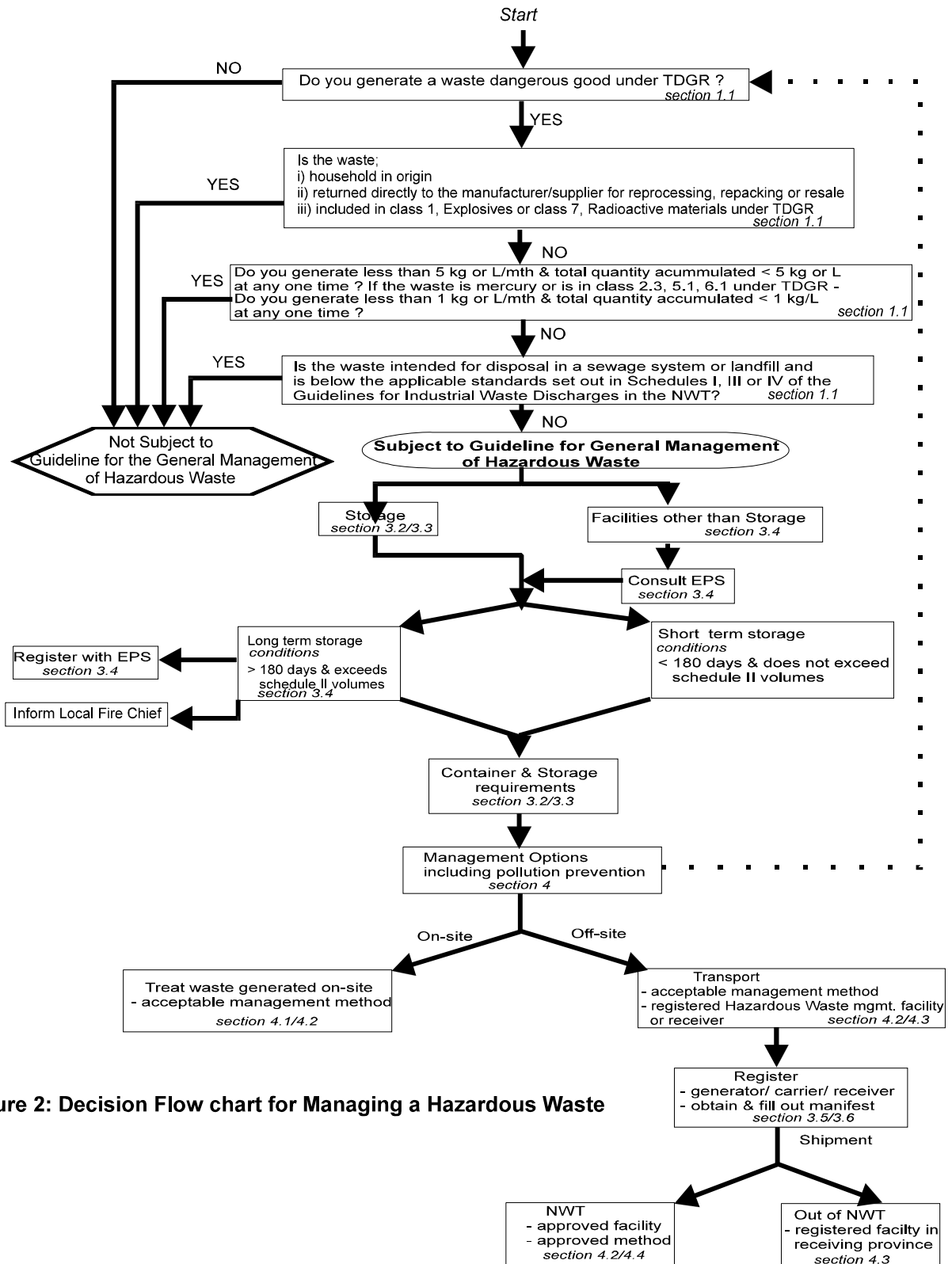


Figure 2: Decision Flow chart for Managing a Hazardous Waste

3.2 General Requirements for Storage Containers

Hazardous waste should be stored in containers according to the following:

- In the original containers, where possible, or in containers manufactured for the purpose of storing hazardous waste. The containers must be sound, sealable and not damaged or leaking. The Transport Authority regulates container specifications.
- Clearly labelled according to the requirements of the Work Site Hazardous Materials Information System (WHMIS) of the *Safety Act* or the relevant Transport Authority, if transport is planned.
- Bulked into 16 gauge or equivalent metal or plastic 205 litre drums, as appropriate.
- The containers should be sealed or closed at all times, unless in use.

3.3 General Requirements for Storage Facilities

The storage of hazardous waste is not an acceptable long term waste management solution.

Hazardous waste must be stored in a safe and secure manner. In general, hazardous waste should be stored according to the following:

- Drainage into and from the site is controlled to prevent spills or leaks from leaving the site and to prevent run off from entering the site.
- Incompatible wastes are segregated by chemical compatibility to ensure safety of the public, workers and facility.
- In a secure area with controlled access. Only persons authorized to enter and trained in waste handling procedures should have access to the storage site.
- Regular inspections are performed and recorded. Containers are placed so that each container can be inspected for signs of leaks or deterioration. Leaking or deteriorated containers should be removed and their contents transferred to a sound container.
- Maintain a record of the type and amount of waste in storage.
- Storage sites have emergency response equipment appropriate for the hazardous waste stored on site.
- Where the site is to be used for long term storage and the amount of waste in storage exceeds the quantity requirements set out in Schedule I, the site should be registered in accordance with Section 3.4 of this guideline.
- Storage sites are expected to meet all local bylaw and zoning requirements. It is recommended that the local Fire Chief be advised of the storage facility and its content for emergency planning and response purposes.

3.4 Registering a Hazardous Waste Management Facility

Hazardous waste management facilities may require registration with the Environmental Protection Service.

Storage Facility:

A storage facility can be a building, locker, compound or area used to store hazardous waste. A storage facility should be registered with EPS if:

- The facility is used or is intended for the storage of hazardous waste for a period of 180 days or more, and
- quantities to be stored exceed the quantities set out in Schedule I for individual waste classes or if the aggregate quantity for all classes of waste stored exceed 5000 Kg/L.

When registering a storage facility the following information should be provided:

- Company name, address, phone number and contact person, including position.
- Location and description of the facility.
- Expected types, quantities and method of storage of the hazardous waste.
- Approvals required to operate and occupy the land for that purpose.

This information should also be provided to the local Fire Chief for emergency planning and response purposes.

Management Facility other than Storage:

Hazardous waste management facilities, other than a storage facility, which manage hazardous waste for commercial purposes require registration with EPS prior to operation. These include facilities which treat, reprocess, consolidate, destroy or recycle hazardous waste. When registering a facility the following information should be provided:

- Company name, address, phone number and contact person, including position.
- Location and description of the facility.
- A description of the waste management activities to be conducted.
- Expected types, quantities and method of storage of the hazardous waste.
- Approvals required to operate and occupy the land for that purpose.

The information requirements for an environmental review of a hazardous waste management facility may be found in the Environmental Information Guide For Industrial Projects on Commissioners Lands. The Guide provides the information requirements for relevant GNWT agencies to review the environmental impacts of a project. A proponent should review the Guide and contact EPS before making a submission.

3.5 Registering Hazardous Waste Generators, Carriers and Receivers

If hazardous waste is to be transported off site, the generator, carrier and receiver must be registered with EPS. Once registered, an identification number will be assigned which is required to complete the waste manifest under TDGR. A carrier or receiver may either be registered in the NWT or in the province or territory in which the company is based.

The following information should be provided when applying for a registration number:

Generator:

- Company name, address, phone number and contact person, including position.
- Location and description of the activity taking place which results in the generation of the hazardous waste.
- Expected type, quantity and method of storage of hazardous waste.

Carrier:

- Company name, address, phone number and contact person, including position.
- Proof of transport liability insurance.
- Operating authority for transport in the NWT.
- Confirmation that the company meets the training requirements of the transport authority.

Receiver:

- Company name, address, phone number and contact person, including position.
- Location and description of the management facilities and activities for hazardous waste.
- Expected type, quantity and method of storage of hazardous waste.

3.6 Waste Manifest Requirements

The *Transportation of Dangerous Goods Regulations* require that a completed hazardous waste manifest form accompany shipments of hazardous waste. Manifests are available from EPS.

The completed manifest form provides:

- Detailed information on the types and amounts of hazardous waste shipped;
- A record of the firms or individuals involved in the shipment; and
- Information on the storage, treatment or disposal of the waste and confirmation that they reached their intended final destination.

The Generator (Consignor), Carrier and Receiver (Consignee) must each complete their portion of the manifest. The information provided on the manifest as well as other TDGR requirements (ie: labelling and placarding) are also intended to assist first responders (police, ambulance, fire fighters) with hazard information should a transportation accident occur.

Waste manifest completion instructions are provided on the reverse side of each manifest. Further assistance in completing a waste manifest may be obtained by referring to the [User's Guide for the Hazardous Waste Manifest](#) produced by Environment Canada or by contacting the Motor Carrier Services of the GNWT Department of Transportation.

4 Waste Management

Waste management is intended to reduce or eliminate the effects of waste on the environment, to provide for public and worker safety and to maximize the efficient use of resources. Once hazardous waste has been created the proper treatment and disposal can be expensive. While it is the responsibility of the waste generator to pay for all disposal costs, various waste management options are available to reduce the cost and volume of waste requiring treatment.

A more effective and proactive management practise is to eliminate or reduce the generation of the waste. This is referred to as pollution prevention.

Minimizing or avoiding the creation of pollutants and waste can be more effective in protecting the environment than treating them, or cleaning them up after they have been created.

Canadian Council of Ministers of the Environment

4.1 Pollution Prevention

Pollution prevention methods are designed to eliminate the creation of waste. Whereas pollution control options treat waste after it has been created, pollution prevention measures avoid the creation of waste.

Waste generators in the NWT can reduce costs and prevent pollution by implementing reduction, reuse and recycling programs through changes in operational procedures, maintenance practices and raw material usage. An overall waste management plan should incorporate these ideas.

1. Reduce

The aim of reduction is to eliminate the production of a hazardous waste by using raw materials more efficiently. Methods of reduction include substitution or reduction of a raw material, production redesign, process changes, and improved maintenance activities. Methods which are technically and economically practical in any given situation should be used to reduce or eliminate waste streams.

2. Reuse and Recycle

Reusing or recycling hazardous waste in operating processes within the generating facility is another means of pollution prevention. Alternatively other users may be found to reuse the material that would otherwise require treatment or disposal. The Department of Resources, Wildlife and Economic Development encourages the reuse and recycling of hazardous waste in the following ways:

- (a) Waste exchanges and associations offer some opportunity for the reuse or recycle of waste. Waste exchanges put potential users of waste materials in contact with waste generators. Appendix B lists a number of waste material exchanges and management associations.

- (b) Recycle programs are in place for some hazardous wastes such as waste oil, waste fuels and solvents. For information on recycling programs, contact the waste management associations in Appendix B or EPS.

4.2 Treatment or Disposal

It is not acceptable for hazardous waste to be abandoned, poured down sewers, dumped on land or discarded at a landfill.

Treating hazardous waste to reduce or eliminate their hazard is the final option after implementing appropriate pollution prevention options. It is the responsibility of the generator to treat or dispose of their hazardous waste properly. Although a discussion of treatment and disposal methods is beyond the scope of this guideline, the following are general points for consideration:

- The generator is required to determine and follow the proper management method for their waste. Sources of assistance include:
 - the manufacturers Material Safety Data Sheet (MSDS) provided with the raw materials.
 - the manufacturer.
 - complying with this guideline and other relevant legislation.
 - waste management consultants and associations.
- **Open burning of hazardous waste is not acceptable.**
- Treated hazardous waste may be directed for landfilling or to a municipal sewage system providing that the standards outlined in the Guideline for Industrial Waste Discharges in the NWT are met. The municipal authority and the facility's water licence should also be consulted.
- Different types of hazardous wastes should not be mixed together in the same container. It is important to control the quality of any waste to ensure it can be recycled or disposed of properly. Contaminating wastes with other wastes may prevent reuse/recycling options and increase disposal costs.
- Hazardous waste containers must be properly managed. Containers should be emptied, to the greatest extent possible, using regular handling procedures, or by triple rinsing with an appropriate cleaning agent. They should be rendered unusable by puncturing or crushing prior to disposal. This is especially of concern for containers which could eventually be used for water or food storage. Rinsings must be managed according to their waste characteristics.

4.3 Disposal Outside of the Northwest Territories

Hazardous waste can be sent to a hazardous waste management facility outside of the NWT if the receiving facility is registered in the receiving province or territory and is approved to manage that waste.

Environment Canada monitors international shipments through the *Export and Import of Hazardous Waste Regulations* (EIHWR) of CEPA. The International Basel Convention on the

Control of Transboundary Movements of Hazardous Waste and their Disposal controls the shipment of hazardous waste across international borders. Contact Environment Canada when considering international shipments.

A list of Canadian waste management facilities is available by contacting the associations representing the waste industries. These associations are listed in Appendix B.

4.4 Alternative Management Methods

EPS will give consideration to proposals for alternate management methods that provide an equivalent level of environmental protection to those identified in this guideline.

5 Conclusion

This guideline presents a brief introduction into the management of hazardous waste. It is intended as a source of basic information about the issues involved in the management of hazardous waste. It does not replace the existing legislation which is referenced in the guideline. Please contact the appropriate agency before proceeding. For more information contact:

1. Environmental Protection Service
Department of Resources, Wildlife and Economic Development
600, 5102-50 Avenue
Yellowknife, NT, X1A 3S8
Phone: (867) 873-7654 Fax: (867) 873-0221
2. Motor Vehicles
Department of Transportation
South Slave Region
76 Capital Drive, Suite 201
Hay River, NT, X0E 1G2
Phone: (867) 874-5000 Fax: (867) 874-6088
3. Workers' Compensation Board
Box 8888
Yellowknife, NT, X1A 2R3
Phone: (867) 920-3888 Fax: (867) 873-4596
Toll Free: 1-800-661-0792 Fax: 1-866-277-3677
4. Office of the Fire Marshal
Department of Municipal and Community Affairs
600, 5201-50th Avenue
Yellowknife, NT, X1A 2S9
Phone: (867) 873-7469 Fax: (867) 873-0260
5. Lands Administration
Department of Municipal and Community Affairs
500, 5201-50th Avenue
Yellowknife, NT, X1A 3S9
Phone: (867) 920-8038 Fax: (867) 873-0609
6. Population Health
Department of Health and Social Services
Box 1320
Yellowknife, NT, X1A 2L9
Phone: (867) 920-8877 Fax: (867) 873-0122
7. Indian and Northern Affairs Canada
Environment and Conservation
Box 1500
Yellowknife, NT, X1A 2R3
Phone: (867) 669-2589 Fax: (867) 669-2716

8. Environmental Protection Branch
Environment Canada
301, 5204 – 50th Ave.
Yellowknife, NT, X1A 1E2
Phone: (867) 669-4700 Fax: (867) 873-8185
9. Environment Branch
National Energy Board
444 Seventh Ave. S.W.
Calgary, AB, T2P 0X8
Phone: (403) 299-3676 Fax: (403) 292-5503
10. Explosives Division, Western Region
Natural Resources Canada
Unit 244, 755 Lake Bonavista Dr. S.E.
Calgary, AB, T2P 0N3
Phone: (403) 292-4766 Fax: (403) 292-4689
11. Western Regional Office
Canadian Nuclear Safety Commission
850, 220 - 4th Avenue SE
Calgary, AB, T2G 4X3
Phone: (403) 292-5181 Fax: (403) 292-6985
Nuclear Emergency (24 Hour) (613) 995-0479

Schedule I: Registration Volumes

Minimum quantity of hazardous waste¹ necessary for registration as a Hazardous Waste Storage Facility.

<u>Waste Classification TDG</u>		<u>Quantity</u> ² (Kg or L)
1	Explosives	50 ³
2.1	Compressed Gas (flammable)	500 ⁴
2.2	Compressed Gas (non-corrosive, non-flammable non-toxic)	5000 ⁴
2.3	Compressed Gas (toxic)	200 ⁴
2.4	Compressed Gas (corrosive)	500 ⁴
3.1	Flammable Liquids (flash-point < -18°C)	1000
3.2	Flammable Liquids (flash-point > -18°C < 23°C)	2000
3.3	Flammable Liquids (flash-point > 23°C < 61°C)	4000
4.1	Flammable Solids	5000
4.2	Spontaneously Combustible Solids	1000
4.3	Solids which React Violently with Water	500
5.1	Oxidizing Substances	1000
5.2	Organic Peroxides	50
6.1	Poisonous Substances	1000
6.2	Infectious Substances	500 ⁴
7	Radioactive	any amount ³
8	Corrosive Substances	1000
9.1	Miscellaneous	1000
9.2	Environmentally Hazardous	50 ⁵
9.3	Dangerous Waste	5000
Total Aggregate Quantity of Hazardous Waste		5000

¹ This applies to hazardous waste and not dangerous goods.

² Quantity refers to liquids when the amount is expressed in litres (L) and solids when expressed in kilograms (Kg).

³ Controlled under the authority of the Federal *Explosives Act* or *Atomic Energy Control Act*.

⁴ Total liquid volume capacity of the container.

⁵ PCB storage is regulated by Environment Canada under the *Canadian Environmental Protection Act*.

6 Bibliography

Government of Alberta, Alberta Environmental Protection - Alberta User Guide for Waste Managers, Edmonton, (1995).

Government of Northwest Territories, Department of Renewable Resources - Guideline for Industrial Waste Discharge, Yellowknife, (1995).

Government of Northwest Territories, Department of Renewable Resources - Environmental Information Guide For Industrial Projects, Yellowknife, (1995).

Heinke, G. and Wong, J., Guidelines for the Planning, Design, Operation & Maintenance of Solid Waste Modified Landfill Sites in the NWT, Volume 1 & 2. Department of Municipal and Community Affairs, Yellowknife, (1990).

NWT Water Board, Northwest Territories Waters Act, Canadian Gazette Part II, Vol.127, No.13, (1993).

Appendix A: Dangerous Goods Classifications

Class 1: Explosives¹

Class 2: Compressed Gases

- Division 2.1: Flammable Gases
- Division 2.2: Non-Flammable Gases
- Division 2.3: Poison Gases
- Division 2.4: Corrosive Gases

Class 3: Flammable Liquids

- Division 3.1: Flash Point < -18°C
- Division 3.2: Flash Point > -18°C and < 23°C
- Division 3.3: Flash Point > 23°C and < 61°C

Class 4: Flammable Solids, Substances Liable To Spontaneous Combustion, Dangerous When Wet

- Division 4.1: Flammable Solids
- Division 4.2: Spontaneously Combustible
- Division 4.3: Dangerous When Wet

Class 5: Oxidizers, Organic Peroxides

- Division 5.1: Oxidizers
- Division 5.2: Organic Peroxides

Class 6: Poisonous, Infectious Substances

- Division 6.1: Poisonous
- Division 6.2: Infectious Substances

Class 7: Radioactive Materials¹

Class 8: Corrosives

Class 9: Miscellaneous Dangerous Goods

- Division 9.1: Miscellaneous Dangerous Goods
- Division 9.2: Hazardous to the Environment
- Division 9.3: Dangerous Wastes

¹ - Class 1 and 7 are regulated under federal legislation and not subject to this guideline.

Appendix B: Waste Exchanges and Associations

Exchanges

Alberta Waste Materials Exchange	(780) 450-8996
British Columbia Waste Exchange	(604) 683-6009
Canadian Ortech Environmental Inc.	1-877-774-6560
Canadian Chemical Exchange	(800) 561-6511 (450) 229-5344 Fax
Ontario Waste Materials Exchange	(416) 778-4199
Quebec Waste Materials Exchange	1-800-668-6686 (514) 762-9012
Saskatchewan Waste Materials Exchange	(306) 787-9388

Associations

Assn. Québécoise des Techniques de L'eau	(514) 340-4790
Canadian Chemical Producers Association - Chemical Referral Centre	1-800-267-6666
Canadian Water & Wastewater Association	(613) 747-0524
Environmental Services Association of Alberta	1-800-661-9278 (403) 439-6363
Northwest Territories Water and Waste Association	(867) 873-4325
Ontario Waste Management Association	(905) 791-9500
Water Environment Association of Ontario	(416) 410-6933
Western Canada Water & Wastewater Association	1-877-283-2003

Attachment C

USER'S GUIDE FOR HAZARDOUS WASTE MOVEMENT DOCUMENTS IN THE NWT

WHAT IS A HAZARDOUS WASTE MOVEMENT DOCUMENT?

The federally produced movement documents, previously called waste manifest, is a form which when completed provides:

- detailed information on the types and amounts of hazardous wastes being shipped;
- a record of the various firms or individuals involved in the shipment; and,
- information on the treatment, storage, and/or disposal of hazardous wastes when they reach their final destination.

WHEN MUST A MOVEMENT DOCUMENT BE USED?

The movement document must be used for all shipment of hazardous wastes as defined in the,

- Province or territory of destination or origin,
- Interprovincial Movement of Hazardous Waste Regulations, or
- Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations, for International shipments.

Movement document can be obtained from the appropriate provincial authority. A complete listing of all such authorities is provided on the reverse side of the movement document form.

WHO MUST COMPLETE THE MOVEMENT DOCUMENT?

The movement document is made up of three separate parts.

- I. Part A must be completed by the generator (consignor) of the hazardous waste;
- II. Part B, by the carrier of the waste shipment; and
- III. Part C, by the receiver (consignee) of the hazardous waste.

Individuals completing the movement document form must print clearly and press hard.

GENERATOR'S (Consignor) RESPONSIBILITIES

The generator (consignor) is responsible for

- properly completing Part A of the movement document form and,
- providing copies 3, 4, 5, and 6 to the carrier,
- distributing copy 1 (or copies of copy one) to the appropriate federal, provincial or territorial authority. and,
- retaining copy 2 of the movement document form for a period of two years.

CARRIER'S RESPONSIBILITIES

The carrier is responsible for

- properly completing Part B of the movement document form,
- retaining copies 3, 4, 5, and 6 and providing them to the receiver,
- retaining copy 4 of the movement document form for a period of two years.

If more than one carrier will be used to ship a particular consignment, there are additional requirements for filling out multiple carrier forms.

RECEIVER'S (Consignee) RESPONSIBILITIES

The Receiver is responsible for,

- properly completing Part C of the movement document form and for distributing copies 3, 4, and 6 to the appropriate regulatory authority, carrier, and generator respectively.
- retaining copy 5 of the movement document form for two years.

GENERAL INFORMATION

If more than four types of hazardous wastes are shipped from the same generator, additional movement document forms must be completed. The person completing the additional form(s) must include the first movement document reference number on the additional form(s) in the space provided at the upper right hand corner of the form.

Each movement document form is printed in six (6) copies, which must be copied / distributed / retained as follows.

- Copy 1** Returned by the generator to the territory/province of origin of the waste (in most cases this will be the NWT).
- Copy 2** Retained by the generator for 2 years after the wastes have reached their final destination.
- Copy 3** Returned to appropriate authority of the province of origin of the waste after Part C has been completed and signed by the receiver.
- Copy 4** Retained by the carrier for 2 years after the wastes have reached their destination.
- Copy 5** Retained by the receiver for 2 years after the wastes have reached their destination.
- Copy 6** Mailed by the receiver to the generator after the wastes have reached their destination.

INSTRUCTIONS TO FILL IN MOVEMENT DOCUMENTS

Part A – Consignor (Generator) Instructions

Box 1 Generator Number Provincial ID No:

This number is a unique number assigned to the generator by the Northwest Territories, Department of Environment and Natural Resources, Environment Division (867) 873-7654.

Company Name (consignor): Enter the business name or name of the generator.

Mailing Address: Enter the business mailing address of the consignor/generator.

E-mail address: Enter an e-mail address if available.

Shipping Site address: Enter the physical site address, not a post office box.

Box 2 Intended Receiver (consignee): Enter the name of the Receiver and their receiver registration number issued by the province or territory of destination. The generator is responsible for obtaining this number from the receiver.

Mailing address of Receiver: Enter the mailing address of the receiver.

Receiving Site Address: Enter the physical location of the receiving site.

Box 3 Provincial Code: This space is used by some provinces to identify wastes according to an independent waste numbering system. This is not applicable in the NWT.

Box 4 Shipping name: Enter the shipping name of any waste listed in the definition of hazardous waste in the province or territory of destination, or in Schedule 1 of the *TDG Regulations*.

Box 5 Class: For TDG classified wastes, enter the primary classification followed in parentheses by any applicable subsidiary classifications [e.g. 3 (6.1)].

Box 6 UN Number: Enter the product identification number (PIN) for wastes classified under the *TDG Regulations*. This number is found in Column I of the lists in Schedule I. For shipments of leachable waste to Alberta, the PIN is NA9500.

Box 7 Packing Group: Enter the packing group where applicable for TDG classified wastes. The packing group is a Roman numeral (i.e. I, II or III) assigned to indicate a level of hazard for some classes of dangerous goods and special waste. Not all classes have packing groups. Packing groups are determined according to the criteria found in Part III of the *TDG Regulations*.

FOR NON TDG REGULATED WASTE BOXES 5, 6, & 7 CAN BE FILLED IN AS “NR” (NON-REGULATED).

Box 8 Quantity Shipped and Units: Enter the quantity of waste being shipped in metric units. Indicate the units used as either kilograms (kg) or litres (L). If the exact amount of waste is not known enter “est.” before the number for an estimated amount.

Box 9 Packaging Number and 18 Packaging Codes: Enter the number of individual packages used to ship the special waste in the column headed “No.”. This helps the receiver to check that containers were not added or lost en route.

Enter the codes for the type of packaging used in the shipment in the column headed "Codes".

Code	Container
01	Drum
02	Tank
03	Bulk (e.g., Vac Truck, End Dump)
04	Carton
05	Bag
06	Roll off or lugger
07	Other (e.g., pail, palette)

Box 10 Physical State: Enter the physical state of the waste as solid, liquid or gas (S/L/G).

BOXES 11-19 APPLICABLE ONLY TO INTERNATIONAL SHIPMENTS, CONTACT ENVIRONMENT CANADA.

<http://www.ec.gc.ca/drgd-wrmd/default.asp?lang=En&n=6DD358F4-0>

Box 20 Print, Signature, Telephone Number of authorized person:

Print or type, and sign the name of the generator, or a person authorized to act on behalf of the generator, in the space provided. This person must be accountable for the generator's responsibilities.

Enter the full telephone number of the authorized person, including area code.

Box 21 Shipping Dates:

Date Shipped: Enter the shipping date numerically in the year-month-day format.

Time Shipped: Record the exact time the shipment leaves the consignor's possession.

Scheduled arrival date: Indicate the expected date of arrival of the shipment at the receiving site

Box 22 Special handling: Provide 24-hour emergency response number for dangerous goods or ERAP number.

Box 27 Number of Manifests Used for Shipment: Indicate the numbers of other manifests associated with the shipment, if more than one manifest is required to describe a waste shipment.

Part B - Carrier Instruction

Box 23 Carrier Information:

Carrier Registration No.: Provincial/territorial carrier number.

Carrier Name: Enter the name of the waste carrier as it appears on the transport licence.

Mailing Address of Carrier: Enter the business mailing address of the carrier. Ensure the postal code is correct.

Box 24 Vehicle Registration Number: Identify each vehicle involved in a special waste shipment by a number such as the licence plate number for road vehicles.

Box 25 OR INTERNATIONAL USE ONLY

Box 26 Name of Authorized Person: Type or print, and sign the name of the person authorized to act for the carrier. In most cases this is the driver or other person responsible for the shipment while it is en route.

Telephone Number: Enter the full telephone number of the carrier, including area code.

Date of Shipment: Enter the date that the carrier takes charge of the waste shipment.

Part C – Consignee (receiver) Instructions

Box 28 Receiver Registration Number:

The provincial/territorial receiver number is placed here.

Receiver Name : Enter the name of the consignee/receiver. If the information is the same as that provided in Part A then this section does not need to be completed.

Mailing Address: Enter the business mailing address of the consignee/receiver.

E-mail Address: Enter an e-mail address if one is available.

Receiving Site Address: Enter the physical location of the receiving site.

Box 29 Date / Time Received:

Date Received: Enter the date and time on which the receiver accepts the shipment (year-month-day).

Time Received: Record the time of acceptance of the shipment and mark A.M. or P.M. as appropriate.

Box 30 If waste or recyclable material to be transferred, specify intended company name and Provincial Registration No..

Box 31 Identify the quantity received and the units in units in kg of L.

Box 32 Identify any shipment discrepancy problems.

Boxes 33 & 36 Identify the final handling method

Code	Handling Method
01	Storage
02	Thermal Treatment
03	Chemical Treatment
04	Physical Treatment
05	Biological treatment
06	Secure landfill
07	Recycling
08	Solidification
09	Other (Specify Box 36)

Box 34 Indicate whether or not the shipment was accepted or refused.

Box 35 Identify whether decontamination of packaging or the vehicle has been carried out by checking the appropriate box.

Box 37 The receiver authorized person shall print their name and telephone number and sign the form certifying that the information given in Part C is correct and complete.

