AREVA Resources Canada Inc.

Kiggavik Project, Nunavut

WASTE MANAGEMENT PLAN

January 2010 – Version 4

REQUIRED USERS

Any other users are responsible for using the current version of the Waste Management Plan as posted on the Kiggavik drive. Users may print copies of this plan, but are ultimately responsible for ensuring they are using a current copy as posted. Users are requested to destroy all previously printed copies of the plan when they are informed of revisions.

HISTORY OF REVISIONS

Version	Revision	Date	Details of Revision
01	00	March 2007	Original submission
02	00	October 2007	Update to reflect changes in field activities/capabilities and goals of continual improvement
03	00	January 2009	Update to reflect changes in field activities/capabilities and goals of continual improvement
04	00	January 2010	Update to reflect changes in field activities/capabilities and goals of continual improvement

Original Copy of this Manual:

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Approved by:
Jan. 25, 2010
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January 27, 2010
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The original hard copy of this approval page has been signed and is located at the AREVA Resources Canada Inc. corporate office.

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1 INTRODUCTION

The AREVA Resources Canada Inc. (ARC) Waste Management Plan is in effect from the time the exploration license is issued to the time it expires and it applies to the Kiggavik Project located about 80km west of Baker Lake. ARC is committed to ensuring that all wastes generated by the Kiggavik Project are collected, stored, transported, and disposed of in a safe, efficient and compliant manner.

1.1 Purpose and Scope

The waste management plan principals are fulfilled by using proven strategies and applying modern technological methodology to ensure materials are used efficiently and then disposed of in an environmentally compatible manner. General strategies include the following:

- The implementation of a waste manifesting system to enable waste identification and tracking.
- The most environmentally suitable materials, equipment, and products are used where practical. Preference is given to products with a minimum of packaging.
- Procurement procedures consider product substitution for materials that are hazardous to handle, generate hazardous wastes, or create an environmental liability.
- A “no feeding of wildlife” policy applies to all site personnel and visitors. Adherence to this policy is a condition of employment and site visitation privileges.
- All site personnel attend an orientation, which addresses waste management and handling of hazardous goods, prior to being exposed to the worksite. The site orientation for visitors includes a waste management component.
- Proper sorting, disposal, storage and handling of all waste streams.

1.2 Revision to Manual

This manual is reviewed by the Facility Supervisor, the Environment Health and Safety (EHS) Group and the General Manager, Kiggavik Project on an annual basis and is updated as required to keep it current and consistent with regulatory and procedural changes. A history of revisions can be found at the front of this manual.

1.3 Responsibilities

The Facility Supervisor is responsible to ensure that all personnel and contractors assigned to the Project are familiar with the requirements of this Plan.

The EHS Group reports to the Facility Supervisor. The Group includes:

- Environment and Radiation Protection Supervisor

- Environment Technicians
- First aid responders (ARC staff and/or contractors)
- Safety personnel (ARC staff and/or contractors)

The General Manager, Kiggavik Project is ultimately responsible for any activity being carried out by Kiggavik Project personnel.

2 WASTE REDUCTION, REUSE, AND RECYCLING

2.1 Waste Reduction

Measures or devices are implemented, wherever practical, to reduce waste at source, for example:

- refillable pump bottles instead of aerosol cans;
- reduction of paper consumption by promoting the use of electronic mail, voice messaging, electronic transmittals, etc.;
- reduction of disposable cups and containers by encouraging use/re-use of personnel and visitors' plastic mugs for coffee and beverages; and,
- storage of bulk liquids in large drums (e.g.: 205L) and dispensing the liquids into smaller, refillable bottles and containers, instead of storage, usage, and disposal of several smaller containers.

Means of reducing the volume of waste generated continue to be developed as the project progresses.

2.2 Waste Reuse

Waste is reused to the furthest practical extent. Examples of waste reuse include the use of cribbing from shipping of materials and equipment.

2.3 Waste Recycling

Waste is recycled where practical. Materials that may offer recycling opportunities in the future are investigated on an on-going basis during operations in an effort to reduce waste. For example, ARC may store materials such as tires, fluorescent lamp ballasts and other chemicals on-site for future shipping off-site for recycling.

3 WASTE SOURCES

The sources and types of wastes that are generated are presented in Table 3-1:

Table 3-1
Sources of Waste Generation

Source of Waste	Types of Waste
Chemical handling and storage operations	waste petroleum products, used chemicals
Sewage	biological sludge
Equipment maintenance	used batteries, engine oil, oil filters, tires, scrap metals, *etc*.
Building maintenance	used transformers, fluorescent lighting ballasts/tubes, glycol, construction scraps (wood, piping, carpets, *etc.)*
Domestic waste from: - camp and drill sites - admin offices - kitchen facilities	domestic garbage, food wastes, paper, cardboard
Inert waste from camp and drill sites	cement, sand, used materials, metals, pipe, glass, insulation etc.
Biological waste from medical facility	biological waste, needles, syringes, blood, human tissue, gauze pads
Drilling	Clean or radiologically contaminated drill cuttings

4 IDENTIFICATION, STRATEGY, AND DISPOSAL PLAN

Table 4-1 shows treatment strategies and disposal plans for wastes during the exploration program.

Table 4-1
Treatment Strategies and Disposal

Waste Type	Treatment Strategy	Disposal Plan
Petroleum based		
Used oil	recycle	Collect in bunged drums. Store in lined/bermed storage area. Ship off-site
Used hydraulic fluid	recycle	Collect in bunged drums. Store in lined/bermed area. Ship off-site
Contaminated or expired fluids	reuse/recycle	Ship off-site
Oil filters	recycle/recover	Collect in ring lidded drums. Store in lined/bermed storage area. Store for shipment off-site.
Contaminated soils	Excavate	Store for shipment off-site or landfarming (upon approval)
Waste batteries	recycle	Drain (if required) and neutralize acid. Store for shipment off-site
Aerosol cans	reduce/recycle	Puncture and drain, if equipment is available or collect in ringed drums. Store for shipment off-site.
Paint	dispose off-site	Collect and store cans in drums for shipment off-site
Chemicals		
Glycol	recycle	Collect in bunged drums. Store for shipment off-site
Solvents	reduce/dispose off-site	Use non-toxic solvents where possible. Store in drums for shipment off-site
Domestic wastes		
Food	incinerate	Collect and store in designated containers. Incinerate daily.
Paper/cardboard	reuse/incinerate	Reuse where possible or incinerate
General camp wastes	incinerate	Sort to retrieve non-burnable. Incinerate.
Inert Bulk Wastes		
Buildings/bulk debris	reuse off-site/dispose off-site	Store for future shipment off-site
Wood	Incinerate, dispose	Sort wood, incinerate non-treated wood, ship treated wood off-site to approved disposal facility
Incinerator ash	Dispose off-site	Collect in drums for shipment off-site
Scrap metal	Dispose off-site	Store for shipment off-site
Organic Wastes		
Sewage sludge	Incinerate	Bag and incinerate solid waste from pacto toilets; liquid waste is directed with greywater
Biological wastes	Incinerate/dispose off-site	Store in special waste receptacles. Incinerate/ship off-site
Drill cuttings - clean		Disposed off in a low lying area in the receiving environment
Drilling cuttings - radiologically contaminated		Collected at the drill site in totes and stored in the core storage compound for future handling, or shipped to an existing mining operation if the current exploration project does not proceed to development

5 WASTE MANAGEMENT

5.1 Sorting

Waste must be sorted at the source before it can be disposed or transported to specific designated areas in order to prevent materials from being disposed of improperly. The waste manifesting system assists the sorting process. Measures that are implemented for sorting include, but are not be limited to, the following:

- Containers are available for the collection of burnable, non-burnable, and recyclable wastes, such as scrap metal, timber, unsalvageable equipment, etc. General inspection of container contents is conducted prior to transport to ensure that there are no food wastes or unacceptable materials contained in them. The contents of the containers are sorted and stored for future handling, which consists of shipment off-site for disposal or recycling.
- Sorted and stored wastes are kept in a neat and tidy fashion and are transported off-site during the winter road season.
- Materials designated for off-site disposal are to be tagged according to designation. Such materials normally comprise of hazardous materials and wastes that cannot be disposed of on-site or can be recycled at off-site facilities. ARC will identify the facilities where such disposal or recycling will take place.
- The waste manifest tracking will be updated upon removal of waste items from site.

5.2 Food Waste Handling

Food wastes are collected from the camp, service complex and other facilities as required, and immediately placed and sealed in plastic bags. The bagged waste is then transported directly to the incinerator and burned. Incineration of food wastes and plastic waste from food containers is performed as soon as practically possible (typically on a daily basis) to avoid longer-term storage and potential wildlife attraction. Food wastes are not stored outside the incinerator area.

As a means of preventing wildlife attraction, food and beverages, and their containers, are not permitted to be disposed of outdoors. Designated snack and break areas for personnel are provided to prevent food and wastes from being generated uncontrollably around the site.

5.3 Non-Food Waste Handling

5.3.1 Sewage

When pacto-toilets are used, biodegradable organic components removed from the washrooms is collected in bags and immediately incinerated. The sterile ash will be collected and disposed of in drums with the ash from the industrial incinerator for future shipment off-site for handling at an approved facility.

Liquid sewage from the urinals is currently mixed with the camp grey water for discharge into a marked low-lying area, which is located a minimum 30m south of camp.

5.3.2 Chemicals

Chemicals (i.e.: glycol, acids, solvents, etc.) are collected in appropriate containers, and stored in the lined/bermed area for future shipment off site for disposal or recycling at an approved facility.

5.3.3 Waste Oil

Waste oil is collected in bunged drums and stored in the lined/bermed area for future shipment off-site for handling at an approved facility.

5.3.4 Domestic Wastes

Non-toxic, non-food solid wastes is sorted into recyclable, reusable, combustible, and non-combustible categories. Combustible items are burned in the incinerator, while non-combustible items are stored in a neat and tidy manner until they are shipped off-site for recycling.

Aerosol cans will be punctured and drained prior to being shipped off-site.

Toxic materials are to be stored in sealed, steel or plastic drums in the lined/bermed area and shipped off-site for proper disposal.

5.3.5 Inert Bulk Wastes

Inert bulk wastes that cannot be readily recycled or reused, such as chemically treated wood, general debris, incinerator ash, tires, etc. are stored in appropriately labelled bins or piled in a neat and tidy manner for future shipment off-site to an approved disposal facility.

5.3.6 Hazardous Wastes

All other hazardous, non-combustible waste and contaminated materials not identified above are temporarily stored in appropriate containers and shipped off-site for disposal or recycling.

The lined/bermed areas (arctic berms) have been identified as the location in which used or generated hazardous materials are to be stored prior to off-site shipment. During normal operations, hazardous materials are stored in other various locations associated with their intended use to minimize site transport and handling requirements. These materials and locations are as follows:

- oils and greases are stored in drums, pails, and bottles in the lube bay, maintenance shop or in the storage area
- batteries of all types will be stored in a storage area;
- ethylene glycol is stored in drums in the lined/bermed area

5.3.7 Drill Cuttings

During drilling activities, drill mud solids or cuttings in non-mineralized zones are deposited on the ground in low-lying areas. When mineralized core is intercepted, all drill mud and cuttings are collected in appropriate containers and categorized as radioactive through appropriate radiation measurements in accordance with Work Instruction KIG-741-08, *Management and Disposition of Radioactive Drill Cuttings* and the Abandonment and Restoration Plan.

Drill mud or cuttings with uranium content greater than 0.05% that are not otherwise retained are disposed down a drill hole and filled with cement. Where down hole disposal is not practicable, drill cuttings are collected and stored in the long-term core storage area with appropriate containment systems in place.

5.4 Waste Storage

5.4.1 Containers

Containers used for storage of waste are selected based on waste material requirements (*i.e.,* physical and regulatory), prevention of wildlife attraction (i.e.: steel or heavy duty plastic containers with positive clamping lids) and transport requirements (helicopter, truck, forklift, etc.). All containers are properly labelled to identify only those wastes for which the containers are being used to collect.

5.4.2 Waste Storage-Areas

All waste(s) collected in drums that are susceptible to damage which may lead to a leak or spill are stored in the lined/bermed areas (arctic berms) for future handling and removal from site.

Non-food waste products that are not incinerated immediately are collected, sorted, and placed in designated areas. These areas are to be kept in a neat and tidy manner until the waste products can be incinerated on site or removed from site for disposal or recycling.

5.4.3 Incinerator

An incinerator is used on a daily basis for the incineration of non-hazardous, combustible waste materials, which includes paper, food waste, sewage and non-treated wood. Incinerator ash are collected regularly (frequency depending on ash loading) in sealed, wildlife resistant containers and transported off-site for disposal.

The incinerator is located within 50m of the kitchen to minimize the distance that food wastes must be transported, thereby minimizing potential for wildlife interaction.