CAMECO CORPORATION HAZARDOUS MATERIAL SPILL CONTINGENCY PLAN (HMSCP) (the Plan)

Turqavik Project Aberdeen Lake Area, Nunavut

> Nunavut Water Board APR 0 5 2006

Date of Issue: 28 February 2006 Prepared by: Arnold Moen Nijssen / Peter Zeljeznak

Record of Revisions

Rev.	Date	Section	Description of Revision	Prepared/Revised by
0	28 February 2006	All	Initial issue	Arnold Moen Nijssen / Peter Zeljeznak
1				Manager 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
2				
3				
4	<u></u>		- · · · · · · · · · · · · · · · · · · ·	
5	B			
6				
7				
8				
9				
10				

TABLE OF CONTENTS

		Page	<u>e #</u>
1.0	INT	FRODUCTION	1
	1.1	Policy Statement	
2.0	RES	SPONSE ORGANIZATION AND RESPONSIBILITIES	2
3.0	INI'	TIAL ACTION	3
4.0	SP1. 4.1	LL REPORTING AND ALERTING	
5.0	SPII	LL ACTION PLANS	5
2.0	5.1	Spill Of Fuel From Steel Drum	
		5.1.1 Preventative Measures	
		5.1.2 Remedial Measures	
	5.2	Leak Of Liquid Fuel From Reservoir And Distribution Lines	
		5.2.1 Preventative Measures	
		5.2.2 Remedial Measures	. 6
	5.3	Spill Of Liquid Fuel Into Lake Water	. 6
		5.3.1 Preventative Measures	. 6
		5.3.2 Remedial Measures	. 6
	5.4	Spill Of Battery Acid	
		5.4.1 Preventative Measures	. 6
		5.4.2 Remedial Measures	
6.0	SPII	LL RESPONSE EQUIPMENT AND SUPPLIES INVENTORY	. 7
	6.1	Absorbent Material and Overpack Containers	
	6.2	Fuel Transfer Pumps	7
	6.3	Fire Extinguishers	7
	6.4	Acid Neutralizer	7
	6.5	Hand Tools	7
	6.6	Containers For Storage Of Spilled And Contaminated Materials	7
	6.7	All-Terrain Vehicle And Trailer	7
7.0	ORI	ENTATION	8
8.0	LIST	Γ OF HAZARDOUS MATERIALS	8
	8.1	Common Liquid Fuels	
	8.2	Battery Electrolyte: Sulphuric Acid In Battery Cells	8

Figures

Figure 1. Location Map of Cameco Properties & Proposed Exploration Camp Site Location Map showing proposed Exploration Camp and Airstrip

1.0 INTRODUCTION

The purpose of this plan is to outline procedures in the event of a spill of any hazardous material(s) occurring in the exercise of mineral exploration activities by Cameco Corporation for an area northwest of Baker Lake, Nunavut. Cameco Corporation has exploration rights to a number of claims, permits and other dispositions in the Aberdeen Lake area, these are shown on the attached map (Figure 1). The activities will be concentrated at a proposed campsite on the southwest shore of Qamanaarjuk Lake at approximately 64° 37' 43" N and 97°59' 40" W. Activities in support of exploration conducted along transportation routes between these areas and Baker Lake will also be covered by this plan.

During the camp construction phase of the operations our contractor(s) will transport construction materials and other supplies "overland" using low-ground pressure vehicles (tracked LMC 5700 ski hill groomers and wheeled Foremost Delta Three) and sleds pulled by these. Upon completion of construction, most of the supplies and personnel will be shuttled to camp from Baker Lake with fixed or rotary wing aircraft. One of the primary selection criteria for the campsite was that it have an adjacent natural or close-to-natural airstrip capable of use by large-tired single or twin-engine aircraft (such as the deHavilland Otter and Twin Otter), this situation will facilitate any emergency response supply. The largest quantities of hazardous materials involved in the proposed operation will constitute liquid fuel, it is planned to reduce the potential size of any spill of these products by resupplying on a regular basis and keeping the size of the stockpile as low as practical (typically a one week supply). Field crews of geologists and others will be taken out and picked up daily by helicopter. These crews will be engaged in prospecting, geological mapping, outcrop sampling and some geophysical surveying (not involving explosives). In the future diamond-drilling for core and other activities are envisaged and this plan will be revised.

1.1 Policy Statement

Consistent with our vision, values and measures of success, Cameco recognizes safety and health of its workers and the public, protection of the environment, and quality of our processes as the highest corporate priorities during all stages of our activities, which include exploration, development, operations, decommissioning and reclamation. As such, we are striving to be a leading performer through a strong safety culture and our commitment to the following principles:

- Keeping safety and health hazards, including radiation exposures, and environmental risks, at levels as low as reasonably achievable;
- Preventing pollution:
- Complying with and moving beyond legal requirements;
- Ensuring quality of processes, products and services; and
- Continually improving our overall performance.

2.0 RESPONSE ORGANIZATION AND RESPONSIBILITIES

Cameco Corporation, Exploration Division

Vice-President, Exploration - Colin MacDonald

- makes or delegates any Public News Release regarding a reportable spill
- notifies or delegates notification of next of kin of any Cameco Corporation casualty

Director, Global Exploration - Jim Marlatt

advises Cameco Corporation Vice President, Exploration of any reportable spill

Senior Geologist - Garth Drever (On-site Manager)

maintains communications with Director, Global Exploration regarding any reportable spill

Technician (Camp Manager) - Arnold Moen Nijssen (On-site Co-ordinator)

- initiates the Plan to any reportable spill
- leads the on-site effort to stop, contain and clean up the spill
- leads the investigation into the cause(s) of the spill
- cooperates with and reports to the appropriate government regulatory agency as required
- determines, in consultation with supervisors, whether to request external assistance in dealing with any spill

On-site authority will only pass to another party upon instruction from the On-site Coordinator's supervisor(s) and/or authorized personnel of an applicable government agency (for example: Environmental Protection Division, Department of Renewable Resources, Government of Nunavut; Land Use Directorate, Indian and Northern Affairs Canada; Royal Canadian Mounted Police)

The On-site Co-ordinator will consult with anyone deemed of potential assistance in remedying the situation concerning a spill of any Hazardous Material; in particular regulatory and technical personnel in the Safety, Health and Environment Division of Cameco Corporation, any applicable government personnel, air charter or contract personnel (pilots and operations managers).

This plan will be/has been vetted by qualified technical personnel within the Safety, Health and Environment Division of Cameco Corporation and they will provide the technical expertise with respect to decisions made in the execution of the Plan in response to any spill of Hazardous Material(s).

3.0 INITIAL ACTION

Spill is noticed or identified.

[All camp personnel will be oriented to watch for, report, and stand-by to assist as instructed with any remedial action to a spill of hazardous material(s)].

l

Report of spill to the Camp Manager or Designated Alternate (on-site). [Camp Manager quickly assesses the situation, assumes the role of on-site Co-ordinator, and implements the HMSCP if appropriate].

1

Camp Manager or Geologist-in-charge notifies Nunavut 24-Hour Spill Report Line 867.920.8130 & Cameco Corporation Management.

J

In any response to a spill of hazardous material(s) the on-site Co-ordinator will be primarily concerned to protect any person(s) from injury or harm. For example, a spill of gasoline in close proximity to a source of ignition should be dealt with by removing the possibility of ignition before attempting to arrest the spill of gasoline.

₩

Locate the source and mechanism of the spill and attempt to stop the spill.

1

Choose the appropriate absorbent and /or neutralizer for the spilled hazardous material(s), deploy these to begin the clean-up.

1

Attempt to stop the spread of the spill by using the spill response materials together with building dikes or berms with available equipment.

↓

Collect the used absorbent and/or neutralizer in suitable containers for proper disposal.

1

The On-site Co-ordinator will be responsible for recording all relevant information for reporting purposes.

4.0 SPILL REPORTING AND ALERTING

Communications from the site of any spill will be made via mobile satellite telephone; a stationary satellite telephone as well as a fully redundant high frequency single-side band radio will be situated at the camp. Hand-held very high frequency radios will be employed for communication between the spill site and the camp when practical. For any reportable spill, when the Plan is initiated, the satellite telephone in camp will be staffed by a person(s) delegated by the On-site Co-ordinator on a continual basis to ensure that communications with remotely located personnel is always possible. As soon as, and if, practical, one person at the spill site will be equipped with a mobile satellite telephone (this will be unnecessary if the spill site is at or close to camp).

Any reportable spill of Hazardous Material(s) will be reported by the Geologist-in-Charge or the Camp Manager to the 24-hour Report Line (867.920.8130) as well as to the Land Use Inspection Officer responsible for administering the permit for the Cameco Corporation land use operation. Cameco Corporation management will be notified immediately upon initiation of the Plan.

4.1 <u>Telephone Roster</u>

Organization	Personnel	Telephone Number	
Cameco Corporation	Colin MacDonald, Vice-President Exploration	306.956.6341	
	Jim Marlatt, Director Global Exploration	306.956.6420	
	Garth Drever, Senior Geologist	306.956.6363	
	Arnold Moen Nijssen, Camp Manager	306.956.6397	
Nunavut 24-Hour Spill Report Line		867.920.8130	
Indian and Northern Affairs Canada	Spencer Dewar, Land Administrator	867.975.4283	
	John Craig, Assistant Land Administrator	867.975.4285	
	Environment Manager	867.975.4549	
	Field Operations Manager	867.645.2831	
	Water Resources Manager	867.975.4550	
	Henry Kiblalik, Resource Management Officer	867.645.2831	
RCMP Baker Lake		867.793.0123	
Kivalliq Inuit Association		867.645.2800	
Government of Nunavut	Department of Environment	867.975.5900	
	Manager Pollution Control and Air Quality	867.975.5907	
Nunavut Water Board		867.630.6338	
Ookpik Aviation	Boris Kotelewetz	867.793.2234	
	(Alternate contact) Baker Lake Lodge	867.793.2905	
Helicopter Contractor	To be determined		

5.0 SPILL ACTION PLANS

5.1 Spill Of Fuel From Steel Drum

5.1.1 Preventative Measures

Steel drums will be stored in such a manner that they will not be susceptible to tipping over, rolling or otherwise being unstable. Care will be exercised that nothing that can cause damage to steel fuel drums by falling or rolling onto or into them. When unloading steel fuel drums from aircraft use of a ramp or a cushion (automotive tire) will ensure that they are not damaged.

5.1.2 Remedial Measures

Puncture or rupture of 206-litres steel drums containing liquid fuels will initially be assessed for risk of ignition. Sources of ignition will be extinguished or isolated from the spill of fuel if safe to do so, Efforts will be made to plug punctures with appropriate material from the spill kit (expandable neoprene plugs or wedges and shims), Ruptures will be high-centered to stop further spill of fuel. Absorbent material will be placed on spilled fuel and into appropriate containers (plastic or metal cans or pails in good condition) as it becomes saturated with fuel. If fuel spills onto ice or snow it may be scooped up with a shovel and placed into containers. Contaminated snow and ice will be stored and thawed and the fuel skimmed or wicked off of the surface of the water to be disposed of, most probably by incineration. High-centered ruptures will be used as a point of entry for manually-operated fuel transfer pump suction tubes, and remaining fuel will be removed to a sound drum.

5.2 Leak Of Liquid Fuel From Reservoir And Distribution Lines

5.2.1 Preventative Measures

Stability of all reservoir and distribution assemblies is of utmost importance to ensure that the risk of damage is minimized. All stands for reservoirs will be constructed to strength standards beyond those required. Distribution lines from reservoirs to appliances will be fitted with an appropriate shut-off valve immediately downstream from the reservoir. The line will be installed in such a way to prevent being chafed in the wind, chewed on by animals or tripped on by humans by securing it to rigid structures, encasing it in armor or any other effective manner. These measures apply broadly to heating oil, gasoline and propane set-ups.

5.2.2 Remedial Measures

A detected leak from a fuel reservoir and distribution line assembly will initially be assessed for risk of ignition. Sources of ignition will be extinguished or isolated from the leak if safe to do so. Shut-off valve immediately downstream from reservoir will be turned off. Absorbent material will be placed on the spilled fuel; if spilled onto snow or ice this will be scooped up with a shovel and stored in an appropriate container. Spilled fuel collected will be disposed of by incineration. The site of the leak will be searched for and repaired if and when found; if the site of the leak is not found the entire assembly may be replaced paying special attention to quality of materials, equipment and techniques of installation employed.

5.3 Spill Of Liquid Fuel Into Lake Water

5.3.1 Preventative Measures

Liquid fuel in steel drums will be stored well back from the lakeshore on durable ground.

5.3.2 Remedial Measures

Confinement and collection of liquid fuel in lake water will be attempted with floating booms of petroleum absorbent material.

5.4 Spill Of Battery Acid

5.4.1 Preventative Measures

Acquisition of non-spillable Optima batteries will reduce the risk of a spill of this type. Optima batteries can be shipped by AIR, they are exempt from UN2800 classification. All batteries will be protected from damage by fastening them into the space designed for them when used with various power equipment and stored safely when not in use.

5.4.2 Remedial Measures

In case of a spill of battery acid the first concern will be for the safety of any person(s) at risk of harm. Sources of ignition to the potentially explosive gas will be extinguished or isolated if safe to do so. Personal protective equipment, eye and hand wear at a minimum, will be donned and a neutralizer (sodium bicarbonate) will be bermed around the spill site. If safe to do so the entire battery may be placed into a non-corrodible container. The neutralizer may then be worked into the entire area of the spill until no more obvious reaction is noticed. Used neutralizer will be placed in suitable containers for appropriate disposal.

6.0 SPILL RESPONSE EQUIPMENT AND SUPPLIES INVENTORY

6.1 Absorbent Material and Overpack Containers

The basis of the spill response will be two 206-litres heavy duty polyethylene overpack containers which are available commercially pre-packed with an assortment of petroleum absorbent materials. A separate chest of additional absorbent materials and empty labeled chests to contain the materials from the overpacks should they be used will make the petroleum absorbent component of the spill response equipment.

6.2 Fuel Transfer Pumps

Dedicated manual fuel transfer pumps for each type of liquid fuel will be stationed in close proximity to each site where that fuel is stored.

6.3 Fire Extinguishers

Fire extinguishers of the proper type, size and number will be stationed in each building and near each site where equipment is normally serviced (including fuelling) and anywhere else it is deemed advisable.

6.4 Acid Neutralizer

Twenty kilograms of sodium bicarbonate will be divided proportionally and stored in labeled covered polyethylene pails near each of the batteries on site.

6.5 Hand Tools

A full complement of shovels, scoops, and grub hoes or pulaskis will be stationed around camp (typically one shovel and/or scoop at each door to a building); a dedicated set of these tools will be stationed with the chest of absorbent materials at the powerhouse/workshop.

6.6 Containers For Storage Of Spilled And Contaminated Materials

A supply of 20-litres polyethylene pails and heavy polyethylene sample bags will be reserved for the collection and storage of used absorbent materials and acid neutralizer.

6.7 All-Terrain Vehicle And Trailer

A small ATV and trailer with a load capacity of 450 kilograms will be situated in camp for general purposes and will be dedicated to assisting in any spill response as deemed suitable.

7.0 ORIENTATION

All personnel at camp (Cameco Corporation employees, contractors, and visitors) will be presented with a copy of this plan when they first arrive at the camp. The plan will be reviewed during their orientation to camp by the Camp Manager, including the location of Material Safety Data Sheets (in a labeled wall rack in the office), the location of spill kits and additional supplies and tools. Training for spill contingency will consist of alerting all personnel to be watchful for any leaks or spills and where these are most likely, instruction in the use of the equipment and materials, introduction to the protocol of the chain of command and the legal requirement to report certain spills as well as how to collect, store and dispose of spilled product.

8.0 <u>LIST OF HAZARDOUS MATERIALS</u> (Material Safety Data Sheets)

The following products will be the most significant (quantity and reactivity) hazardous materials at the Cameco Corporation operation for the first season; this list is subject to change and revisions of this plan will reflect these changes.

8.1 Common Liquid Fuels

Common liquid fuels: diesel fuel (stove oil, heating oil, P50), in 206-litres steel

drums: helicopter turbine engine fuel (Jet A), in 206-litre steel drums

: regular unleaded gasoline, in 206-litre steel drums

: propane, in 100-pound steel cylinders

8.2 Battery Electrolyte: Sulphuric Acid In Battery Cells

Battery electrolyte: sulphuric acid in battery cells

Material Safety Data Sheets will be stored and available to all personnel at a whitelabeled red wall rack in office at camp. Most MSDS are available on the Internet and therefore easily accessible even in the field.