



AREVA Resources Canada Inc.

Kiggavik Project, Nunavut

SPILL CONTINGENCY PLAN

October 2007 – Version 2, Revision 0

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HISTORY OF REVISIONS

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

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1 INTRODUCTION

The AREVA Resources Canada Inc. (AREVA) Spill Contingency Plan (Plan) is in effect for the duration of the Kiggavik Project. The Plan is intended to apply to the Kiggavik Project located about 80 km west of Baker Lake and all points located between the site and Baker Lake. In addition, the Plan is made available at operational remote camps and drill shacks, the Site, AREVA's Baker Lake Office as well as AREVA's corporate office. The Plan is reviewed and updated on a regular basis (at least annually). Any changes and/or amendments to the Plan will be submitted to the Nunavut Water Board (NWB), Indian Northern Affairs Canada (INAC), and the Kivalliq Inuit Association (KIA).

1.1 AREVA's Corporate Environmental Policy

AREVA endeavours to take every reasonable precaution toward ensuring the protection and conservation of the natural environment and the safety and health of all employees, and contractors from any potential harmful effects of stored materials and operations. This commitment is reflected in AREVA's Environmental Policy which outlines the following principles:

AREVA Resources Canada Inc. recognizes that continued economic and social development depend on a healthy environment and incorporates environmental considerations into all company activities to ensure sustainable development. AREVA is committed to continually improve approaches and technology to minimize the effects of its activities on the environment.

To meet this commitment, AREVA shall:

- comply with all applicable environmental legislation;
- minimize adverse environmental impacts of its activities by reducing consumption of natural resources, controlling releases and optimizing waste management;
- prevent pollution by using processes, practices, materials or products that avoid, reduce or control pollution;
- deal proactively with environmental issues by identifying potential impacts and implementing mitigating actions and/or developing effective contingency plans;
- develop internal objectives and targets to achieve continual improvement;
- measure performance against established goals;
- conduct employee training, internal assessments and periodic reviews to ensure these operations and activities are conducted in compliance with documented procedures;
- communicate environmental requirements and corporate initiatives to employees and contractors to encourage their participation and compliance;
- involve the public, with particular focus on impact communities, in initial planning, ongoing operations and decommissioning of AREVA activities through an open and transparent public involvement program.

This policy is made available to the public.

AREVA's *Environmental Code of Practice* provides a more specific and detailed procedures pertaining to spill response, and outlines responsibilities and expectations, which all field personnel are expected to follow. This document closely reflects the intent of this Code of Practice.

2 PURPOSE OF THE SPILL CONTINGENCY PLAN

The primary objective of the Spill Contingency Plan is to help prevent or reduce the potential of spills of pollutants and prevent, reduce or eliminate any adverse effects that result or may result. As such, the Plan provides information and guidance on actions important for the prevention of spills and procedures to detect and respond to spills when they occur.

By considering the likelihood of the spill and the nature and extent of any potential adverse effects, the Plan will evoke a risk management approach when considering spill events that could potentially be associated with the Kiggavik project. Effective implementation of spill prevention planning is also an important proactive component for minimizing the risks posed by spills. By implementing effective spill prevention, the risk of spills can be reduced in magnitude and perhaps even avoided.

Furthermore, the purpose of this plan is to identify potential response methods to spills in the vicinity of AREVA's operations in Nunavut. The plan identifies how the environmental effects associated with these incidents can be prevented and/or mitigated through safe, effective and efficient response.

As part of AREVA's mandate of regulatory compliance, this plan is intended to satisfy Nunavut Regulation **R-068-93 *SPILL CONTINGENCY PLANNING AND REPORTING REGULATIONS***.

3 SITE INFORMATION

AREVA has two primary uranium exploration properties in Nunavut – Kiggavik and Sissons. The Sissons property is located approximately 80 km west of Baker Lake, Nunavut, at 64.20 N and 97.52.5 W. It consists of 22 mineral leases totaling 14,730 ha. The project is operated by AREVA in joint venture with JCU Exploration (Canada) Co. Ltd. (48%) and DAEWOO Corporation (2%).

The Kiggavik property is located approximately 80 km west of Baker Lake, Nunavut, at 64°26' N and 97°40' W. The Kiggavik property consists of 17 mineral leases totaling 3,972 ha. The project is operated by AREVA Resources Canada Inc. (99%) in joint venture with DAEWOO Corporation (1%).

The Kiggavik camp infrastructure was refurbished in the 2007 field season to accommodate field personnel, additions to the camp will be made to facilitate field programs on an as needed and approved basis. Further camp modification are anticipated in 2008. In addition, drilling programs will be carried-out at both the Kiggavik and Sissons sites in 2008. These two sites are located approximately 17 km from each other.

St. Tropez is located to the north-east of Kiggavik, however there is currently no activity occurring on these leases.

3.1 Petroleum and Chemical Product Storage and Inventory

3.1.1 Drums

There are presently three primary fuel caches locations being utilized:

- Fuel cache at Kiggavik: 14W 564464, 7146782
- Fuel cache at esker: 14W 561512, 7145240
- Fuel cache at Sissons: 554300, 7134400 (NAD 83)

If a fuel haul consisting of drums is required, the haul would occur during winter conditions via ground transport (snow cats, foremost or other tundra trucks). Shipments normally would be expected to consist of a combination of Jet-B and or Jet-A, P-50 diesel fuel, unleaded gasoline and propane cylinders. It is anticipated that any additional fuel that may be required, following spring thaw, would be delivered by either helicopter or fixed wing aircraft from Baker Lake.

As of present, all drums of Jet-B, P-50 diesel fuel and unleaded gasoline at the Kiggavik Project are stored in approved 205 litre steel drums.

Each shipment is inspected immediately upon delivery for leaks and to evaluate the integrity of the containers. All fuel containers are labelled, identifying the contents and AREVA's name.

Fuel drums are stored within a secondary containment system. The secondary containment system presently being used is adequate to contain 110% of the total aggregate storage capacity of the drums. Secondary containment is used for all liquid fuels, lubricants and drill additives.

Furthermore, from a spill prevention practice, absorbent matting and/or drip pans is placed under all areas where fuel leaks are likely to occur (*i.e.*, fuel line hose connections, fuelling stations, generators, water pump, parked heavy equipment), and these areas are inspected on a regular basis (at least weekly). Waste oil, waste filters, and cleaned-up spill materials are contained for removal from the site, for safe and appropriate disposal. Degreasing agents used for maintenance of equipment parts and grease is contained for removal from the site.

3.1.2 Fuel Tanks

Due to a planned increase in related field activity, the associated fuel demand and to reduce the potential of fuel spills associated with the drums, the installation of two temporary bulk fuel tank storage systems will occur between fall 2007 and spring 2008.

Six (6) double-walled steel EnviroTanks, each with a capacity of 50,000-litres, will be installed at an esker located on the Kiggavik lease, east of the Kiggavik camp (same location where current fuel drum cache exists). Three (3) tanks for the storage of diesel and three (3) tanks for the storage of Jet-B will be installed at this location. The coordinates are as follows:

- 14W 561512, 7145240

See attached figures for site layout plans.

Two (2) 50,000-litre double walled steel EnviroTanks for diesel storage will be placed at the Sissons site to accommodate drilling activities. The coordinates of this location are:

- 554300, 7134400

See attached figures for site layout plans.

Both site layouts and tank designs have been designed by a consulting professional engineer and installed by a registered company/petroleum contractor to ensure compliance with the CCME Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products, 2003. Golder Associates conducted the engineering assessment to identify potential issues with the installation of storage tanks. These issues include bearing capacity, protruding boulders, seasonal freeze-thaw effects and possible thawing of permafrost. In a report supplied to AREVA by Golder on November 2, 2007 recommendations were provided for the foundation support for the storage

tanks. To mitigate the potential issues described in the report, Golder recommends that the tanks be placed on timbers located under each saddle to provide an increased bearing area. These recommendation will be adhered to by all contractors involved with the installation; a inspection by a professional engineer will conducted immediately following installation and again prior to first use which will occur some months after the tanks are filled with product.

The use of timbers is a deviation from the CCME COP, however it should be noted that this is common practice in the area and AREVA is expecting to receive permission from the area Fire Marshal (have not received written permission at the time this was being submitted).

Double walled steel EnviroTanks are considered to meet the requirements of secondary containment within their own structure. To further augment the tanks inherent secondary containment, rubberized berms (Artic berms) or other suitable lined structures will be placed beneath associated piping and utilized during fuel transfers to minimize the potential for the escape of fuels to the environment. In addition, spill/overfill protection consisting of high level alarms and overfill preventors catch basins around each tanks fill pipe will be used to add further protection against spillage.

The design basis for all petroleum storage on site is the CCME Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products (COP), 2003.

The operational and maintenance requirements for all petroleum storage and handling on site are based on the CCME Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products, 2003. In addition a formal operation and procedure guide, including work instructions will be prepared by AREVA that will cover topics associated with inventory control, inspection practice, fuel delivery practice as well as routine facility care and maintenance.

3.2 Petroleum Product Transfer

To minimize fuel spillage associated with dispensing of product, all dispensing and tank filling operations is attended and involves the use of manually held open nozzles equipped with automatic shut off mechanisms.

Smoking, sparks or opens flames are prohibited in fuel storage and fuelling areas at all times. Petroleum transfer operations will be carried out by trained personnel.

3.3 Location and Content of Spill Kits

Spill kits can vary in size and content depending on supplier and manufacturer however to remain consistent and provide adequate spill supplies, AREVA has chosen two types of spill

kits which are considered to be standard and are purchased, subject to availability. The kits generally include the following contents:

1. Universal Emergency Response Kit 30 Gallon/135-litre

- Sorbant capacity of 96-litres
- 4 socks (3" X 10')
- 75 pads
- 1 drain cover
- 1 caution tape
- 2 pairs nitrile gloves
- 2 pairs safety goggles
- 2 protective coveralls
- 5 disposable bags
- 1 instruction book

2. Universal Overpack Kits 95 US Gallon Drums

- Sorbant capacity of 275-litres
- 4 socks (3" x 10')
- 5 socks (3" x 4')
- 50 pads
- 5 pillows
- 1 roll
- 1 drain cover
- 1 caution tape
- 2 pairs nitrile gloves
- 2 pairs safety goggles
- 2 protective coveralls
- 10 disposable bags
- 1 instruction book

A variety of spill kits are available by manufactures, other kits then those listed above may be purchased for a variety of reason (availability, intended use, etc). All spill kits contain an itemized list of its contents and inventory of the kits on site is conducted on a regular basis (monthly or immediately following use), to identify and replenish missing items.

In addition, the following spill response material is also readily available for spill response:

- Skimmers
- Plugging compound
- Bulk supplies of oil absorbent pads and socks

- Aluminium or brass shovels or tools
- Bonding cables
- MSDS sheets

Due to the volume of fuel being stored in the fuel tank storage system and the remote nature of the sites, at least one of the Bulk Storage Site Spill Kits 95 US Gallon Spill Kits will be present for each 100,000-litres of fuel being stored.

In addition,

- At least one empty fuel drum and a pump will be located at each fuel cache and tank storage system in the event of damaged or leaking drums.
- Fire extinguishers of the proper type, size and number will be stationed in each building, at the fuel tank storage system and near each site where equipment is normally serviced and anywhere else it is deemed advisable.
- A supply of sealable 20-litre steel pails or 205-litre drums will be reserved for the collection and storage of used absorbent materials. Steel drums, clearly labelled for the storage of spent absorbent materials will be located at camp and at each fuel storage tank location as well as at each cache of drummed fuel or lubricants.

3.4 Orientation

All personnel at camp (AREVA employees, contractors, and visitors) are presented with a copy of the orientation plan upon arrival at camp. The spill contingency awareness plan is reviewed during their orientation to camp by the EHS Coordinator or designate including the location of the Material Safety Data Sheets (on a labelled wall rack in the office), the location of spill kits and additional supplies and tools. Training for spill contingency consists 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.

4 POTENTIAL HAZARDS, MITIGATION AND PREVENTATIVE MEASURES

4.1 Potential Hazards

Potential sources for spills have been identified as follows:

- Storage of drummed products: leaks or ruptures may occur. This includes drums of Jet-B, P-50 diesel, gasoline, waste fuel, and waste oil.
- Overfilling of tank(s) at the fuel tank storage system of Jet-B or P-50 diesel
- Transfer of fuel from tank to drum
- Fire at the fuel tank storage system
- Collision at the fuel tank storage system
- Vandalism of fuel tank storage system
- Propane cylinders: propane leaks may occur at the valves. All cylinders are secured at all times.
- Refuelling equipment such as: diamond drill equipment; helicopters; camp generator, stoves and incinerators; wheeled vehicles; snowmobiles, pumps. Incidents involving leaking or dripping fuels and oils may occur due to malfunctions, impact damage, lack of regular maintenance, improper storage, or faulty operation.
- Spills of acid from damage lead/acid batteries
- Spill of radiologically contaminated drill cuttings during drilling operations or transport of totes

4.2 Mitigation and Preventative Measures

AREVA's Environmental Code of Practice discusses how to conduct activities so as to minimize the risk of spill. In addition, the following measures will further minimize the potential for spills during fuel handling, transfer and storage:

- 1) Fuel transfer hoses with cam lock mechanisms to be used when transferring bulk fuel deliveries into the bulk storage tanks.
- 2) Carefully monitor fuel content in the receiving vessel during transfer. Always have additional absorbent pads on hand while transferring fuel.
- 3) Clean up drips and minor spills immediately.
- 4) Regularly inspect drums, tanks and hoses for leaks or potential to leak and for proper storage.
- 5) Create fuel caches in natural depressions that are located a minimum of 31 metres from the normal high-water mark of any water body.
- 6) Inventory and reconciliation procedures developed to ensure tanks are not overtopped and to ensure that tank leakage is not occurring.
- 7) Overfill protection on tanks include visual and audible alarms; catch basins around fill pipe; additional secondary containment at transfer locations; corrosion protection

- 8) Train personnel, especially those who will be operators, in proper fuel handling and spill response procedures. This training is to include a “mock” spill, review of spill kit contents and their use and reporting.

4.2.1 Spill of Fuel from Metal Drums on Tundra

Metal drums are stored in such a manner that they are not susceptible to tipping over, rolling or otherwise being unstable. Care is exercised so that nothing can cause damage to metal fuel drums by falling or rolling onto or into them. The use of a ramp or a cushion (automotive tire) while unloading metal fuel drums from aircrafts ensures that they are not damaged.

All drums of fuel are stored at fuel caches that consist of secondary containment.

4.2.2 Spill of Fuel from Fuel Tank Storage System

To prevent spillage during the filling of the fuel tank storage system the following items will be in place:

- Visible and audible high level alarm
- Automatic high liquid shut off device
- Manual dips conducted in conjunction with the inventory and reconciliation procedures to be carried out by the delivery truck operators and site personnel
- All tanks are double-walled
- Spill/Overfill protection – catch basins around the fill pipe will collect any liquid spilled during connecting or disconnecting of the fill hose
- Corrosion Protection – provided by painting of the tanks
- Drums will be placed in appropriated lined structures for fuel transfer from tank to drum

Most releases at a fuel tank storage system are due to piping and line failure. This system of tanks are independent of each other and do not require any piping.

All personnel conducting fuel transfers are to be adequately trained in the procedure and spill contingency.

Spills or leaks may occur due to improper management of tanks prior to installation. All tanks being transported to the Kiggavik Sisson site are to be inspected by a qualified person prior to filling and again prior to initial use.

4.2.3 Leak of Liquid Fuel from Distribution Lines

Stability of all storage tanks and distribution assemblies is of utmost importance to ensure that the risk of damage is minimized. All stands for reservoir tanks and fuel tanks are constructed to strength standards beyond those required. Distribution lines from reservoir tanks and fuel tanks

are fitted with appropriate shut-off valves immediately downstream from the tank. All valves are closed when tank is not in use. All associated distribution lines are installed in such a way to prevent being chafed in the wind, chewed on by animals or tripped on by humans. This is done by securing it to rigid structures, encasing it in armour or any other effective manner. These measures apply broadly to heating oil, jet fuel, gasoline and propane set-ups.

4.2.4 Spill of Liquid Fuel into Lake Water

Liquid fuel in metal drums are at a minimum of 30 meters from surface water on stable and level ground.

4.2.5 Release of Propane

Propane is stored in certified containers and is inspected and monitored on a regular basis for any signs of deterioration or corrosion. Containers are secured and fastened in an upright position to ensure there is no risk of damage to the regulator in the event of a fall. Only qualified gas fitters will connect or disconnect piping to any bulk propane storage system.

In the event that larger bullets are introduced on site, only qualified gas fitters will connect or disconnect the piping and crash protection will be provided once there are vehicles on site.

4.2.6 Spill of Battery Acid

Acquisition of non-spillable batteries reduces the risk of a spill of this type. These batteries can be shipped by air as they are exempt from UN2800 classification. All batteries are 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.

4.2.7 Fire at the Fuel Tank Storage System

Grounding cables are used for all transfers of bulk gasoline or jet fuel to minimize to potential of a static discharge and potential fire.

4.2.8 Crash at Fuel Storage Tanks

Current risk of a crash occurring at either fuel tank storage system location is minimal due to the absence of vehicles at the exploration sites. In the event that the use of vehicles is introduced in the operation, crash protection will be put in place.

To assist aircrafts and helicopters, wind socks are placed at each location.

4.2.9 Spill of Radiologically Contaminated Drill Cuttings

During drilling activities, drill mud solids or cuttings in non-mineralized zones are deposited on the ground. 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 instructions *EXP-741 Management and Disposition of Radioactive Drill Cuttings* and the *Abandonment and Restoration Plan*.

4.3 Winter Fuel Hauling

AREVA plans to use a locally owned business for hauling fuel.

Typical Bulk Fuel Delivery Vehicle specifications and operating practice:

- Vehicle type: Delta 3 Foremost on flotation type tires
- Operational top speed of 16 km/h (10 mph) when fully loaded and 19 km/h (12 mph) when empty;
- Vehicle carries a Bulk Site Spill Kit and an empty steel drum for the storage of spent absorbent material.
- Vehicle will use a 10,000-litre bladder tank for transporting fuel;
- Vehicle will have a portable phone and HF radio.and/or satellite telephone

Vehicle crew will have current and valid training for:

- Transportation of Dangerous Goods
- Fuel Spill Training
- Spill Contingency Awareness

5 SPILL REPORTING REQUIREMENTS

Spills are documented and reported by the Facility Supervisor or designate to the 24 hour Spill Line, within 24 hours. Based on Environment Canada's recommendation, **all** releases of harmful substances, regardless of quantity are immediately reportable where the release is:

- Near or into a water body;
- Near or into a designated sensitive environment or sensitive wildlife habitat;
- Poses an imminent threat to human health or safety;
- Poses an imminent threat to listed species at risk or its critical habitat.

Nunavut's regulation **R-068-93, *SPILL CONTINGENCY PLANNING AND REPORTING REGULATIONS***, also impose a legal requirement to report any spill of flammable liquids greater than 100-litres in quantity. The following table is copied from the previously mentioned regulation R-068-93 and indicates quantities of spilled product that require reporting to GN – DOE.

SCHEDULE B

(Section 9)

<i>Item No.</i>	<i>TDGA Class</i>	<i>Description of Contaminant</i>	<i>Amount Spoiled</i>
1.	1	Explosives	Any amount
2.	2.1	Compressed gas (flammable)	Any amount of gas from containers with a capacity greater than 100 l.
3.	2.2	Compressed gas (non-corrosive, non flammable)	Any amount of gas from containers with a capacity greater than 100 l.
4.	2.3	Compressed gas (toxic)	Any amount
5.	2.4	Compressed gas (corrosive)	Any amount
6.	3.1, 3.2, 3.3	Flammable liquid	100 l
7.	4.1	Flammable solid	25 kg
8.	4.2	Spontaneously combustible solids	25 kg
9.	4.3	Water reactant solids	25 kg
10.	5.1	Oxidizing substances	50 l or 50 kg
11.	5.2	Organic Peroxides	1 l or 1 kg
12.	6.1	Poisonous substances	5 l or 5 kg
13.	6.2	Infectious substances	Any amount
14.	7	Radioactive	Any amount
15.	8	Corrosive substances	5 l or 5 kg
16.	9.1 (in part)	Miscellaneous products or substances, excluding PCB mixtures	50 l or 50 kg
17.	9.2	Environmentally hazardous	1 l or 1 kg
18.	9.3	Dangerous wastes	5 l or 5 kg
19.	9.1 (in part)	PCB mixtures of 5 or more parts per million	0.5 l or 0.5 kg
20.	None	Other contaminants	100 l or 100 kg

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15 July, 1998

In addition, all spills of radioactive material, of any amount, must be reported.

If you are in doubt as to whether or not a spill is reportable, it is better to error on the side of caution and to report the spill.

5.1 Spill Response Contact List

The most recent “Emergency Contacts” list will be available in drill rigs and field offices. The contact list relevant to spill response at this stage of the project is listed below:

Position	Name/Location	24-Hour Contact #	
Immediate Contacts for Spills			
Facility Supervisor	Dan Zunti/Kiggavik	Sat Phone	011 8816 314 67865
Manager, Nunavut Affairs	Barry McCallum/Baker Lake	Phone Cell Saskatoon	867 793 2000 306 242 4636 306 343-4596
General Manager Kiggavik Project	Frederic Guerin/Saskatoon AREVA Resources Canada Inc. 817 - 45th Street West Saskatoon, SK S7K 3X5	Phone Cell	306 343 4631 306 270 2915
Manager, Licensing	Trevor Carlson/Saskatoon	Phone	306 343-4586
Government of Nunavut (DOE)and Environment Canada 24-Hour Spill Report Line	DOE P.O. Box 1000 Station 1300 Iqaluit, NU X0A 0H0 Fax 867.975.7742 EC 4999-98 Avenue, Room 200 Edmonton, Alb T6B2X3 Fax: 780.495.2615	Phone	867-920-8130
Note: A Spill Report (Appendix I) should be filled out as completely as possible prior to calling the 24-Hour Spill Report Line. Areva will fill out spill reports as a matter of record keeping.			
Kivaliq Inuit Association	PO BOX 340 Rankin Inlet, Nunavut XOC 0G0 Fax: (867)-645-2348	Phone	867-645-2800
INAC	Peter Kusugak, Manager of Field Operations Indian and Northern Affairs Canada P.O. Box 2200 Iqaluit, Nunavut X0A 0H0 Fax: (867) 975-4560	Phone	867-975-4295
Nunavut Water Board	PO Box 119 GJOA Haven, NU X0B 1J0 Fax (867) 360-6369	Phone	867 360-6338

5.2 Reporting Requirements

Once safe to do so, immediately notify the following agencies / people of the spill:

- 24-hour spill report line (within 24 hours)
- Frederic Guerin
- Barry McCallum
- Dan Zunti (if not on site during incident)
- The NWB and INAC appreciate verbal notification as soon as possible, however they should be notified by the spill report line
- A copy of the written Spill Report Form and a detailed report must be submitted to INAC, NWB and EC within seven (7) calendar days of the incident
- Submit a copy of the Spill Report Form and detailed report to Frederic Guerin of AREVA for internal distribution.
- Submit a copy of the Spill Report Form and a detailed report to KIA if the incident occurs on KIA licensed land

6 SPILL RESPONSE

6.1 Response to a Spill – Containment and Clean-Up

In the case of any spill or other environmental emergency, it is necessary to react in the most immediate, safe, and environmentally responsible manner. No spill or incident is so minor that it can be ignored.

The basic steps of the response plan are as follows:

Ensure the safety of all persons at all times.

The safety of yourself and others is the most important consideration when responding to a spill. As such, all actions that you perform as part of your spill response must only be undertaken if they can be undertaken in a safe manner. If an action can not be undertaken in a safe manner or if you do not feel that you are adequately trained or equipped to respond to a spill, the only appropriate thing to do is to safely evacuate all personnel in the area to a safe area away from the spill. Once everyone is safe you will then need to request assistance from trained emergency responders with the appropriate resources to manage the spill safely and effectively.

KEY POINT TO CONSIDER WHEN RESPONDING TO A SPILL

- *It is your responsibility to act safely, using appropriate personal protective equipment and work practice.*
- *It is your responsibility to respect the safety of others in the area.*
- *It is your responsibility to refuse to perform activities that you feel are unsafe.*
- *It is your responsibility to inform those involved or in the area if you believe that their actions, or proposed actions, are unsafe. This includes colleagues, first responders, contractors, members of the public, etc.*

Identify and find the spill substance and its source.

Individual discovering the spill shall:

- Move upwind of the material
- Call for help – contact the Facility Supervisor or designate
- Attempt to stop leak – only if safe to do so
- Attempt to contain spilled material – only if safe to do so

Facility Supervisor (or designate) shall:

- Notify necessary responders
- Once under control, shall interview the individual who discovered spill. Noting name, time discovered, and details on how the spill occurred, any actions taken by the individual to stop the spill.
- Completely document the spill by completing the Spill Report Form and contacting the 24-hour Spill Line within 24 hours (see Section 5 for Spill Reporting requirements)
- Within 7 days prepare a written detailed report to be submitted to required regulatory agencies (see Section 5).

Responders shall:

- Position themselves upwind of the spill
- Determine what has been spilled
- Consult the Material Safety Data Sheet (MSDS) for the product in order to determine the appropriate personal protective equipment and to understand the physical properties of what was spilled.
- If the spilled substance is flammable (Gasoline or Jet Fuel), eliminate all ignition sources and shut off machinery in the area.
- If save to do so, take actions to ensure that the leak or spill has been stopped at the source (*i.e.*, shut off valves, reconnect hoses, *etc.*).
- Contain spill with appropriate material and equipment (*i.e.*, spill response kit, *etc.*). Refer to the Material Safety Data Sheets ("MSDS") if this is a controlled substance. Pump large spills into barrels or other suitable container as available. **Ensure that grounding or bonding cables are used for all flammable product transfers.**
- Control access to the spill area and keep all bystanders away. If necessary, barricade the spill area (do not use flares unless you are certain the spilled material and its vapours are not flammable or explosive).
- If safe to do, keep spilled material out of waterways. Use aluminium/non-sparking shovels to dig trenches or make soil and sand barriers or utilize the placement of socks as barriers
- Upon completion of clean-up, place contaminated absorbent and associated materials into steel pails or drums for removal from the site.
- If a spill has entered flowing water, take a sample immediately upstream of the spill and downstream (e.g. 50m, 150m and 500m from spill)

The following table demonstrates the spill supplies that may be utilized during the response to a spill on site:

Incident	Spill Supplies	Use
Wet Spill	Drums, with removable lids, that contain bailers	For manual removal of large liquid spills - Empty drums
	Folded sweeps and white rolls	Skimming of gas or diesel from water body
	Socks, peat moss	Containment of wet spill on land
	Pads, rolls, bags of dry absorbent	Cleanup of wet spills
Punctured Drum	Overpack (plastic drum) Plug 'n Dyke	Either: 1) place overpack overtop of leaking drum, lay overpack and drum on its side, then flip upright 2) use Plug 'n Dyke or other plugging compounds to seal and stop leak
Dry Spill	Plastic sheet (roll), mallet, spikes, knife	Covering dry spills to protect from wind and rain

- If necessary ask for help – refer to the “EMERGENCY CONTACTS” list. Often the best thing to do is to wait for others with the appropriate training and/or equipment to arrive. Acting inappropriately can often be dangerous to yourself, others or to the environment.

Implement any necessary cleanup and/or remedial action in a safe manner; this may be coordinated and or conducted by a third party consultant, if necessary

Report the spill as per Section 5 of this Plan once it is safe to do so. Do not delay reporting as there are legal requirements in this regard.

6.2 Examples of Spill Scenarios (refer to Section 6.1)

6.2.1 Spill of Fuel from Metal Drums or Fuel Tanks on Tundra

A puncture or rupture of containers containing liquid fuels should initially be assessed for risk of ignition. Sources of ignition will be extinguished or isolated from the spill area if safe to do so. Using appropriate personal protective equipment as described in the MSDS efforts should be undertaken to plug punctures with appropriate material from the spill kit (plugging compound or other improvised materials). Ruptures or holes should be high-centered to stop further spillage of fuel. Absorbent materials should be used to absorb spilled fuel. A containment berm should be built from soil or snow or absorbent socks and/or tarps to contain a large spill.

Remove the spilled products using absorbent material or soil, gravel or snow, placing all recovered spilled fuel and spent absorbents into appropriate containers (metal cans, pails or drums in good condition). Again, all fuel skimmed or wicked off of the ground is to be disposed

of, in appropriate steel containers. High-centered ruptures will be used as a point of entry for manually-operated fuel transfer pump suction tubes, and remaining fuel is removed to a sound drum. Small amounts of contaminated soil, vegetation or gravel is removed and placed into sealable steel drums and or pail and then disposed of appropriately. Large areas of spilled product on the ground are only to be remediated after consultation with AREVA environmental personnel, regulators, etc.

Before commencing any removal of soil, gravel or vegetation regulatory agencies will be contacted.

Report the spill.

If spill of significant volume occurs at one of the fuel storage tanks occurs, attempt to prevent the spread of the fuel, if safe to do so and immediately contact AREVA personnel to hire assistance with the spill response and clean-up.

6.2.2 *Spill of Fuel on to Muskeg*

For a spill on to muskeg – DO NOT deploy personnel or equipment onto marsh or vegetation. Remove spilled product that has pooled with sorbent pads and/or a skimmer. If necessary, the area can be flushed with low pressure water to herd the spill into a collection point.

Only burn localized areas (trenches, piles or windrows) upon receiving advice from regulatory agencies. Do not burn if the root systems can be damaged.

Minimize damage that may be caused by equipment and excavation.

6.2.3 *Leak of Liquid Fuel from Distribution Lines*

A detected leak from a fuel storage tank and/or distribution line assembly is to be initially assessed for risk of ignition. Sources of ignition are to be extinguished or isolated from the leak if safe to do so. If safe to do so, the shut-off valve on the tank and/o distribution line is to be turned off. Absorbent material is placed on the spilled fuel; if spilled onto snow or ice it is scooped up with an aluminium (non-sparking) shovel and stored in an appropriate sealable steel container. Ultimate disposal of these materials is only to be done after consultation with site environmental personnel and the appropriate regulatory agency. Report Spill

6.2.4 *Spill of Liquid Fuel into Lake Water*

Never attempt to contain or clean up a spill of gasoline on water. The risk of fire is simply too high. Confinement needs to occur as close to the release point as possible. The collection of liquid diesel or lubricating oil in lake water is attempted with floating booms of petroleum

absorbent material, after vapours have dissipated. For larger spills of diesel or lubricating oil, raw liquid can often be removed by skimming and absorbent pads can be used to collect small spills.

Prior to attempting any clean up on water, a site specific safety plan needs to be developed that factors in water safety aspects.

All fuel skimmed or wicked off of the water surface as well as spent absorbent materials must be disposed of, in appropriate sealable steel containers. Ultimate disposal of these materials shall only be done after consultation with site environmental personnel and the appropriate regulatory agency.

Report Spill

6.2.5 Fire at Fuel Storage Tanks

In the event that a fire occurs at the fuel storage tanks, it is AREVA's primary intentions to ensure the safety of the site personnel by allowing the fire to burn. Appropriate third party personnel will be contacted to ensure proper response and clean-up occurs.

Report the event.

6.2.6 Release of Propane

No attempt should be made to contain a propane release.

Water spray can be used to knock down vapours and to reduce the risk of ignition.

Small fires can be extinguished with dry chemical or CO₂.

Personnel shall withdraw from the area immediately upon identifying a leak and shall not return until the leak is stopped and all the vapours have diffused. Contact will be made with the proper agency for disposal instructions of a defective container.

Report the spill.

6.2.7 Spill of Battery Acid

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.

Report the spill.

6.2.8 *Spill of Radiologically Contaminated Drill Cuttings*

In the event of a spill of, radioactive materials will be collected into appropriate storage containers and necessary site remediation undertaken to meet the site abandonment criteria of less than 1 $\mu\text{Sv/h}$ at a height of 1 m above background. To the greatest extent possible, all spill affected areas will be decontaminated.

This type of incident is currently avoided by the use of sealed, non-spillable batteries.

Report the spill.

7 TRAINING AND PRACTICE DRILLS

All employees and contractors are to be familiar with the spill response resources at hand, this Contingency Plan, MSDS sheets, and to be trained for initial spill response methods. Involvement of other employees or third parties may be required, from time to time. Annual refreshers are conducted to review the procedures within this plan. As well, at least one practice drill is held per season to allow all field-personnel opportunity to practice emergency response skills

APPENDICES