

**Deh Cho Bridge Proposal
Developer's Assessment Report**

Submission to the Mackenzie Valley Environmental Impact Review Board

Appendix 1-B

Development Description - Schematic Spills Contingency Plan

Jivko Engineering

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SCHEMATIC SPILLS CONTINGENCY PLAN**GENERAL**

Types of Contaminants:	Diesel fuel, gasoline and vehicle lubricants will be used on the work site and in the equipment.
Storage of Contaminants:	No fuel will be kept at the work site within the limits of the High Water Level. All vehicles and equipment will be refuelled at a safe distance from the river.
Use of Fuel Truck/Route	Fuel will be transported to the site from local distributors with specialised fuel truck.
Spills Containment and Clean-up Training	The on-site construction management team will review and familiarise themselves with the 1997 NWT Spill Containment and Clean-up Course.

POTENTIAL SPILL INCIDENTS**.1 Transfer of the fuel from the fuel truck to the machinery****Incident:**

Refuelling hose could break, spring a leak, fall out of the gas receptacle, or the tank could be overfilled, thereby spilling fuel on the refuelling area.

Consequences:

- i) Limited area; puddles of fuel.
- ii) Hose breaks off at tank, leaking significant amount of fuel over large area; the slick flows steady from tank.

Preventive Measures:

- i) All refuelling of vehicles should occur in an area well back of the high water mark. Refuelling of drill-rigs on ice should be done by thoroughly inspected fuel trucks operated by specially instructed crew. Crew should be aware of emergency shut-offs.
- ii) Site should be stocked with a complement of spills management material.

.2 Equipment Storage and Operation**Incident:**

- i) Vehicle, drill rig, or construction equipment could leak fuel while in operation or during overnight.
- ii) Vehicle, drill rig, or construction equipment could experience mechanical problems, discharging fluids.

Consequences:

At best small puddles of fuel, or drops of lubricants, antifreeze, etc., at worst, the entire content of the vehicle fuel tank or fluid container could be discharged.

Preventive Measures:

- i) Vehicles and equipment working within the high water mark will be thoroughly inspected for leaks on a daily basis and the operators properly instructed.
- ii) Vehicles and mobile equipment will be stored in an area well back of the high water mark.

- iii) Site should be stocked with a complement of spills management material such as Sphagdry Spill Kit.

.3 Fuel truck accident en-route to site

Incident:

Fuel truck has accident while servicing site.

Consequences:

Worst case scenario: The truck overturns and/or the tank is ruptured potentially discharging content over large area. On-site bridge management and contractor could be unaware of the accident.

Preventive Measures:

- i) Coordination and communication between fuel supplier, bridge management and the Contractor including routes and timing of delivery.
- ii) Ensure that the fuel supply company has in place a Spill Contingency Plan.
- iii) Ensure that the fuel truck is stocked with spill containment equipment.
- iv) The on-site management and the construction crew should be prepared to mobilize to contain the spill.

LIST OF ON-SITE SPILLS CONTAINMENT AND MANAGEMENT EQUIPMENT

Heavy Equipment	To remove the soiled material, construct containment ditches, etc, a mid-size bulldozer and/or a wheeled loader will be available on site for the duration of the work.
Hand Tools	Specially assigned shovel, axe, hammer, and set of wrenches will be readily available for the full duration of the work.
Spill Kit	45 gallon drums of sphagnum absorbents, gloves, disposal containers, will be stored on site for immediate removal of contaminated materials.
Containment Structures	Land/ Ice based containment structures will be constructed to contain spilled hazardous materials. Containment berms should be constructed to create an area of sufficient size to hold 10% more than the maximum capacity of the leaking container within the bermed area. The bermed area should be lined with material impervious to leakage.

SPILLS REPORTING PROCEDURE

Contact Phone Numbers

NWT Spills Hotline	867 920-8130
Deh Cho Bridge Corporation, Albert Lafferty	867 699-3441
Jivko Engineering, Jivko Jivkov	867 920-4455
Hamlet of Fort Providence	867 699-3441
Contractors	to be determined
Mackenzie Valley Land and Water Board	867 669-0506
DFO - Area Habitat Biologist, David Tyson	867 669-4919
DFO – Fisheries Officer, Larry Dow	867 874-5574
Environment Canada, Stephen Harbicht	867 669-4700
DIAND, Resource Management Officer, Ken Dahl	867 669-2720
RWED Environmental Protection, Ken Hall	867 920-6476

SPILL RESPONSE PROCEDURE

The following procedure is to be followed in the event of spill. Steps are listed in the order of importance; however depending on the circumstances, conditions, and potential injuries, this order may need to be altered to meet specific needs.

.1 Identify the product spilled:

If the identity is unknown, and if identification means further risks, then action must be based on the assumption that the product is extremely dangerous. The crew is not to smell, taste, touch, or attempt to reach ruptured containers if they are surrounded by the contaminant.

.2 Assessment of dangers and hazards:

Immediately must be determined the direction of the spill's progress, whether it is confined in a pocket on land, running downhill towards the water, or already in the water. Careful attention will be paid to the full nature of the incident: Is this solely a surface contamination? Are fumes an additional factor? Are there any injuries current or possible?

.3 Stop the flow at source

Has the flow been stopped, or is it still leaking? Is there an emergency shut-off valve? Have ruptures or holes in the container been patched? Is the container empty?
PRECAUTION: ATTEMPT TO STOP THE FLOW ONLY IF IT IS SAFE TO DO SO!

.4 Take actions to contain the spill

Prompt containment could reduce environmental exposure and risk. Depending on the case, containment measures could be land and/or water based. Land based measures include application of absorbents, construction of berms and diversion/collection trenches. Water based measures could include dams, dykes, floating booms or curtains, etc.

.5 Report Action to the NWT Spills Hotline

When calling the NWT spills hotline the person reporting the spill shall give as much of the following information as possible:

- ✓ Date and time of spill
- ✓ Precise location of the spill
- ✓ Type of containment spilled
- ✓ Cause of spill
- ✓ Description of the container and the rupture
- ✓ Approximate quantity spilled
- ✓ Direction the spill is moving towards, or it has already stopped.
- ✓ Actions taken to recover, clean-up and dispose of the spilled containment
- ✓ Name and phone number of the persons close to the location of the spill
- ✓ Name, address and phone number of the person reporting the spill
- ✓ Name and phone number of the person in charge of management or control at time of spill.

NOTE: It is important to note that the Spills Hotline Operator is NOT A SPILL CONTAINMENT EXPERT, The role of the operator is solely to record the information and to relay it to the appropriate channels.

REPORTING PROCEDURE CHAIN OF EVENTS

- .1 Worker notices spill
 - a.) Is the source of the spill still flowing?
 - b.) Could the source be turned safely off? - If yes, do so.
- .2 Worker notifies the on-site Construction Manager, and/or his Construction Foreman
 - a.) The Manager or Foreman will either decide to take immediate action to stop the source of the flow, or contain the flow.
 - b.) The Manager or the Foreman call the NWT Spills Hotline to file a report
- .3 Notifying the other agencies
 - a.) The Manager or the Foreman notifies:
 - Deh Cho Bridge Corporation
 - Jivko Engineering
 - Hamlet of Fort Providence
 - Contractors
 - DFO
 - c.) The NWT Spills Hotline notifies
 - Environment Canada
 - Mackenzie Valley Land and Water Board
 - DIAND
 - RWED
- .3 The appropriate personnel arrive on site to clean-up/contain the spill

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