SPILL MANAGEMENT PROGRAM

Purpose
This program is established to assist in maintaining environmental compliance with the regulations governing spill management associated with Horizon North Logistics Inc. (HNL) and its group of companies.

An adverse effect is defined as impairment of or damage to the environment, human health or safety, or property. An adverse effect is further defined as:
- Any third party impact (off site impact) such as crop damage, vegetation damage, and livestock impact;
- Un-recovered spilled substances likely to contaminate surface or groundwater;
- Groundwater and/or surface water that is contaminated;
- A release or spill that has potential for offsite odor complaints; or,
- Toxic or flammable release to air going offsite.

Management will be notified of any spill having an adverse effect. Notification will be made by immediate phone communication followed by a report. Horizon North Logistics Inc. have a Spill/Environmental Accident reporting process in place to document accidental spills and to record contact with relevant landowners, company and government personnel. This process will be followed to record all spills. HNL’s policy is to clean up a spill as soon as possible once the release has been stopped and reported (if it is a reportable spill). A spill will be cleaned up as directed by the Operations Manager or Environmental Consultant.

Prevention and Maintenance
HNL will place a high priority on spill prevention to reduce the risk of spills and minimize environmental damage.

Monitoring For Causes of Leaks and Spills In order to lower the risk of leaks or spills occurring, HNL personnel will incorporate into safety inspections a check for any signs that drums or tanks may be leaking or are in a condition that future leakage may occur. Corrosion, particularly of piping, is a major cause of spills and leaks. Leakage from loading valves at oil storage tanks is also a common cause of contamination. The following activities are suggested as part of an inspection.

Critically examine each area of the tank facility to determine where a potential for discharge exists. Detailed analysis of past discharges can help to locate areas where changes in equipment or operating practices are needed. Things to examine include:
- Pipes subject to vibration;
- Dead piping and temporary connections that should be removed if no longer required;
- Uneven tank settlement;
- Valves open to atmosphere without plugs;
- Underground storage tanks showing signs of overflow or leakage.
- Aboveground storage tanks showing signs of overflow, leakage or rust.

If items are discovered in the inspection, the following actions will be considered to correct the problem:

- Consider modifying existing facilities or install new equipment or instrumentation as needed to reduce the possibility of discharges;
- Consider the use of alarms, automatic shutdown equipment, or fail safe equipment to prevent, control, or minimize potential discharge resulting from equipment failure or human error;
- Establish maintenance and/or corrosion abatement programs to ensure continued adequacy of all equipment;
- Establish routinely scheduled inspections or tests of lines, vessels, dump valves, alarm systems, safety valves, hoses and other pollution prevention equipment where failures and/or malfunctions could result in a potential discharge incident;
- Review operating procedures and adjust them as necessary to minimize potential discharges.

Initial Response
HNL will maintain a high level of preparedness in the event of a spill so mitigation can be initiated immediately reducing the impact to the environment.

Emergency response to a spill draws on people's experiences, training and judgment. No manual can dictate response/contingencies for every type of situation and circumstance; however Horizon North Logistics is committed to being prepared for emergencies and to respond quickly and effectively to all situations.

Emergency response to a spill will occur according to the following priorities:

- Protection of the public and employees health and safety
- Protection of the environment
- Protection of public/private land
- Protection of company property

Safety
The safety of site personnel is a priority. No clean up actions are to take place until the spilled material has been identified and the correct handling procedures are put in place. Proper health and safety measures should be taken when responding to a spill. This includes the use of appropriate personal protective equipment (PPE). Refer to the Health and Safety Manual for more information on the appropriate type and proper use of PPE.
Spill Response
If a release of a substance that may cause an adverse effect on the environment occurs, the HNL manager in charge of the substance will immediately take all reasonable measures to mitigate the effects. In the event of a release, trained site personnel are to:
1. Assess any safety hazard presented by the spill, and act accordingly.
2. Act to stop or isolate the release. Assess the impact of the release on the environment.
3. Prevent the release from going to surface water.
4. Contact the manager in control of the substance, the HSE advisor, and any third party who could be affected by the release.
5. Contact the appropriate government agency and provide an oral or electronic report (Refer to appropriate provincial section of the manual beginning on page 69).
6. Notify the landowner of any release that occurs off an HNL property and goes on to adjacent property.
7. Have a qualified person set up an investigation to determine the impact of the release on soil or groundwater.
8. Initiate a cleanup process.

Spill reporting is an important part of environmental management. Reporting is required by a number of laws and guidelines that govern HNL activities and these vary by province. Report to the appropriate agency if a chemical or a fuel release occurs or if an adverse effect is caused by the release of a substance to the environment.

Training
Horizon North will ensure that all personnel working are appropriately trained regarding hazardous material handling and basic spill prevention measures and spill response training for their employees. The following topics shall be included:

- **Materials**
  - Proper handling and storage of all materials brought on site or used by contractors (including handling of hazardous wastes);
  - Use of Material Safety Data Sheets (MSDS) and the Workplace Hazardous Materials Information System (WHMIS);

- **Spill Prevention, Spill Response**
  - Types of potential spills and releases;
  - Spill prevention measures;
  - Spill control and clean-up procedures for spills;
  - Information on location of emergency response equipment and specifically spill response equipment;
  - Proper use of spill kits;
  - Transportation of Dangerous Goods (TDG); and,
  - Notification procedures.

Prior to commencement of work, supervisors shall ensure that all training has been completed and documented in writing.
Spills on Land

Diesel, Gasoline, and Aviation Fuel
For release of a refined product that “has caused, is causing or may cause an adverse effect” the operator is required to orally notify the appropriate agency immediately upon becoming aware of such a release (See appropriate provincial sections).

Chemical Spills
A release of chemicals onto the ground must be reported if the amount equals or exceeds the amount stated in the Reporting Requirements for Some Chemical Releases (On to Land) (See appropriate provincial section). Releases must be reported to the appropriate agency, as soon as you know about the release (See appropriate provincial section).

Spills, depending on the nature and the type of the material, can result in serious environmental implications if not properly handled. Chemical substances should be stored in proper containers to minimize the potential for a spill. Whenever possible, chemicals should be kept in closed containers and stored so they are not exposed to storm water.

Hazardous material spills that are not dealt with and reported immediately could present health risks to employees, nearby residents or adversely affect wildlife in the area.

When a spill occurs on land, a quick response is necessary to limit the affected area as much as possible. Development of proper containment such as berms, trenches, dikes and the use of sorbents may be integrated. When constructing berms and trenches, use impermeable materials such as clay and plastic. Remove as much of the spilled material as possible using vacuum trucks and/or excavation equipment.

Delays in acquiring the necessary equipment and manpower to begin decontamination of a site may result in an increase in the area affected. Left uncontaminated, these materials can become wind-borne or enter waterways and be transported considerable distances, resulting in extensive contamination. Migration of contaminants into nearby rivers, streams or water bodies can result in the destruction of aquatic and waterfowl habitats, or contamination of potable water resources endangering downstream users. Contamination left in contact with the ground for extended periods of time can permeate to greater soil depths making immediate decontamination impossible and could result in contamination of groundwater and larger volumes of contaminated soils. If this occurs, costly remediation programs will likely be required.

In the event of a spill on land, the following containment procedures and techniques may be immediately implemented

**General Containment Procedures on Land**

- Assess the conditions in the spill area to ascertain if it can be entered safely. Is a toxic or explosive atmosphere present?
- Contact your supervisor and advise him of the spill. If you have a significant spill, ask for backup personnel to assist you.
• Remove as much spilled liquid from the site as you can use vacuum trucks and other equipment suitable under the circumstances.
• If the spill is not flowing or spreading, no containment is required.
• Use the information gained from the initial assessment to plan the location of the initial containment measures and determine what type of measures will be required (e.g. booms, sorbents, etc.).
• Organize and install the containment measures in order of priority to prevent the spill from getting larger and to protect sensitive areas. This will reduce the amount of cleanup work and result in lower clean-up costs and damage settlements. Local topography, and nearby structures should be taken into consideration when developing containment measures.
• Containment berms and dikes should be deployed on land in a manner that will prevent any spilled material from progressing.
• If necessary, the area around the spill should be fenced off to prevent wildlife and livestock from entering the spill area.

Containment and Recovery Techniques on Land

Spill Kits and Spill Response Planning
The Contractor shall comply with the following with respect to spill response planning:
• Proper material handling procedures as well as spill response procedures shall be maintained at hazardous materials storage areas and at fuel handling locations; and,
• The Contractor shall ensure that all spill clean-up equipment is in good working condition, is in sufficient quantity and is available in areas where hazardous materials including fuels, are used.

Sorbent Materials
Absorbents incorporate substances throughout the body of the absorbing material. Adsorbents gather substances over the surface of the material.

The sorbents are used for several tasks such as recovery of oil on the surface of water, the reduction of the secondary contamination by workers by protecting the operating areas, the cleaning of the rocks and other structures soiled by oils. Sorbents are very effective in sandy soils where other methods cannot be used. Used sorbent materials should be disposed of following the HNL Waste Management Program.

The principal uses, according to the type of absorbing product, are:
• Pads - Recovery of oils on the surface of water, on the shore and for the cleaning of solid surfaces
• Roll - Protection of the ground under the equipment (portable pumps, tanks) to prevent any contamination at the time of the operations
• Boom - To contain and recover oil on the surface of water in the places with weak current
• Pom-Poms - Recovery of oils with high viscosity
• Mat - Protection of the operating areas to prevent any secondary contamination
• Berms and Dikes - Where equipment is available for hand or machine digging, earth berms and containment dikes can be used to contain spills; suitable soil material (i.e. clay) should be used in the construction of containment dikes and berms. Topsoil material should be stripped and preserved for reclamation procedures; and where soils or surface materials are too permeable to provide adequate
containment of spilled fluids, berms/dikes can be fortified with plastic sheeting or sorbent blankets to make the berm less permeable.

- **Trenches** - Trenches may be contoured in clay material to intercept spilled fluids. The spilled material can then be removed from the trench via vacuum or pump. If required, trenches and berms may also be constructed upstream of the spill to direct water or run off away from the spill. Trenches are not effective in permeable material such as sand.

- **Vacuum Truck and Pumps** - Spilled fluids like diesel fuel can be recovered from containment areas or from standing water using vacuum trucks. The material is then transferred to holding tanks or other approved facilities.

- **Earth Moving Equipment** - Large earth moving equipment such as graders, scrapers, hoes and front-end loaders may be utilized to contain and move oil contaminated sediments to a pre-approved storage, treatment or disposal area.

During winter the ground is generally frozen, which limits the methods available to use. The most important initial step to take is to vacuum-up the pooled contaminates, and scrape off remaining contaminated soil. It is very important when working in winter avoid thawing the frozen surface soil. Absorbents may also be used to absorb any liquid contaminate.

During snow cover, the contaminant will be absorbed by the snow, making it easy to remove using hand tools or heavy equipment depending on the extent of the spill. The saturated snow should be recovered in plastic bags or disposal drums and transported to offsite facilities for treatment and/or disposal.

During an oil spill the recommended practice is to simply vacuum and scrape. In some cases it is acceptable to corral the oil over the frozen ground using a steamer truck into an area where it can be immediately vacuumed-up using a vacuum truck. This technique is only to be done on an oil spill.

**Spills on Water**

In situations where a substance that may be harmful to the health and/or safety of humans, wildlife, livestock, or irrigated crops has been spilled into a watercourse it is necessary to notify regulators immediately and warn downstream users to take appropriate actions.

Chemical or Fuel Spills - A release of any amount of a chemical into surface water, a watercourse, or groundwater, which can cause an adverse effect, must be reported.

**Cumulative Releases**

Cumulative releases are generally small spills that individually may not have an adverse effect, but combined over a period of time may accumulate and likely will have an adverse effect on the environment. Cumulative releases, like other releases that cause an adverse effect, and must be reported and treated the same as an isolated spill.

**Report**

Complete the company incident/spill form. A written report containing the information reported verbally must be submitted to the appropriate environmental agency (Refer to appropriate provincial section).
Spills during Transportation
Trucking companies working for Horizon North Logistics are responsible to report to HNL and clean up any spill that occurs in the course of their services. Upon learning of a spill by either contractors or internal personnel, HNL will report the spill as outlined in the appropriate provincial guidelines.

Alberta Spill Reporting Regulations
The Alberta Environment and Protection Enhancement Act (AEPEA) and its Release Reporting Regulation outline the specific regulations for reporting spills. Substances used by or potentially encountered by HNL which fall under AEPEA regulations include:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>TDG Class</th>
<th>Reportable Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acids (hydrochloric and sulfuric)</td>
<td>8</td>
<td>At or in excess of 5 kg or 5 liters</td>
</tr>
<tr>
<td>Benzene (Solvents)</td>
<td>6</td>
<td>Have or may have an adverse effect At or exceed 1 kg</td>
</tr>
<tr>
<td>Caustic (NaOH, KOH)</td>
<td>8</td>
<td>At or in excess of 5 kg or 5 liters</td>
</tr>
<tr>
<td>Diesel Fuel</td>
<td>3</td>
<td>Have or may have an adverse effect At or in excess of 200 liters</td>
</tr>
<tr>
<td>Herbicides</td>
<td>6.1</td>
<td>At or in excess of 5 kg or 5 liters</td>
</tr>
<tr>
<td>Hydrogen Sulphide (H₂S)</td>
<td>2.3</td>
<td>Have or may have an adverse effect</td>
</tr>
<tr>
<td>Petroleum Products flammable</td>
<td>3</td>
<td>At or in excess of 200 liters</td>
</tr>
<tr>
<td>Propane</td>
<td>2.1</td>
<td>At or in excess of 100 liters</td>
</tr>
<tr>
<td>Solvents and Paint Removers</td>
<td>3</td>
<td>At or in excess of 200 liters</td>
</tr>
<tr>
<td>Waste Lube Oils</td>
<td>9.3</td>
<td>Have or may have an adverse effect At or in excess of 5 kg or 5 liters</td>
</tr>
<tr>
<td>Paint (Solvent)</td>
<td>6</td>
<td>Have or may have an adverse effect At or exceed 1 kg</td>
</tr>
</tbody>
</table>

The initial report should be made by:
The HNL supervisor or HSE representative of the employee who released or discovered the release of the substance.

To Whom to Report a Chemical spill or Refined Product Spill
Spills of chemicals which require reporting including spills refined petroleum products are to be reported to
Alberta Environmental Protection department (AEP) at 1-800-222-6514 on a 24 hour basis. Releases related to motor vehicle accidents must also be reported to local authority (police).

Initial Report
The Alberta Environmental Protection department must be immediately contacted (1-800-2226514) and an oral report must be provided. The oral report must include the following information:

- The location and time of the release
- A description of the circumstances leading to the release
- Type and quantity of the substance released
- Details of any actions taken or proposed at the release site
- Description of the location of the release and the immediately surrounding area
- Any other information that may be required

Written Reports
A written follow up report is required by Alberta Environmental Protection-(AEP) within seven days of the initial immediate report. This report will contain the information reported verbally and will include:

- The date and time and location of the point of the release.
- The duration of the release and the release rate.
- The composition of the release showing with respect to each substance.
- The concentration, total weight, quantity or amount released of each substance.
- A description of the circumstances leading up to the release.
- A discussion of spill containment and recovery procedures used.
- A discussion of steps to be taken to prevent similar future spills.
- An outline of the proposed spill site reclamation program.

British Columbia Spill Reporting Regulations²
The British Columbia Environmental Management Act and its Spill Reporting Regulations as well as the Hazardous Waste Regulation outline the specific regulations for reporting spills to provincial agencies. Substances used by or potentially encountered by HNL which fall under B.C. regulations include:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>TDG Class</th>
<th>Reportable Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acids (hydrochloric and sulfuric)</td>
<td>8</td>
<td>5 kg</td>
</tr>
<tr>
<td>Benzene (solvent)</td>
<td>6</td>
<td>5 kg</td>
</tr>
<tr>
<td>Caustic (NaOH, KOH)</td>
<td>8</td>
<td>5 kg</td>
</tr>
<tr>
<td>Diesel Fuel</td>
<td>3</td>
<td>100 L</td>
</tr>
<tr>
<td>Herbicides</td>
<td>6.1</td>
<td>5 kg</td>
</tr>
<tr>
<td>Hydrogen Sulphide (H2S)</td>
<td>2.3</td>
<td>5 kg, where spill results from equipment failure, error or deliberate action or inaction</td>
</tr>
<tr>
<td>Petroleum Products flammable</td>
<td>3</td>
<td>100 L</td>
</tr>
<tr>
<td>Propane</td>
<td>2.1</td>
<td>10 kg, if spill results from equipment failure, error or deliberate action or inaction</td>
</tr>
<tr>
<td>Solvents and Paint Removers</td>
<td>3</td>
<td>100 L</td>
</tr>
<tr>
<td>Waste Lube Oils</td>
<td>9.3</td>
<td>5 kg</td>
</tr>
<tr>
<td>Paint (Solvents)</td>
<td>6</td>
<td>5 kg</td>
</tr>
</tbody>
</table>

The initial report must be made by:
The HNL employee or his supervisor who had control of a substance immediately before it was released to the environment.

To Whom to Report a Chemical spill or refined product spill
Spills of chemicals which require reporting, including spills of refined petroleum products are to be reported to Provincial Emergency Program department (PEP) at 1-800-663-3456. To report marine oil spills contact the Pacific States Oil Spill Task Forces “Spills aren’t Slick” campaign at 1-800-OILS-911 (1-800-6457-911). This

call will automatically be routed to the correct emergency response center.

**Initial Report**
The PEP department must be immediately contacted (1-800-663-3456) and an oral report must be provided. If not practical to report to the PEP, the employee or supervisor may respond to the local police. The oral report must include the following information:
- the reporting person's name and telephone number
- the name and telephone number of employee who caused or discovered the spill
- the location and time of the spill
- the type and quantity of the substance spilled
- the cause and effect of the spill
- actions taken to control the spill
- any other information they may be required
- a description of the spill location and of the area surrounding the spill
- the details of further action contemplated or required
- the names of agencies on the scene
- the names of other persons or agencies advised concerning the spill

**Further Action**
Where a spill occurs, the HNL employee and/or supervisor who had control of the spilled substance immediately before the spill, shall take all reasonable and practical action, having due regard for the safety of the public and of himself or herself,
- to stop the release
- contain and minimize the effects of the spill
- initiate an investigation of site conditions in order to develop a remediation plan
- Initiate remediate of the site if significant contamination has occurred.
NWT Spill Reporting Regulations

The Spill Contingency Planning and Reporting Regulations outlines the specific regulations for reporting spills to provincial agencies. Substances used by or potentially encountered by HNL which fall under NWT regulations include:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>TDG Class</th>
<th>Reportable Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acids (hydrochloric and sulfuric)</td>
<td>8</td>
<td>5 L or 5 kg</td>
</tr>
<tr>
<td>Benzene</td>
<td>6</td>
<td>5 L or 5 kg</td>
</tr>
<tr>
<td>Caustic (NaOH, KOH)</td>
<td>8</td>
<td>5 L or 5 kg</td>
</tr>
<tr>
<td>Diesel Fuel</td>
<td>3</td>
<td>100 L</td>
</tr>
<tr>
<td>Herbicides</td>
<td>6.1</td>
<td>5 L or 5 kg</td>
</tr>
<tr>
<td>Hydrogen Sulphide (H₂S)</td>
<td>2.3</td>
<td>Any amount</td>
</tr>
<tr>
<td>Petroleum Products flammable</td>
<td>3</td>
<td>100 L</td>
</tr>
<tr>
<td>Propane</td>
<td>2.1</td>
<td>Any amount of gas from containers with a capacity of greater than 100L</td>
</tr>
<tr>
<td>Solvents and Paint Removers</td>
<td>3</td>
<td>100 L</td>
</tr>
<tr>
<td>Waste Lube Oils</td>
<td>9.3</td>
<td>5 L or 5 kg</td>
</tr>
<tr>
<td>Paint (Solvents)</td>
<td>3</td>
<td>100 L</td>
</tr>
</tbody>
</table>

The initial report must be made by:
The HNL employee or supervisor who had control of the substance

To Whom to Report a Chemical spill or Refined product spill
Spills of chemicals which require reporting including spills of refined petroleum products are to be reported to Provincial Emergency Program department (PEP) at 1-867-920-8130

Reference: Spill Contingency Planning and Reporting Regulations N.W.T. Reg. 068-1993

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HORIZON NORTH
**Initial Report**

The Spill Report Line must be immediately contacted 1-867-920-8130 and an oral report must be provided. The oral report must include the following information:

- date and time of spill
- location of spill
- direction spill is moving
- name and phone number of a contact person close to the location of the spill
- type of contaminant spilled and quantity spilled
- cause of spill
- whether spill is continuing or has stopped
- description of existing containment
- action taken to contain, recover, clean up and dispose of spilled contaminant
- name, address and phone number of person reporting the spill
- name of owner or person in charge, management or control of contaminants at time of spill
Saskatchewan Spill Reporting Regulations

The Saskatchewan Environmental Management and Protection Act (EMPA) and its Environmental Spill control Regulations outline the specific regulations for reporting spills. Substances used or potentially encountered by HNL which fall under EMPA regulations include:

<table>
<thead>
<tr>
<th>Chemical Form</th>
<th>Spills to be Reported if Amounts Equal or Exceed</th>
<th>Onsite Not Onsite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel Fuel</td>
<td>Liquid</td>
<td>200 L</td>
</tr>
<tr>
<td></td>
<td>Liquid from above ground container</td>
<td>500 L</td>
</tr>
<tr>
<td></td>
<td>Liquid from below ground container</td>
<td>Any sub surface loss</td>
</tr>
<tr>
<td>Domestic Liquid Wastes</td>
<td>Liquid</td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td>Liquid</td>
<td>200 L</td>
</tr>
<tr>
<td>Gasoline</td>
<td>Liquid from above ground container</td>
<td>500 L</td>
</tr>
<tr>
<td></td>
<td>Liquid from below ground container</td>
<td>Any sub surface loss</td>
</tr>
<tr>
<td>Hydrochloric acid</td>
<td></td>
<td>50 kg</td>
</tr>
<tr>
<td>Lubricating Oils</td>
<td>Liquid</td>
<td>100 L</td>
</tr>
<tr>
<td>Other Petroleum Products</td>
<td>Liquid</td>
<td>100 L</td>
</tr>
<tr>
<td>Potassium chloride (potash)</td>
<td></td>
<td>1000 kg</td>
</tr>
<tr>
<td>Potassium hydroxide (caustic potash)</td>
<td></td>
<td>500 kg</td>
</tr>
<tr>
<td>Sulfuric Acid</td>
<td></td>
<td>100 kg</td>
</tr>
</tbody>
</table>

The initial report should be made by:
The person having control of a pollutant as soon as possible.

To Whom to Report a Chemical spill or Refined Product spill

Spills of chemicals which require reporting are to be reported to the Provincial Enforcement Centre Spill Report Line (Saskatchewan Environment) at 1-800-667-7525 on a 24 hour basis. If the spill occurs off site, the owner of the property must be contacted.

References:
Initial Report
The Saskatchewan Environment Department must be immediately contacted (1-800-667-7525) and an oral report must be provided. The oral report must include the following information:
- Your name, call back telephone number/fax number;
- Location and time of the spill
- Type and quantity of pollutant spilled
- What Agencies have responded and who is on scene at present
- Local weather conditions
- The names of all persons notified of the spill;
- The known causes and effects of the spill;
- First response and remedial actions that have taken place with respect to the spill (containment work at time of spill)
- Any further action or work that is contemplated or required

Written Report
A written follow up report is required within seven days of the initial report. The person having control of the spilled pollutant and the owner of the pollutant are each required to submit a written report. This report will contain the information reported verbally and include:
- Contain the names of persons notified of the spill;
- Outline the known causes and effects of the spill; and
- State what actions have been taken and any further work that is contemplated or required.

Immediately after a spill all reasonable action should be taken to prevent further discharge, contain the spilled pollutant, and minimize the effects of the spill.

Emergency Response Assistance Plans
HNL personnel will review the requirements of our emergency response assistance plan before transporting any quantity or concentration of dangerous goods, The Emergency Response Assistance Plan (ERAP) outlines what is to be done if there is an accident in transporting the dangerous goods. The plan for transporting dangerous goods requires the approval of the environmental department.

Duty to Respond When there is an accidental spill of dangerous goods in excess of the prescribed quantity or concentration, the local HNL manager will report the occurrence to the appropriate provincial authority listed below.

<table>
<thead>
<tr>
<th>PROVINCE</th>
<th>AUTHORITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alberta</td>
<td>The local police and Alberta Transportation and Spill Reporting at 1-800-272-9600</td>
</tr>
<tr>
<td>British Columbia</td>
<td>The local police and the Provincial Emergency Program at 1-800-663-3456 (SOR/2003-273)</td>
</tr>
<tr>
<td>Northwest Territories</td>
<td>The appropriate authorities at (867) 920-8130</td>
</tr>
</tbody>
</table>
The manager must also make an immediate report to:
- HNL Corporate HSE Manager;
- the consignor of the dangerous goods;
- for road vehicles: the owner, or operator of the road vehicle;
- for ships: CANUTEC at (613) 996-6666, a Vessel Traffic Services Centre or a Canadian Coast Guard radio station;
- for aircraft, aerodrome or air cargo facility: CANUTEC at (613) 996-6666 and the nearest Regional Civil Aviation Office of the Department of Transportation and, if the aerodrome is an airport, the operator of the airport;
- for an accidental release from a cylinder that has suffered a catastrophic failure: CANUTEC at (613) 996-6666

HNL will report as soon as possible and take all reasonable measures to reduce or eliminate any danger to the safety of the public that results or may result from the spill.

Requirements for an Emergency Response Assistance Plan (ERAP)
When transporting dangerous goods an approved ERAP must be in place when:
- the dangerous goods exceed the ERAP limit
- when there is more than one dangerous good being transported and exceeds the ERAP limit
- when dangerous goods are being transported by road or railway vehicle and involve any one of the following classes exceed the corresponding ERAP limit:

<table>
<thead>
<tr>
<th>CLASS</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Explosives</td>
</tr>
<tr>
<td>5.2</td>
<td>Organic Peroxides, that are Type B or Type C</td>
</tr>
<tr>
<td>6.1</td>
<td>Toxic Substances, that are included in Packing group 1</td>
</tr>
</tbody>
</table>

A quantity of dangerous goods exceeds the ERAP limit when the dangerous goods have an index number in column 7 of Schedule 1 of the Transportation of Dangerous Goods Regulation and
- if a solid, has a mass that is greater than the index number when that number is expressed in kilograms;
- if a liquid, has a volume that is greater than the index number when that number is expressed in liters;
- if a gas, including a gas in a liquefied form, are contained in one means of containment that has a water capacity greater than the index number when that number is expressed in liters; or
- if an explosive in a road vehicle or railway vehicle, has a net explosives quantity greater than the index number when that number is expressed in kilograms.

Training Certificate Requirements
Any employee of HNL who handles, offers for transport or transports dangerous goods must be adequately trained and hold a training certificate as well as having performed those activities in the presence and under the direct supervision of a person who is adequately trained and who holds a training certificate.
Accidental Release and Imminent Accidental Release Report Requirements
In the event of an accidental release of dangerous goods to the environment the HNL employee who discovers the release, or his supervisor, must make an immediate report to the responsible authority or person, if the release is greater than the quantity or emission level set out in the following table:

<table>
<thead>
<tr>
<th>CLASS</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Any quantity that could pose a danger to public safety or 50 kg</td>
</tr>
<tr>
<td>2</td>
<td>Any quantity that could pose a danger to public safety or any sustained release of 10 minutes or more</td>
</tr>
<tr>
<td>3</td>
<td>200 L</td>
</tr>
<tr>
<td>4</td>
<td>25 kg</td>
</tr>
<tr>
<td>5.1</td>
<td>50 kg or 50 L</td>
</tr>
<tr>
<td>5.2</td>
<td>1 kg or 1L</td>
</tr>
<tr>
<td>6.1</td>
<td>5 kg or 5 L</td>
</tr>
<tr>
<td>6.2</td>
<td>Any quantity that could pose a danger to public safety or 1 kg or 1 L</td>
</tr>
<tr>
<td>7</td>
<td>Any quantity that could pose a danger to public safety</td>
</tr>
<tr>
<td>8</td>
<td>5 kg or 5L</td>
</tr>
<tr>
<td>9</td>
<td>25 kg or 5L</td>
</tr>
</tbody>
</table>

Immediate Reporting Information
The immediate report must include as much of the following information as is known at the time of the accident:

- the shipping name or UN number of the dangerous goods;
- the quantity of dangerous goods that:
  - was in the means of containment before the accidental release, the “dangerous goods accident” or the dangerous goods incident;
  - is known or suspected to have been released;
  - a description of the condition of the containment from which the dangerous goods were released, including details as to whether the conditions of transport were normal when the containment failed;
  - a description of the failure of the release of dangerous goods from a cylinder that has suffered a catastrophic failure; (for example, there was an explosion and a valve sheared off or there was a crack in the cylinder);
  - the location of the release;
  - for a ship: the position of the ship, and the location of where the ship will be anchored or alongside;

• the number of deaths or injury that occurred because of the release;
• an estimated number of people who will be evacuated from the residence, public areas, public buildings because the release;

30 Day Follow-up Report
Following the immediate report described above, HNL will make a follow-up report for an accidental release, a dangerous goods accident or a dangerous goods incident. Follow-up reports are to be made 30 days after the occurrence and must contain the following information:
• the HNL address and telephone number, including the area code;
• the date, time and location of the release;
• the name and address of the place of business of the consignor;
• the classification of the dangerous goods;
• the estimated quantity of dangerous goods released and the total quantity of the dangerous goods in the containment before the release;
• a description of the containment involved, based on the identification markings and a description of the failure and damage to the containment as well as how the failure or damage occurred; for an accidental release from a cylinder that has suffered a catastrophic failure, the certification safety marks and description of the failure;
• the number of deaths or injury that occurred because of the release;
• an estimated number of people who will be evacuated because of the release;
• if an emergency response assistance plan was activated, the names of the HNL personnel who responded to the emergency in accordance to the plan.

Water Wells

Alberta Water Well Regulations
Stated below are the minimum distances HNL will maintain from specific features when locating a water well:
• 10 meters of any watertight septic tank, pump out a tank or other watertight compartment of a sewage or waste water system;
• 15 meters from a weeping tile field, an evaporative treatment mound or an outdoor pit privy;
• 30 meters from a leaching cesspool;
• 50 meters from sewage effluent on the ground surface;
• 100 meters from a sewage lagoon; or
• 450 meters from any area where waste is or may be disposed of at a landfill;

HNL will maintain the water in compatible condition through testing, a maintenance program and proper disinfection of the water facility so that the water will remain potable. Forms to apply for approval and/or licenses under the Alberta Water Act are available in the forms section.

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British Columbia Water Well Regulations

HNL will have qualified well drillers or qualified professional in the field of hydrogeology or geotechnical engineering involved in the construction or closure of any drinking water well. This applies not only in BC but also in other jurisdictions we operate in.

Changes in and about a stream

In cases where we need to work in or close to a stream prior permission must be obtained from the provincial environment department. We will protect the stream from any substance, sediment, debris or material entering it. There cannot be any disturbance to stream vegetation except as authorized by a provincial habitation officer.

Any material used in construction must be removed immediately after the completion of the project and all cast in place concrete and grouting must be separated for a 24 hour period from fish bearing waters. Rock from an acid-generating rock formation is not permitted to be used in the in stream construction. After completion of the work the stream is to be restored to its natural state.

The change in or near the stream must be made in compliance with requirements of the provincial habitat officer as well as have the approval of the Department of Fisheries and Oceans. The stream work can only proceed at those certain periods in the year that will not cause harm to the fish and wildlife. A minimum flow of water must remain in the stream. In B.C., if damage occurs to a stream it must be reported within 72 hours and restored to its natural state or as directed by the provincial habitat officer.

Authorization for changes in and about a stream

There are changes that can be made in and about a without obtaining approval or a licence, providing the changes are made in accordance with the Water Regulation and the protection of the habitat. If HNL personnel are considering making a change to a stream or its immediate surroundings, such as placing a culvert in the stream, first review requirements spelled out in the B.C. Water regulations.

Protection of other water users

If HNL work requires diverting or using water under the Water Act, and this has adverse affects on the public, HNL will give 3 days’ notice to those who will be affected and provide them with an adequate water supply, if necessary.

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7 References: Water Act [RSBC 1996] Chapter 483 sec (9) (69) (1) (2) (3) (71)
(http://www.qp.gov.bc.ca/statreg/reg/W/Water/204_88.htm)

8 Reference: Water Regulations (B.C. Reg. 204/1988)
(http://www.qp.gov.bc.ca/statreg/reg/W/Water/204_88.htm)
Potable Water

Alberta Potable Water Regulations

The occasion may arise when HNL needs to have a waterworks system designed and installed for potable water. In this case we will follow the Alberta regulations briefly summarized below.

The physical, microbiological, chemical and radiological characteristics of the potable water must be maintained to meet the Maximum Acceptable Concentrations or Interim Maximum Acceptable Concentrations specified in the Guidelines for Canadian Drinking Water Quality and for the parameters listed in the Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems. Potable water characteristics must also meet any additional limits established by the government department.

Equipment for filtration, disinfection and all other required treatment must be operated in a manner that achieves the potable water quality required by the regulations. If the equipment used for disinfection fails or is shut down it must be reported immediately to the government department and to the appropriate Regional Health Authority. Waterworks systems must be designed and operated to ensure the conservation and responsible use of water.

British Columbia Portable Water Regulations

In the event that HNL builds a water supply system in B.C., the company will follow the requirements outlined below.

A permit is required to construct a water supply system, unless emergency repairs are being done to a water supply system, the system is a tank truck or a vehicle water tank. The construction permit may be waived by an official for a small system. A permit that was issued under the Safe Drinking Water Regulation, B.C. Reg. 230/92, is considered to be valid under the new regulation. To obtain a permit, a water supplier must submit an application and pay a fee.

Water monitoring must be done by the water supplier to monitor for total coli form bacteria and Escherichia coli. The water quality standards are listed in Schedule A in the Drinking Water Protection Regulations. Sampling frequency is set out in this regulation in Schedule B Drinking Water Protection Regulations or is established by a drinking water officer. If water quality standards are not met immediate reporting and public notification by posting a sign at every sink or drinking fountain is required.

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### Water Quality Standards for Potable Water

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal coliform bacteria</td>
<td>No detectable fecal coliform bacteria per 100 ml</td>
</tr>
<tr>
<td><em>Escherichia coli</em></td>
<td>No detectable <em>Escherichia coli</em> per 100 ml</td>
</tr>
<tr>
<td>Total coliform bacteria a) 1 sample in a 30 day periodically b) more than 1 sample in a 30 day period</td>
<td>No detectable total coliform bacteria per 100 ml At least 90% of sample have no detectable total coliform bacteria per 100 ml and no sample has more than 10 total coliform bacteria per 100 ml</td>
</tr>
</tbody>
</table>

### Frequency of Monitoring Samples for Prescribed Water Supply Systems

<table>
<thead>
<tr>
<th>Number of Population</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5000</td>
<td>4</td>
</tr>
<tr>
<td>5000 to 90 000</td>
<td>1 per 1000 of population</td>
</tr>
<tr>
<td>More than 90 000</td>
<td>90 plus 1 per 10 000 of population in excess of 90 000</td>
</tr>
</tbody>
</table>

An HNL employee or contractor operating a water supply system must be certified by the Environmental Operators Certification program for the class of system to be operated. For any HNL operation that operates a water supply, for instance a camp operation, an emergency response and contingency plan must be established by local management. Contact information for management personnel and the drinking water officer must be included in the plan, as well as how to respond, and how to notify all persons who might be affected. The plan must be accessible to the management and staff of the local facility.

Although the above regulations are intended for the provinces of Alberta and British Columbia, they must be followed by all HNL management with water supply operations.