POL SPILL CONTINGENCY PLAN

ANNEX G, APPENDIX 2
OF THE
NORTH WARNING SYSTEM ENVIRONMENTAL
PROTECTION PROGRAM

AMENDMENT #1 MARCH 1998

PREPARED BY:

FRONTEC ENVIRONMENT SECTION

Approved For Circulation By:

Andy Ross - General Manager, R&CS

March 16, 1998
Date

APPENDIX 2

POL SPILL CONTINGENCY PLAN

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ACRONYMS

CFB	Canadian Forces Base
CMO	Contractor Management Office
CRI	Cost Reduction Initiative
DND	Department of Natiomal Defence
DNWSO	Director, North Warning System Office
EPP	Environmental Protection Program
ERT	Emergency Response Team
LOCID	Location Identifier
LRR	Long Range Radar
LSS	Logistics Support Site
NWO	Noth Warning System Order
NWS	North Warning System
NWSCC	North Warning System Control Centre
NWSCC-ECF	North Warning System Control Centre-Electronic Control Facility
NWSCC-MCF	North Warning System Control Centre-Maintenance Control Facility
NWSCC-MCS	North Warning System Control Centre-Maintenance Control Subsystem
NWSCC-NCF	North Warning System Control Centre-Network Control Facility
NWSO	North Warning System Office
NWSSC	North Warning System Support Centre
O&M	Operation and Maintenance
PMI	Preventive Maintenance Inspection
POL	Petroleum, Oil, and Lubricants
ROCC	Region Operations Control Centre
SOP	Standard Operating Procedure
SOW	Statement of Work for the Operation and Maintenance of the NWS
SRD	SRR Development Site
SRR	Short Range Radar
TSB	Technical Services Building

ANNEXES

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ANNEX C: Specifications of Materials and Equipment, POL Emergency Response and Clean-Up Kits

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1.0 INTRODUCTION

This plan establishes policy, responsibilities and instructions for response to petroleum, oil and lubricant (POL) spills which may occur at North Warning System (NWS) facilities during operations and maintenance (O&M) activities, as defined by the NWS O&M Contract Statement of Work (SOW), and as performed by the contracting agency, the contractor or subcontractors.

1.1 Exclusions

This plan is not applicable at Short Range Radar (SRR) site BAR-B, Stokes Point, Yukon Territory. This site is located on Parks Canada land and is governed by the document entitled "Method of Conducting Operation and Maintenance, Stokes Point (BAR-B) Short Range Radar Site, Ivvavik National Park, Yukon Territory."

This plan is not applicable at the Goose Bay Logistics Support Site (LSS) located at Canadian Forces Base (CFB) Goose Bay, Labrador. This site will report POL spills to the Contractor Management Office (CMO) and to the Base Environmental Section. This site will conform to the requirements of the Fuel Spill Contingency Plan for CFB Goose Bay.

1.2 POL Spill Contingency Planning Policy

This plan, which is an integral part of FRONTEC's Environmental Protection Program (EPP), is consistent with the requirements and provision of:

a. FRONTEC's Corporate Environmental Policy;

b. FRONTEC's Corporate EPP for the O&M of the NWS;

c. NWS O&M Contract SOW; and

d. North Warning System Order (NWO) 12.01, North Warning System - Environmental Protection Order.

1.3 Purpose

The purpose of this plan is:

a. To provide a clear statement of procedures which will be carried out in response to POL spills;

b. To minimize the potential environmental impact of POL spills by establishing pre-determined responses and plans of action;

c. To establish a state of preparedness for personnel through a POL Spill Response Training Program;

d. To protect the health and ensure the safety of :
   i. personnel involved in POL Spill Response activities; and
   ii. local communities;

e. To provide a reporting network for POL spills;

f. To ensure site environmental restoration through appropriate remedial activities;

g. To identify the roles and responsibilities of all parties involved in POL Spill Response activities; and

h. To identify sufficient personnel, materials and equipment needed to make an adequate response to any POL spill.

1.4 Scope

This plan applies to all activities and facilities pertaining to NWS sites, except SRR site BAR-B and LSS Goose Bay. This includes:

a. Long Range Radar (LRR) sites which operate unattended with occasional staff visits;
b. Short Range Radar (SRR) sites which operate unattended;
c. Logistics Support Sites (LSS) which are staffed to support SRR and LRR operations; and
d. the North Warning System Support Centre (NWSSC) in North Bay, Ontario.

1.5 Roles and Responsibilities

The contracting agency, the contractor and sub-contractors will be involved in Spill Response Actions in the event of a POL spill during O&M activities on the NWS. The roles and responsibilities of these parties are herein described.

1.5.1 FRONTEC

As the O&M contractor, FRONTEC's responsibilities include:

a. Maintaining an up-to-date Spill Contingency Plan;

b. Practicing spill prevention by:
   i. performance of regular maintenance on all POL systems;
   ii. employing proper methods for the handling of POL products;

c. Maintaining operational competence through staff training;

d. Identifying the requirements of sub-contractors involved in NWS O&M activities; and

e. Providing the personnel, materials and equipment necessary for adequate response to POL spills.

1.5.2 North Warning System Office

As the contracting agency, the North Warning System Office (NWSO) is responsible for ensuring that adequate POL spill detection and response capabilities are in place and monitored for all NWS operations.

1.5.3 Fuel Resupply Contractors and Sub-Contractors

Responsibilities of contractors and sub-contractors engaged in fuel resupply activities at NWS sites include:

a. Provision of a POL Spill Response Plan which describes:
   i. spill response action plans for initial response;
   ii. containment, clean-up, disposal and site remediation of spills;
   iii. chain of command and responsibilities of personnel; and
   iv. materials and equipment available for deployment; and

b. Provision of sufficient personnel, materials and equipment necessary for adequate response to any POL spills which may occur during fuel resupply operations.

In the event a spill occurs during fuel resupply operations, FRONTEC personnel, material and equipment will assist in spill response activities to the fullest extent, when and where possible. Detailed contents of the POL Spill Response kits are listed in Annex C as well as the site specific descriptions located in EPP Part III Annex F.

Note: This document will be the source document for all contractor and all sub-contractor POL Spill Contingency Plans.

1.6 Amendments

This plan will be revised in agreement with changes to federal, provincial and territorial acts, codes and standards. Requests for revisions, submitted by parties associated with or affected by the NWS, will also be reviewed. Provision for incorporation of changes will take the form of amendments to the plan.

1.6.1 Mechanisms

This plan will be amended by the following steps:

a. Initiation:

Requests for amendment of this plan may be initiated by any member or employee of:
i. FRONTEC;
ii. NWSO;
iii. parties associated with O&M activities; or
iv. federal, provincial or territorial government agencies.

b. Review:

The Environment Section of the Facilities Engineering Department will review all proposed amendments. Recommended proposals will be presented to the Manager, Facilities Engineering and upon acceptance will be forwarded to the Director of the North Warning System Office (DNWSO) for final approval.

c. Approval:

DNWSO will be the final authority over this document. Upon the Director's instruction, the amendment will be incorporated into this plan and recorded on the Record of Amendments sheet.

1.6.2 Submission of Amendments

Any comments or suggestions regarding this POL Spill Contingency Plan should be forwarded, in writing, to:

FRONTEC
North Warning System Project
100 - 170 Laurier Avenue West
Ottawa, ON
K1P 5V5
Attention: Environmental Coordinator,
Facilities Engineering Department

2.0 SPILL PLAN ORGANIZATION

This plan provides:

a. definition of a POL spill and classifications of spills;

b. an overview of the NWS and descriptions of:
   i. methods of fuel resupply;
   ii. POL storage and distribution systems; and
   iii. roles and responsibilities of NWSO, FRONTEC and sub-contractors.

c. measures for prevention of spills;

d. methods of spill detection;

e. spill reporting procedures and chain of command;

f. spill response action plans including:
   i. response capabilities;
   ii. procedures for spill containment; and
   iii. procedures for spill clean-up and methods of disposal of wastes;

g. procedures for remediation of spill affected areas; and

h. guidelines for post spill response review.

2.1 POL Spill Definition

For the purposes of this plan, a POL spill is the discharge of petroleum, oil or lubricants:

a. greater than 20 litres in volume;
b. from a structure, vehicle, pipe or other container;
c. within a structure; or
d. into the natural environment.

2.2 Overview of the North Warning System

The NWS consists of:

a. Eleven Long Range Radar sites designated as:
   i. Auxiliary unattended sites, located at:
      - LAB-2, Saglek Bay;
      - LAB-6, Cartwright;
      - BAF-3, Brevoort Island;
      - FOX-3, Dewar Lakes;
      - DYE-M, Cape Dyer;
      - CAM-3, Shepherd Bay;
      - PIN-3, Lady Franklin Point;
      - PIN-M, Cape Parry;
      - BAR-2, Shingle Point; and

   ii. Main sites, serving also as LSSs, staffed by approximately 15 persons and located at:
      - CAM-M, Cambridge Bay; and
      - FOX-M, Hall Beach.

   In accordance with the Cost Reduction Initiative (CRI) the sites began reduced staffing in October of 1994, with unattended operation of the LRRs beginning in April 1995. Upon completion of the transition, the frequency of site visits will be the same as for the SRR sites. Airstrips exist at all LRR sites but are accessible in summer months only for all but the two main sites. As airstrips at auxiliary sites are no longer actively maintained they are used at the pilot's own risk. A helipad is also located at each auxiliary site. A POL Spill Response Kit is located at each site, the contents of which are listed in Annex C as well as EPP Part III Annex F;

b. Thirty six Short Range Radar sites which operate unattended and are visited between four and nine times annually for:
   i. Preventive Maintenance Inspections (PMI);
   ii. bulk fuel resupply; and
   iii. security patrols by the Royal Canadian Mounted Police or the Canadian Forces Rangers.

   A helipad is located at each SRR. In addition abandoned landing strips may be usable by fixed wing aircraft at various SRR sites depending on aircraft type and both site and weather conditions. A POL Spill Response Kit is located in the Technical Services Building (TSB) at each site with additional materials available at the host LSS. The contents of the on-site kits are listed in Annex C as well as in EPP Part III Annex F.

c. There are five Logistics Support Sites whose staff support O&M of the SRR and LRR sites under the authority of the LSS Manager. The LSSs are accessible by commercial air carriers and a helipad is located at each site. The SRR sites in each of the five NWS zones are supported by a host LSS as follows:

i. Zone 1, Inuvik LSS:

- BAR-1, Komokuk Beach;
- BAR-B, Stokes Point;
- BAR-BA3, Storm Hills;
- BAR-3, Tuktoyaktuk;
- BAR-DA1, Liverpool Bay;
- BAR-4, Nicholson Island;
- BAR-E, Horton River;
- PIN-1BD, Keats Point; and
- PIN-1BG, Croker River;

ii. Zone 2, CAM-M LSS:

- PIN-2A, Harding River;
- PIN-CB, Bernard Harbour;
- PIN-DA, Edinburgh Island;
- PIN-EB, Cape Peel West;
- CAM-A3A, Sturt Point North;
- CAM-1A, Jenny Lind Island;
- CAM-B, Hat Island;
- CAM-2, Gladman Point; and
- CAM-CB, Gjoa Haven;

iii. Zone 3, FOX-M LSS:

- CAM-D, Simpson Lake;
- CAM-4, Pelly Bay;
- CAM-5A, Cape McLoughlin;
- CAM-FA, Lailor River;
- FOX-1, Rowley Island;
- FOX-A, Bray Island;
- FOX-2, Longstaff Bluff; and
- FOX-B, Naduardjuk Lake;

iv. Zone 4, Iqaluit LSS:

- FOX-CA, Kangok Fiord;
- FOX-4, Cape Hooper;
- FOX-5, Broughton Island;
- BAF-2, Cape Mercy;
- BAF-4A, Loks Land; and
- BAF-5, Resolution Island;

v. Zone 5, Goose Bay LSS:
- LAB-1, Cape Kakaviak;
- LAB-3, Cape Kiglapait;
- LAB-4, Big Bay; and
- LAB-5, Tukiauk Bay;

d. Region Operations Control Centre (ROCC) is situated at CFB North Bay and is the location for the North Warning System Control Centre (NWSCC). The NWSCC remotely monitors the operations of the SRR and LRR sites through the following units;
   i. Maintenance Control Facility (MCF);
   ii. Maintenance Control Subsystem (MCS);
   iii. Network Control Facility (NCF); and
   iv. Electronic Control Facility (ECF);

e. North Warning System Support Centre (NWSSC), located in North Bay, Ontario, supports the activities of NWSCC. The NWSSC is also responsible for any spills at the SRR Development Site (SRD), a model SRR site located in North Bay, Ontario.

f. Contractor Management Office (CMO); and

g. North Warning System Office (NWSO).

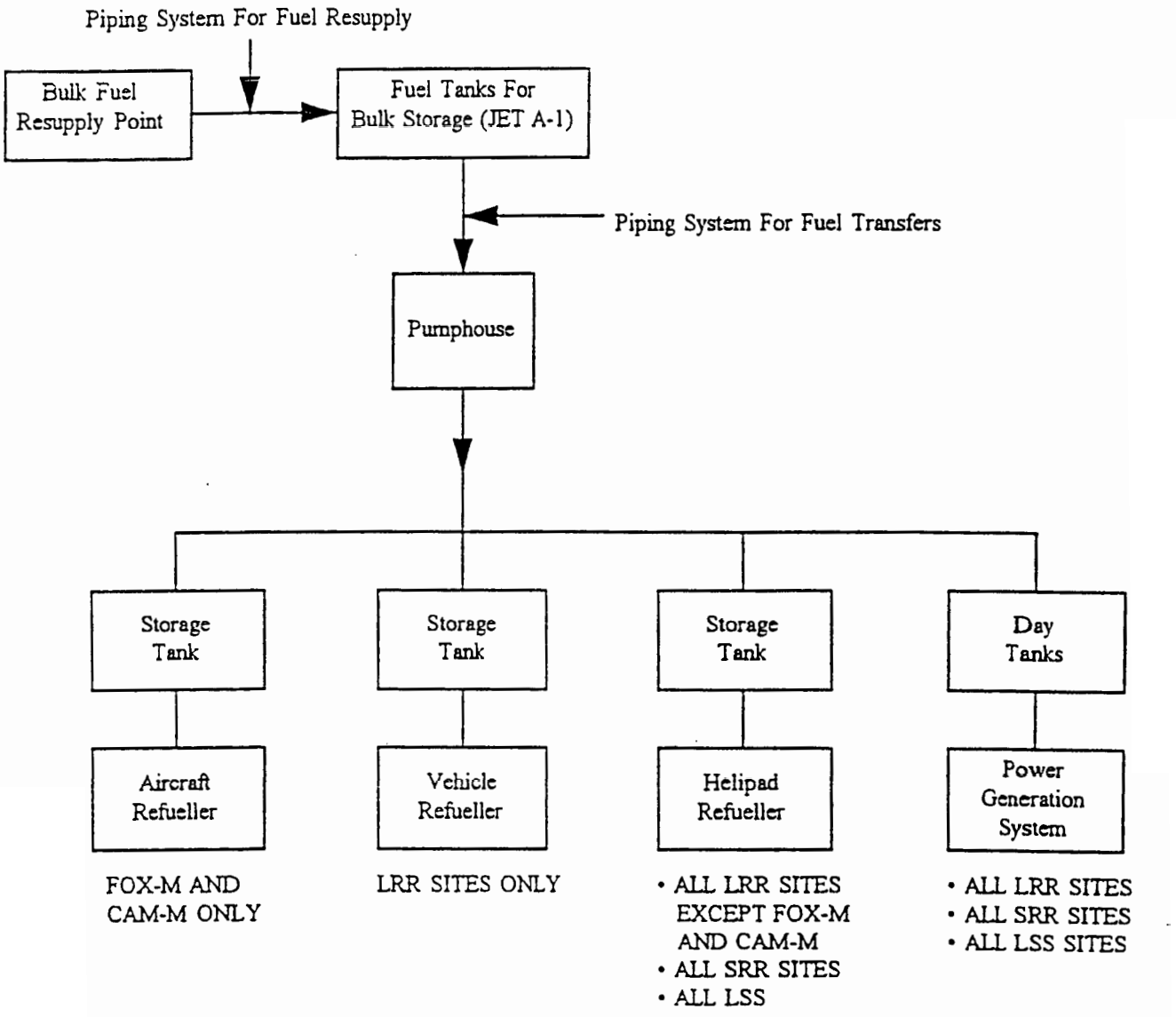
All LSS, LRR and SRR sites are located in the Canadian Arctic or Labrador and are subjected to the extremes of cold temperature, weather and seasons characteristic of these regions. Most LRR and SRR sites operate in remote, isolated locations. LSSs Cambridge Bay and Hall Beach are main LRR sites with communities nearby and LSSs Inuvik, Iqaluit, and Goose Bay are located in communities. Spills at LSSs Inuvik and Iqaluit will be managed by the local fire department, while LSS Goose Bay is subject to the CFB Goose Bay spill plan.

2.3 POL Bulk Storage and Distribution System

Each LRR site, SRR site and LSS has fuel storage tanks and piping systems for fuel distribution. The main components of the POL bulk storage and distribution system are shown in Figure 1.

All fuel tanks are located above ground and range in size from 200 litre capacity to 2.8 million litre capacity. Bulk storage tanks are of both horizontal and vertical types and are located inside earthen containment berms or dykes at LRR sites. Tanks which will continue to be actively used following the transition to reduced staffing, are contained by lined earthen dykes. Bulk storage tanks located at SRR

FIGURE 1 - POL STORAGE AND DISTRIBUTION SYSTEM



NOTE: Components of the POL storage and distribution system vary from site to site. See site specific descriptions in Annex C.

sites, LSS locations and some LRR sites incorporate an integral, external, secondary containment vessel in their design.

Oils and lubricants, used in the operation of power generating systems (PGS) and vehicles, are stored in site specific POL storage areas and in dedicated POL storage sheds. Waste POL products are stored in dedicated areas prior to disposal by incineration or retrograde activity. See site specific maps in EPP Annex F.

2.4 Fuel Resupply and Use

Bulk fuel resupply of all LRR and all SRR sites takes place during the summer season on an annual or bi-annual basis. Bulk fuel is transported to most LRRs and SRRs by sealift, (barges or ships). Some SRR sites receive bulk fuel from tractor trains, and the FOX-3 LRR site and some SRR sites are resupplied by airlift. Contractors and sub-contractors engaged in fuel resupply operations are responsible for providing their own POL Spill Contingency Plans, (see Section 1.5, Roles and Responsibilities). This document will be the source document for contractors and sub-contractors.

Uses of fuel at LRR sites include:

a. operation of the power generating system;
b. aircraft/helicopter refuelling;
c. vehicles;
d. furnaces and boilers; and
e. incinerators.

Uses of fuel at LSSs and SRR sites include:

a. operation of the power generating system;
b. helicopter refuelling; and
c. furnaces.

2.5 Bulk Fuel Description and Characteristics

The fuel used for all purposes on the NWS sites is Jet A-1 (3A), Arctic Grade, Aviation turbine fuel, kerosene type. This fuel type is highly flammable with a flash point of 38°C. It contains paraffin, olefin, napthalene and aromatics. The aromatics and napthalene fractions are both highly volatile and toxic.

Due to high volatility, Jet A-1 exhibits a high evaporation rate. Due to its light

flowing water and is visibly detectable as a thin sheen. It will sink rapidly into unfrozen ground and will migrate along the active layer and the permafrost zone.

Land spills of Jet A-1 may cause short -term contamination of soil quality. Water spills of Jet A-1 may cause short-term toxicity to aquatic life forms, and potentially long term physical impairment to aquatic ecosystems.

3.0 SPILL RESPONSE REQUIREMENTS

3.1 Spill Classifications

For the purposes of NWS operations, POL spills will be classified by:
a. Size (volume); and
b. Type.

The categories of spill size are:
a. Minor = less than 205 litres (less than 1x45 U.S. gallon drum); or
b. Medium = 205 litres to 5000 litres (1 to 25 drums); or
c. Major = more than 5000 litres.

The categories of spill type are:
a. Land spills; and
b. Freshwater and marine spills.

3.2 FRONTEC's Spill Response Capability

When a POL spill is reported at an NWS sites, FRONTEC will:

a. Mobilize personnel, materials and equipment to respond immediately after receipt of the spill report or as soon as practicable. "In-house" resources will be utilized for response to minor and medium size spills and initial response to major spills.

   The conditions at a spill site with respect to weather, temperature, season and availability of transportation, may impose significant delays in response times. The O&M contract SOW allows for a maximum response time of forty eight hours in all cases;

b. Request assistance, if required, from:
   i. other NWS sites;
   ii. DND; and
   ii. the Canadian Coast Guard,

   and hire additional assistance, if required, from:
   iv. Northern residents;
   v. local communities; and
   vi. commerical spill response firms.

   Acquisition of additional resources may be required to respond to spills which exceed the capabilities of FRONTEC's "in-house" resources; and

c. Lend assistance to other agencies or local communities when requested.

3.3 Spill Response Process

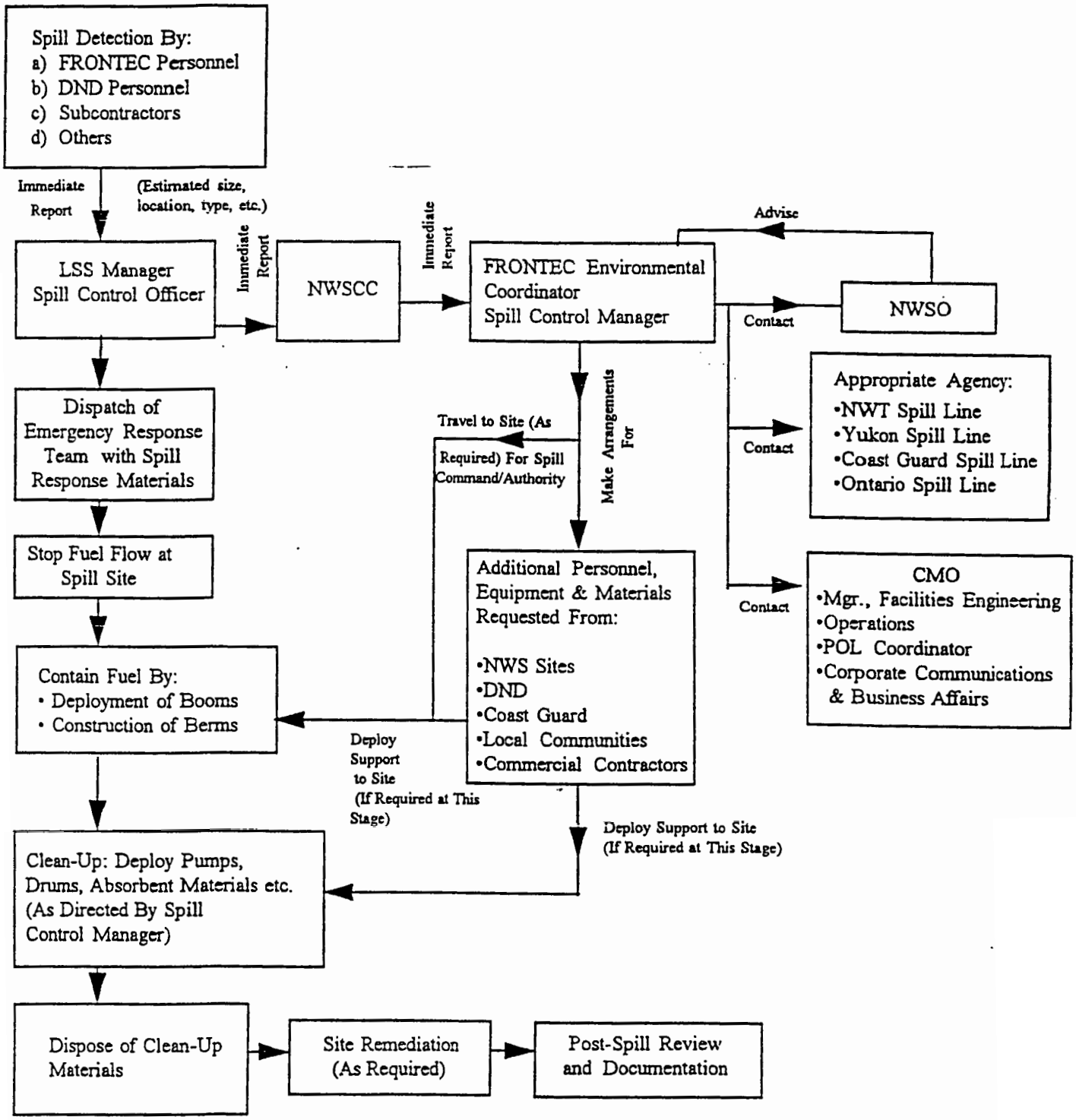
Figure 2 illustrates the parties involved, their roles and actions in the spill response process. The spill response process for the NWS includes:

a. Methods of spill prevention;

b. Methods of spill detection; and

c. Action plans for:
   i. attended sites (i.e. CAM-M and FOX-M); and
   ii. unattended sites.

FIGURE 2 - SPILL RESPONSE FLOW CHART



NOTE: Spills detected at SRR sites BAR-DA1, BAR-E or PIN-1ED must also be reported to the Inuvialuit Land Administrator by the Environmental Coordinator .

3.4 Spill Prevention

Spill prevention minimizes the potential for POL spills at NWS sites through:

a. Annual site conditions surveys to identify items of concern (e.g. bent pipe, damaged pipe supports, rusting);

b. Preventive Maintenance Inspections (PMIs) of POL system components (e.g. pumps, valves);

c. Regular maintenance of bulk fuel storage tanks (e.g. cleaning, inspection and refurbishment);

d. Training of POL technicians in standard operating procedures (SOP) (e.g. fuel transfers, fuel resupply); and

e. Safe guards for POL systems at unattended sites (e.g. "Time-Outs" for fuel pumps during transfer operations).

The above are enhanced by "in-house" and NWSO audits of all aspects of NWS operations.

3.5 Spill Detection

Methods employed for detection of POL spills include:

a. **Visual**
This method is most succesful during summer months when day light is abundant and there is an absence of snow cover. Snow cover and reduction of staff at the LRR sites significantly reduce the probability of sighting pools of fuel or stained soils;

b. **Fuel Dipping**
This method of measurement provides data, which when compared to estimated consumption figures, may indicate a spill occurrence; and

c. **Remote Monitoring**
Alarms are sent to the NWSCC when fuel levels of indoor, day tanks vary by more than the expected amount or fuel pumps operate with greater than expected frequency at unattended sites.

Remote monitoring of bulk POL storage tanks at NWS sites is not practiced

become available for use in extreme, cold weather environments they will be employed.

3.6 Spill Response - Initial Action

When a POL spill is detected at any NWS site the initial response action will be to report, as shown in Figure 2, to the LSS Manager who will then notify NWSCC. For spills at community based LSSs Inuvik and Iqaluit, the local fire department may also be contacted to assist in management of the spill.

The initial report must include the following information:

a. Location and time of the spill;

b. Substance spilled;

c. Estimated size (volume in Litres, area, and depth);

d. Cause, if readily identifiable;

e. Tracking of the spill (movement, speed and direction)

f. Conditions at the spill site including:
   i. weather;
   ii. depth of snow cover (if present);
   iii. proximity of the spill to bodies of water;
   iv. wind speed and direction; and
   v. wave height (if a marine type spill);

g. Hazards to personnel safety; and

h. Hazards to the environment.

A written report containing this information, and a sketch map of the spill area, must also be forwarded to the Environmental Coordinator. See Annex B for a copy of the "Environmental Emergency Report FR-06 Spill Report" form.

3.6 Spill Reporting

All POL spills, regardless of size, are to be reported to the appropriate FRONTEC personnel. When a POL spill is detected at any NWS site, the initial response action will be to report to the LSS Manager. The LSS Manager will notify NWSCC, and NWSCC will in turn contact FRONTEC's Environmental Coordinator, as shown in Figure 2. To supplement the verbal report, the LSS Manager will fax a written report to the Environmental Coordinator. The Environmental Coordinator will notify NWSO, other departments at CMO, and outside agencies as appropriate.
The reporting responsibilities of the person discovering the spill, the LSS Manager, the NWSCC, and the Environmental Coordinator are outlined below.

Person Discovering the Spill:

An immediate verbal report of all spills must be made to the LSS Manager.

The report must include the following information:

a. Location of the spill;

b. Known or suspected time of the spill;

c. Substance spilled;

d. Estimated volume spilled*;

e. Cause, if readily identifiable;

f. Tracking of the spill (movement, speed and direction);

g. Size of area contaminated, and depth of contamination, if possible;

h. Conditions at the spill site including:
   i. weather;
   ii. depth of snow cover (if present);
   iii. terrain;
   iv. proximity of the spill to bodies of water;
   v. wind speed and direction; and
   vi. wave height (if a marine spill);

i. Containment of the spill (none, natural, booms, dykes);

j. Actions taken or proposed;

k. Hazards to the safety of personnel or property; and

l. Hazards to the environment.

* Dip tanks to calculate current volume, and estimate consumption since last dip/reconciliation, to determine amount spilled.

Fax a sketch map of the spill area, detailing the location and extent of the spill, to the LSS Manager. Where a fax machine is not available, i.e. at an SRR, deliver the map to the LSS Manager immediately upon returning to the LSS.

These report requirements are also outlined in the Internal Spill Report form.

LSS Manager:

Upon receiving the initial spill report, the LSS Manager must make an immediate verbal report to the NWSCC, which will in turn contact the Environmental Coordinator. The LSS Manager must then fax the Environmental Coordinator a written report containing detailed spill information using the Internal Spill Report form. This written report must be received within 24 hours of the verbal report. This form covers the same topics as those outlined for the verbal report from on-site personnel. The LSS Manager is also to include the reference number of the Work Order raised to respond to the spill. See the following pages, as well as Annex B, for a copy of the Internal Spill Report form.

Regardless of the volume, the NWSCC must be notified of all spills.

For spills at community based LSSs Inuvik and Iqaluit, the LSS Manager may also contact the local fire department to assist in management of the spill.

NWSCC:

The Shift Lead is the usual point of contact for spill reports. Upon receiving a report of a spill, the Shift Lead must immediately notify the Environmental Coordinator. The Environmental Coordinator will be contacted by phone at the CMO office or home, or by pager. If the Environmental Coordinator can not be reached, the Environmental Coordinator Alternate will be contacted.
Any decision to file a Significant Incident Report will be made by NWSO.

Environmental Coordinator:

FRONTEC's Environmental Coordinator will assume the position of Spill Control Manager with authority over all spill response activities as shown in Fig. 2, the Spill Response Flow Chart.

Upon notification of a spill, the Environmental Coordinator will contact:

a. NWSO, which will advise on all spill response activities.
The initial reports ,verbal and written, will be followed by regular verbal reports as required;

b. 24 hour spill line for:

i. Northwest Territories;
ii. Yukon Territory;
iii. Canadian Coast Guard; or
iv. Ontario

These spill lines often have minimum volumes for reporting, meaning a spill of a given substance, under a given volume need not be reported. The Northwest Territories government lists various classes of hazardous substances with their minimum reporting volumes in the *Spill Contingency Planning and Reporting Regulations* (min. 100 L for flammable liquids). The Yukon follows the quantities listed in the federal *Transportation of Dangerous Goods Regulations* (min. 200 L for flammable liquids). Spills of gasoline or associated products under 70 L need not be reported in Labrador (*Storage and Handling of Gasoline and Associated Products Regulations, 1982*). In Ontario, spills of fuel of less than 100 L with no suspected environmental impact need not be reported. Regardless of these minimum volumes, however, site personnel must notify NWSCC of all spills - the Environmental Coordinator will contact the appropriate agencies as necessary.

c. CMO personnel, including:
i. Manager, Facilities Engineering;
ii. Operations;
iii. POL Coordinator; and
iv. Corporate Communications and Public Affairs.

d. In cases of spills at sites BAR-DA1, BAR-E and PIN-1BD, the lease agreement requires that an immediate spill report also be made to the Inuvialuit Land Administrator.

e. Spills on airport property at Hall Beach, and spills on airport property or at the beach POL tanks at Cambridge Bay, are to be reported to the NWT Department of Transportation.

FAX COVER SHEET

INTERNAL

SPILL REPORT

TO: ☐ Environmental Coordinator - Sam Cheng fax ext.: 884

☐ Other

FROM: Name:

Title:

Site:

Phone:

DATE & TIME:

MESSAGE:

INTERNAL

SPILL REPORT

☐ Initial

☐ Update

REPORT DATE:

DATE AND TIME OF SPILL (known or suspected):

SITE:

LOCATION OF SPILL ON SITE:

FLOW DIRECTION (if spill is moving):

SUBSTANCE SPILLED:

ESTIMATED QUANTITY SPILLED (metric volumes and masses required - attach tank dip data, calculations):

CAUSE OF SPILL:

HAS THE SPILL TERMINATED?

EXTENT OF CONTAMINATED AREA AND DEPTH OF CONTAMINATION (if possible):

FACTORS AFFECTING SPILL OR RECOVERY (temperature, wind, snow, ice, terrain, buildings, etc.):

CONTAINMENT (none, natural, booms, dykes, etc.):

ACTION(S) TAKEN OR PROPOSED TO CONTAIN, RECOVER, CLEAN-UP OR DISPOSE OF SUBSTANCE:

ASSISTANCE REQUIRED? If so, what form of assistance?:

HAZARD(S) TO PERSONS OR PROPERTY OR ENVIRONMENT:
(e.g. fire, drinking water, threat to fish or wildlife)

COMMENTS AND/OR RECOMMENDATIONS:

SKETCH MAP:

REPORTED BY:

Name: Position:

Location: Telephone:

WORK ORDER #(s):

03/98

3.7 Spill Response

Implementation of a POL spill action plan will include the following activities:

a. Stopping the fuel flow;
b. Containment of the spilled fuel;
c. Clean up;
d. Disposal of clean up materials;
e. Remediation of the spill site;
f. Final Report; and
g. Post-spill review

FRONTEC's Environmental Coordinator will assume the position of Spill Control Manager. The LSS Manager will assume the position of Spill Control Officer and have authority over the Emergency Response Team (ERT) activated at, or dispatched to, the spill site. The LSS Manager will also raise the appropriate Work Order(s) to identify and track the necessary repairs, clean-up activities, and disposal actions. Communications will be maintained between the ERT and the LSS Manager throughout the duration of all spill response. ERT composition and responsibilities are shown in Figure 3 and Figure 4.

3.7.1 Cessation of Fuel Flow

The ERT will activate measures to stop further fuel flow. This would include closing isolation valves within the POL distribution system, if not already done so, and other means as determined by the nature of the spill.

3.7.2 Spill Containment

The ERT will deploy materials from the spill control kit and utilize such on-site equipment as may be available to contain the spill, possibly including the construction of temporary berms. In cases where the spill exceeds the capabilities of on-site resources, the Spill Control Manager will make arrangements for additional personnel, equipment and materials from:

a. other NWS sites;
b. DND;
c. the Canadian Coast Guard;
d. local communities; and
e. commercial spill response contractors.

Depending on the spill size, the Spill Control Manager may travel to the spill site to supervise response activities

FIGURE 3 - EMERGENCY RESPONSE TEAM - ATTENDED NWS SITES

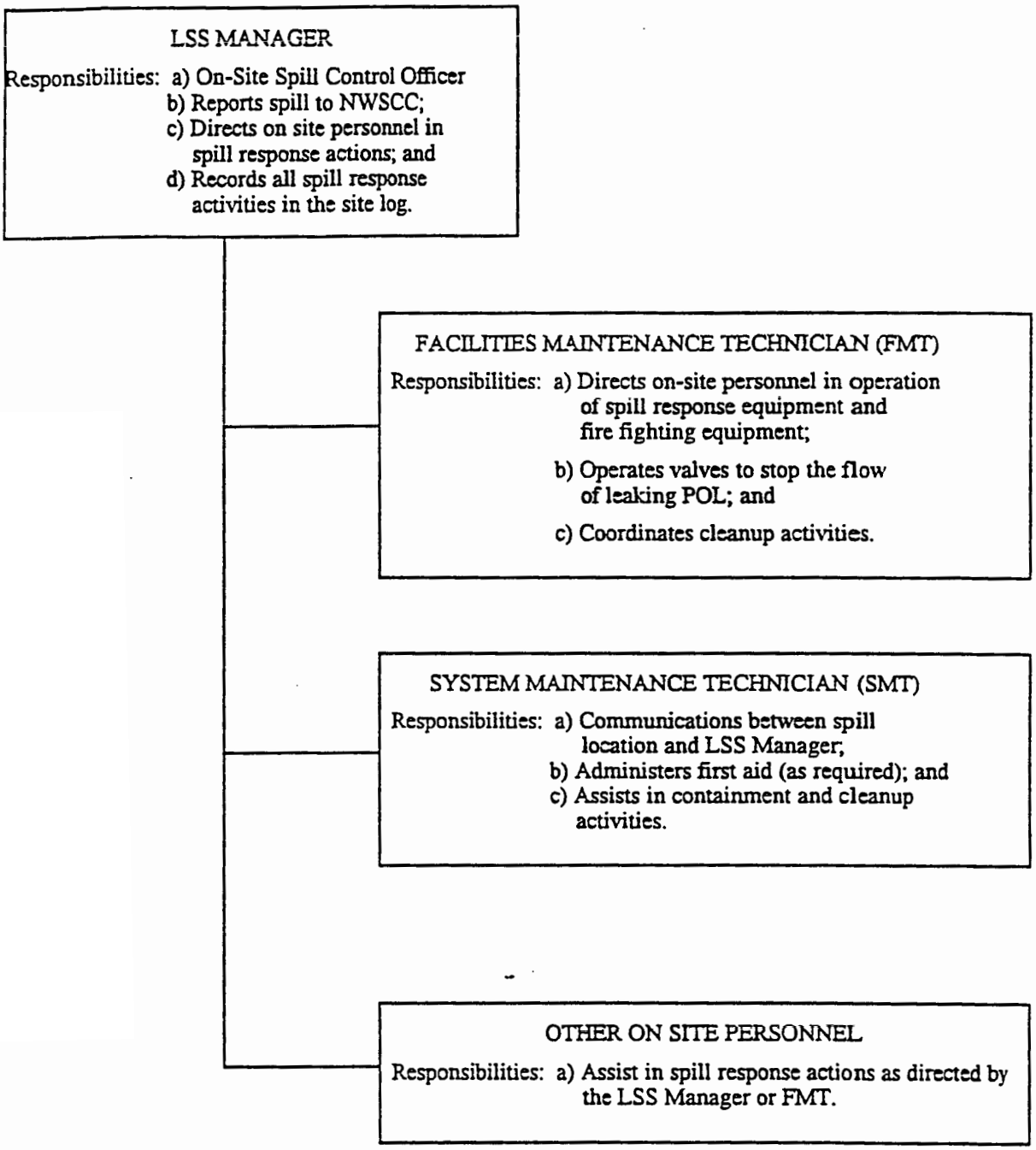
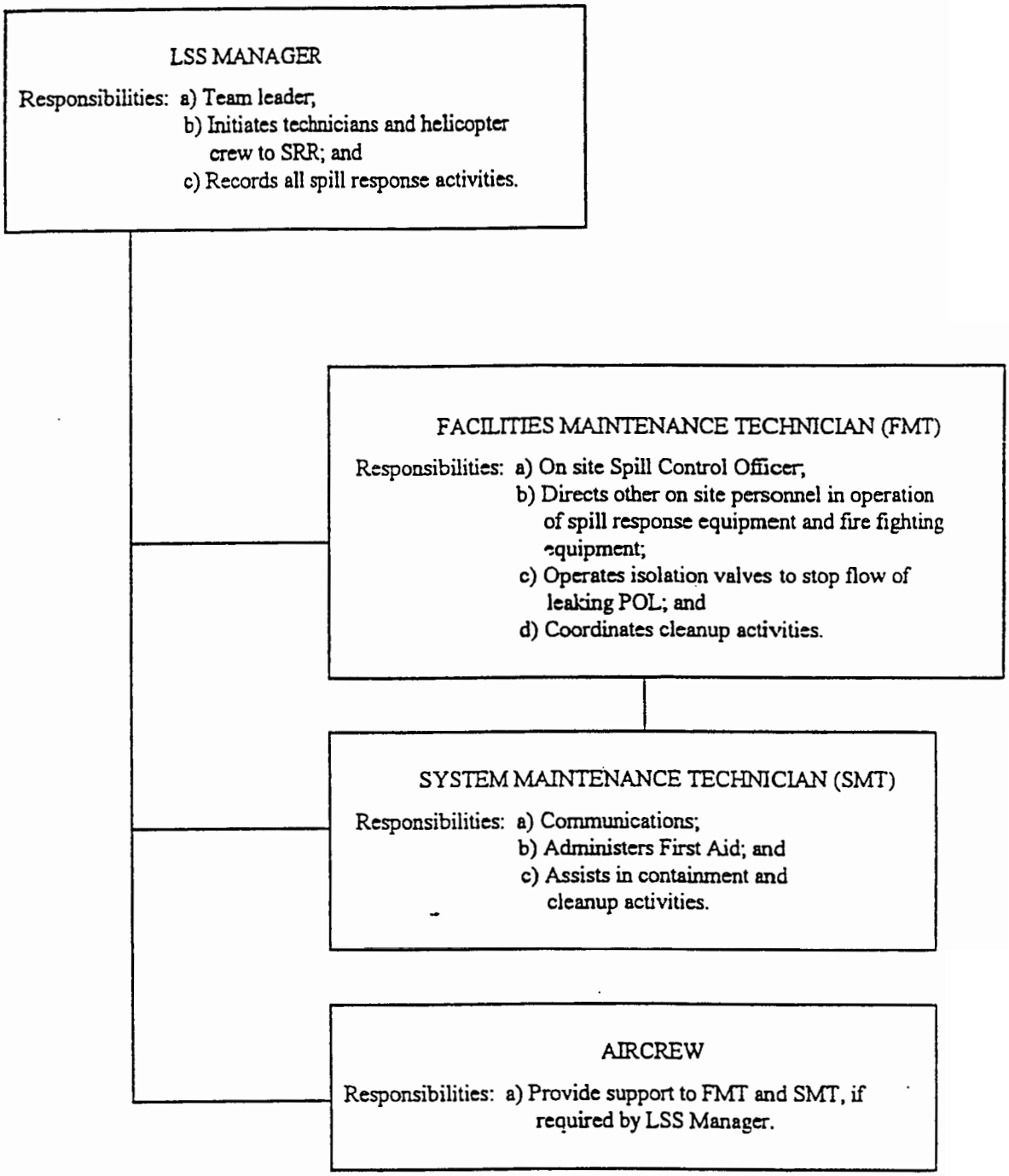


FIGURE 4 - EMERGENCY RESPONSE TEAM - UNATTENDED NWS SITES



3.7.3 Clean Up

Following successful containment of the spill, the ERT will deploy absorbent materials, salvage drums, POL pumps, slip tanks, sorbent wringer and other equipment as available, for recovery of the spilled fuel. Alternately, the Spill Control Manager may elect on-site burning of the spill as a means for spill clean-up.

Additional resources, as stated in 3.7.2, may be dispatched to the spill site by the Spill Control Manager in cases where the spill clean up exceeds the capabilities of the on-site resources.

Clean-up actions are identified and tracked through the spill's Work Order. A spill clean-up Work Order can not be closed until all actions are completed, or the remaining requirements transferred to a separate Work Order.

3.7.4 Disposal of Clean Up Materials

The wastes generated during spill response activities typically include used sorbent materials, POL/water mixtures, contaminated snow and contaminated soil. Each of these wastes has different properties, and although all may be contaminated with the same product, different collection and disposal methods are required. The following procedures are to be implemented by the ERT, in consultation with the Spill Control Manager, following spill clean-up activities.

Note that some equipment and materials will need to be brought to the spill site from the LSS/LRR.

3.7.4.1 Used Sorbent Materials

Sorbent materials found on the sites typically take the form of loose material in plastic bags, individual squares of sheet material, rolls of sheet material, and sock booms. Sorbent materials may be "universal" in that they absorb all liquids, or specific. Hydrophobic sorbents adsorb organic liquids such as fuel, but not water. Most sorbent materials adsorb liquids, meaning the liquid attaches to the surface of the sorbent particles, rather than absorb the liquid right into the molecular structure of the sorbent particles. If a liquid is adsorbed by a sorbent it can to some extent be squeezed out. To minimize the amount of used sorbent material requiring disposal, saturated sorbent materials, with the exception of bags of loose sorbent, are to be squeezed through a sorbent wringer and reused. One wringer unit will be stored at each LSS, for mobilization to spill sites as

part of the clean-up materials and equipment. The liquid extracted from the sorbent is to be handled as per section 3.7.4.2, and the wrung-out sorbent dealt with as detailed below.

a. All used sorbent materials, regardless of type, are to be placed in salvage drum(s) with secure lid. The drum is to be marked as to its contents with permanent marker or spray paint as follows: "Used Sorbent, <substance absorbed (i.e. Jet A1, oil)>,<site>, <date >."

b. If the spill has occurred at an SRR, the drum is to be transported to the base LRR or LSS by the ERT upon their departure. If space on the helicopter does not permit immediate removal, marked drums are to be stored in the TSB. The drum(s) must be transported to the LSS or LRR within 4 months. Burning of used sorbent, or any other solid waste, at an SRR is prohibited.

c. At the LRR/LSS, transfer used sorbent from salvage drum to the site's burn bin If the site does not have a burn bin (e.g. LAB-2 which uses an incinerator), an alternate secure, non-leaking container, such as a drum, may be used. For larger volumes, the top can be removed from a decommissioned day tank to form a burn trough. Do not attempt to burn used sorbent in the domestic refuse incinerators at the east coast LRRs. The burn area must be situated on site property, on a level area at least 30 m (100 ft) from any water body, and a minimum of 15 m down wind from any structures, tanks, or piping.

d. Rinse salvage drums with water three times, straining rinse water through hydrophobic sorbent material prior to discharge to ground. Rinsing activities are to take place at least 30 m (100 ft) from any water body. Set drums upside down and allow to drain/air dry. Add used sorbent material to burn bin.

e. Ignite waste in burn bin. If ignition is difficult, a small amount of accelerant, such as Jet A1, may be added. Material is to be "stirred" to encourage burning.

f. Remaining material which will not burn is to be landfilled.

g. Return salvage drum(s) to spill site for future use. Notify LSS LOGS personnel as to the spill response kit items which were used and require replacement. Items will be restocked in accordance with Supply Procedures Manual Vol. 1 Section 5.1.1 to maintain the minimum quantities as listed in the LOGS Checklist CL-006.

3.7.4.2 POL/Water Mixture

POL/water mixtures may be dealt with in-place during the clean-up phase, through burning of pooled fuel for example, and/or collected and drummed for treatment/disposal. As decisions regarding clean-up phase activities are at the discretion of the Spill Control Manager, these procedures simply address disposition of collected POL/water mixtures.

As a general rule of thumb, recovery of fuel for reuse is considered practical if more than 200 L of fuel can be collected. Recovered fuel must be dewatered and filtered prior to use, using filter units located at LRRs and LSSs, and can only be used for vehicles. As vehicles are not stored at SRRs, there is no use for recovered fuel at a SRR. Collected fuel must therefore be transported to an LRR or LSS for filtration and use.

Quantities of fuel of less than 200 L must also be recovered from the environment but will be burned rather than treated and reused.

a. Let mixture sit in 205 L (45 gal) drum(s), allowing mixture to separate into layers. Salvage drums are not to be used, as they are not approved as primary containers for liquids if the drum needs to be transported. Drums are to be situated in a level area at least 30 m (100 ft) from any water body.

b. Evaluate the POL/water ratio. For instance, coat a dipstick with water indicating paste and insert in drum to determine relative thickness of POL and water layers.

c. If the POL/water ratio is low, say less than 25 % POL, and the volume of mixture is low, say less than 800 L (i.e. less than four 45 gal drums) then recovery for reuse is not justified. Therefore the POL can be captured and retained with sorbent material.

   i. Use hydrophobic sorbent sheets to remove as much POL from the top layer of the drum(s)as possible and then strain the mixture through hydrophobic sorbent material. To maximize contact with the surface of the sorbent, coil socks/booms of hydrophobic sorbent material in a drum funnel set over a clean drum or other support, and slowly pour the mixture over the coils. The strained water is then emptied onto the ground. Straining activities are to take place at least 30 m (100 ft) from any water body.

   ii. Dispose of used sorbent as discussed in 3.7.4.1.

   iii. Return drum(s) to LRR/LSS. Rinse drums with water three times, straining rinse water through hydrophobic sorbent material prior to discharge to ground. Set drums upside down, allow to drain/air

iv. Notify LSS LOGS personnel as to the spill response kit items which were used and require replacement. Items will be restocked in accordance with Supply Procedures Manual Vol. 1 Section 5.1.1 to maintain the minimum quantities as listed in the LOGS Checklist CL-006.

d. If the POL/water ratio is higher, more than 25% POL, or the volume of mixture is higher, more than 800 L, a fuel/water separator is to be used. This separator would be stored at an LSS and, depending on the volumes of material to be shipped back and forth, the separator may be transported to the spill site, or the drums of mixture may be transported to the separator.

   i. If the POL/water mixture must be transported for separation, or stored until separation can be conducted, each drum is to be marked as to its contents with permanent marker or spray paint as follows: "<substance>/water mixture, <site>, <date >". The drums are also to be labeled and shipped as flammable liquids, as per Transportation of Dangerous Goods (TDG) requirements.

   ii. Pump or pour POL/water mixture from drums into separator. Separation activities are to be conducted on site property, a minimum of 30 m (100 ft) from any water bodies, a minimum of 15 m from structures, tanks, or piping.

   iii. Follow instructions for use included with the separator unit. Designs may vary but most separators are based on separation of the mixture into layers due to differences in fluid density. Water, being "heavier" than POL products, sinks to the bottom and can then be drained off.

   iv.. Slowly drain water from separator, straining it through a hydrophobic sorbent material to remove any POL residue prior to discharge. To maximize contact with the surface of the sorbent, coil socks/booms of hydrophobic sorbent material in a drum funnel set over a clean drum, and slowly pour the mixture over the coils. The water collected in the clean drum is then emptied onto the ground. Straining activities are to take place at least 30 m (100 ft) from any water body. Dispose of used sorbent as discussed in 3.7.4.1.

   v. Drain recovered POL into 205 L (45 gal) drum(s). Each drum is to be marked as to its contents with permanent marker or spray paint as follows: "Recovered <substance>, <site>, <date >".

e. If less than a total of 200 L of POL was recovered, the fluid may be burned at the spill site rather than returned for disposal or reuse at an LRR or LSS. Burning must take place in, a secure, non-leaking, open-head drum or other suitable container , on site property, on a level area at least 30 m (100 ft) from any water body, and a minimum of 15 m (50

ft) down wind from any structures, tanks, or piping. Burning of used sorbent or other solid wastes at SRRs, however, is prohibited.

f. If 200 L or more of POL were recovered, the fuel is to be taken to the LSS or LRR for treatment using the site's filter units. If the spill has occurred at an SRR, the drums are to be transported to the base LRR or LSS by the ERT upon their departure. If space on the helicopter does not permit immediate removal, marked drums are to be stored in the TSB. The drums must be transported to the LSS or LRR within 4 months. Drums of recovered fuel are to be labeled and shipped as flammable liquids as per Transportation of Dangerous Goods (TDG) requirements.
Once dewatered and filtered, the fuel is transferred to the vehicle refueller tank. Recovered fuel must not be placed in PGS or aviation fuel tanks.

g. Return drum(s) to LRR/LSS. Rinse drums with water three times, straining rinse water through hydrophobic sorbent material prior to discharge to ground. Set drums upside down, allow to drain/air dry, and return to stockpile. Rinsing activities are to take place at least 30 m (100 ft) from any water body. Dispose of used sorbent as discussed in 3.7.4.1.

h. Notify LSS LOGS personnel as to the spill response kit items which were used and require replacement. Items will be restocked in accordance with Supply Procedures Manual Vol. 1 Section 5.1.1 to maintain the minimum quantities as listed in the LOGS Checklist CL-006.

3.7.4.3 Contaminated Snow

Small volumes of contaminated snow are to be shoveled into an open head 205 L (45 gal) drum, along with a hydrophobic sorbent mat, pillow or sock. Each drum is to be marked as to its contents with permanent marker or spray paint as follows: "Snow with <substance>, <site>, <date>." Drums may be stored in a level area outside to await spring thaw, or moved indoors to speed melting. The melted snow is to be treated as POL/water mixture, as discussed in 3.7.4.2.

Large areas of contaminated snow may be removed/isolated and surrounded with hydrophobic absorbent booms to gradually filter meltwater. Decisions in such a situation will be at the discretion of the Spill Control Manager.

3.7.4.4 Contaminated Soil

Decisions regarding remediation of contaminated soil must be made by the Spill Control Manager on a case-by-case basis. Commonly, a small area of contaminated soil would be left to aerate at the spill site. The area would be "tilled" by hand and the soil spread out in a thin layer, to maximize "evaporation" of fuel from the soil.

Should contaminated soil need to be excavated and contained, the following points are to be noted.

a. Do not mix soil with other spill wastes.

b. Do not overfill containers. Drums will need to be moved without the aid of heavy equipment at SRRs. In light of this, use of large (85 gal /320 L) salvage drums is to be avoided.

c. Each drum is to be marked as to its contents with permanent marker or spray paint as follows: "Soil with <substance>, <site>, <date>.

3.7.4.5 Reporting Disposal Actions

The LSS Manager is to advise the Spill Control Manager of disposal actions taken by the ERT, through e-mail or Internal Spill Report updates. In particular, any spill waste for which disposal actions could not be completed must be flagged for future action (e.g. a drum of waste which could not be removed from the spill site at the time of the ERT's departure). Drums of waste left at an SRR must be transported to the LSS or LRR within 4 months of the spill response. Such information can be tracked through the spill clean-up Work Order.

Spill clean-up Work Orders are to include the removal and disposal actions for spill wastes. A spill clean-up Work Order can therefore not be closed until the disposal actions are completed, or the remaining requirements transferred to a separate waste disposal Work Order.

3.7.5 Site Remediation

Site remediation will be undertaken by trained FRONTEC personnel or by experienced commercial spill response firms. Remediation methods include:

a. Aeration of soils;
b. Excavation of the affected area for treatment/disposal;
c. Natural biodegradation; and

d. Enhanced bioremediation (under review).

The Spill Control Manager, in consultation with NWSO, will decide upon the most appropriate method of remediation.

3.7.6 Final Report

The final report summarizes the following spill information:

a. Initial report information;
b. Confirmation of spill volume;
c. Actions taken;
d. Future remediation/monitoring requirements; and
e. Sketch map and/or photographs of spill area.

3.7.7 Post Spill Review

A joint review of all spill response activities and involved parties will be held by FRONTEC and NWSO in order to:

a. Document all events from the initial spill report through to site remediation;

b. Analyse spill response actions taken and their effectiveness in order to:
   i. Revise action plans as required;
   ii. Amend spill response procedures as required; and
   iii. Amend the spill response training program.

A post spill review will take place:

a. In the case of any major spill; and

b. In the case of minor or medium spills when requested by FRONTEC or NWSO.

3.8 Spill Response - POL Resupply Activities

Part II Section 6.2 of the EPP describes the bulk POL resupply process for NWS sites. Transportation of the bulk POL is performed by contractors and subcontractors who must each posses their own Spill Contingency Plan.

FRONTEC will report spills related to fuel resupply and fuel transfer to NWSO, even though the contractor's spill plan may apply.

Command structure and spill response action plans for spills during site resupply are shown in Figures 5 and 6. These plans illustrate spill responses during resupply by:

a. Sealift (e.g. vessel or barge); and
b. Airlift (e.g. rotary wing or fixed wing aircraft).

Figures 7 through 10 depict response plans for land and freshwater/marine spills at unattended and attended NWS sites.

FIGURE 5 - FLOW CHART FOR FUEL SPILL RESPONSE DURING BULK POL RESUPPLY BY SEALIFT

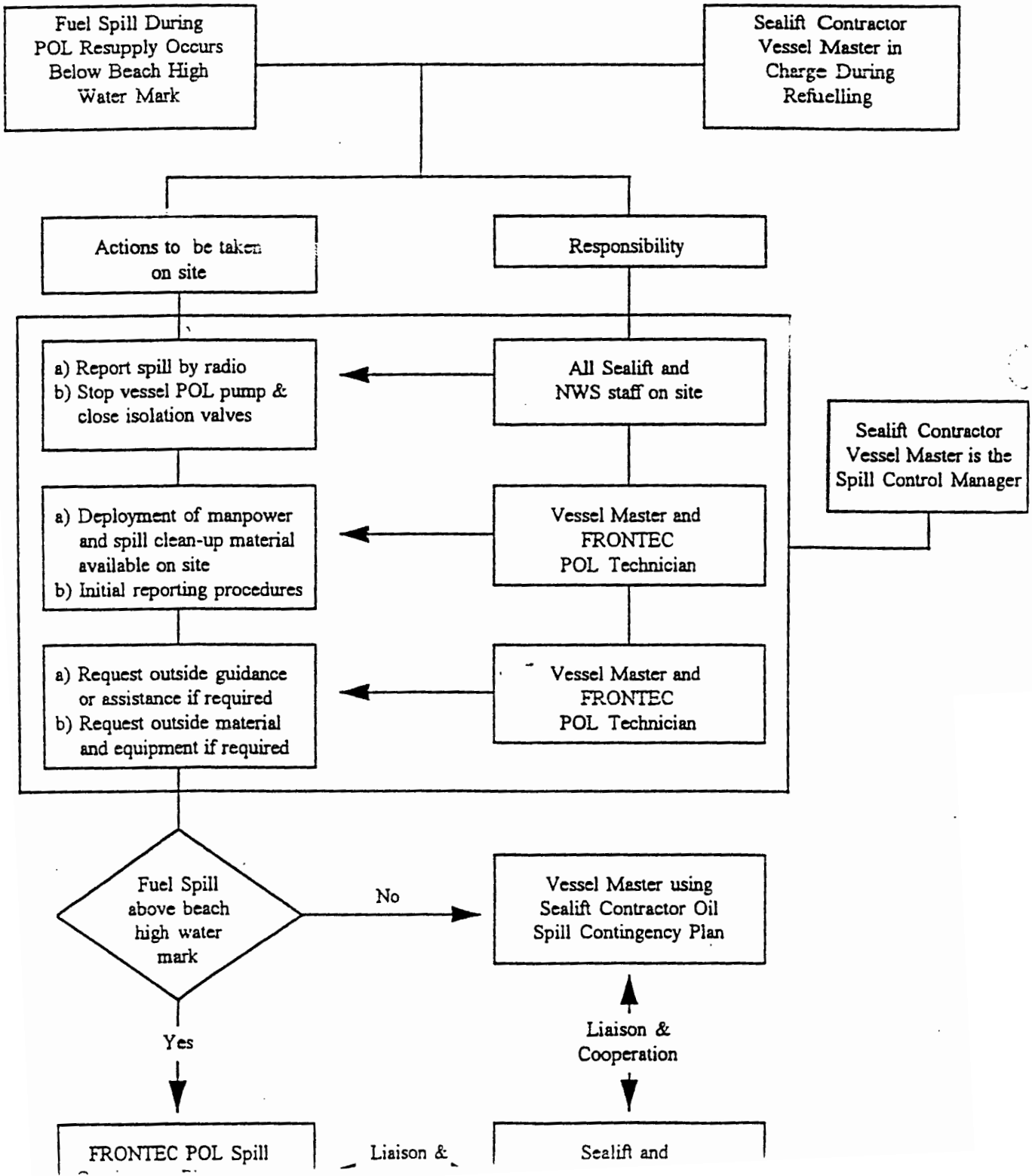


FIGURE 6 - FLOW CHART FOR FUEL SPILL RESPONSE DURING BULK POL RESUPPLY BY AIRCRAFT

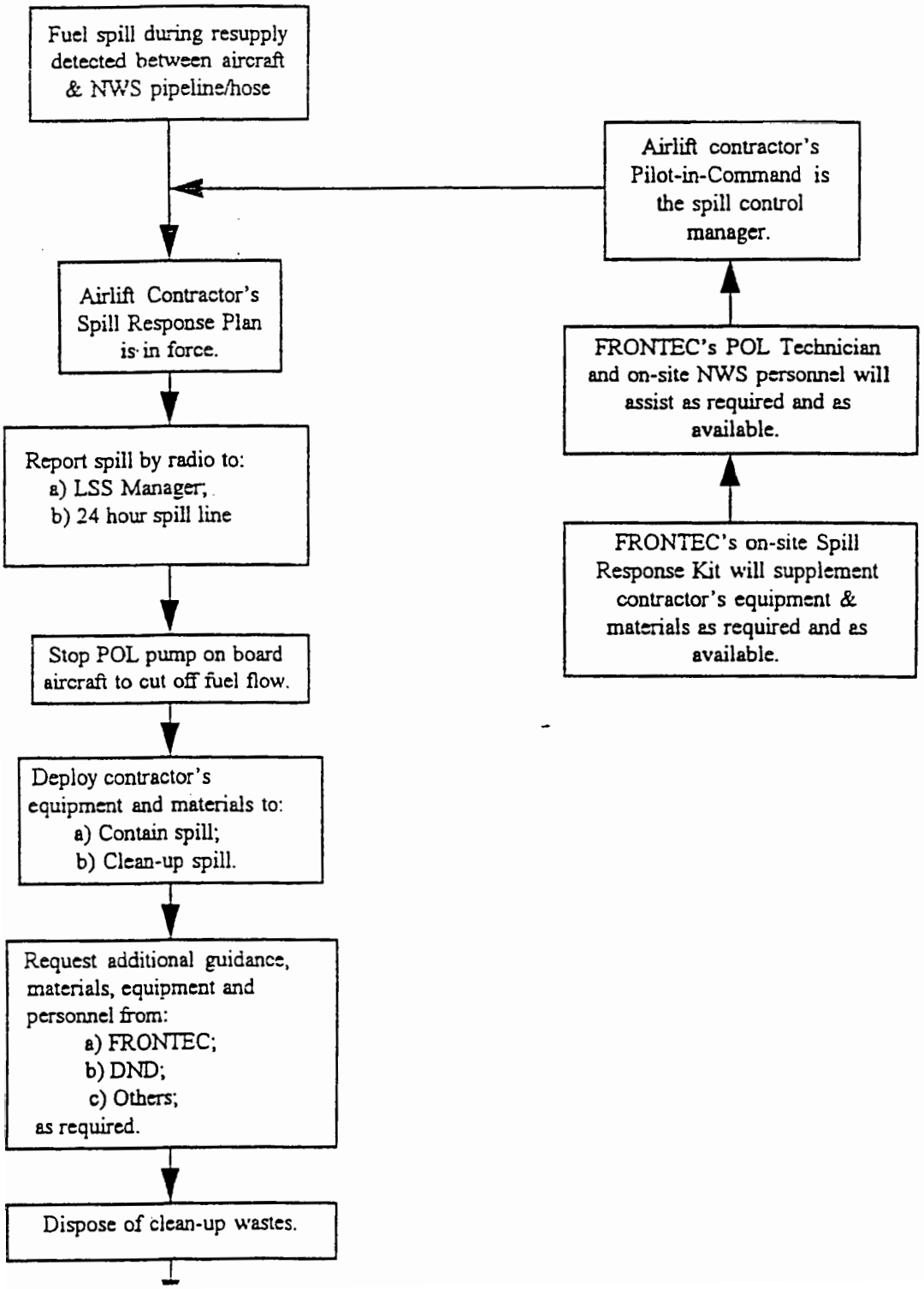


FIGURE 7 - FLOW CHART FOR LAND POL SPILL RESPONSE AT NWS ATTENDED SITES

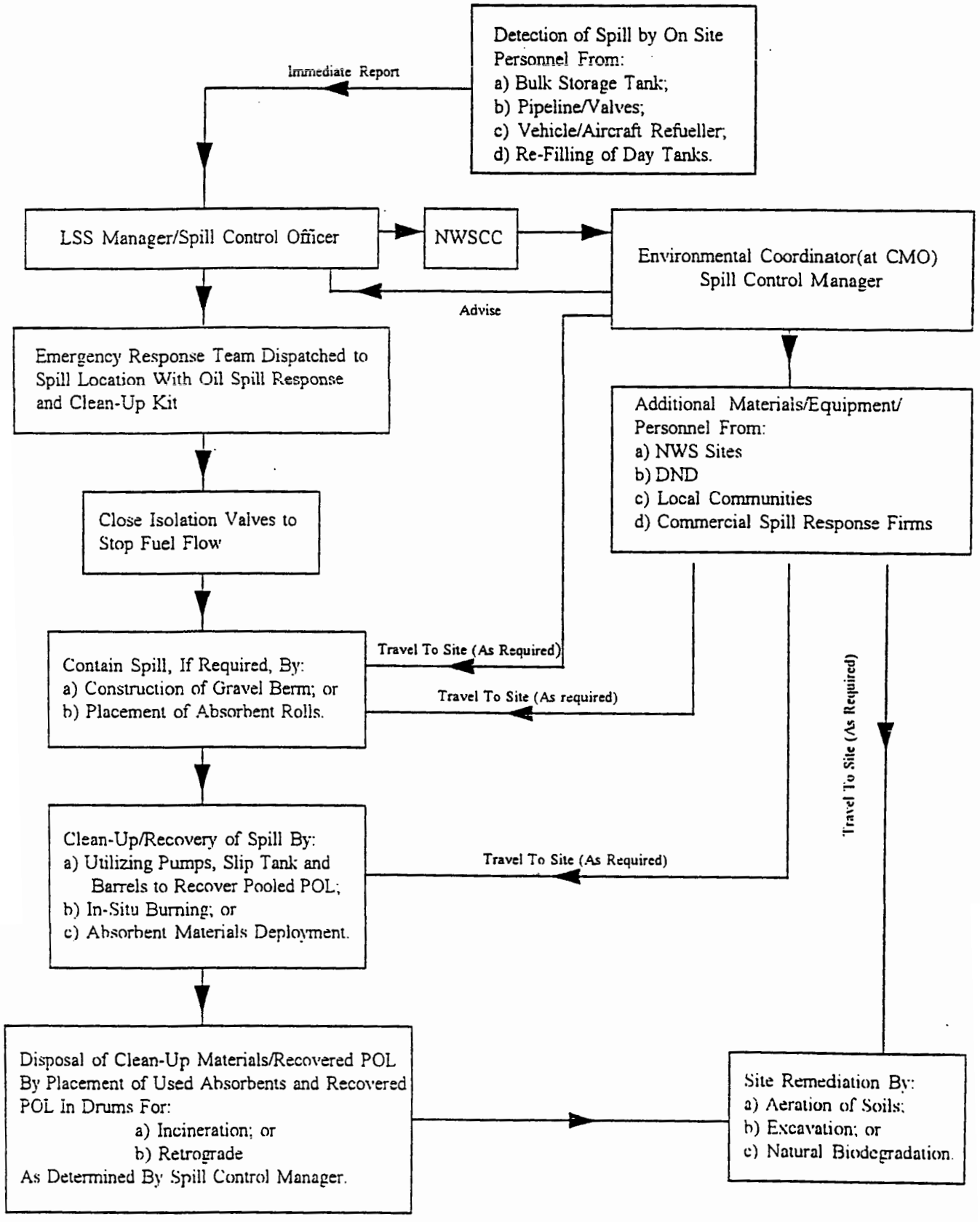
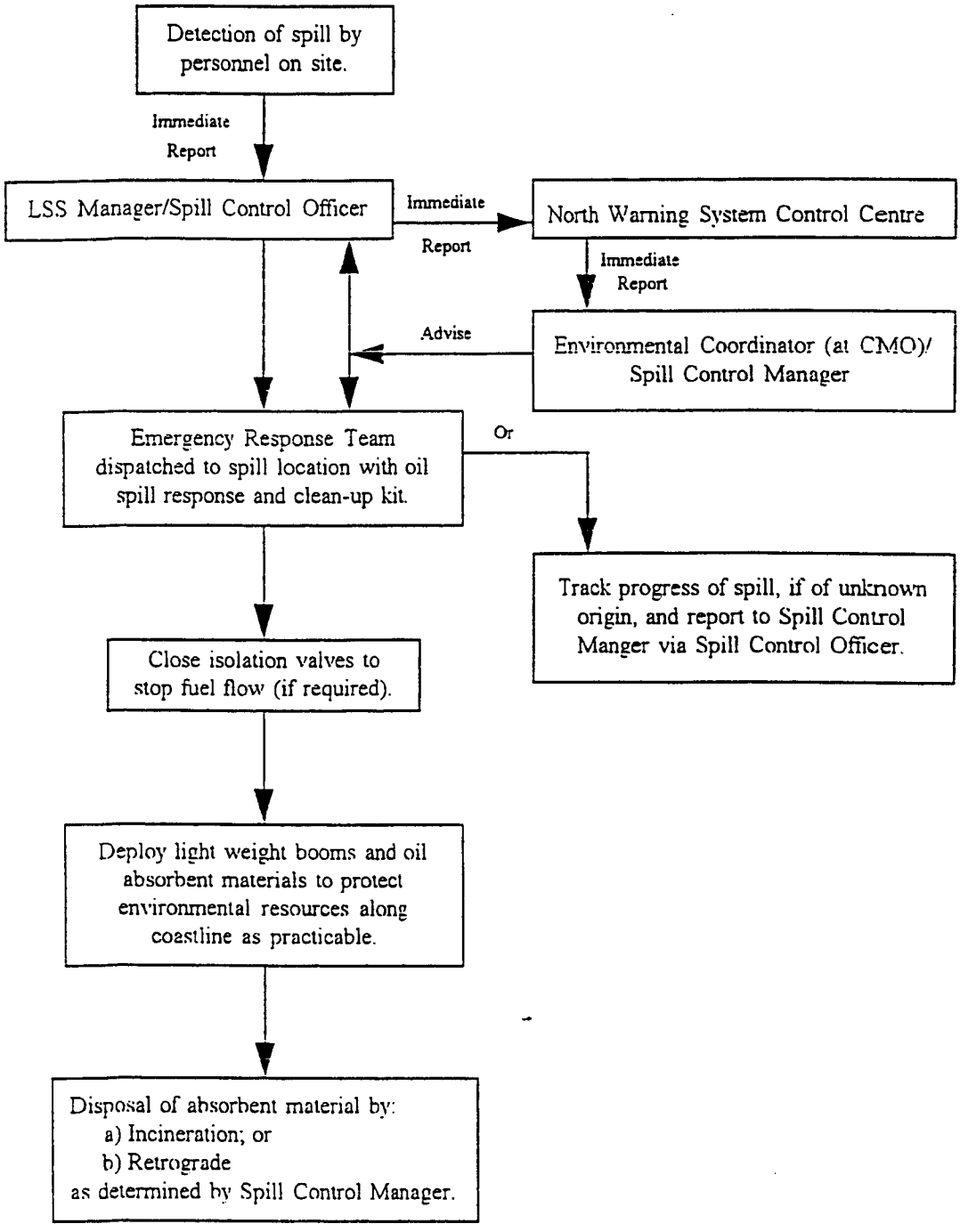


FIGURE 8 - FLOW CHART FOR FRESHWATER AND MARINE POL SPILL RESPONSE AT NWS ATTENDED SITES

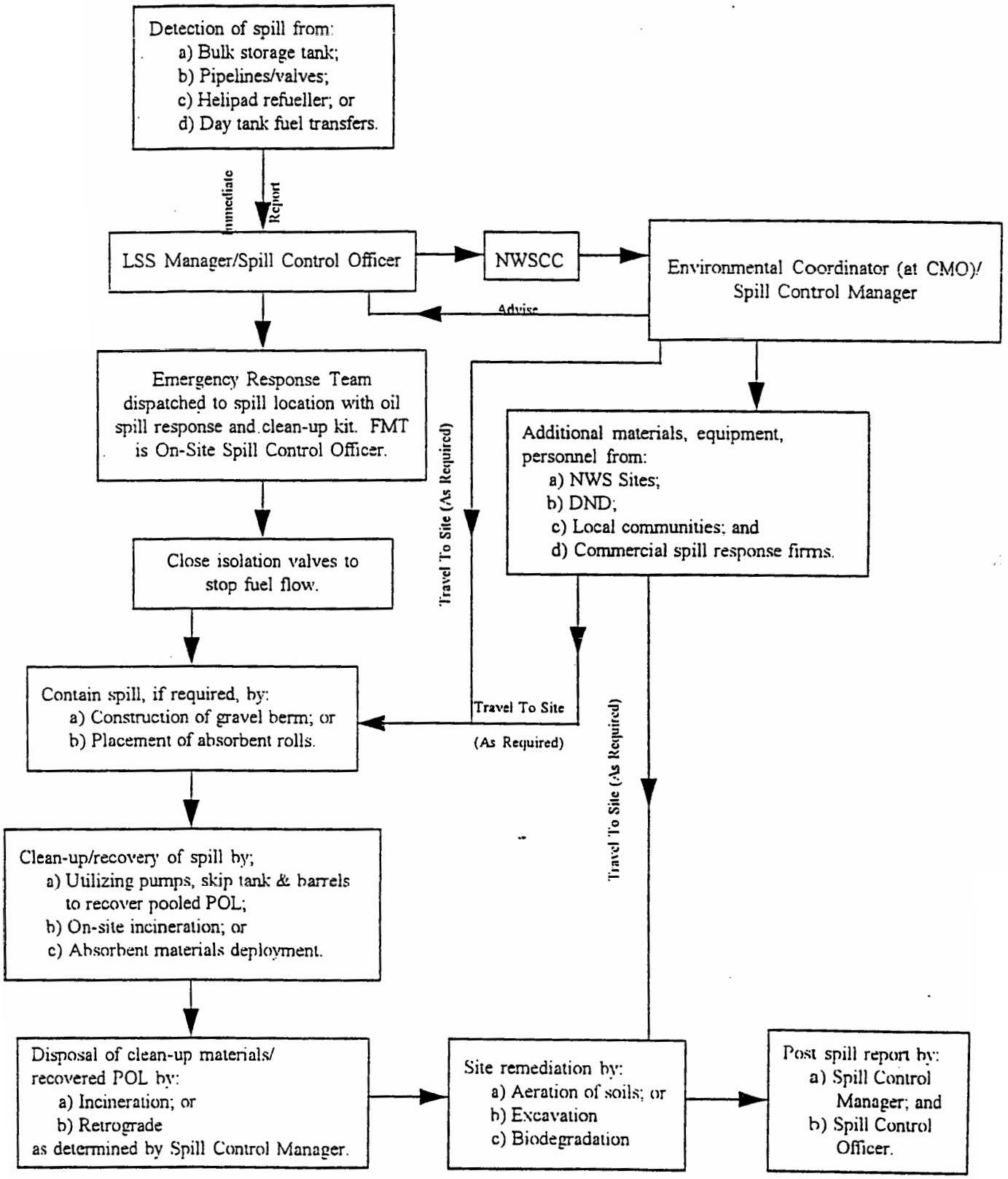


NOTES: 1) Remediation of the spill affected area by:
a) Evaporation; and
b) Natural dispersion through wave action and wind.

2) Bulk fuel re-supply responses are as shown in Figures 5 & 6.

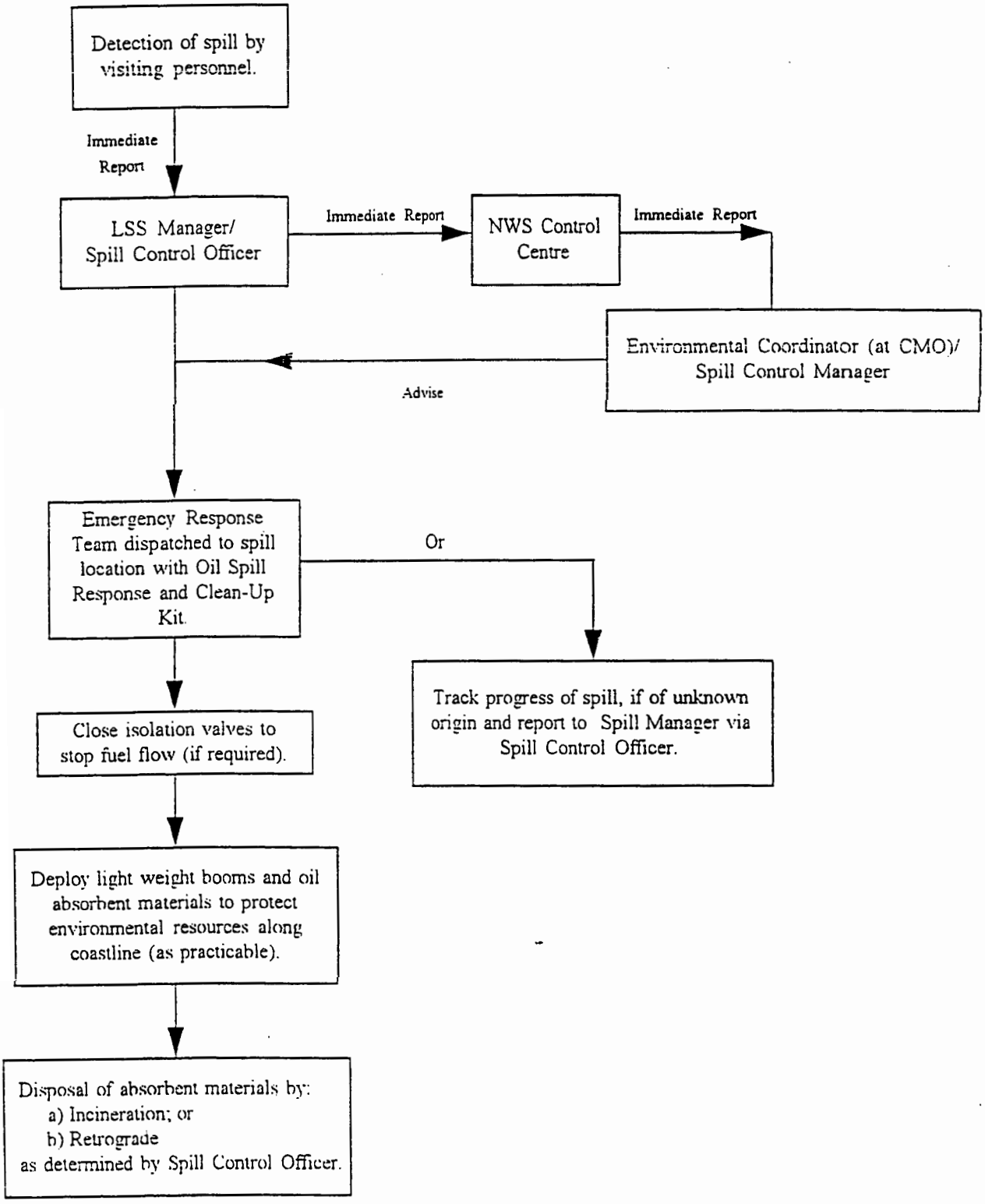
3) This spill response scenario assumes that the marine based POL spill originates form O&M activities of the NWS.

FIGURE 9 - FLOW CHART FOR LAND POL SPILL RESPONSE AT NWS UNATTENDED SITES



NOTE: Spills detected at: a) BAR-DA1, Liverpool Bay;
b) BAR-E Horton River; or
c) PIN-1BD, Keats Point
must be reported to the Inuvialuit Land Administrator (See Annex B).

FIGURE 10 - FLOW CHART FOR FRESHWATER AND MARINE POL SPILL RESPONSE AT NWS UNATTENDED SITES



NOTES: 1) This spill response scenario assumes that the freshwater or marine based POL spill originates from O&M activities of the NWS.

2) Spills detected at: a) BAR-DA1, Liverpool Bay;
b) BAR-E, Horton River; or
c) PIN-1BD, Keats Point
must be reported to the Inuvialuit Land Administrator (See Annex B).

4.0 SPILL RESPONSE TRAINING PROGRAM

4.1 Purpose

The POL Spill Response Training Program will provide instruction in all aspects of spill response stated in the plan for:

a. All NWS site personnel; and

b. All CMO personnel involved in the O&M of NWS sites.

The training program will further provide information regarding the Spill Response Plan for:

a. NWSO personnel;
b. FRONTEC personnel; and
c. Subcontractors engaged in NWS site O&M activities.

4.2 Contents

Spill Response Training will include the following subjects:

a. Spill Awareness and Prevention;
b. Methods of Detection;
c. POL Storage and Distribution Systems;
d. POL Products on NWS Sites;
e. Types of Spill and Seasonal Considerations;
f. Reporting Procedures and Initial Responses;
g. Spill Response Kit Familiarization;
h. Clean-Up and Site Remediation Methods;
i. Occupational Health and Safety; and
j. Post Spill Review Process and Documentation.

4.3 Implementation

Instruction methods employed in Spill Response Training will include:

a. Lectures;

b. Audio-visual presentations;

c. Spill simulation and site remediation exercises; and

d. Distribution of site specific information packages which will include:
   i. Site maps;
   ii. Identification of Spill Control Points;
   iii. Location of spill response equipment and materials; and
   iv. Site specific, special considerations.

ANNEX B

EMERGENCY SPILL REPORTING

CONTACT LISTINGS and SPILL REPORT FORMS

FRONTEC Emergency Contact List

NWSCC Shift Lead	(705) 494-6011 ext 8044/45
Sam Cheng, Environmental Coordinator	(613) 728-2241 (H) (613) 593-2321 (Beeper)
Barb Thomson, Environmental Coordinator (Alternate)	(613) 567-0155 (H)
Dave Christian, Manager, Facilities Engineering	(613) 748-6594 (H)
Brian Hanly, Director, NWS Operations	(613) 235-7644 (H)
Pete Lundy ~~Jody Langelier~~, Manager, Operations & Administration	(613) 834-9018 (H)
Dave Briand, Deputy Manager, NWS Operations	(613) 232-1121 (H)
Hank Nemeth, Manager, Logistics	(613) 567-0338 (H)
Paul Deschenes, POL Coordinator	(613) 824-5575 (H)
Chris White, Corporate Communications & Public Affairs	(403) 444-4765 (H)
Lillian Hvatum, Manager, Northern & Business Affairs	(867) 979-2182 (H)

24 Hour Spill Lines

Northwest Territories	(867) 920-8130
Yukon	(867) 667-7244
Newfoundland and Labrador (Coast Guard)	(709) 772-2083
Ontario MOEE (reporting to MOEE is recommended by Environment Canada)	1-800-268-6060

NWSO Emergency Response Contact

Contact	Designation	(W)	(H)
Jim Boissonneault	R&CS 2-3-5	992-9743	1-613-543-3435
Capt. Z. Szabo	R&CS 2-3-2	992-0692	(613) 825-7646
Maj. H. Chan	R&CS 2-3	996-4093	(613) 834-6741
~~Maj. L.R. Massé~~	~~R&CS 2-2~~	~~996-0892~~	~~(613)741-7966~~
Col. J.R.. Leitch	DAEPM (R&CS)	996-5705	(613) 834-3735

Newfoundland and Labrador

24 Hour Spill Report Line (Coast Guard)	(709) 772-2083

R.C.M.P.

Nain, Labrador	(709) 922-2862
Cartwright, Labrador	(709) 938-7218

Department of Environment and Labour

Government Services and Land Div. - Regional Office, Goose Bay	
Environment/Health Officers - Darrel Johnson, Ken Russell	(709) 896-2661
	(709) 896-4340 (fax)

Department of Tourism, Culture, and Recreation

Parks Division, Wildlife Biologist	(709) 729-2428
Historic Resources, Resource Archaeologist - Martha Drake	(709)729-2462

Canadian Wildlife Service

Manager, St. John's Office - Bruce Turner	(709) 772-5585
Seabird Technician - Pierre Ryan	(709) 772-4431

Northwest Territories

24 Hour Spill Report Line	(867) 920-8130
Inuvialuit Land Administration	(867) 977-2202
Inuvik Fire Department	(867) 777-5555
Iqaluit Fire Department	(867) 979-4422

Environment Canada - Environmental Protection Branch -NWT Division

Manager, Yellowknife Office - Laura Johnston	(867) 669-4700
	(867) 873-8185 (fax)
Water Pollution Specialist - Anne Wilson	(867) 669-4735
Chief Environmental Engineer - Ed Collins	(867) 669-4726

Indian and Northern Affairs Canada

Inuvik Region District Manager - Rudy Cockney	(867) 979-3361
Iqaluit Region District Manager - Dan Elliot	(867) 979-4405

GNWT Department of Transportation

Environmental Affairs, Manager - Leslie Green	(867) 873-7063

GNWT Department of Resources, Wildlife & Economic Development

Environmental Protection, Manager - Ken Hall	(867) 920-6476

Baffin Region Renewable Resources Officer Stations

Iqaluit	(867) 979-5017
Broughton Island	(867) 927-8966
Hall Beach	(867) 928-8819

Keewatin and Inuvik Renewable Resources Officer Stations

Regional Office (Coppermine)	(867) 982-7240
Taloyoak (Spence Bay)	(867) 561-6231
Gjoa Haven	(867) 360-7605
Cambridge Bay	(867) 983-7314
Kugluktuk (Coppermine)	(867) 982-7250
Inuvik	(867) 979-7201

GNWT Prince of Wales Northern Heritage Center

Director of Culture and Heritage, Charles D. Arnold	(867) 873-7551

Yukon

24 Hour Emergency Line	(867) 667-7244 (867) 667-7962 (fax)

Environment Canada

Enforcement and Emergencies Division, Head - George Balmer	(867) 667-3406

Department of Renewable Resources

Parks & Outdoor Recreation Office, Director - Jim McIntyre	(867) 667-5261
Fish and Wildlife Branch, Director - Mark Hoffman	(867) 667-5715

Department of Tourism

Heritage Branch, Director - Jeff Hunston	(867) 667-5363

Parks Canada

Chief Park Warden, Ivvavik National Park - Vikki Sahanatien	(867) 979-3248

Ontario

Ontario MOEE Spill Line	1-800-268-6060
Environment Canada (Toronto) Spill Line	(416) 346-1971

FAX COVER SHEET

INTERNAL

SPILL REPORT

TO: ☐ Environmental Coordinator - Sam Cheng fax ext.: 884

☐ Other

FROM: Name:

Title:

Site:

Phone:

DATE & TIME:

MESSAGE:

INTERNAL
SPILL REPORT

☐ Initial

☐ Update

REPORT DATE:

DATE AND TIME OF SPILL (known or suspected):

SITE:

LOCATION OF SPILL ON SITE:

FLOW DIRECTION (if spill is moving):

SUBSTANCE SPILLED:

ESTIMATED QUANTITY SPILLED (metric volumes and masses required - attach tank dip data, calculations):

CAUSE OF SPILL:

HAS THE SPILL TERMINATED?

EXTENT OF CONTAMINATED AREA AND DEPTH OF CONTAMINATION (if possible):

FACTORS AFFECTING SPILL OR RECOVERY (temperature, wind, snow, ice, terrain, buildings, etc.):

CONTAINMENT (none, natural, booms, dykes, etc.):

ACTION(S) TAKEN OR PROPOSED TO CONTAIN, RECOVER, CLEAN-UP OR DISPOSE OF SUBSTANCE:

ASSISTANCE REQUIRED? If so, what form of assistance?:

HAZARD(S) TO PERSONS OR PROPERTY OR ENVIRONMENT:
(e.g. fire, drinking water, threat to fish or wildlife)

COMMENTS AND/OR RECOMMENDATIONS:

SKETCH MAP:

REPORTED BY:

Name: Position:

Location: Telephone:

WORK ORDER #(s):

03/98

ENVIRONMENTAL EMERGENCY REPORT FR-06

SPILL REPORT

A	*Report Date:*	*Date and Time of Spill (known or suspected):*	
B	*Location and Map Coordinates (if known) and Flow Direction if moving:*		
C	*Party Responsible/Responding:*	FRONTEC Logistics	
D	*Substance(s) Spilled and Estimated Quantities: (metric volumes and masses required)*		
E	*Cause of Spill:*		
F	*Spill Terminated or Continuing?:*		
G	*Extent of Contaminated Area and Depth of Contamination, if possible:*		
H	*Factors Affecting Spill or Recovery: (temperature, wind, snow, ice, terrain, buildings etc.)*		
I	*Containment: (none, natural, booms, dykes, etc.)*		
J	*Action(s) Taken or Proposed to Contain, Recover, Clean-Up or Dispose of Substance:*		
K	*Assistance Required? If so, what form of assistance?:*		
L	*Hazard(s) to Persons or Property or Environment: (e.g. fire, drinking water, threat to fish or wildlife)*		
M	*Comments and/or Recommendations:*		
N	*Reported By:* *Location:*	*Position:* *Telephone:*	*Employer:*
O	*Reported To:* *Location:*	*Position:* *Telephone:*	*Employer:*
P	*Agencies Contacted, and Date and Time of Contact:*		
Q	*Work Order #(s):*		

03/98

ANNEX C

SPECIFICATIONS FOR MATERIALS AND EQUIPMENT

POL EMERGENCY RESPONSE AND CLEAN-UP KITS

POL SPILL RESPONSE AND CLEAN-UP KITS

POL SPILL KIT FOR BAR-B. STOKES POINT

Item Description	U/I	QTY
Absorbent Sheets	Ea	50
Absorbent, oil	Bag	20
Absorbent W	Bag	20
Shovel	Ea	5
Pitchfork	Ea	3
Gloves, rubber lined	Pair	5
Plastic Bags (3 mil)	Bag	20
Salvage drum (85 US gal)	Ea	3

POL SPILL KIT FOR SRRs

Item Description	U/I	QTY
Absorbent, oil (7 kg)	Bag	12
Salvage drum (85 gal)	Ea	2
Shovel	Ea	2
Gloves, rubber lined	Pair	1
Wheelbarrow	Ea	1

POL SPILL KIT FOR LRRs

Item Description	U/I	QTY
M50 Oil spill containment boom 200 mm dia. (package of 40 ft)	Section	8
M90 Oil absorbent roll 36" X 300' X 3/8 inch thick	Roll	10
M75 Oil absorbent sheet 18" X 18" X 3/8 inch thick	Sheet	200
Absorbent, oil: 7 kg	Bag	150
Absorbent, water/oil: 7 kg	Bag	20
Shovel, spade type	Ea	2
Pitchfork	Ea	2
Gloves, rubber lined	Pair	20
Plastic Bags, 3 mil	Bag	100
Plastic, polyethylene, 6 mil: 1000 m^2 rolls	Roll	4
Pump, electric transfer 12 volt	Ea	1
Pump, flammable liquids with hoses Gorman Rupp Pump	Ea	1
Pump, hand transfer electric	Ea	1
Sliptank, portable: 100 gal	Ea	1
Polypropylene rope	Ea	1
Dresser couplings, various sizes	Ea	5
Respirator, activated carbon	Ea	3
Safety goggles	Ea	2

LRR SITE	POL SPILL KIT LOCATION
BAR-2	Warehouse/Garage Mezzanine
PIN-M	Warehouse B13C
PIN-3	Hangar
CAM-M	ATB Hangar, Warehouse
CAM-3	Warehouse B13A
FOX-M	Garage, Cold Storage Warehouse
FOX-3	ATB/Warehouse B13A Cage
DYE-M	Radio Terminal Building
BAF-3	ATB
LAB-2	ATB
LAB-6	Water Storage Building