POL SPILL CONTINGENCY PLAN

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

PREPARED BY:

FRONTEC ENVIRONMENT SECTION

REISSUED FEBRUARY 1996

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

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ANNEX B: Emergency Spill Reporting Procedures Contact Listings and Spill Report Form

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

ANNEX D: POL Emergency Spill Response Contractors

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RECORD OF AMENDMENTS

AMENDMENT NUMBER	AMENDMENT DATE	DATE ENTERED	SIGNATURE/TITLE

ACRONYMS

CDRL	Contract Data Requirement List
CEPA	Canadian Environmental Protection Act
CMO	Contractor Management Office
DEW	Defence Early Warning
DIAND	Department of Indian Affairs and Northern Development
DND	Department of Defence
DNWSO	Director, North Warning System Office
DOT	Department of Transport
EPP	Environmental Protection Plan
ERP	Emergency Response Plan
ERT	Emergency Response Team
JT	Job Training
LOCID	Location Identifier
LRR	Long Range Radar
LSS	Logistic Support Site
NWI	North Warning Instruction
NWO	North Warning 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
NWSO	North Warning System Office
O&M	Operation and Maintenance
PMI	Preventive Maintenance Inspection
POL	Petroleum, Oils and Lubricants
QA	Quality Assurance
QC	Quality Control
RCMP	Royal Canadian Mounted Police
ROCC	Regional Operations Control Centre
SOP	Standard Operating Procedure
SPM	Supply Procedures Manual
SRR	Short Range Radar
TSB	Technical Services Building
TSM	Technical Services Module

ANNEXES

Annex A:	NWS Sites Zone Map
Annex B:	Emergency Spill Reporting Procedures Contact Listings
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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;

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 density, this fuel will rapidly disperse on top of a water surface, is easily carried by

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.

3.7 Spill Response

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

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

3.7.1 Spill Reporting

Following the report of a POL spill at any NWS site, the LSS Manager will forward the initial site report information in writing to:

a. The North Warning System Control Centre (NWSCC); and
b. FRONTEC's Environmental Coordinator at CMO.

The 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.

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. Manager, Operations;
   iii. Supervisor, POL; and
   iv. Corporate Communications and Business 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 FOX-M, and spills on airport property or at the beach POL tanks at CAM-M, are to be reported to the NWT Department of Transportation.

The LSS Manager will assume the position of Spill Control Officer and authority over the Emergency Response Team (ERT) which will be dispatched to the site of the reported spill. ERT composition and responsibilities are shown in Figure 3 and Figure 4.

3.7.2 Cessation of Fuel Flow

The ERT, upon arrival at the spill site with the emergency spill response kit, will activate measures to stop further fuel flow by closing isolation valves within the POL distribution system if this has not already been done. Communications will be maintained between the ERT and the LSS Manager throughout the duration of all spill response.

3.7.3 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 by constructing 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

FIGURE 3 - EMERGENCY RESPONSE TEAM - ATTENDED NWS SITES

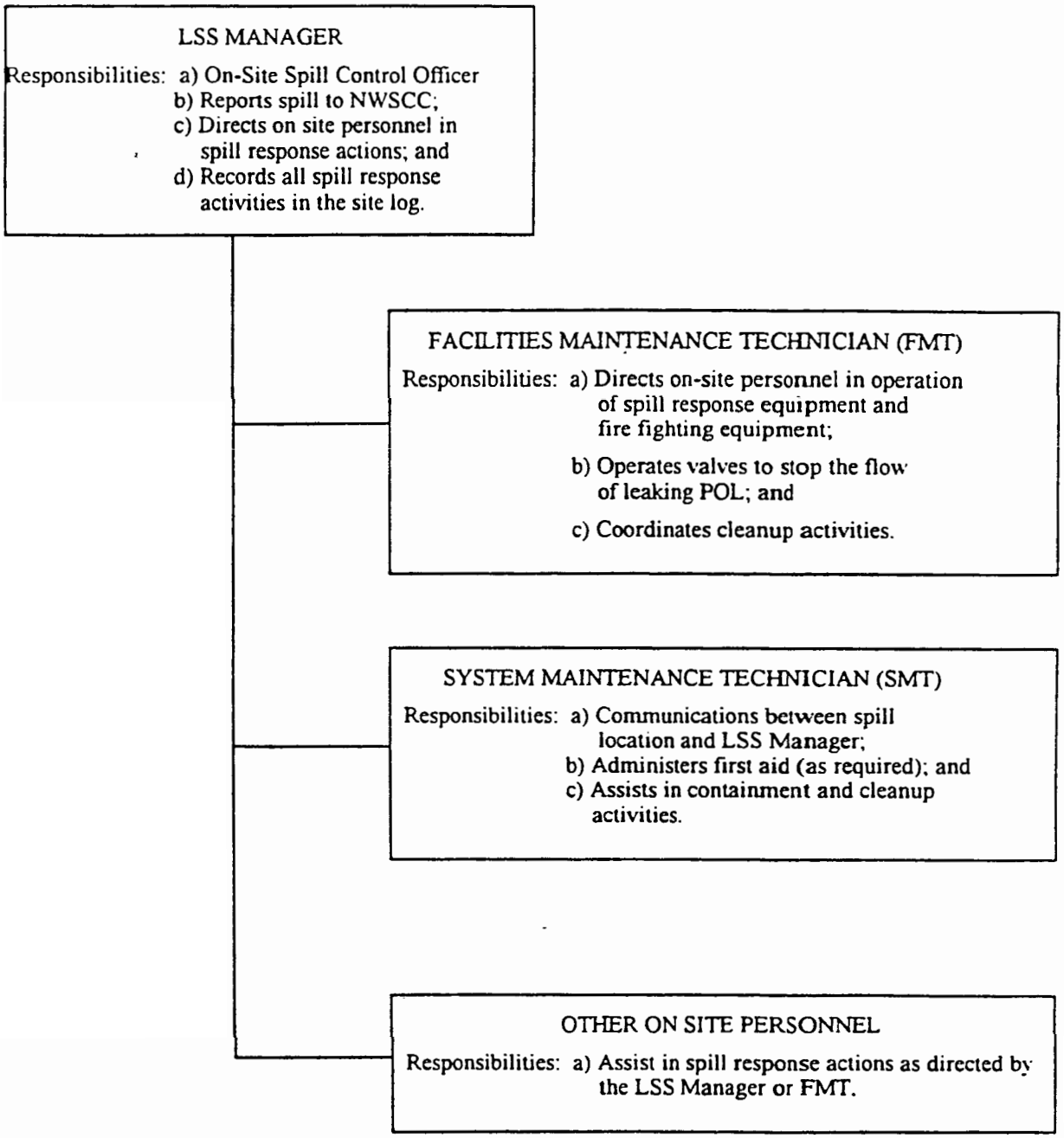
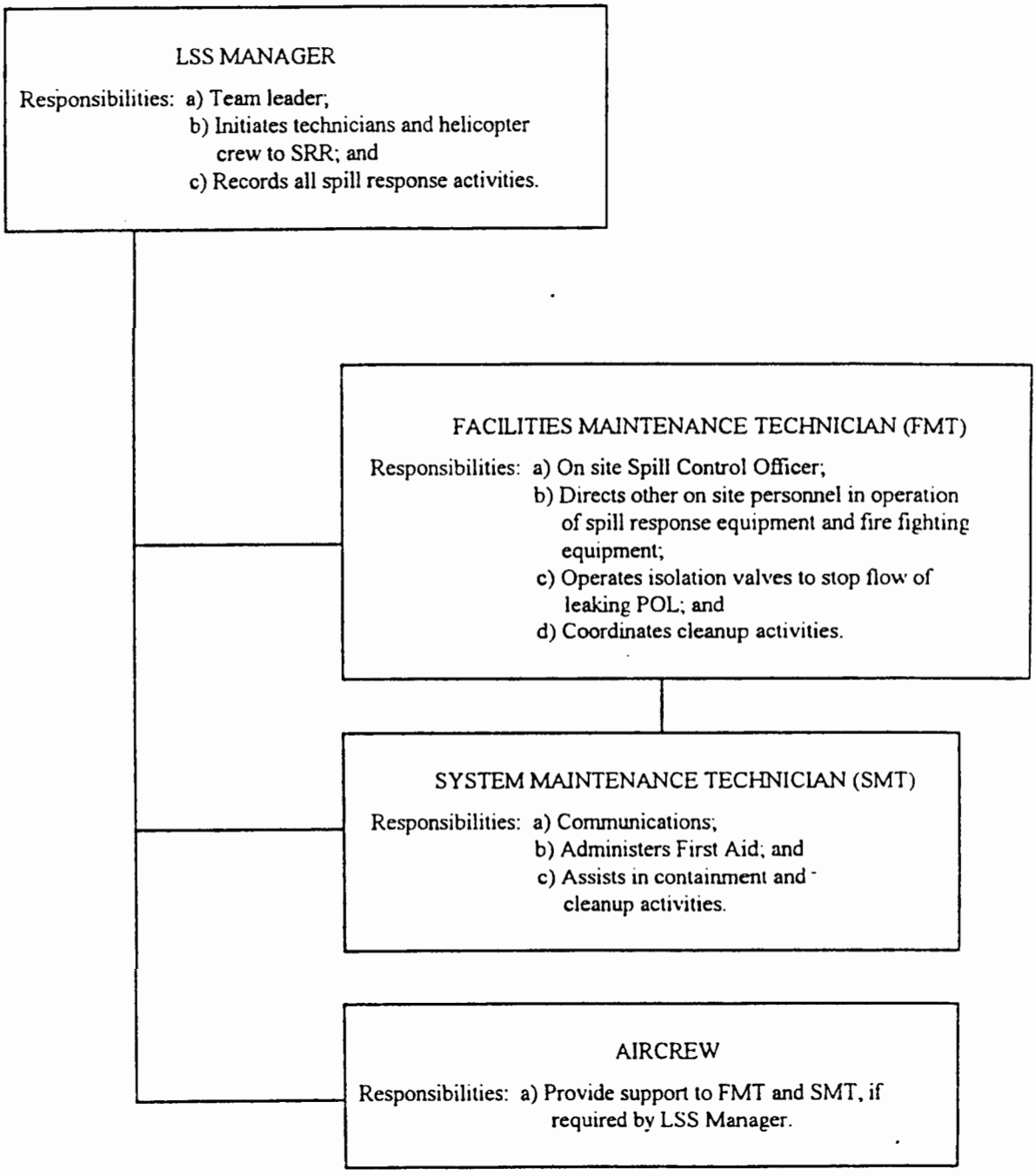


FIGURE 4 - EMERGENCY RESPONSE TEAM - UNATTENDED NWS SITES



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

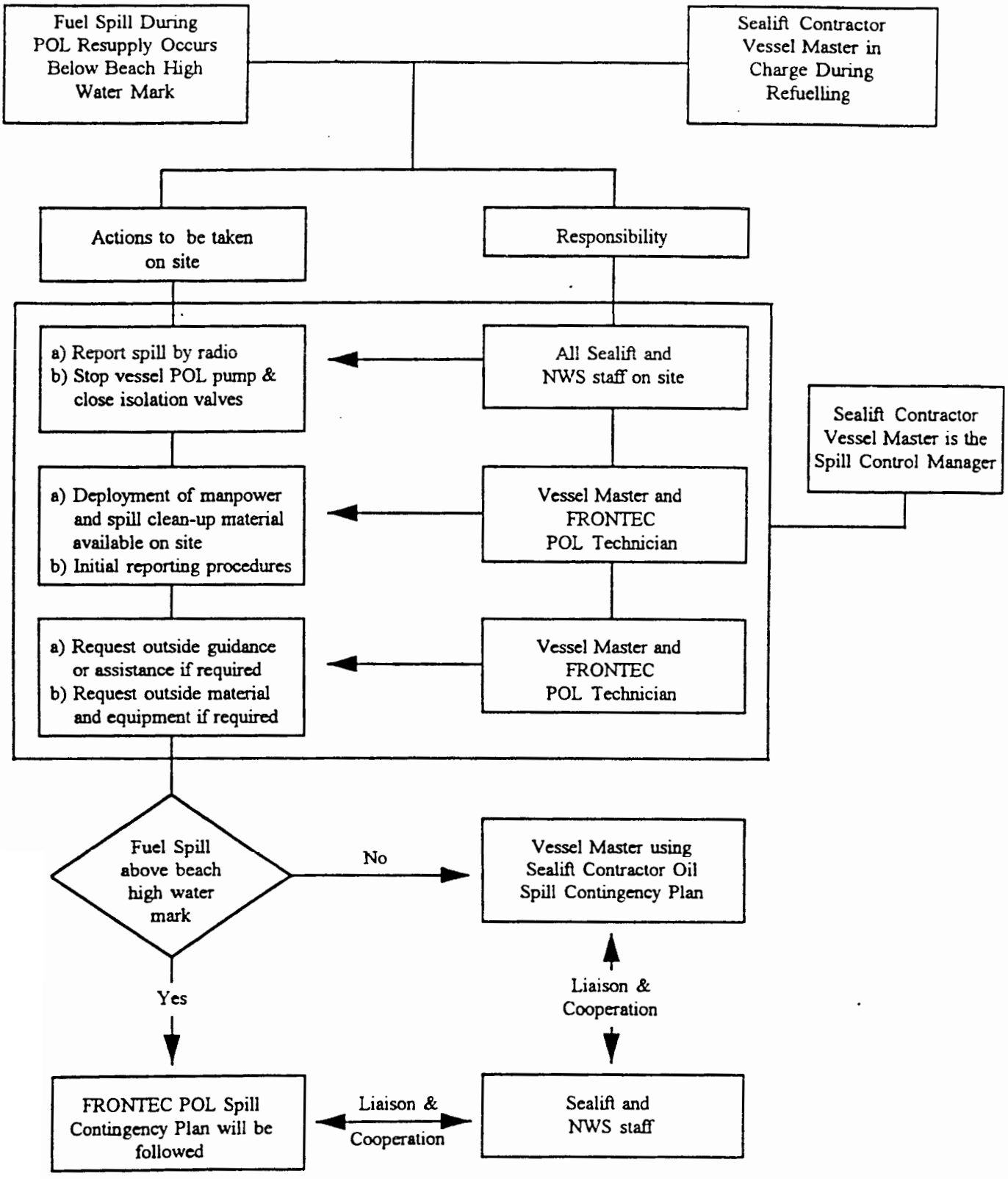


FIGURE 6 - FLOW CHART FOR FUEL SPILL RESPONSE DURING BULK POL RESUPPLY BY AIRCRAFT

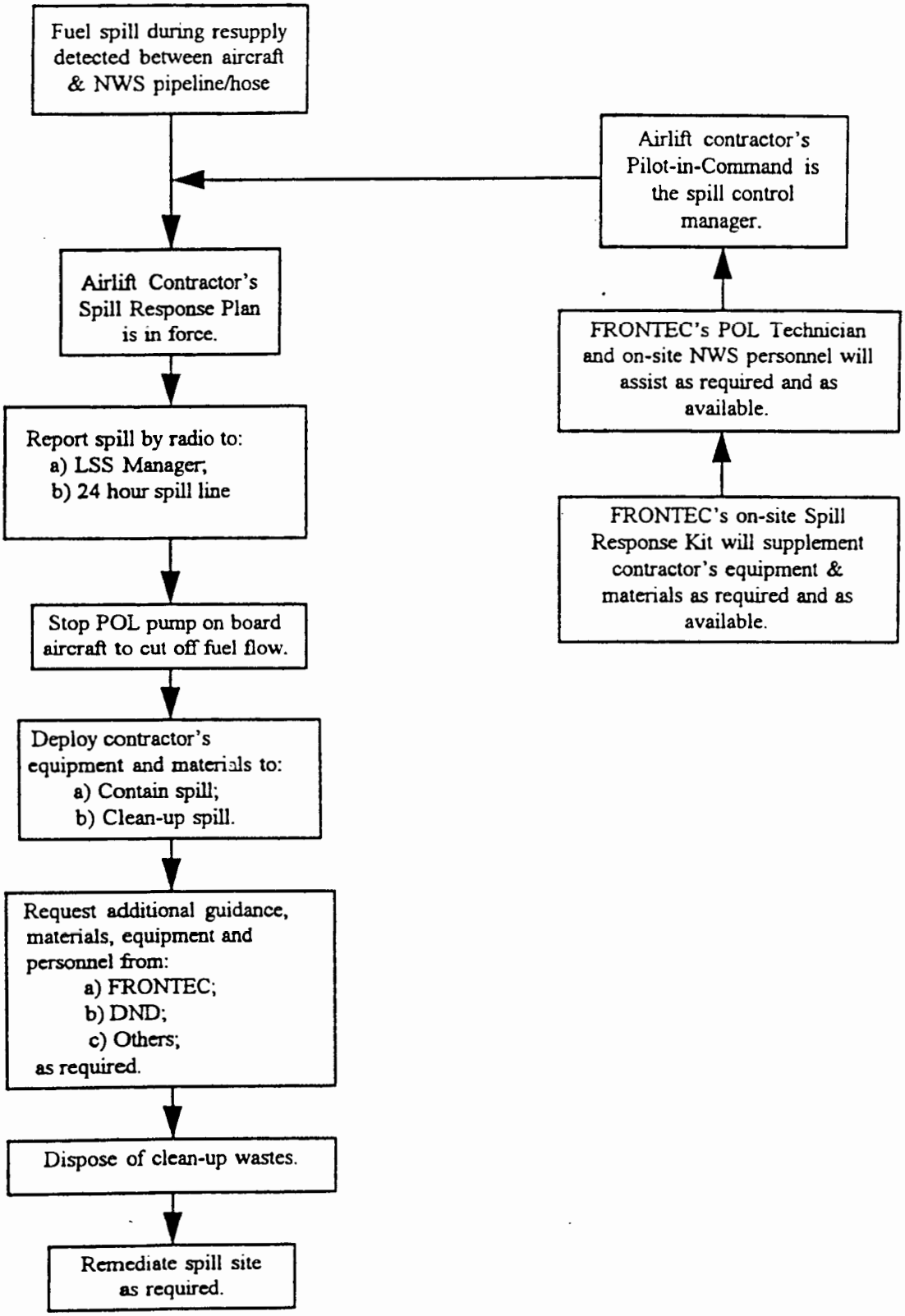


FIGURE 7 - FLOW CHART FOR LAND POL SPILL RESPONSE AT NWS ATTENDED SITES

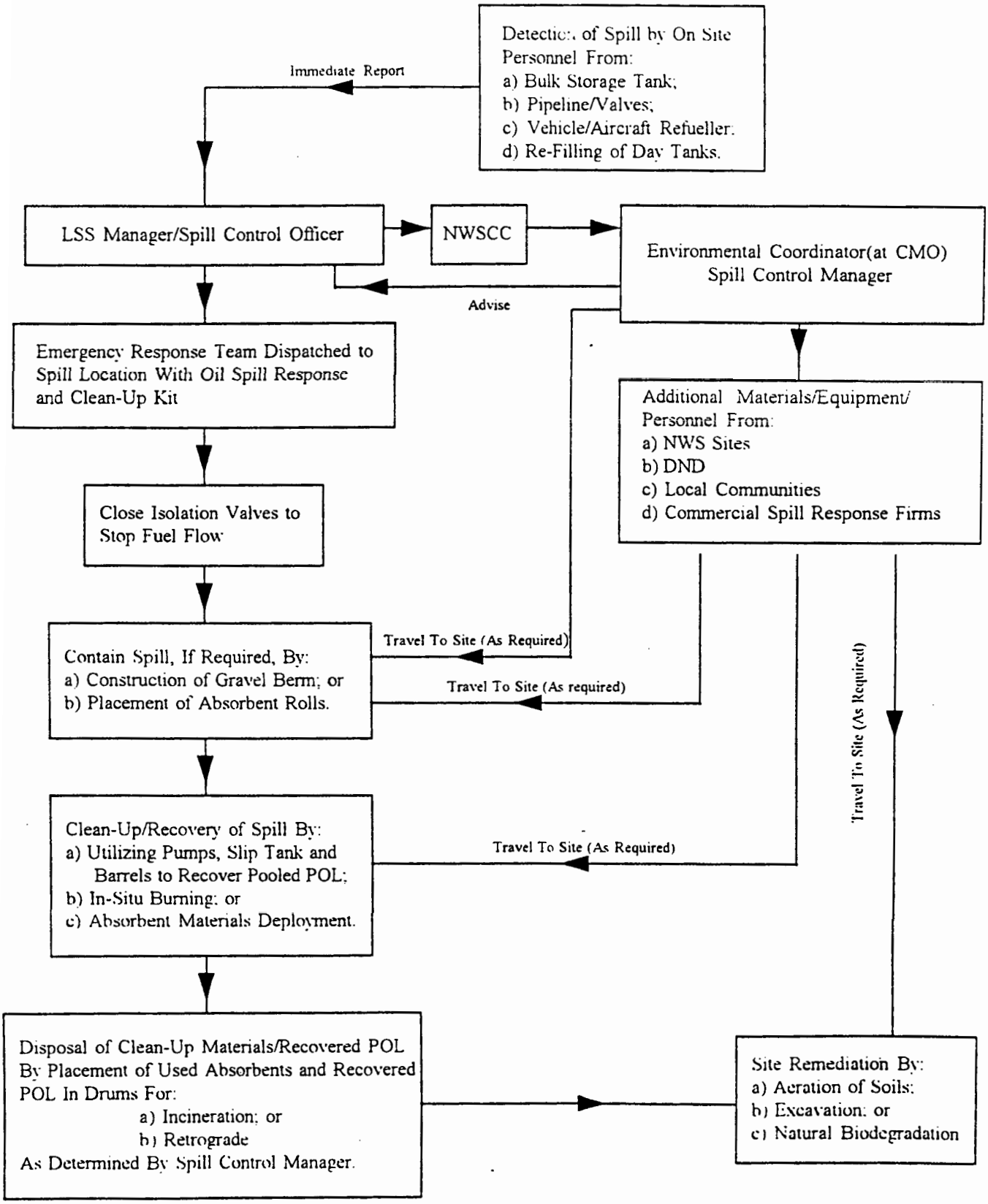
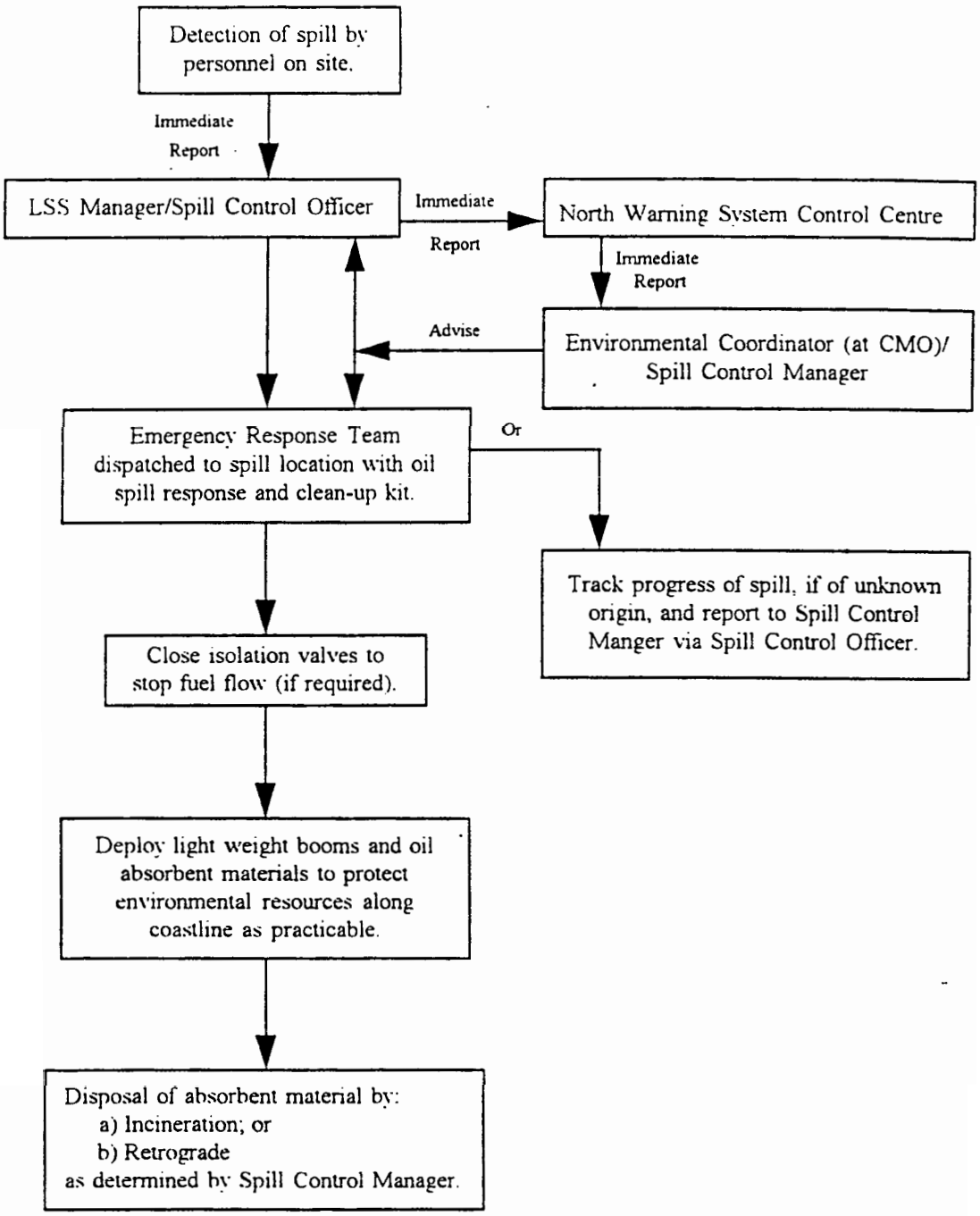


FIGURE 8 - FLOW CHART FOR FRESHWATER AND MARINE POL SPILL RESPONSE AT NWS ATTENDED SITES

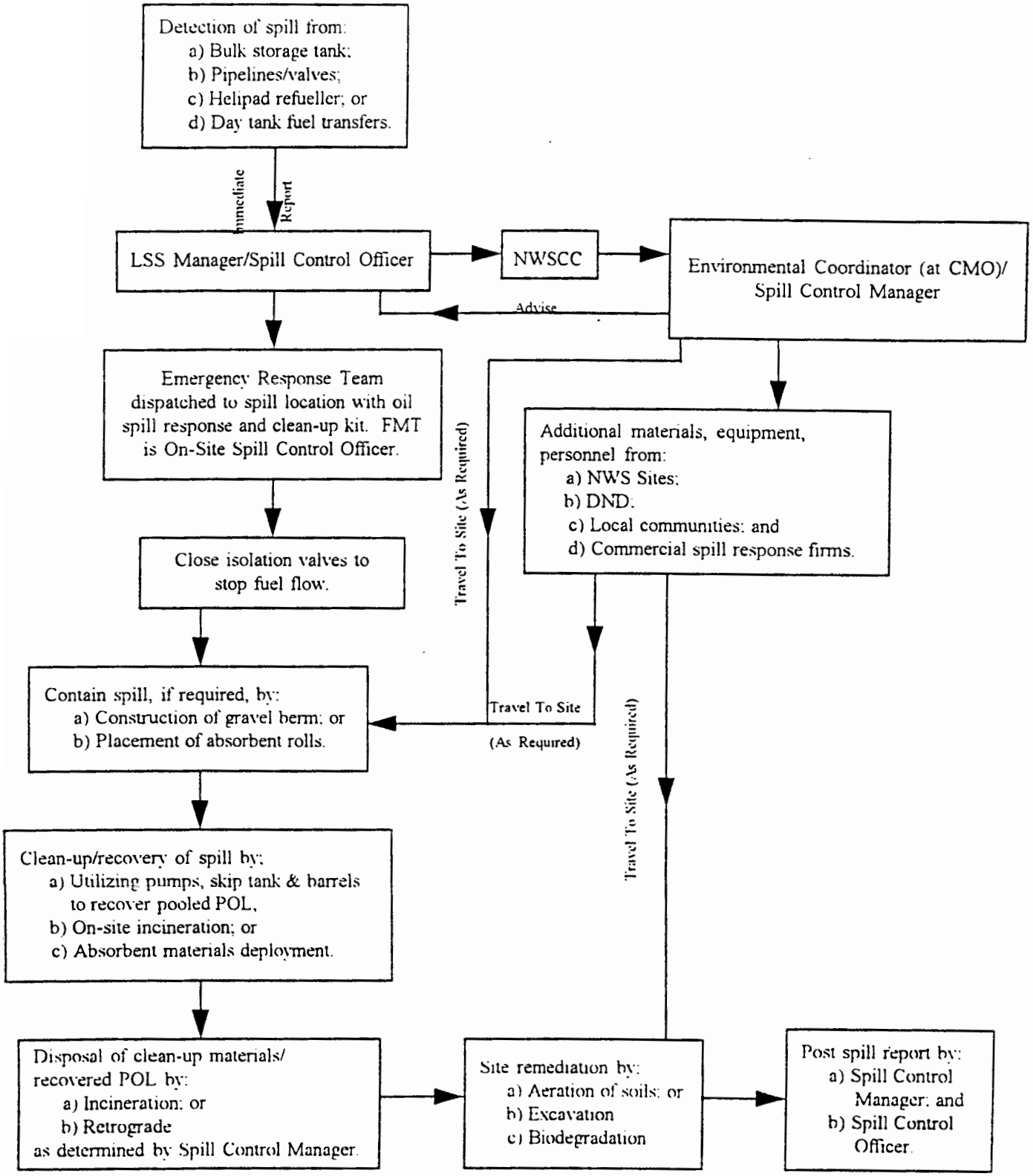


NOTES: 1) Remediation of the spill affected area by:
a) Evaporation; and
b) Natural dispersion through wave action and wind.

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

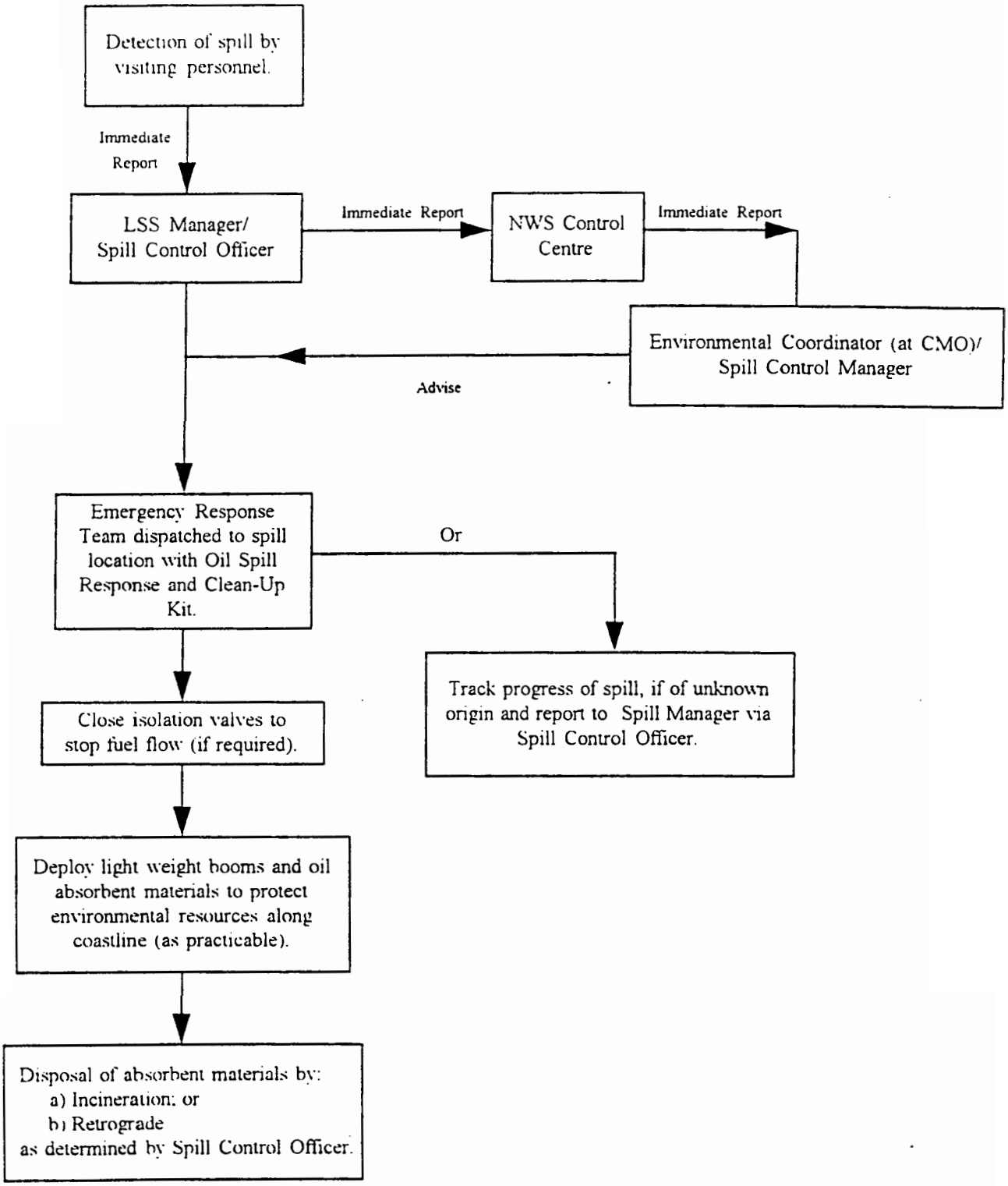
3) This spill response scenario assumes that the marine based POL spill originates form O&M activities of the NWS.

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;

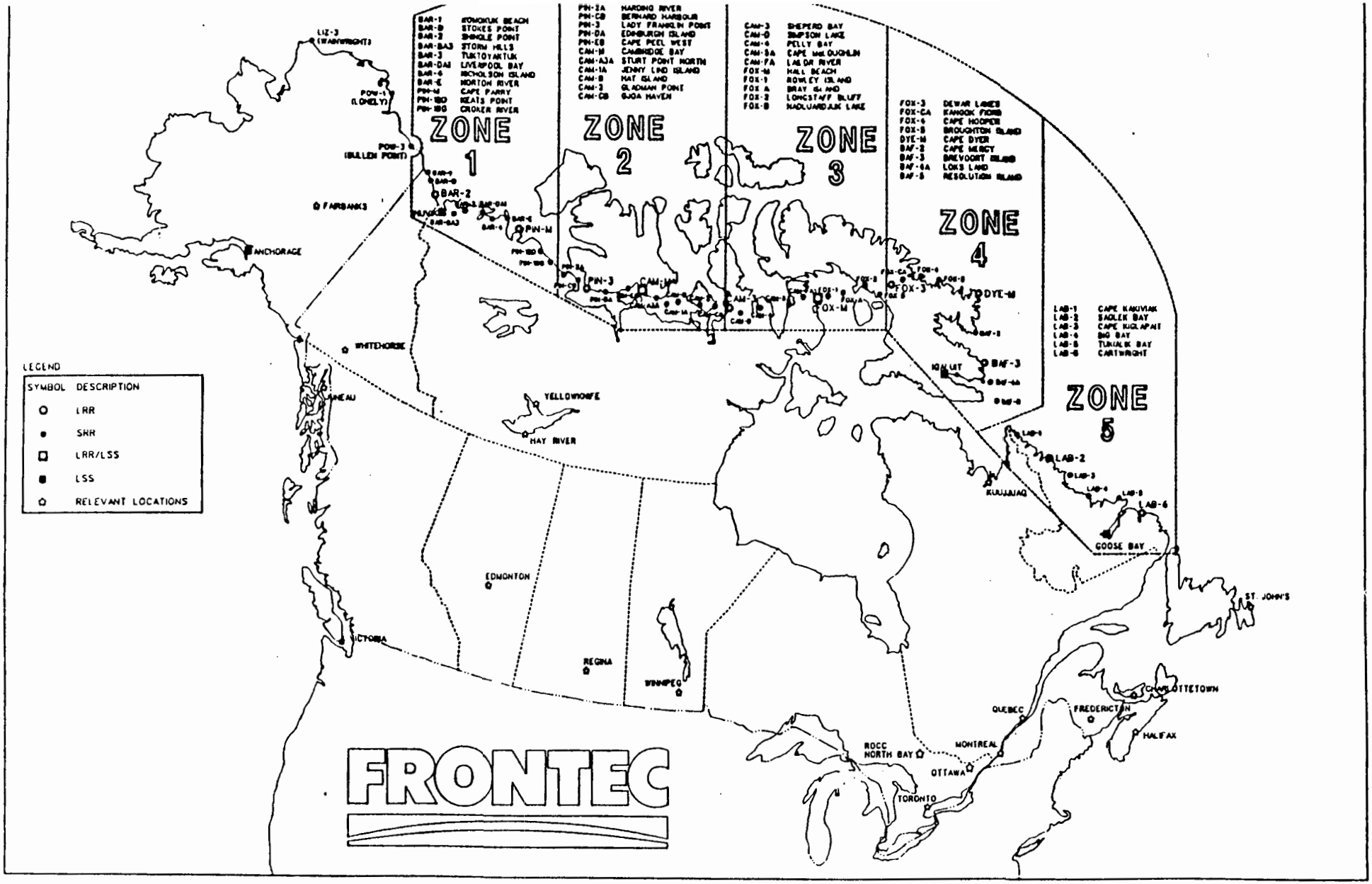
b. Audio-visual presentations;

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 A

NWS SITES ZONE MAP


ZONE 1
ZONE 2
ZONE 3
ZONE 4
ZONE 5
BAR-1 KOOKUK BEACH
BAR-B STOKES POINT
BAR-2 SHINGLE POINT
BAR-BA3 STORM HILLS
BAR-3 TUKTOYAKTUK
BAR-DAI LIVERPOOL BAY
BAR-4 NICHOLSON ISLAND
BAR-E NORTON RIVER
PIN-M CAPE PARRY
PIN-1B0 KEATS POINT
PIN-1B0 CROKER RIVER
PIN-3A HARDING RIVER
PIN-CB BERNARD HARBOUR
PIN-3 LADY FRANKLIN POINT
PIN-DA EDINBURGH ISLAND
PIN-EB CAPE PEEL WEST
CAM-M CAMBRIDGE BAY
CAM-AJA STURT POINT NORTH
CAM-1A JENNY LIND ISLAND
CAM-B HAT ISLAND
CAM-2 GLADMAN POINT
CAM-CB QUJA HAVEN
CAM-3 SHEPERD BAY
CAM-D SIMPSON LAKE
CAM-4 PELLY BAY
CAM-BA CAPE McLOUGHLIN
CAM-FA LABOR RIVER
FOX-M HALL BEACH
FOX-1 ROWLEY ISLAND
FOX-A BRAY ISLAND
FOX-2 LONGSTAFF BLUFF
FOX-B NADLUARDJUK LAKE
FOX-3 DEWAR LAKES
FOX-CA KANGOK FIORD
FOX-4 CAPE HOOPER
FOX-5 BROUGHTON ISLAND
DYE-M CAPE DYER
BAF-2 CAPE MERCY
BAF-3 BREVOORT ISLAND
BAF-BA LOKS LAND
BAF-5 RESOLUTION ISLAND
LAB-1 CAPE KAKIVIAK
LAB-2 SAOLEK BAY
LAB-3 CAPE KIGLAPAIT
LAB-4 BIG BAY
LAB-5 TUNIALIK BAY
LAB-6 CARTWRIGHT
LIZ-3 (WAINWRIGHT)
POW-1 (LONELY)
POW-3 (BULLEN POINT)
FAIRBANKS
ANCHORAGE
WHITEHORSE
JUNEAU
YELLOWKNIFE
HAY RIVER
EDMONTON
VICTORIA
REGINA
WINNIPEG
KUUJJUAQ
GOOSE BAY
ST. JOHN'S
CHARLOTTETOWN
FREDERICTON
HALIFAX
QUEBEC
MONTREAL
OTTAWA
TORONTO
ROCC NORTH BAY
LEGEND
SYMBOL DESCRIPTION
LRR
SRR
LRR/LSS
LSS
RELEVANT LOCATIONS
FRONTEC

ANNEX B

EMERGENCY SPILL REPORTING PROCEDURES

CONTACT LISTINGS and SPILL REPORT FORM

FRONTEC Contact List

NWSCC/ECF for LRR Sites	(705) 494-6011 ext 8030
NWSCC/MCF for SRR Sites	(705) 494-6011 ext 8003
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)
Sandy Taylor, Director, Site Operations	(613) 825-7367 (H)
Jody Langelier, Deputy Manager, NWS Operations	(613) 834-9018 (H)
Hank Nemeth, Manager, Logistics	(613) 567-0338 (H)
Pete Keens, Supervisor, POL	(819) 561-6578 (H)
Kate Low, Corporate Communications & Public Affairs	(613) 727-5325 (H)
Lillian Hvatum, Manager, Northern Affairs	(403) 979-2182 (H)

24 Hour Spill Line

Northwest Territories	(403) 920-8130
Yukon	(403) 667-7244
Newfoundland and Labrador (Coast Guard)	(709) 772-2083
Ontario MOEE (reporting to MOEE is recommended by Environment Canada Spill Line)	1-800-268-6060

NWSO Emergency Response Contact

Contact	Designation	(W)	(H)
Jim Boissonneault	R&CS 2-17	(613) 992-9743	1-613-543-3435
Capt. Z. Szabo	R&CS 2-14	992-0692	(613) 825-7646
Maj. Chan	R&CS 2-SP	996-4093	(613) 834-6741
Col. D.A. Noonan	DAEPM (R&CS)	996-5705	(613) 834-4210

Newfoundland and Labrador

Department of Environment and Lands

Goose Bay Office, Director of Government Service Centre Dave Noseworthy	(709) 896-5709
24 Hour Oil Spill Line (Coast Guard)	(709) 772-2083

Fisheries and Oceans

Goose Bay - Marine Communications & Traffic Services Centre	(709) 896-2252

R.C.M.P.

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

Department of Tourism, Culture, and Recreation

Biologist, Goose Bay - James Schaefer	(709) 896-2732
Resource Archaeologist, Historic Resources - Martha Drake	(709) 576-2460

Canadian Wildlife Service

Wildlife Biologist, St. John's - Pierre Ryan	(709) 772-5585

Northwest Territories

24 Hour Spill Report Line	(403) 920-8130
Inuvialuit Land Administration	(403) 977-2202

Indian and Northern Affairs Canada

Inuvik Region District Manager - Rudy Cockney	(403) 979-3361
Iqaluit Region District Manager - Dan Elliot	(819) 979-4405

Environment Canada - Environmental Protection Branch -NWT Division

Yellowknife, Manager - Laura Johnston	(403) 920-6060 (403) 873-8185 (fax)
Chief Environmental Engineer - Ed Collins	(403) 920-6061

Government of NWT

Environmental Protection Officer - Ken Hall	(403) 873-6476
Department of Transportation, Environmental Affairs	(403) 873-7063

Baffin Region Renewable Resources - Stations

Iqaluit - John Stevenson Steve Pinksen Kevin Robertson	(819) 979-5011 (819) 979-5013 (819) 979-5017
Arctic Bay	(819) 439-9945
Broughton Island	(819) 927-8966
Pond Inlet	(819) 899-8819
Igloolik	(819) 934-8999

Keewatin and Inuvik Renewable Resources - Stations

Regional Office	(403) 982-7240
Paloyoaq (Spence Bay)	(403) 561-6231
Gjoa Haven	(403) 360-7605
Cambridge Bay - Luke Coady	(403) 983-7314
Coppermine - Josh Hunter	(403) 982-7250 (403) 982-3996 (H)
Inuvik	(403) 979-7201
GNWT Prince of Wales Northern Heritage Center Director of Culture and Heritage, Yellowknife Charles D. Arnold	(403) 973-7551

Yukon

Renewable Resources, Parks, Resources and Regional Planning, Director - Jay McIntyre, Whitehorse	(403) 667-5261 (403) 668-7823 (fax)
Heritage Branch - Jeff Hunston, Whitehorse	(403) 667-5363
Head of Emergency Response, George Balmer	(403) 667-3406 (403) 667-7962 (fax)
Environment Canada - 24 Hour Emergency (Conservation and Protection, Yukon)	(403) 667-7244
Parks Canada Departmental Operations Manager - William A. Fox	(403) 979-3248 (403) 979-4491 (fax)

Ontario

Environment Canada (Toronto)	
Spill Line	(416) 346-1971
Phillip Baker	(416) 973-1059
Steven Clements	(416) 973-1061
PCB Spills, Bob Kramel	(416) 973-5858
Ontario MOEE Spill Line	1-800-268-6060

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:*		

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

TOTAL ABSORB INC.

9311 River Drive · Richmond
British Columbia
V6X 1Z1

Phone: (604) 273-7860 *Fax: (604) 273-0502*

ALFOB

Absorbent

AND Absorbent "W"

WHERE

ALL LAND SPILLS
Inside and outside
ALL OIL SPILLS
Oceans, creeks, and puddles
CATCH BASINS
MACHINE SHOP AREAS
IN THE BAG CONTROL
HOSPITALS, AIRPORTS and HOME SPILLS
PACKING for TRANSPORT

WHAT

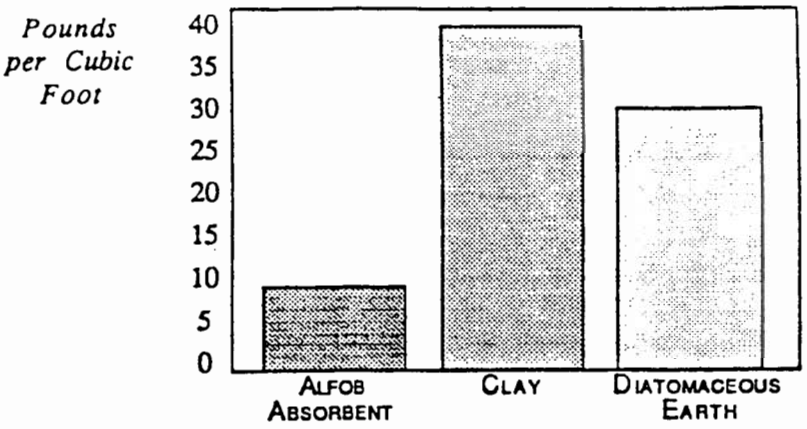
CHEMICALS
DETERGENTS
EFFLUENTS
EMULSIONS
PAINTS
FUELS
OILS

WHY

COST EFFECTIVE
NATURAL WOOD FIBRE
Biodegradable · Nontoxic
DUST FREE · No silica
INCINERABLE
Low ash · Clean Burning
LANNDFILL DISPOSABLE
ABSORBS AND RETAINS
Three times its weight
LIGHT WEIGHT · User friendly

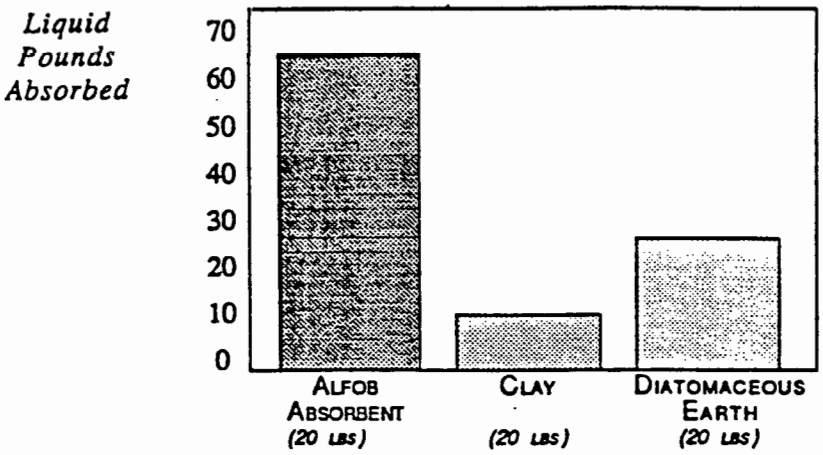
2

WEIGHT

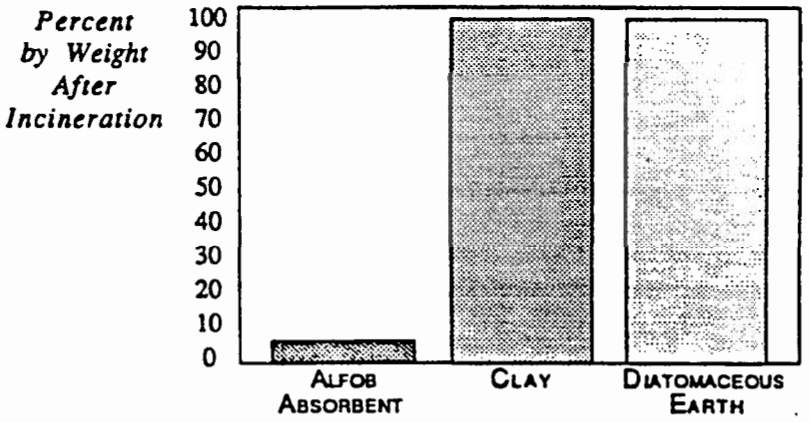


ALFOB Absorbent

ABSORBENT CAPACITY



ASH WEIGHT



DATA SOURCE

E.P.A. Report #E.P.A./600/2-87/047
Guidance Manual for Selection and Use of Sorbents for Liquid Hazardous Substance Release

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SUBSTANCES ABSORBED BY ALFOB ABSORBENT

CERCLA LIQUID FUNCTIONAL GROUPS

Acidic compounds *[organic]*
Alcohols and glycols
Aldehydes
Aliphatic hydrocarbons
Aliphatics *[halogenous]*
Amides, anilides, imides
Amines *[alkyl]*
Amines *[aryl]*
Aromatic hydrocarbons
Aromatics *[halogenous]*
Cyanates and isocyanates
Cyanides and nitriles
Esters and ethers
Esters *[halogenous]*
Halides *[inorganic]*
Heavy metals
Ketones
Nitro/nitroso compounds
Organophosphates
Oxides *[alkylene]*
Peroxides
Phenols and cresols
Sulfates and sulfites
Sulfides and mercaptans

Source: U.S. Environmental Protection Agency Report #600/2-87/047

Note: Inorganic acids, Caustics, Hydrazines and Hydrazides are not suitable for the use of woodfibre/cellulose absorbents.

EXAMPLES OF LIQUIDS AND CHEMICALS ABSORBED BY ALFOB ABSORBENT

Oils/Fuels ..... mineral oil, jet fuel, gasoline, diesel, hydraulic fluid, Skypdrol, motor

Coolants ..... antifreeze, transformer oils *[including PCBs]*.

Paints ..... mineral oil and latex base paints, lacquers, shellacs, thinners.

Polymers ..... water treatment flocculants, viscosity enhancers.

Alcohols ..... methyl alcohol, ethyl alcohol, isopropyl alcohol.

Medical/Biological ..... blood, serum, pharmaceuticals, sewage.

Solvents ..... methyl ethyl ketone *[MEK]*, methyl isobutyl ketone *[MIBK]*, tetrahydrofurane *[THF]*, etc.

Toxics ..... chromates, cyanides, sulfides, battery acid, etc.

Insecticides/Herbicides .. diazon, DDT, roundup.

TO ORDER

" *Fax:* (604) 273-0502

TOTAL ABSORB I

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TECHNICAL DATA SHEET

COMPOSITION DATA

Natural wood fibre (cellulose) in a proprietary preparation. Contains NO silica or mineral sil

SAFE for the WORK PLACE
21-CFR 186.1673, "General Recognition of Pulp as Safe".

SAFE for the ENVIRONMENT
Tested according to E.P.A. Methods for Measuring Acute Toxicity of Effluents to Fresh Wate
Marine Organisms, and by the State of Washington D.O.E. 80-12.

SAFE in ANALYSIS
Tested according to E.P.A. Method 613 (IFB #WA.86.K.357);
No Dioxins Method 8240 (Volatile Organics), metals;
Title 22, State of California, soils.

PHYSICAL DATA

Bulk Density
8 pounds per cubic foot
0.13 grams per cubic centimetre

Sorptive Capacity
Absorbs and retains three times its weight

Dust Content
Less than 1%

Shelf Life
Indefinitely stable

Combustion
5,000 BTU per pound, incinerates to less than 5% by weight ash residue

SAFETY DATA

Safety Precautions
As appropriate for the spilled chemicals. Additional information on Material Safety Data Sh
(see pages 6-8)

Toxicity
Human - none reported Environmental - none reported

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MATERIAL SAFETY DATA SHEET
(MSDS)

PRODUCT INFORMATION

Trade Name (as labelled)	Absorbent, Absorbent "W"
Chemical and Common Names	Cellulose, Natural Wood Fibre
Manufacturer's Name	Absorption Corp.
Canadian Distributor	**Total Absorb Inc.**
Emergency Telephone	(604) 581-2048
Business Telephone	(604) 273-7860

HAZARDOUS INGREDIENTS

Chemical Name	*Cas#*	*%v/v*	*Exposure TLV · AOGIH*	*Limits PEL · OSHA*	*In Air OTHER*

This Product contains NO HAZARDOUS INGREDIENTS, as defined by CFR 21-176-260.

PHYSICAL PROPERTIES

Vapour Density:	N/A	*Evaporation Rate (BuAc=1):*	N/A
Specific Gravity:	N/A	*Melting Point or Range:*	N/A
Solubility in Water:	Insoluble	*Boiling Point:*	N/A

Appearance and Colour: Light grey particles, no odour, low dust. NO ASBESTOS CONTENT.

FIRE and EXPLOSION

Flash Point [method]
450 degrees Fahrenheit (open cup)

Fire Extinguishing Materials
Use appropriate extinguishing material for involved chemicals or materials, CO2, foam, dry chemical, water spray or fog; Treat unused materials as paper or wood.

Special Fire Fighting Procedures
Incipient fire responders should wear eye protection.
Structural fire fighters must wear SCHA and full protective equipment.

Unusual Fire and Explosion Hazards
None

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HEALTH HAZARD INFORMATION

Inhalation:	N/A
Contact with Skin or Eyes:	N/A
Skin Absorption	N/A
Ingestion:	Non Toxic
Injection:	N/A

HEALTH EFFECTS or RISKS FROM EXPOSURE (explanation in lay terms)

Acute: None NO ASBESTOS CONTENT
Chronic: None Known

FIRST AID - EMERGENCY PROCEDURES

If product has been ALTERED by sorption or hazardous chemicals or materials, immediately begin decontamination with running water and continue for at least 15 minutes. Remove exposed or contaminated clothing, taking care not to contaminate the eyes. Victim and rescuers must seek immediate medical attention.
If chemical is in eyes, open victim's eyes while under gentle running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes.
If chemical is inhaled, remove victim to fresh air and use artificial respiration to support vital functions. Remove or cover gross contamination to avoid exposure to rescuers.
Victim of chemical exposure and all rescuers must be taken for medical attention. Take a copy of Label and MSDS of spilled chemicals to physician or health professional with victim.

SUSPECT CANCER AGENT?

This product's ingredients are NOT FOUND on the following lists:
· *Federal OSHA Z List* · *NTP* · *IARC* · *CAL/OSHA*

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None

RECOMMENDATIONS TO PHYSICIANS

Treat symptoms of exposure.
No human toxicity known or reported.

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REACTIVITY DATA

Stability: Stable *Conditions to Avoid:* None

Materials with which Substance is Incompatible:
Fuming inorganic acids may degrade material
Strong caustics
Hydrazines and Hydrozides

Hazardous Polymerization: Will not occur

SPILL, LEAK, AND DISPOSAL INFORMATION

Spill and Leak Response:
Spills of this product are considered NON-HAZARDOUS.

Preparing Wastes for Disposal:
Waste disposal must be in accordance with appropriate federal, provincial, and local regulations This product, if unaltered by the handling, may be disposed of as a non-hazardous waste. If this product has been used to clean up hazardous chemicals or materials, then the residue MUST be treated as a hazardous waste, including proper disposal.

SPECIAL HANDLING INFORMATION

Ventilation and Engineering Controls:
As required for the chemicals or materials being cleaned up with this product.
Respiratory Protection:
As required for the chemicals or materials being cleaned up with this product.
Eye Protection:
As required for the chemicals or materials being cleaned up with this product.
Hand Protection:
As required for the chemicals or materials being cleaned up with this product.
Body Protection:
As required for the chemicals or materials being cleaned up with this product.
Work and Hygiene Practices:
Use normal workplace and hygiene practices when using this product in its UNALTERED state.
Storage and Handling Practices:
Store in dry area away from moisture. Handle bags with normal caution to prevent damage.

LABELLING

No precautionary statements or DOT labels required.

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