POL SPILL CONTINGENCY PLAN

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

PREPARED BY:

FRONTEC ENVIRONMENT SECTION

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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 National 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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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;

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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:

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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.

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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

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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.

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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.

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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;

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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

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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.

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