



**ARCTIC WATERS OIL TRANSFER  
GUIDELINES**

**APRIL 1997**

**Transport Canada  
Prairie and Northern Region, Marine**

**Canada**

**ARCTIC WATERS OIL TRANSFER**

**GUIDELINES**

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## HIGHLIGHTS

- A. Starting June, 1991, all oil transfers in Arctic waters are to be carried out in accordance with these guidelines.
- B. Oil transfers exceeding 500 cubic metres are to be reported in advance to Prairie & Northern Region, Marine.
- C. Oil Supervisors of Oil Transfer Operations in Arctic Waters (North of 60°00'N) are to be qualified as specified in these guidelines.
- D. Checklists are to be completed and be available for viewing by a marine surveyor.
- E. Only Transfer Particulars Checklists are to be forwarded to the Marine Branch.

## QUICK REFERENCE

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## **APPLICATION OF GUIDELINES**

Bulk oil transfer activities in the Arctic are carried out under a wide variety of conditions, from open water in a stiff breeze to ten tenths landfast ice with no light and very high winds.

These guidelines are intended to provide all Supervisors of Oil Transfer Operations in Arctic Waters (North of 60°00'N) and their crews with practical reminders and checklists, which will enable them to continue the good record that Arctic operators have in this endeavour.

These guidelines are intended to provide a better understanding of the problems and pitfalls of transfer activity in isolated areas and cold weather conditions.

The guidelines apply to any vessel engaged in bulk oil transfer operation in Arctic waters. However, only transfers in excess of 500 cubic metres, in a single event, should be reported according to the instructions in Section 2.1.

June 1, 1991, is the application date for all the aspects of this document, except for:

- the Hose Relief system (see Section 3.2); and
- purging procedures for transfer hoses (see Section 3.5).

These requirements came into effect on June 1, 1992.

- the recommendations to carry oil containment equipment, and for purging.
- These recommendations were added for June 1, 1994.

## **1.0 PRINCIPLES**

The aim of these guidelines is to prevent cargo/fuel oil spillage, and the resulting environmental damage, during transfer between any two vessels or between a vessel and shore terminal/storage depot, in either direction. It applies general principles already in force south of 60°N to the northern environment.

Cargo/fuel oil spillage can be prevented by:

- The safe transfer of oil cargo or fuel under all reasonable circumstances using sound, well rehearsed practices, adequate numbers of trained and alert personnel, sufficient materials, and well maintained, thoroughly tested equipment.
- Compiling and exercising contingency and emergency plans regularly and thoroughly, to familiarize all personnel involved with the essential needs and hazards of such operations.
- Prompt and correct local response in the event of a spill
  - to safeguard life and property; and
  - lessen the environmental impact of the spill.

- Prompt and accurate reporting of oil spills, to enable responsible authorities to mobilize resources and take appropriate measures, if required, to lessen the impact of such an event.

In summary, Supervisors of Oil Transfer Operations in Arctic Waters (North of 60°00'N) and their crews must be able to work safely and carefully, secure in the knowledge that reasonable precautions have been taken, and that adequate resources can be deployed if an unforeseen problem develops.

This document is intended as a guide only. The information it provides does not take precedence over present or future Canadian Laws and Regulations governing oil transfer and related activities. The crew's conduct must at all times be governed by the normal practice of seamanship and in compliance with all applicable requirements.

## **2.0 GENERAL CONSIDERATIONS FOR TRANSFER OPERATIONS**

### **2.1 AUTHORITIES**

All persons or organizations responsible for managing transfer operations, in excess of 500 cubic metres in a single event, should notify Prairie and Northern Region, Marine in Ottawa , via NORDREG or the nearest Coast Guard Radio Station, of plans for oil transfer operations in Arctic waters.

#### **2.1.1 REGULATIONS**

The following regulations apply to all transfers of petroleum oil products in Canadian waters, as shown in Diagram 2.1.

- Arctic Shipping Pollution Prevention Regulations (ASPPR), under the Arctic Waters Pollution Prevention Act (AWPPA):  
This covers ship standards and activities in waters north of the 60th parallel, and east of the 141st meridian, for 100 nautical miles seaward, or an equidistant line between Canada and Greenland, and as defined in Section 3 of the AWPPA (Shipping Safety Control Zones).
- Arctic Waters Pollution Prevention Regulations (AWPPR), under the AWPPA. This covers the shipowner's liability provisions regarding spillage of waste.
- Oil Pollution Prevention Regulations (OPPR), under the Canada Shipping Act (CSA) -- this applies to all Canadian waters.

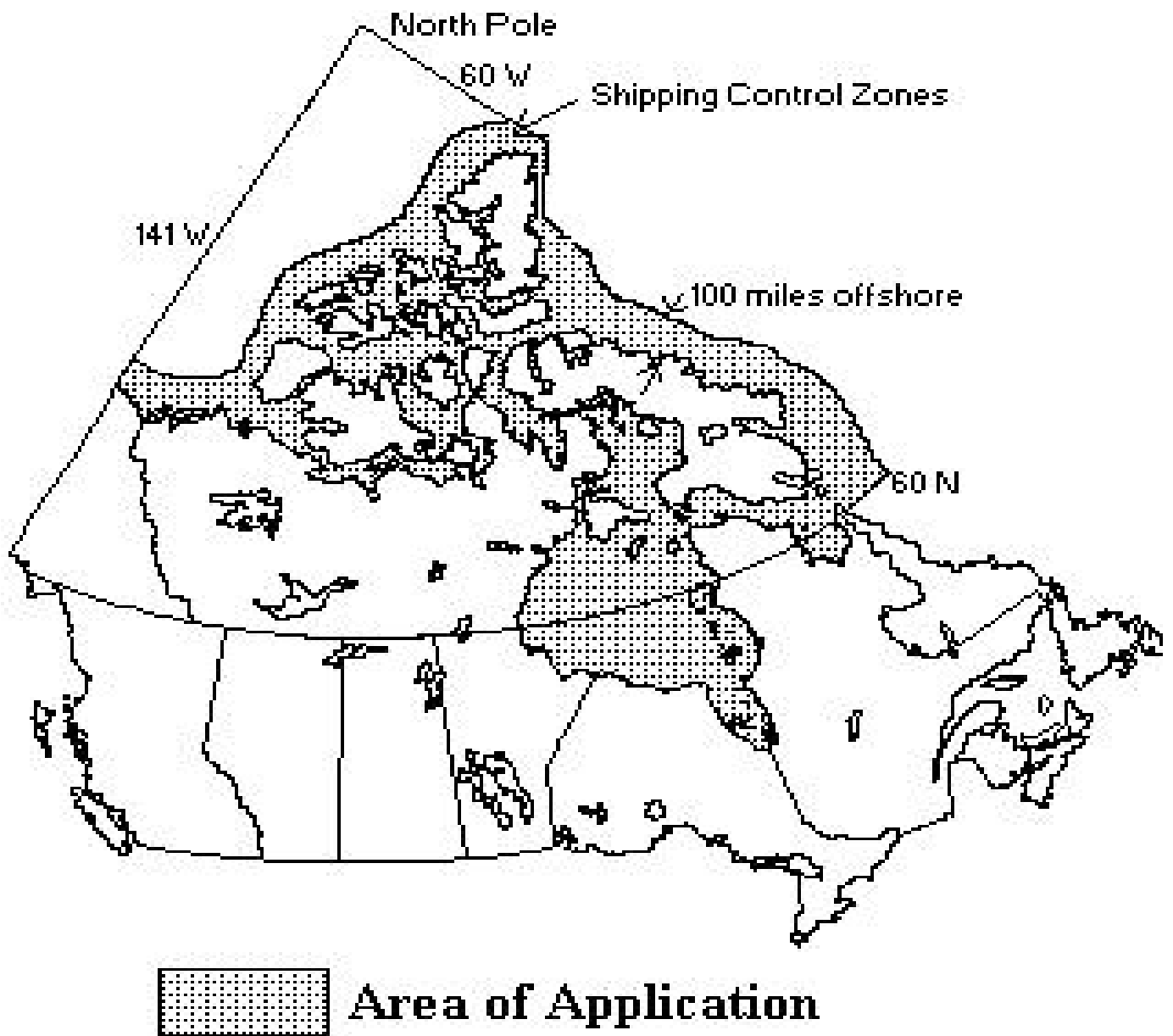
## **2.1.2 ENFORCEMENT AND PENALTIES**

To ensure that regulations governing the transfer of oil and petroleum products are enforced:

- Pollution Prevention Officers, may inspect any ship or facility in the prescribed Shipping Safety Zones, to determine compliance with the ASPPR and OPFR;
- Persons or ships found guilty of offences, described in Sections 18 and 19 of the Arctic Waters Pollution Prevention Act, are liable for fines ranging from \$5,000 to \$100,000 depending on the nature and duration of the offence;
- All ships must be covered for pollution spills and are liable to the extent provided by regulations.
- Persons or ships that discharge a pollutant in contravention of any regulation made pursuant to section 656 of the Canada Shipping Act are guilty of an offence or indictable offence, and are liable to fines up to \$1,000,000, to imprisonment, or both. There are provisions under the same Act, concerning reporting of discharges, non-compliance with a direction of a Pollution Prevention Officer, and detention of ships;



DIAGRAM 2.1



## **2.2 VESSELS AND TERMINALS**

Any vessel engaged in oil transportation, transfer or storage in the Arctic should be subject to the following conditions:

- Designed, constructed, and suitably equipped for the task and conditions;
- Operated by competent qualified persons;

When transfers are made from bulk oil storage tankers:

- If Ship Safety Certificates have expired, transfers should be carefully checked and supervised; and
- Tankers should receive or discharge oil only from shore installations that are safe and that comply with Federal, Provincial, and/or Territorial regulations and standards.

## **2.3 LIFESAVING CONSIDERATIONS**

The following equipment should be readily available for quick deployment, or depending on prevailing conditions, worn:

- Life buoys, and other lifesaving equipment; for quick deployment (Note: powder/rocket type line throwers should not be used).
- Approved PFDs and appropriate cold weather clothing for personnel working on barges and work boats, which may be used during ship to shore or vice-versa transfers.

## **2.4 SAFETY**

The following safety guidelines should be observed:

- "No smoking/no naked lights or flames" warning signs should be posted.
- Announcements of an impending transfer should be made, on board the vessel(s) and at shore facilities on public address systems.
- All operations personnel should be versed and rehearsed in emergency procedures and in the use of fire fighting equipment.
- Sufficient personnel and relief crews should be available to deal with intended transfer operations and to allow for sufficient rest and food breaks, and
- Ground faults found on the main switchboard should be traced and isolated immediately to prevent arcing;
- Use an Insulating Flange, in accordance with the "International Safety Guide for Oil Tankers and Terminals";

- When loading crude oil of an unknown flashpoint, or products with known low flashpoints (jet B), routine checks for flammable gas concentrations should be made near tank vents, using approved test devices. If high readings for this product are recorded on deck, operations should be suspended, until gas accumulation clears to a safe level;
- Routine checks for gas concentration should be carried out during all ship-to-ship transfer operations;
- Radiated energy from HF radios and radar antennae can cause arcs or heat which can affect nearby ship superstructures, causing an ignition hazard. During ship-to-ship transfer, if high gas concentrations exist, these systems and equipment should be used with caution;
- SATCOM antennae and positioning systems are normally not classified as explosion proof electrical equipment, therefore gas concentrations should be carefully checked before satellite terminals are operated on vessels transferring volatile cargoes;
- During ship-to-ship transfer, main engines on both vessels should remain on "Standby", for the entire operation period:
  - engine's exhausts should be monitored for sparks,
  - spark arrestors should be checked prior to arrival,
  - boiler soot blowing should not be carried out during transfers;
- For barge transfers, and where appropriate, forward and aft emergency towing wires should be deployed over the opposite side of the vessel from the hose manifold in use and available for immediate use;
- Routine checks should be made of mooring arrangements and fenders, as well as gangways and nets, if in use;
- A minimum wind speed of 5 knots is required when transferring high volatile products (gasoline and jet B); and
- Petroleum fuel cargoes for the North should be tested to ensure adherence to Canadian General Standard Board (CGSB) or more stringent standards, especially relative to flash point and use of Static Dissipator Additive (SDA) in various jet and diesel fuels.

## **2.5 FIRE FIGHTING AND EMERGENCY EQUIPMENT**

The following guidelines for fire fighting and the use of emergency equipment should be observed:

- Fire fighting equipment should be prepared for rapid deployment before commencing transfer;
- A fire extinguisher should be readily available, and a fire hose should be rolled out on deck at instant readiness, close to the manifold in use.
- For barge transfers, fire fighting equipment and resources on accompanying tugs and at terminals should be in a state of readiness; and
- When conditions are expected to remain below freezing during the transfer period, fire and foam lines on open decks and unheated areas should be kept dry to prevent freeze up.

## **2.6 CONTINGENCY PROCEDURES**

Contingency procedures are vital in the event of an oil spill. Therefore:

- A "Shipboard Oil Pollution Emergency Plan" should be available in compliance with the "Oil Pollution Prevention Regulations" under the Canada Shipping Act; and
- Regular drills should be held for the operations crew, especially when new members join.

## **2.7 WEATHER and LOCAL ICE CONDITIONS**

Weather and local ice conditions should be considered during a transfer. Therefore, during a transfer period:

- Local and regional weather forecasts and ice charts should be obtained, where available;
- Weather and ice conditions should be monitored constantly throughout the transfer period; and
- Transfer operations personnel should have suitable clothing for the prevailing conditions, and should not be exposed to severe weather conditions or other hazards for lengthy periods. Therefore, in these circumstances, the deck watch should be relieved more frequently.

## **2.8 LIGHTING**

- Supplier and recipient facilities should be supplied with adequate lighting, particularly at the respective manifolds or fuelling stations, and over the ship side;
- Work boats involved in sealift transfers should be equipped with spotlights for hose inspections and related work; and

- Flashlights and other portable and fixed lighting apparatus, should be designed and constructed according to approved specifications for operation in flammable or explosive gas areas.

## 2.9 SHORESIDE CONSIDERATIONS

The area in which the transfer is to take place should be checked to ensure:

- The hose landing and handling area is free of obstructions and hazards; and
- Manifolds, bollards, and deadmen on the beach or shoreline are adequate, and clearly marked for high visibility.

## 2.10 COMMUNICATIONS

Good communications are essential for a smooth transfer operation, and are vital in a crisis situation. Therefore:

- The Transfer Supervisor should have the capability, for "full break-in" to the radio system or network, where possible, or a radio channel dedicated exclusively to the transfer operation;
- During transfer of volatile, low flashpoint products, hand-held radios should be used which:
  - are intrinsically safe,
  - have a VHF or UHF band, with adequate range, and
  - are on a channel or frequency agreed to by suppliers and recipients,
- Fresh batteries should be installed before the transfer commences, and replacements should be available to ensure continuous operation of the radios throughout the transfer period (Note: Battery life is shortened by cold weather conditions);
- All personnel using radios should be on the *SAME* channel or frequency (this should be verified);
- For bunkering operations, there should be adequate communications between the deck bunkering station and machinery control room;
- The following standard signals should be used in all transfer operations:
  - STANDBY TO START TRANSFER
  - START TRANSFER
  - SLOW DOWN TRANSFER
  - STAND BY TO STOP TRANSFER
  - STOP TRANSFER
  - EMERGENCY STOP OF TRANSFER.

## 2.11 CONTROL

To ensure accessibility:

- Emergency controls for fuel transfer pumps should be installed at the deck bunkering station; and
- Controls, running lights, and discharge pressure gauges for cargo pumps should be visible and accessible at main deck level.

**NOTE** The bunker transfer pump controls at the deck bunkering station apply to vessels that normally supply bunkers, i.e., this does not apply to vessels receiving bunkers, or to vessels supplying bunkers in an emergency or on a one-off basis.

### **3.0 PRE-TRANSFER PREPARATION AND OPERATIONS**

#### **3.1 RESPONSIBILITIES**

Persons in charge of supplier and recipient vessels or facilities, should:

- Inform Prairie and Northern Region, Marine, via NORDREG, or the nearest CCG Radio Station of the intended nature and duration of transfer, 48 hours prior to the start of transfer operations, or as practicable, in sufficient time that would allow a Pollution Prevention Officer to arrive at the site and witness the transfer;
- Inform local authorities as appropriate;
- Where local traffic warrants and if the transfer location is outside "port" facilities areas, broadcast navigational warnings on VHF before starting, announcing the name(s) of vessel(s), the geographic location, the nature and expected duration, and requesting a wide berth;
- Cancel the warning when transfer operations are complete and secured;
- In all transfers, each party has the right to suspend operations at any time, if they decide it is necessary;
- Conduct a pre-transfer conference between Supervisors of Oil Transfer Operations in Arctic Waters (North of 60°00'N) of Supplier and Recipient vessels/facilities to:
  - inform each party involved of the dimensions of the other's key facilities, such as manifold/fuelling station location, maximum and minimum draught, barge/ship length, fendering arrangements, shore manifold connections, and jetty/shore characteristics such as tides, bollards, mooring and positioning aids, hidden hazards;
  - inform all participating personnel of their duties and responsibilities during the transfer, and ensure they are versed in emergency procedures, and know the oil spill contingency plan to be followed in the event of an incident;
- Ensure engines, steering, thrusters, and manoeuvring controls, are tested and remain on stand by during transfer;

- Unless vessels are in open water, clear of land and traffic routes, with no ice present, ensure they are secured alongside or anchored, with due consideration for prevailing and expected wind, weather, ice, and tide conditions;
- Ensure that moorings (including shore moorings) are adequate to allow for draught and tidal changes during transfer;
- Suspend all operations that could cause ignition hazards around deck tank vent areas, such as:
  - welding and other hot work,
  - use of portable electrical apparatus, particularly extension cords,
  - use of portable combustion engine driven equipment,
  - other operations which could cause ignition hazards;
- Ensure all cargo manifold valves and/or fuelling connections which will not be used in the current transfer are isolated and blanked;
- Ensure sea valves in cargo pumprooms are closed and sealed;
- Ensure valves which will be used for the transfer, are free of ice or other obstructions, and are easy to operate through their full range;
- Ensure all deck scuppers are plugged to contain any oil spilled, and that freeing ports and other open areas where spillage could go overboard are closed;
- Ensure absorbent material is readily available at the flexible hose connections on deck and other predictable minor spill locations;
- Ensure containers, or drip trays of suitable size are placed under tank vents, manifolds, fuelling connections, or other locations where adequate permanent containment arrangements are not fitted;
- Ensure accommodation deck doors, deadlights or shutters, ports, and vents are closed;
- Ensure flame arrestors or gauze screens and pressure/vacuum relief valves (PVR) are checked;
- Ensure no helicopter landings or takeoffs occur during transfer operations;
- Ensure vessel air conditioning systems are on recirculation mode;
- Ensure vessels hoist the appropriate signals by day and night; and
- Ensure that all valves and pipelines required for the current transfer are open, and that all other valves and pipelines in connected systems are closed and secured. Ensure this is double checked by the assigned crew members and the Transfer Supervisor/Cargo Officer.

### **3.2 HOSE PREPARATION AND HANDLING**

When preparing and passing the blanked or capped hose between the Supplier and Recipient, the following procedures should be observed:

- Check for a valid hose certificate, confirming that the hose has been satisfactorily inspected during the past 12 months, according to the Oil Pollution Prevention Regulations;
- Check individual hose test markings or tags;
- Define who will supply the transfer hose and establish hose configuration -- diameter, total hose length, coupling type and number, operating pressure of hose and couplings, type of terminal flange (size/class, etc.);
- Define hose purging method between products, and after final transfer;
- Examine "O" rings and joints in couplings and replace any damaged seals or gaskets;
- Inspect hose-to-coupling clamps visually to ensure good condition and security and repair or replace any damaged clamps, where possible, or use spare hose lengths;
- Check that an insulating flange or coupling is in place;
- Secure hose coupling clips with safety wire;
- Ensure lifting and restraining arrangements are suitable for the type and dimensions of hose used, and that the apparatus will prevent hose damage due to ship movement in swells or draught changes;
- Ensure the hose is suitably supported throughout the hand-over, and during the transfer, to avoid damage and prevent kinks;
- When transferring sea hose ashore, ensure the hose is free from chafing, or pinching between ice floes or rocks;
- Use hose strain relief system with long floating hose transfers to prevent strain on the hose string from winds, tides, and ice;
- Examine the completely installed hose string carefully and repair or replace any damaged hoses, flanges or joints, before starting the transfer;
- Minimize the number of couplings by using longer hose lengths; and
- In ship to shore transfers use a suitable boat to send the hose ashore.

### **3.3 TRANSFER**



The following procedures should be followed before and during a transfer operation:

- Complete the pre-transfer check list;
- Have a responsible person, with an operational radio set on the correct channel/frequency, near the cargo/transfer pump start/stop control throughout the transfer;
- Start pumping at a previously agreed slow rate, while rechecking hose string for leaks;
- Ensure the product is going to the correct recipient tank;
- Maintain the normal pumping rate, as agreed with the other party, until topping off is required;
- Examine the hose string regularly during transfer and watch for signs of undue strain, bulging, and other evidence of real or potential leaks;
- For floating hose, patrol the string, check the water in the area for leakage signs, and look for coupling problems, or snags on ice floes;
- Check both Supplier and Recipient tanks regularly for both content level and product, and investigate any anomalies, suspending the transfer if necessary;
- Keep a constant check on the pumping pressure and immediately investigate any pressure variations of an unexpected nature;
- Make regular visual checks of the water immediately surrounding the vessel(s) and transfer area;
- Reduce transfer rate, when Recipient tanks are nearly full, for topping off; and
- Use an automatic stop device which will shut down the pump when the flow rate or back pressure exceeds a pre-set level.

### **3.4 EMERGENCY STOP**

If any of the following conditions occur, the transfer should be stopped immediately:

- LOST COMMUNICATIONS;
- LOSS OF ABILITY TO MONITOR HOSE TO SHORE;
- SIGN OF SPILLAGE, OR DAMAGE TO HOSES AND COUPLINGS;
- ANY DETECTION OF ACCUMULATED GASES;
- MAJOR INCREASE IN WIND AND/OR SWELLS;
- WHEN AN ELECTRICAL STORM IS PRESENT OR PREDICTED;
- SEVER DETERIORATION IN ICE OR VISIBILITY CONDITIONS;
- HELICOPTER LANDINGS OR TAKE OFFS; and
- ANY OTHER SITUATION DEEMED DANGEROUS BY THE TRANSFER SUPERVISOR.

In the event of a spill, the Spill Contingency Plan should be initiated immediately by:

- Informing Prairie and Northern Region, Marine, via NORDREG, of the situation; and
- Informing NWT 24 hour Spill Line at 1-403-920-8130 and providing them with the following information (see Spill Line Form for further details):
  - location and time of spill,
  - type and approximate quantity of product spilled,
  - precautions being taken at time of notice,
  - current state of tide and local weather,
  - extent of local and shipboard containment and recovery resources,
  - personnel numbers and skills available on site as well,
  - request for extra resources, and advice, if needed, and
  - complete the Spill Line Form.

### **3.5 AFTER TRANSFER**

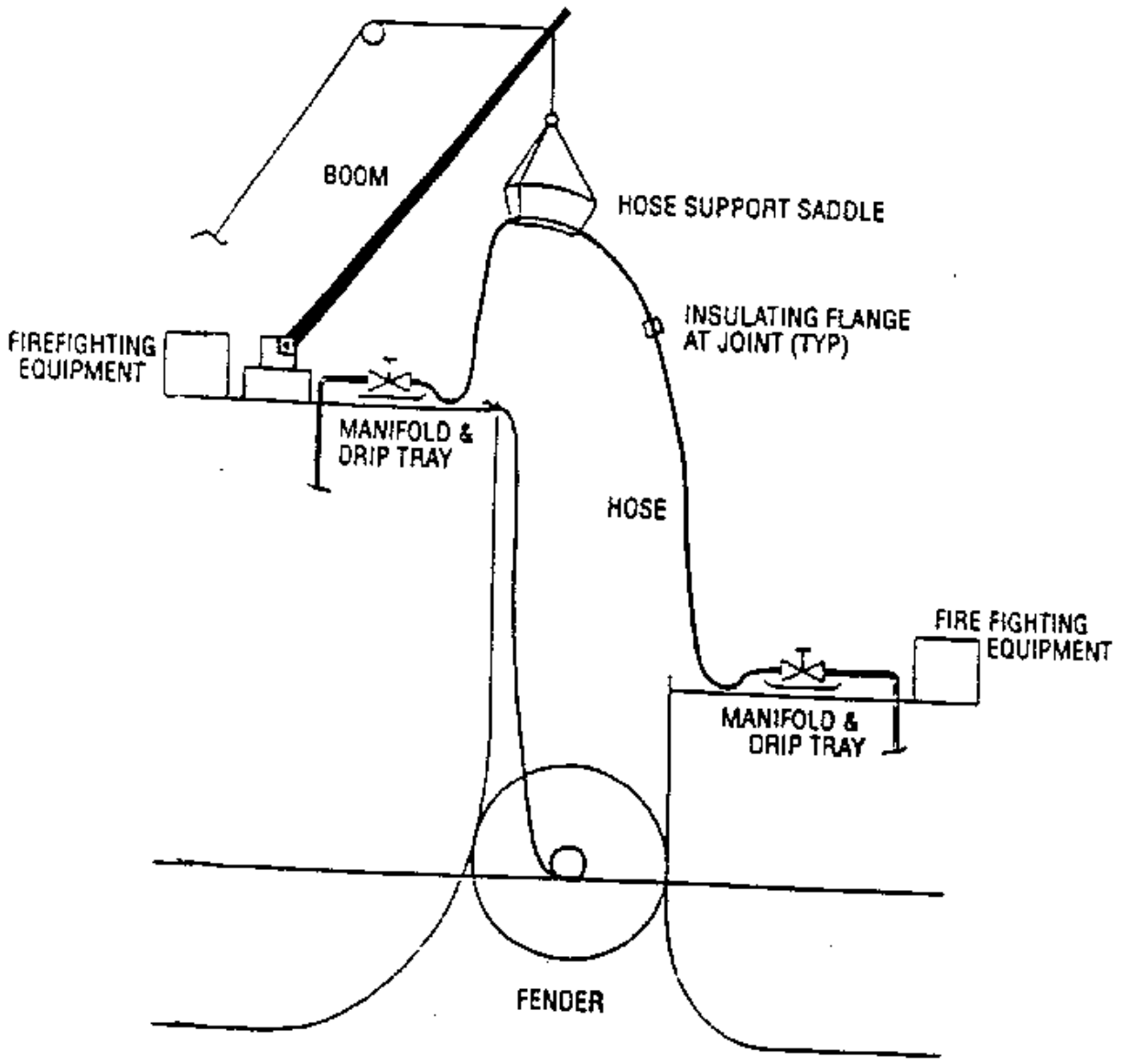
When the transfer has been completed, the following procedures should be followed:

- Purge the hose by previously agreed method (see II - Recommendation for Purging), and shut all manifold and tank valves; when purging ensure that no air will be introduced to the tanks at the shore facility;
- Sound all tanks, (after waiting for settling, if necessary), and confirm with both parties that quantities of fuel/cargo have been properly transferred;
- Stow hoses securely for sea passage;
- Complete transfer checklists;
- Ensure the ship's and facility's Oil Books and Checklists are signed, kept up to date, and retained for examination by a Pollution Prevention Officer or other authorized official, (by prior arrangement with Prairie and Northern Region, Marine, organizations may use their existing checklists for recording transfer preparation conditions, provided all major aspects are covered in those checklists);
- Forward the transfer particulars checklist or a post-season summary of operations and quantities, for statistical records and prevention guidelines improvement purposes, to Prairie and Northern Region, Marine by the calendar year-end.

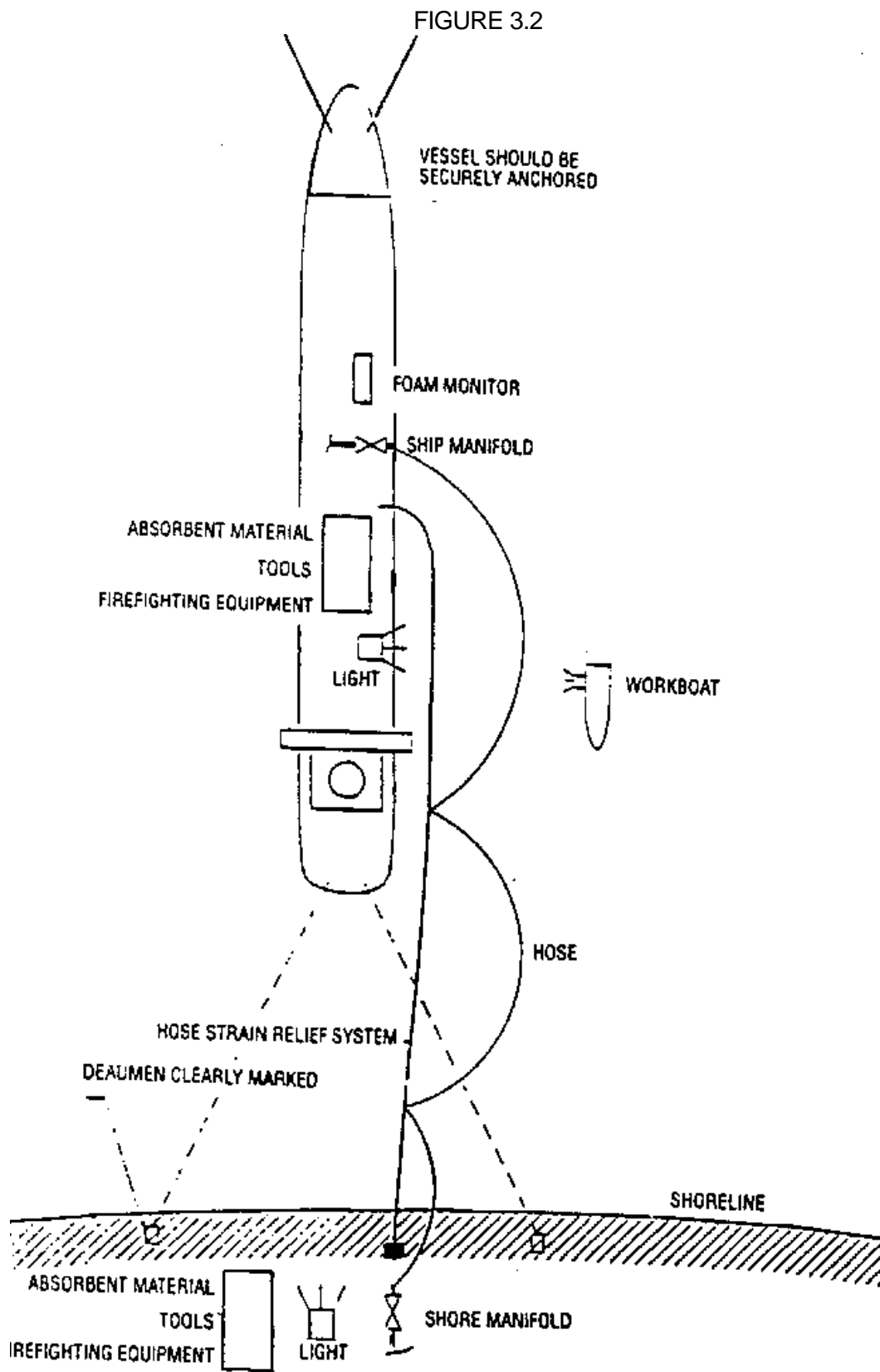
Address: Transport Canada  
Prairie and Northern Region, Marine (AMNS - OTT)  
Place de Ville, Tower C, 14<sup>th</sup> Floor  
330 Sparks Street  
Ottawa, Ontario  
Canada, K1A 0N5  
Tel: (613) 991-6004  
Fax: (613) 991-4818

FIGURE 3.1

NOTE: MANIFOLD LOCATIONS SHOULD BE CLEARLY MARKED - DAY OR NIGHT.

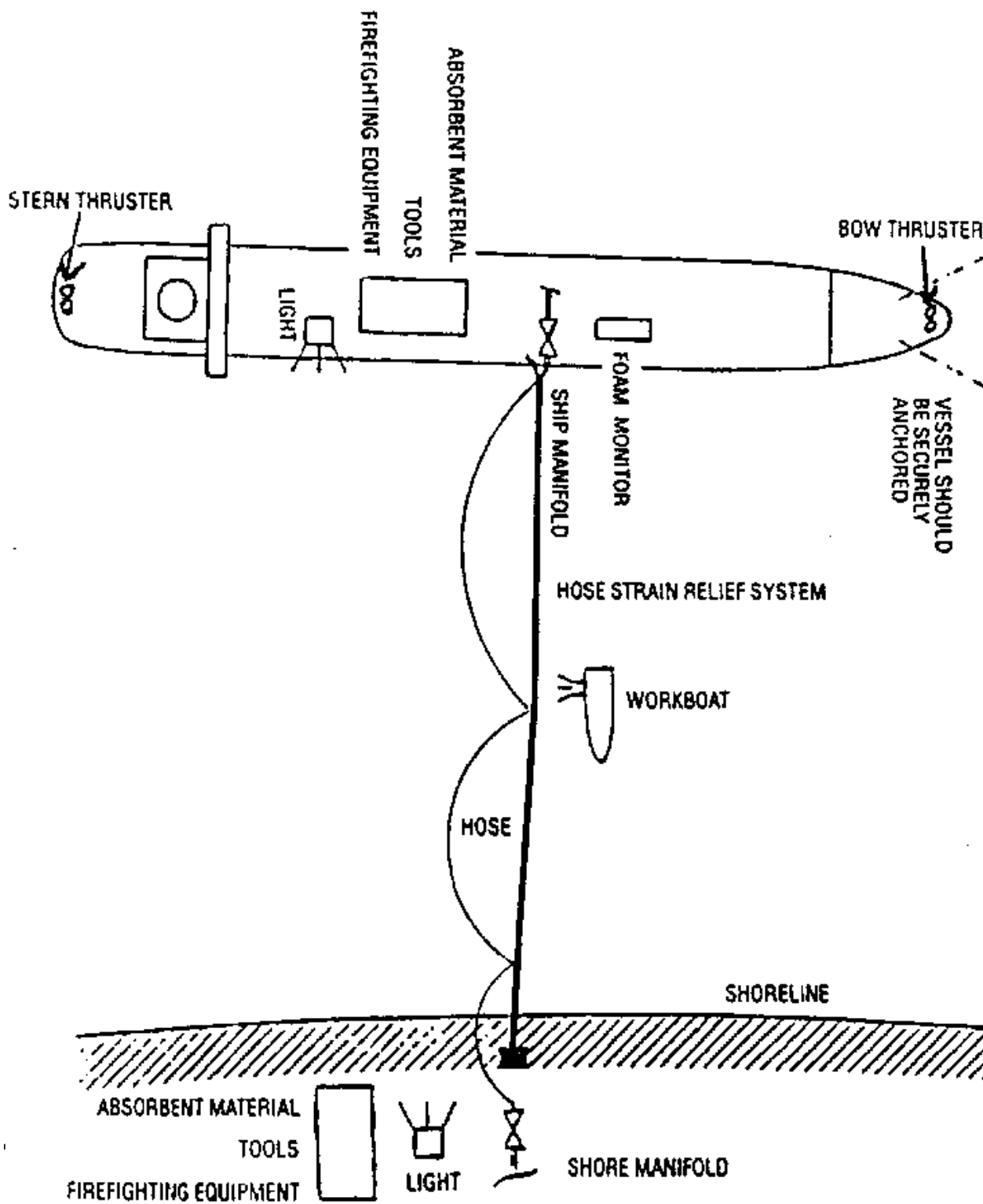


Typical Ship-to-ship Transfer Arrangement



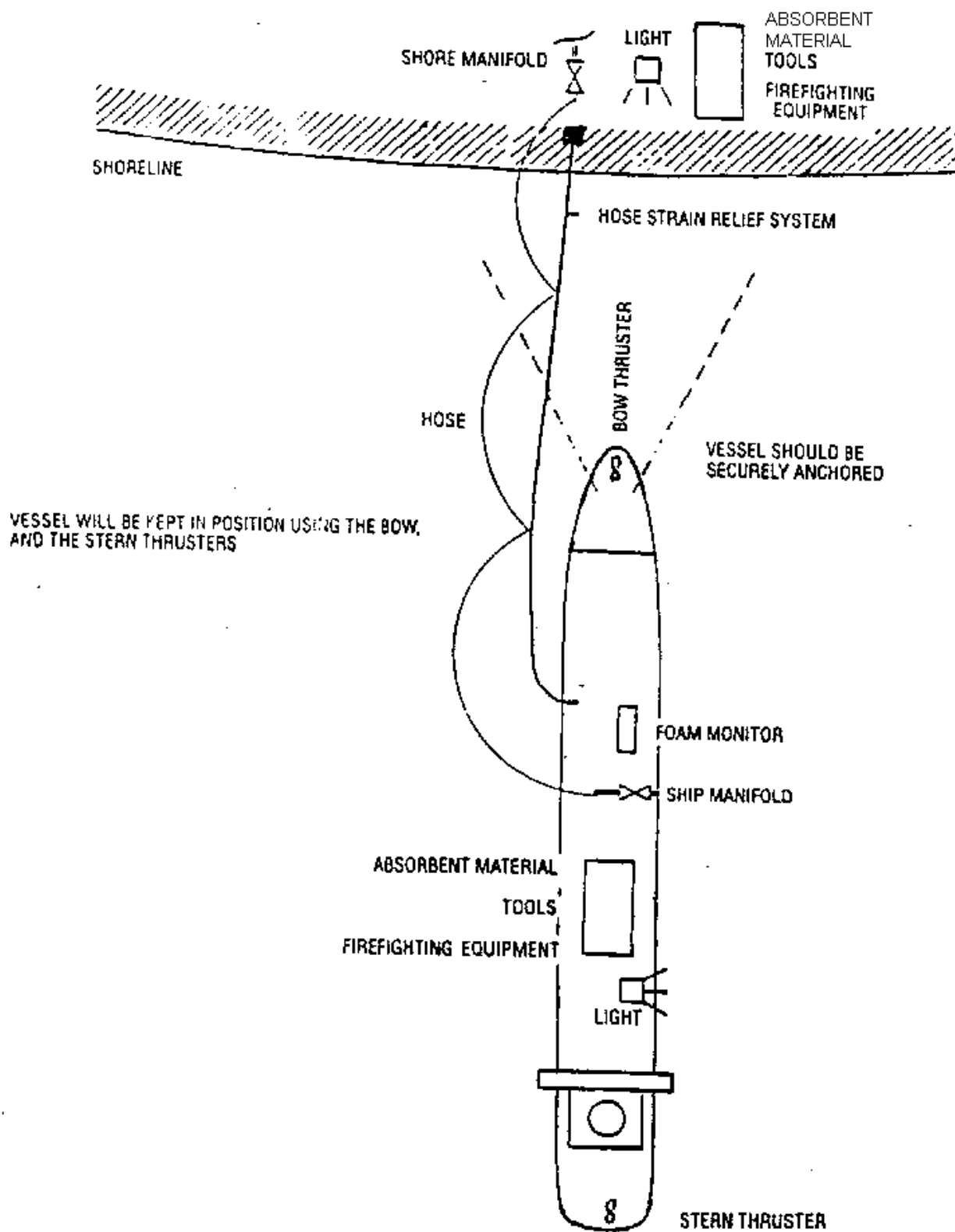
Typical Ship-to-shore Transfer Arrangement

FIGURE 3.3



Alternative Ship-to-shore Transfer Arrangement

FIGURE 3.4



Alternative Ship-to-shore Transfer Arrangement

#### **4.0 REQUIREMENTS FOR OIL TRANSFER SUPERVISOR**

- (1)** Every transfer operation carried in Arctic Waters, must comply with the following:
  - (a)** a qualified person must supervise the transfer operation; and
  - (b)** all reasonable precautions will be taken to avoid the discharge of waste into the water during the transfer operations.
- (2)** Any person supervising Ship-to-Shore oil transfers in Arctic waters shall be at least eighteen years of age and shall:
  - (a)** be qualified as Supervisor as prescribed in the "Oil Pollution Prevention Regulations- Chapter 40 and 41" under the Canada Shipping Act; and can produce a valid written evidence to that extent; and
  - (b)** have served in oil transfer operations, under the supervision of a certified supervisor, for at least two (2) Arctic seasons, during which period that person has been engaged in at least six (6) Ship-to-Shore transfer operations, and can provide a testimonial to that extent to Prairie and Northern Region, Marine.
- (3)** The written evidence required by subsection 4.0(2)(a) shall be valid only until the date five years after the date that the qualifications specified therein were satisfied.

#### **RECOMMENDATIONS**

##### **I - RECOMMENDATION FOR SPILL RESPONSE EQUIPMENT**

- The basic premise under Canadian Law and Regulations is that the polluter is responsible for clean up;
- Government/industry guidelines, including the "Guidelines for the Operation of Tankers & Barges in Canadian Arctic Waters" require ships to deal with on-deck spills;
- Taking into consideration the remoteness of northern locations where oil transfer operations occur, it is prudent to have available spill response equipment for minor spills in the water;
- The equipment may be provided by the ship, other ships in the vicinity, or the shore facility;
- Trained crew that participate in exercises with the equipment provided are an essential part of the contingency plan; and
- The list of equipment provided here is a **recommendation** only and is for the guidance of ship operators intending to equip their ships with clean-up equipment.

## **SPILL RESPONSE EQUIPMENT**

### **CONTAINMENT EQUIPMENT**

Sufficient containment equipment to completely encircle the vessel or the largest barge in a tow, in case of tug/barge operation, complete with accessories to deploy and maintain in a workable condition.

### **SKIMMING EQUIPMENT**

Sufficient skimming capabilities to recover, within 48 hours, a volume equivalent to the largest tank of the vessel, or the largest barge in a tow, in case of tug/barge operation.

### **SORBENT MATERIALS**

Sufficient sorbent materials to maintain operations for a period equivalent to the lead time expected for replacement stock to arrive on site or 48 hours, whichever is greater.

### **MISCELLANEOUS SHIP OR BARGE BASED EQUIPMENT**

All other equipment which could be useful and would be available to a response crew in the initial 48 hours following a pollution incident.

#### **II - RECOMMENDATION FOR PURGING**

- The "pig launcher" should include a "Y" piece and isolating valve to avoid the need to disconnect the hose prior to purging. The "Y" piece should have a stopper to prevent the pig from being pushed back to the manifold valve, and air pushed in the line.
- The "pig launcher" and the "pig catcher" should be fitted with a viewing port; and



- A soft foam pig 60.96 cm (24") in length and 10.16cm (4") in diameter should be used, as this type of pig has proved superior to other types.

## GLOSSARY of TERMS

<b>ASPPR</b>	<i>Arctic Shipping Pollution Prevention Regulations</i> , under the AWPPA.
<b>AWPPA</b>	<i>Arctic Waters Pollution Prevention Act</i>
<b>CCG</b>	Canadian Coast Guard.
<b>CONTINGENCY PLAN</b>	Plan of action to be taken in the event of an unforeseen or unusual circumstance; e.g., loss of communication, or hose/coupling damage.
<b>EMERGENCY PLAN</b>	Plan of action to be taken in the event of a sudden state of danger; e.g., a shipboard or shore terminal fire, or the sudden breakage of moorings.
<b>INAC</b>	Indian and Northern Affairs Canada.
<b>NWT</b>	Northwest Territories.
<b>OPPR</b>	<i>Oil Pollution Prevention Regulations</i> , under the Canada Shipping Act.
<b>PFD</b>	Personal Floatation Device.
<b>RECIPIENT</b>	Vessel or shore terminal <b>TO</b> which oil fuel/cargo is being transferred.
<b>SUPPLIER</b>	Vessel or shore terminal <b>FROM</b> which oil fuel/cargo is being transferred.
<b>TRANSFER SUPERVISOR</b>	Qualified ship's officer, barge operator or terminal supervisor, experienced in oil fuel/cargo transfer in the Arctic, between vessels and/or vessels and shore.

## ARCTIC WATERS OIL TRANSFER

## TRANSFER PARTICULARS

VESSEL / STATION INFORMATION				Location:	
	Supplier	Recipient		Start Date	
Vessel / Station Name				Start Time	
Officer in Charge				Finish Date	
Title				Finish Time	
OPERATIONS					
Transfer Type:			Connection Type (eg 2/4 bands):		
Total Length of Hose (m):			Number of Hose Sections:		
Diameter (m):			Test Pressure (kPa):		
Purge Method: Nitrogen / Air			Pig Used: Yes / No		
Boom deployed before transfer: Yes / No			If yes, type:		
Work Boat used: Yes / No					
Hose Strain Relief System used: Yes / No					
PRODUCT INFORMATION				WEATHER CONDITIONS	
Type	Quantity	Start Time	Finish time	Ice:	
				Wind Force (knots):	
				Wind Direction:	
				Sea State:	
				Visibility:	
				Light Conditions:	
COMMUNICATIONS					
Primary Method:		(VHF/UHF CHAN/FREQ)			
Backup Method:		(PHONE, RADIO, ETC)			
Language Used:					

**Note: Return a completed copy of this form (or a post season summary) to Prairie and Northern Region, Marine (AMNS-OTT) in Ottawa.**

## ARCTIC WATERS OIL TRANSFER

## GENERAL CHECKLIST FOR ALL TRANSFERS

GENERAL PROCEEDURE	CHECK	SUPPLIER		RECIPIENT		COMMENTS
	YES	INITIAL	DATE	INITIAL	DATE	
1. Pre-transfer P.A. Announcement made?						
2. All personnel involved are informed & adequately trained? A designated person in charge on duty at all times during the transfer operation?						
3. Language agreed to?						
4. All communications including Backup System tested?						
5. Is fire fighting equipment tested, available & are fire screens in place?						
6. Are all regulations for transfer understood and observed and "NO SMOKING, NAKED LIGHTS or FLAMES" signs posted?						
7. Are flashlights "intrinsically safe" and approved?						
8. Are window type A.C. units switched off?						
9. Are exterior doors and ports leading to main deck closed?						
10. Is equipment, tools & material required for transfer available at hand?						
11. Is containment equipment and absorbent material available?						
12. Has Transfer Emergency Shutdown been tested?						
13. Hoses to be used have been checked for:						
a) correct diameter & length to reach other station,						
b) chafing, cracks or other deformation,						
c) damaged fittings,						
d) blanking of hoses,						
e) continuity.						
14. All repair work at either station stopped. (if dangerous for transfer)						
15. Inert gas system is fully operational (if fitted).						

GENERAL PROCEEDURE	CHECK	SUPPLIER		RECIPIENT		COMMENTS
	YES	INITIAL	DATE	INITIAL	DATE	
16. Main transmitting aerials and radar scanners are used with due care.						

**ARCTIC WATERS OIL TRANSFER**

**GENERAL CHECKLIST FOR ALL TRANSFERS (Continued)**

GENERAL PROCEEDURE	CHECK	SUPPLIER		RECIPIENT		COMMENTS
	YES	INITIAL	DATE	INITIAL	DATE	
17. All craft alongside are authorised and following hazard warnings, etc.						
18. Is hose test certificate or records available for inspection?						
19. Have weather and ice reports been determined?						
20. Are gas concentration accumulations in still air conditions monitored?						
21. Are all scuppers plugs in place?						
22. Are main decks free of standing water?						
23. Were manifolds drained before removing blanks?						
24. Are pressure gauges ready and in place?						
25. All sea valves on cargo systems closed?						
26. Are drip cans and trays in place, and empty?						
27. Is lighting adequate for all transfer requirements?						
28. Is mooring watch being monitored?						
29. Are spill reporting procedures understood?						
30. Are all tank vents free of blockage?						
31. Have Pressure/Vacuum Relief (PVR) valves been checked?						
32. Has a post-transfer PA announcement been made?						
33. Are International signals being displayed? (if required)						
34. Has a written procedure and the sequence of the transfer been agreed upon?						
35. Is there a clear understanding of the watch and shift arrangement?						
36. Will there be sufficient personnel available at all times to monitor the transfer operation, tend cargo hose and mooring lines and take appropriate action in an emergency?						

**ARCTIC WATERS OIL TRANSFER**

**CHECKLIST FOR SHIP TO SHIP TRANSFERS**

SHIP to SHIP - PROCEEDURE	CHECK		SUPPLIER		RECIPIENT		COMMENTS
	YES	INITIAL	DATE	INITIAL	DATE		
1. Has the General Checklist for All Transfers been completed?							
2. Are the primary and secondary fenders in place?							
3. (a) Have the tanks, pipeline and valves been set to accept transfer? (b) Are the first tank(s) and valves open?							
4. Are all other tank valves closed and set for normal operation?							
5. Are valves not being used, shut and blanked on the manifold?							
6. Are the transfer hoses adequately supported & properly connected?							
7. Are all connections checked for leaks?							
8. Are regular checks of the water around vessels for evidence of leakage, being made?							
9. Are regular checks on the hose pressure being made to ensure that the recommended pressure is not exceeded?							
10. Are tank monitoring / sounding / ullage measurement procedures in place?							
11. Will the transfer be shut down if the vessel movement becomes excessive?							
12. Are vessel's engines on Standby?							



**ARCTIC WATERS OIL TRANSFER**

**CHECKLIST FOR SHIP TO SHORE TRANSFERS**

SHIP to SHORE - PROCEEDURE	CHECK	SUPPLIER		RECIPIENT		COMMENTS
	YES	INITIAL	DATE	INITIAL	DATE	
1. Has the General Checklist for All Transfers complete?						
2. Are all vehicles outside the agreed safe distance?						
3. Are the emergency towing wires in place?						
4. Is the vessel ready to move under its own power immediately?						
5. Has a hose drainage plan been agreed upon?						
6. Has the hose string been checked to working pressure?						
7. Is a work boat deployed to check the hose frequently for leaks during transfer?						
8. Are all transfer associated valves and tanks closed after transfer?						
9. Have hoses been purged prior to their return to the vessel?						
10. Are hoses and other transfer equipment properly stowed?						

**ARCTIC WATERS OIL TRANSFER**

**CHECKLIST FOR BARGE TRANSFERS**

BARGE - PROCEEDURE	CHECK	SUPPLIER		RECIPIENT		COMMENTS
	YES	INITIAL	DATE	INITIAL	DATE	
1. Has the General Checklist for All Transfers been completed?						
2. Is the discharge pump as close as possible to suction pipe of the discharge tank?						
3. Check hard line hose between pump and tank (if fitted)?						
4. Check couplings on discharge between pump and recipient?						
5. Do not exceed the following: a) maximum list (P & S) b) maximum trim (FWD & AFT)						
6. Are barge tank diagrams and pipe schematics available?						
7. Are fenders between the barge and other vessel?						
8. Is barge equipment bonded to barge structure?						
9. Are fire screens installed in ullage openings?						
10. Are all valves closed and hoses stowed after completion of transfer?						