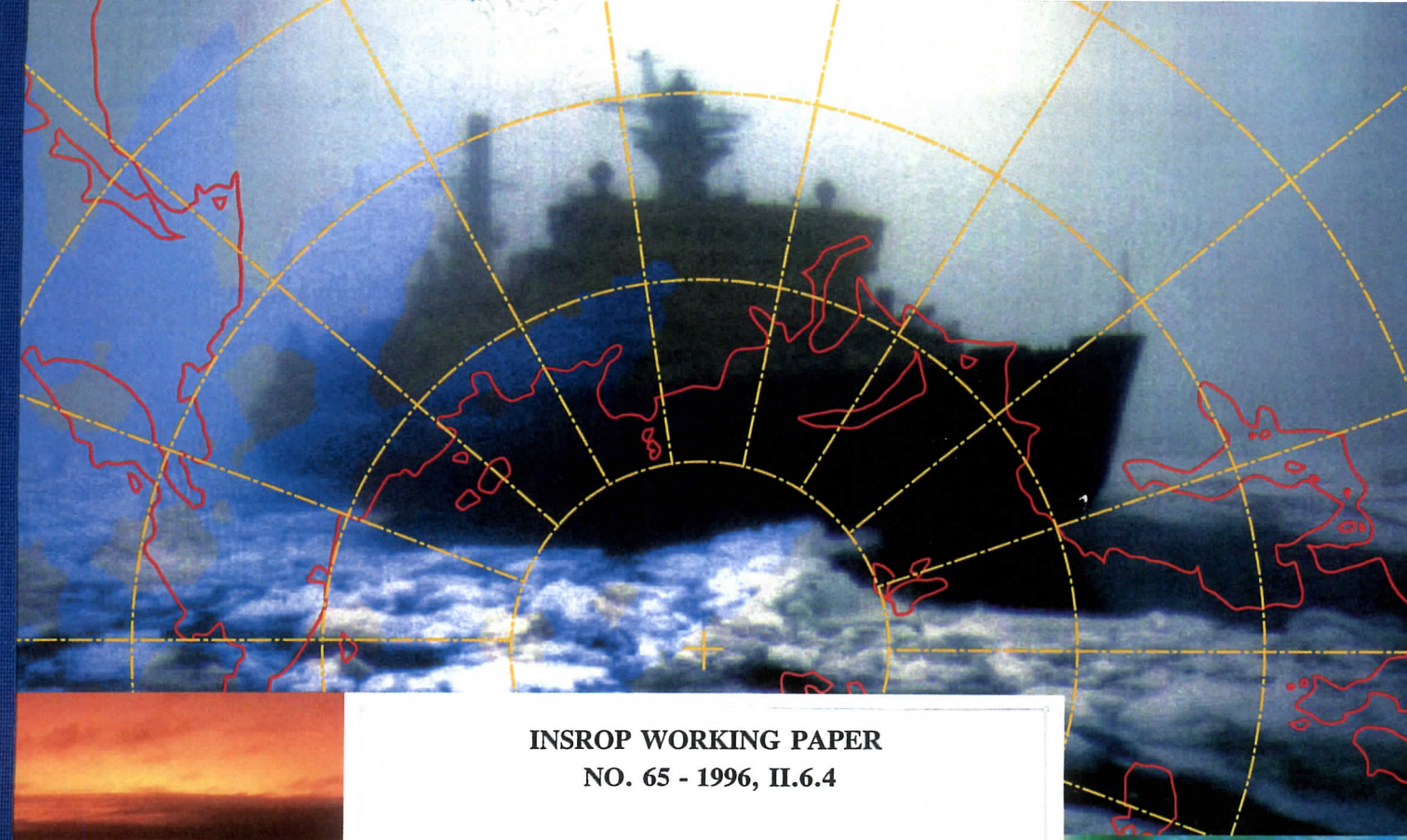

INSROP WORKING PAPER
NO. 65 - 1996, II.6.4

NSR Shipboard Oil Pollution Emergency Plan

V. Somkin, D.Ilyscenko-krylov and P. Lastochkin

INSROP International Northern Sea Route Programme

Central Marine Research & Design Institute, Russia

The Fridtjof Nansen Institute, Norway

Ship and Ocean Foundation, Japan

International Northern Sea Route Programme (INSROP)

Central Marine Research & Design Institute, Russia

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INSROP WORKING PAPER NO. 65-1996

Sub-programme II:	Environmental Factors
Project II.6.4:	NSR Shipboard Oil Pollution Emergency Plan
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Title:	**NSR Shipboard Oil Pollution Emergency Plan**
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Date:	16 October 1996
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FOREWORD - INSROP WORKING PAPER

INSROP is a five-year multidisciplinary and multilateral research programme, the main phase of which commenced in June 1993. The three principal cooperating partners are **Central Marine Research & Design Institute (CNIIMF)**, St. Petersburg, Russia; **Ship and Ocean Foundation (SOF)**, Tokyo, Japan; and **Fridtjof Nansen Institute (FNI)**, Lysaker, Norway. The INSROP Secretariat is shared between CNIIMF and FNI and is located at FNI.

INSROP is split into four main projects: 1) Natural Conditions and Ice Navigation; 2) Environmental Factors; 3) Trade and Commercial Shipping Aspects of the NSR; and 4) Political, Legal and Strategic Factors. The aim of INSROP is to build up a knowledge base adequate to provide a foundation for long-term planning and decision-making by state agencies as well as private companies etc., for purposes of promoting rational decisionmaking concerning the use of the Northern Sea Route for transit and regional development.

INSROP is a direct result of the normalization of the international situation and the Murmansk initiatives of the former Soviet Union in 1987, when the readiness of the USSR to open the NSR for international shipping was officially declared. The Murmansk Initiatives enabled the continuation, expansion and intensification of traditional collaboration between the states in the Arctic, including safety and efficiency of shipping. Russia, being the successor state to the USSR, supports the Murmansk Initiatives. The initiatives stimulated contact and cooperation between CNIIMF and FNI in 1988 and resulted in a pilot study of the NSR in 1991. In 1992 SOF entered INSROP as a third partner on an equal basis with CNIIMF and FNI.

The complete series of publications may be obtained from the Fridtjof Nansen Institute.

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International Northern Sea Route Programme (INSROP)

Central Marine Research & Design Institute, Russia

The Fridtjof Nansen Institute, Norway

Ship & Ocean Foundation, Japan

PROGRAMME II. Environmental Factors

II.6. Environmental Safety of Navigation

II.6.4. NSR Shipboard Oil Pollution Emergency Plan

INSROP Working Paper

Submitted for
The Joint Research Committee
by Central Marine Research and
Design Institute (CNIIMF)

Supervisor V.Somkin

St.-Peterburg
1995

Project Team

The project team consists of the following:

V.Somkin,	Head of branch, CNIIMF, leader of project
D.Ilyscenko-krylov,	Head of division, CNIIMF
P.Lastochkin,	Chief Designer, CNIIMF

SUMMARY

Key words: plan, pollution, oil, emergency, Northern Sea Route.

The need for developing the "Shipboard Oil Pollution Emergency Plan" has been specified by the new Regulation 26 of Annex 1 to MARPOL 73/78:

Every oil tanker of 150 tons gross tonnage and every ship other than an oil tanker of 400 tons gross tonnage and above shall carry on board a shipboard oil pollution emergency plan appoved by the Administration. In the case of ships built before 4 April 1993 this requirement shall apply 24 months after that date.

The purpose of this study is to prepare the "Shipboard Oil Pollution Emergency Plan" /SOPEP/ which provides for peculiaities of ship operations on the Northern Sea Route.

Subjected to a survey were about 40 ships belonging to the Murmansk, Northern and Baltic Shipping Companies, which operate permanently or periodically on the Northern Sea Route.

An examination was given to the peculiarities of ship operations in the high latitudes.

In the process of development of the general concept of the "Shipboard Oil Pollution Emergency Plan" international and national documents have been scrutinized:

SOPEP was developed in accordance with the "Guidelines for the Development of Sipboard Oil Pollution Emergency Plan" which had been approved by MEPC 54(32) Resolution. SOPEP contains the basic divisions which are required under the Guidelines.

The SOPEP contemplates for ships operating on the Northern Sea Route recommendations to prevent oil pollution when the ship is prepared for and during navigation in ice. These recommendations are given in Section 5.

TABLE OF CONTENTS

1. PREFACE.

The new Regulation 26 of Annex 1 to MARPOL 73/78 requires any oil tanker of 150 gross tonnage and above and any ship other than oil tanker of 400 gross tonnage and above to carry a shipboard oil pollution emergency plan (SOPEP) approved by the Administration. In case of ships delivered before 4 April, 1993 this requirement will apply from 4 April, 1995.

SOPEP being carried on board and specifying actions to be taken by ship crew in emergency situations resulted from oil discharge from the ship and likelihood of such discharge, should contribute to prevention or reduction of marine pollution by oil. This is a highly topical problem for the northern waters where the aftereffects of oil pollution are more severe than in the mean and tropical latitudes. Low temperatures of water and air hinder activation of the natural marine resources to combat oil while presence of ice impedes oil spillage recovery.

The purpose of this study is to prepare the shipboard oil pollution emergency plan which takes account of peculiarities of ship operations on the Northern Sea Route.

2. SURVEY OF SHIPS.

Subjected to a survey were ships belonging to the Murmansk, Northern and Baltic Shipping Companies, which operate permanently or periodically on the Northern Sea Route. All the surveyed ships had no emergency plans complying with IMO requirements, but every ship carried a Manual for Actions to be Taken by the Ship Crew in Emergency Situation, such as: failure of main engine, propulsion plant, steering gear as well as actions to be taken in case of fire, collision, grounding etc. These Manuals define basically actions to be taken by the crew to save life and ship and to a lesser degree address matters relevant to marine pollution prevention.

An examination was given to the peculiarities of ship operations in the high latitudes, involving:

- operation in ice;
- bad weather conditions;
- low temperatures of air and sea water;
- restricted visibility in winter;
- sailing in convoy;
- operation with icebreaker assistance, including escorting with the ship being coupled in the stern recess of the icebreaker;
- small number of ports and points where special salvage units are located;
- difficulties in implementing action to recover oil spillage;
- difficulties in approaching the ship in emergency;
- unloading at ill-equipped places;
- ice sticking to the hull and icing-up;
- use of helicopters on board;
- high level of vibration and impact shaking;
- influence of natural phenomena on perfomance of the radio and navigational equipment etc.

The peculiarities listed above may be additional causes of emergency situation involving oil polution.

Factors affecting oil pollution prevention during the ship operations in high latitudes are given in Appendix 1.

Particular emphasis during survey of ships was placed on the technical documents which must be available on board to develop the Plan. For dry cargo ships these are:

- arrangement and capacities of fuel and lubricating oil, oil sludge and oily water tanks;
- bunkering and fuel transfer diagrams;
- deck arrangement of air pipes.

Oil tankers were additionally checked for availability and contents of the following documents:

- arrangement and capacities of the cargo oil tanks;
- cargo oil piping diagram;
- crude oil tank washing system;
- inert gas system;
- gas freeing system.

In the process of survey ships were checked for provision of equipment and materials for oil pollution prevention duiring the normal operation and in emergency situations. All the ships subjected to survey were provided with separating equipment to purify the engine-room of oily water and/or storage tanks to receive oily water, fitted with full set of salvage outfit and inventory: natural sand, sawdust, rags, sand-shovels, baskets, of sand scattering scoops, therm mats, deck scrubbing-brush, rubber boots, rubber glaves, etc.

In the opinion of ship crews, to avoid oil outflow from ships in emergency situations it would be advisable to have additional facilities to enable efficient removal of oil spilled and contained on deck, preventing it from being discharged into the sea as well as additional facilities and tanks into which to empty the damaged tanks. The Institute has set the Shipbuilding Industry the task of developing such additional facilities.

Results of the survey of ships are given in Appendix 2.

3. EXAMINATION OF INTERNATIONAL AND NATIONAL REGULATIONS AND INSTRUCTIONS.

In the process of development of the general concept of the "Shipboard Oil pollution Emergency Plan" the following international and national documents have been scrutinized:

- Guidelines for the Development of Shipboard Oil Pollution Emergency Plans (MEPC 32/20);
- General Principles for Ship Reporting System and Ship Reporting Requirements Including Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants;
- Model of the Shipboard Oil Pollution Emergency Plan;
- International Convention MARPOL 73/78;
- Ship to Ship Transfer Guide (Petroleum);
- Shipping Pollution Prevention Manual;
- Register's Rules to Prevent Pollution from Ships;
- Provisional Instructions for Ship's Masters on Emergency Oil Spill Control;
- Regulations for Performing Clean-up Work in Polluted Harbour Waters;
- Techniques for Clean-Up of Oil and Liquid Chemicals Spillage with the Use of Improvized Means;
- Rules for Protection of Coastal Waters Against Pollution;
- Use of Slick Bar in Ports;

- Bunkering Flowchart.

The above documents deal to one or another degree with matters concerning accidental oil release from ships and should be taken into account when developing SOPEP.

Results of examination of international and national Regulations and Instructions are given in Appendix 3.

4. BASIC PROVISIONS OF THE PLAN.

4.1. The basic document for development of SOPEP is the "Guidelines for the Development of Shipboard Oil Pollution Emergency Plans approved by Resolution MEPC.54(32) accepted on 6 March 1992. The guidelines outline basic concept of SOPEP and urge the writers of individual plans to consider variables that apply to a particular ship such as: type and size of ship, cargo, route and number of crew etc. Consideration in developing SOPEP for ships operating on the Northern Sea Route should be given to the peculiarities of operation listed in Section 2 and involving ship operations in the Arctic basin.

4.2. Regulation 26 of Annex I to MARPOL 73/78 provides that SOPEP shall consist of:

- the procedure to be followed on board to report an oil pollution incident;
- the list of authorities or persons to be contacted in the event of oil pollution incident;
-the action to be taken by persons on board to control or reduce the dischage of oil;
- the co-ordination of ship with local authorities.

4.3. Sections of SOPEP providing reporting procedures and list of authorities to be contacted in the event of an oil pollution incident, shall contain the following information:

- when to report;
- information required;
- contacts.

A report to the coastal State and authorities concerned shall be made whenever there is an actual discharge of oil during the operation of the ship or resulting from damage to the ship or its equipment as well as where there is a likelihood of a discharge in an emergency situation.

The information required shall be communicated in the content and format required by the Guidelines MEPC 32/20 and Guidelines adopted by Resolution A.648(16).

A report shall be made to the Administration of a coastal State or port whenever the ship is in port as well as to the parties with an interest in the ship.

List of contacts will largely depend on the area of navigation of the ship. For ships engaged periodically in navigation along the Northern Sea Route list of coastal State contacts and port contacts should also take account of the areas of usual operation of the ships.

In SOPEP of ships operating nowhere but in the Arctic only the contacts of the area referred to shall be shown.

When specifying the reporting procedure consideration must be given to the fact that the damaged ship proceeds usually in a convoy, so information about the emergency and report may be transmitted not only from the injured ship but also from any ship in the convoy. In any case, when specifying reporting procedure and contacts consideration must

be given to the "Regulations for Organisation of Responding to Accidental Oil Spills from Ships Navigating Along the Northern Sea Route". The main ports for which the contact numbers shall be shown are: Igarka, Dudinka' Dikson, Tiksi, Pevek, Provideniya. SOPEP shall also provide contact numbers of the salvage coordination centres in the ports of Murmansk, Tiksi, Vladivostok, Provideniya.

4.4. Sections of SOPEP covering steps to control oil discharge shall contain recommendations for action to be taken in case of operational spills and spills resulting from casualities. Among the operational spills are: pipe leakage, hull leakage, tank overflow. The spills resulting from casualties shall include: fire /explosion, collision, hull failure, grounding, excessive list. For ships operating along the Northern Sea Route provision in this section shall be made for specific subsections covering:

- preparing the ship to ice navigation;
- ice navigation.

When specifying action to be taken by the personnel on board in emergency situations due account must be taken of a high likelihood of hull failure resulting from bumping into an ice field or individual floes, ice nip as well as of a possibility of an emergency situation caused by ice sticking and icing up.

When ships proceed in a convoy following an icebreaker, risk of collision is aggravated. The threat of emergency situations is increased when the ship is unloaded at ill-equipped places and when ship-based helicopters are used. The emergency situations resulting from oil outflow may be aggravated by bad weather conditions, severe ice conditions which hamper responding action to mitigate the effects of oil outflow.

All the above mentioned circumstances shall be additionally considered in developing SOPEP.

4.5. Section specifying co-ordination between the ship and local authorities should address the need for authorization to undertake mitigating and containment actions if such actions are subject to jurisdiction of the coastal State. This section shall also specify what responding action is to be organized by the Shore Authorities with respect to the Northern Sea Route.

4.6. Section 5 "Additional Information" and "Appendices" may contain non-mandatory provisions. These sections include diagrams and drawings, response equipment, contacts, reference materials. As far as ships operating along the Northern Sea Route are concerned, there is a need to fit them with additional equipment due to small number of ports and difficulties in securing specialized assistance. The composition and inventory of such equipment should be specified in finalizing the Plan.

CONCLUSION.

The need for developing the "Shipboard Oil Pollution Emergency Plan" has been specified by the new Regulation 26 of Annex I to MARPOL 73/78.

The Plan should be developed in accordance with the "Guidelines for the Development of Shipboard Oil Pollution Emergency Plan". For ships operating on the Northern Sea Route consideration must be also given to the peculiarities associated with ice navigation, severe weather conditions, sailing in convoys and with icebreaker assistance, small number of ports where salvage units are located etc.

Appendix 1.

FACTORS AFFECTING OIL POLLUTION PREVENTION DURING THE SHIP OPERATIONS IN HIGH LATITUDES

Details of ship operations in high latitudes	Factors affecting oil pollution prevention
Operation in ice	- high hull damage risk when colliding with ice floes; - hindered approach to the ship to render assistance in an emergency; - possibility of hull damage resulting from ice compacting; - difficulty in oil spillage recovery.
Bad weather conditions	- high risk of an emergency situation under storm conditions; - complications in development of actions to prevent accidental oil outflow and to recover oil spillage.
Low sea water and air temperature	- increase in ecological damage resulting from weakening of the natural sea potential to eliminate oil spillage; - complications in development of actions to deal with the accidental oil spillage; - creation of emergency situations involving ice sticking to and icing-up of the ship hull.
Restricted visibility in winter	- high risk of an emergency situation; - complications in development of actions to deal with the accidental oil spillage.
Icebreaker escorting of ship convoy	- high risk of an emergency situation resulting from closely spaced ships in the convoy; - possibility of hull damage caused by ice floes; - possibility of obtaining prompt assistance to be provided in an emergency by the ships proceeding in convoy and by the icebreaker.
Number of ports and salvage unit deployment .points	- need for maximum bunkers to be taken in; - low likelihood of obtaining prompt qualified assistance.
Natural phenomena (northern lights, magnetic storms etc)	- loss in performance of radionavigational equipment which impedes reporting on incidents.

Appendix 2.

RESULTS THE SURVEY OF SHIPS

N	Vessel name	Vessel type, displace-ment, t	Year and place of building	Port of registry	Provision of equipment under MARPOL 73/78	Provision of SOPER	Number and capacity (cu.m.) of F.O., L.O., only water and sludge tanks
1	2	3	4	5	6	7	8
1	NORILSK		1982, Finland	Murmansk	yes	no	
2	TIKSI	RO-RO general cargo	1983, Finland	Murmansk	yes	no	F.O. - 21 - 4556 L.O. - 16 - 253
3	KOLA		1983, Finland	Murmansk	yes	no	oily water - 1 - 23,3
4	NIKEL		1984, Finland	Murmansk	yes	no	
5	KAPITAN DANILKIN		1987, Finland	Murmansk	yes	no	
6	DMITRIY DONSKOY		1977, Germany	Murmansk	yes	no	
7	ALEKSANDR NEVSKIY	bulk carrier 27340	1978, Germany	Murmansk	yes	no	F.O. - 14 - 1838 L.O. - 8 - 125
8	PETR VELIKIY		1978, Germany	Murmansk	yes	no	oily water - 1 - 66,8 sludge - 3 - 40
9	ALEKSANDR SUVOROV		1979, Germany	Murmansk	yes	no	
10	MIKHAIL KUTUZOV		1979, Germany	Murmansk	yes	no	
11	IVAN SUSANIN		1981, Germany	Murmansk	yes	no	
12	IVAN BOGUN		1981, Germany	Murmansk	yes	no	
13	PAVEL VAVILIV		1981, Germany	Murmansk	yes	no	
14	VIKTOR TKACHEV	bulk carrier 27340	1981, Germany	Murmansk	yes	no	F.O. - 13 - 1968 L.O. - 8 - 107
15	KAPITAN BOCHEK		1982, Germany	Murmansk	yes	no	oily water - 1 - 66,8 sludge - 3 - 40
16	KAPITAN NAZAEV		1984, Germany	Murmansk	yes	no	
17	IVAN PAPANIN	RO-RO general cargo 21030	1990, Ukraina	Murmansk	yes	no	F.O. - 28 - 2514 L.O. - 17 -215 oily water - 1 - 66,8 sludge - 3 - 40
18	VALYA KOTIK	general cargo 7220	1984, Germany	Murmansk	yes	no	F.O. - 14 - 545 L.O. -7 - 60,1 oily water - 1 - 102
19	GALYA KOMLEVA		1984, Germany	Murmansk	yes	no	
20	VASYA KOROBKO		1984, Germany	Murmansk	yes	no	

1	2	3	4	5	6	7	8
21	SASHA BORODULIN	general cargo 7220	1970, Germany	Murmansk	yes	no	F.O. - 14 - 545
22	NINA KUKO-VEROVA		1970, Germany	Murmansk	yes	no	L.O. - 7 60,1
23	PAVLIK LARISHKIN		1970, Germany	Murmansk	yes	no	oily water - 1 - 60,8
24	KAPITAN SOROKIN	icebre-aker 121144	1977, Finland	Murmansk	yes	no	F.O. - 20 - 4778 L.O. - 15 - 3511 oily water - 1 - 102
25	SEVMORPUT	nuclear powered barge carrier 61880	1988, Ukraina	Murmansk	yes	no	F.O. - 12 - 2554 L.O. - 4 - 329 sludge - 3 - 18
26	ARCTICA	icebrea-ker	1974, Russia	Murmansk	yes	no	F.O. - 1o - 1604 L.O. - 7 - 257
27	SIBIR	icebrea-ker	1977, Russia	Murmansk	yes	no	oily water - 2 - 128 sludge - 7 - 66
28	TAIMYR	icebr. 21219	1988, Finland	Murmansk	yes	no	F.O. - 11- 1021 L.O. - 15 - 309
29	VAYGACH	icebr. 21219	1990, Finland	Murmansk	yes	no	oily water - 2 - 74 sludge - 1 45
30	KOTLAS	tanker	1987, Russia	Arkhan-gelsk	yes	no	cargo - 8 - 3231 F.O. - 9 - 328 L.O. - 5 - 40 oily water - 3 - 73 sludge - 1 - 17
31	SHEKSNA-LES	timber-	1964, Finland	St.Peters-burg	yes	no	F.O. - 13 - 435
32	KAMALES	-carrier 5674	1964, Finland	St.Peters-burg	yes	no	L.O. - 4 - 32 oily water - 2 - 39
33	YANALES		1965, Finland	St.Peters-burg	yes	no	sludge - 2 - 6,6
34	TURKU		1967, Finland	St.Peters-burg	yes	no	
35	KAPITAN GASTELLO	timber-	1967, Finland	St.Peters-burg	yes	no	F.O. - 13 - 426
36	SOFYA PE-ROVSKAYA	-carrier 5690	1967, Finland	St.Peters-burg	yes	no	L.O. - 5 - 40 oily water - 2 - 40
37	LIGOVO		1967, Finland	St.Peters-burg	yes	no	
38	JOZE DIAZ		1968, Finland	St.Peters-burg	yes	no	
39	KOPORYE		1968, Finland	St.Peters-burg	yes	no	
40	KHARLOV		1968, Finland	St.Peters-burg	yes	no	
41	IZHORALES	timber--carrier 5690	1963, Finland	St.Peters-burg	yes	no	F.O. - 7 - 305 L.O. - 2 - 18 oily water - 1 - 8

Appendix 3.

RESULTS OF EXAMINATION OF INTERNATIONAL AND NATIONAL REGULATIONS AND INSTRUCTIONS

N	Description of document	Author of document country organizat.	Scope of document as applied to oil pollution prevention				Use of document in SOPEP development
			norm. operat.	emergency situation	sea	coastal water	
1	2	3	4	5	6	7	8
1	Guidelines for the Development of Shipboard Oil Pollution Emergency Plans (MERC 32/20)	IMO	no	yes	yes	yes	Development of SOPEP as required by the guidelines
2	General Principles for Ship Reporting System and Ship Reporting Requirements Including Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants	IMO	no	yes	yes	yes	Elaboration of the forms for initial notification and subsequent reports on an incident resulting in oil pol-lution or likelihood of same
3	Model of the Shipboard Oil Pollution Emergency		no	yes	yes	yes	To be used as an advisory material
4	International Convention MARPOL 73/78	IMO	yes	yes	yes	yes	Incorporation of the MARPOL requirement in SOPEP
5	Ship to Ship Transfer Guide (Petroleum)	OCS, OCIMF	yes	yes	yes	yes	Activities covered by the Guidelines will be taken into consideration in the section "Steps to Control Discharge"of SOPEP
6	Shipping Pollution Prevention Manual	RUSSIA CNIIMF	yes	yes	yes	yes	Actions of the ship in normal operation and emergency situations involving oil outflow will be taken into consideration in the sections of SOPEP
7	Register's Rules to Prevent Pollution from Ships	RUSSIA REGISTER	yes	yes	yes	yes	Incorporation of the Register requirement specifying oil discharge control measures, particularly in emergency situations in the sections of SOPEP
8	Provisional Instructions for Ship's Masters on Emergency Oil Spill Control	RUSSIA	no	yes	yes	yes	Inclusion of the Provisional Instructions requirements in the various sections of SOPEP

1	2	3	4	5	6	7	8
9	Regulations for Performing Clean-up Work in Polluted Harbour Waters	RUSSIA	no	yes	yes	yes	Activities covered by the present Rules may be taken into consideration in the section "Steps to Control Discharge"of SOPEP
10	Techniques for Clean-Up of Oil and Liquid Chemicals Spillage with the Use of Improvized Means	RUSSIA	no	yes	yes	yes	Clean-up techniques covered by this document may be recommended in the section "Steps to Control Discharge"of SOPEP
11	Rules for Protection of Coastal Waters Against Pollution	RUSSIA	yes	yes	no	yes	Requirements for information on oil discharge and steps being taken to mitigate thereof will be included in SOPEP
12	Use of Slick Bar in Ports	RUSSIA	no	yes	no	yes	Provisions of this document have nothing to do with SOPEP and will not be used in development of same
13	Bunkering Flowchart	RUSSIA	yes	yes	yes	yes	Activities covered by the Flowchart may be taken into consideration in the section "Steps to Control Discharge"of SOPEP

(NAME OF THE SHIPOWNER)

APPROVED

Chief engineer

_____

"___"_____199__

SHIPBOARD OIL POLLUTION

EMERGENCY PLAN

M/V " "

AS REQUIRED BY MARPOL 73/78

ANNEX 1, REGULATION 26

199__

PLAN APPROVAL

Date Approved by Official stamp

Change NO

Date Approved by Official stamp

Change NO

Date Approved by Official stamp

Change NO

Date Approved by Official stamp

Change NO

Date Approved by Official stamp

Change NO

Date Approved by Official stamp

Change NO

Date Approved by Official stamp

Change NO

Name of ship:_____

Port of registry: _____

Flag: _____

Building year and place: _____

Type and purpose of ship: _____
_____

Gross tonnage: _____

Light displacement: _____

Load displacement: _____

Number of registry: _____

International call sign: _____

Length overall: _____

Breadth: _____

Light draft: _____

Loaded summer draft
in salt water: _____

Sailing area: _____

Owner: _____

Address: _____

_____

Telephone: _____ Telex: _____

TABLE OF CONTENTS.

INTRODUCTION.

1. This plan is written in accordance with the requirements of regulation 26 of Annex I of the International Convention for the Prevention of Pollution from ships, 1973, as modified by the Protocol of 1978 relating thereto.

2. The purpose of the plan is to provide guidance to the master and officers on board ship with respect to the steps to be taken when a pollution incident has occurred or is likely to occur.

3. The plan contains all information and operational instructions required by the Guidelines. The appendices contain names, telephone, telex numbers, etc., of all contacts referred to in the plan, as well as other reference materials.

4. This plan has been approved by the Register and, except as provided below, no alteration or revision shall be made to any part of it without the prior approval of the Register.

5. Changes to Section 5 of the appendices will not be required to be approved by the Register. The appendices should be maintained up to date by the master of the ship.

SECTION 1. PREAMBLE.

This plan is provided to assist personnel in dealing with unexpected discharge of oil. Its primary purpose is to set in motion the necessary actions to stop or minimize the discharge of oil from the ship.

Actions to be taken by the ship's crew to prevent oil pollution from the ship in an emergency are part of a package of measures to provide safety and survivability of the ship as required by the International Convention for the Safety of Life at Sea (SOLAS 74/78).

Responsibility for implementation of the plan on board the ship, amendments to be made therein to update addresses and communication means and to bring it in line with the changes that have occurred on the ship as well as to review it,based on the results of training, exercises and practical actions of the crew to control oil spills will be placed on the master of the ship.

Coordination of the efforts to prevent oil spills will be provided by the "Spill Officer" - Chief Officer. He will be also charged with supervision over training of the crew in implementation of procedures stipulated in this plan.

When dealing with the plan, an additional technical documentation (specifications, general arrangement plans, stability calculations etc.) to be kept at the ship's command centre or with Master, Chief officer, Chief engineer will be possibly required in addition to the diagrams instructions attached in the Appendix 2.

SECTION 2. REPORTING REQUIREMENTS.

2.1. When to report.

2.1.1. Report on a pollution incident should be made without any delay. The report, whenever possible, shall be made via radio, but in any case by the quickest means available at the time of incident. The radio report will be made as far as possible in the first place.

2.1.2. A report to the nearest Coastal State is required whenever there is an actual:

.1. Discharge of oil caused by damage to the ship or its equipment or a necessity to secure the safety of the ship or to save life at sea;

.2. Discharge of oil during ship operations in excess of the quantity or instaneons rate permited by MARPOL 73/78.

2.1.3. A report to the nearest Coastal State should be made where there is a probability or likelihood of a discharge, in the following cases:

.1. Damage, failure or breakdown which may adversely affect safety of the ship; examples of such situations are collision, grounding, fire, explosion, structural damage, flooding, cargo shifting;

.2. Failure or breakdown of the machinery and equipment which may result in impairment of the safety of navigation; examples of such cases are failure or breakdown of steering gear, propulsion, electrical generating system or essential shipborne navigational aids;

.3. In judging whether a report must be made the following factors at least should be taken into account:

- the nature of damage, failure or breakdown of the ship, machinery or equipment;
- the location of the ship and its proximity to land or other navigational hazards;
- present weather, tide, current and sea state;
- traffic density.

2.2 Reporting requirements.

2.2.1. The initial notification form is set forth in Table 1. The same form should be, as far as possible, used for additional notifications. The notification form is based on IMO Resolution A.648(16): "General Principles for Ship Reporting System and Ship Reporting Requirements Including Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants".

2.2.2. Whenever any linguistic problems are likely to occur the languages used should include English with a recourse being made where applicable, to a standard nautical phrase-book. To transmit detailed information the International Code of Signals may be used. In the latter case letter index in the report text should be immediately followed by a relevant statement.

2.2.3. The following is additional information to fill the Table 1.

AA - name of ship, call sign or identification data of shipboard radio station and flag.

BB - a 6-digit group giving day of month (first two digits), hours and minutes (last four digits).

Table 1

SHIPBOARD OIL POLLUTION EMERGENCY PLAN Initial Notification Form
AA (ship name, call sign, flag)
BB (date and time of event, UTC) | | | | | | | D D H H M M
CC (position, latitude, longitude) N S | | | | | | | d d m m E W | | | | | | | | d d d m m or DD (bearing, distance from landmark) | | | | d d d | | N miles
EE (course) | | | | d d d FF (speed, knots) | | | | kn kn 1/10
LL (intended track)
MM (radio station(s) guarded)
NN (date and time of next report, UTC) | | | | | | | D D H H M M
PP (type and quantity of cargo / bunkers on board)
QQ (brief details of defects / deficiencies / damage)
RR (brief details of pollution, including estimate of quantity lost)
SS (brief details of weather and sea conditions)
WIND ┌ direction | | | | └ speed (Beaufort) SWELL ┌ direction | | | | └ height (m)
TT (contact details of ship's owner / operator / agent)
UU (ship size and type) Length:.....(m) Breadth:.....(m) Draugth:.....(m) Type:
XX (additional information) Brief details of incident: Need for outside assistance: Actions being taken: Number of crew and details of any injuries: Details of P&I Club and local correspondent: Others:

CC - a 4-digit group giving latitude in degrees and minutes suffixed with N(North) or S(South), and a 5-digit group giving longitude in degrees and minutes also suffixed with E(East) or W(West), or

DD - ship's position by the bearing (first 3-digits) and distance from a clearly identified landmark (give the landmark).

EE - true course.

FF - speed in knots and tenths of a knot.

LL - intended track. When detailing the track it is necessary to give the latitude and longitude of each turning point as in CC, showing type of the intended track between the above points, e.g."RL" (rhumb line sailing), "GC" (great circle sailing) or "along coastal line" in case of coastwise navigation, expected date and time of passing through specific points as a 6-digit group as in "BB".

MM - full details of radio stations/frequencies being guarded.

NN - a group giving date and time as in "BB".

PP - type and quantity of cargo/bunker on board.

QQ - brief details of defects/damages/deficiencies. These must include the conditions of the ship and the ability to transfer cargo/fuel.

RR - brief details of pollution. These should include the type of oil or fuel discharged; estimate of their quantity; estimate of the movement of the slick; if possible, an estimate of the spill area surface. Position is given as in "CC" or "DD".

SS - brief details of the prevailing weather and sea condition.

TT - name, address, telex and telephone numbers of the ship's owner or representative (manager or operator of the ship, or their agents).

UU - details of length, breadth, draft and type of ship.

XX - additional information:

brief details of incident;

need for outside assistance, assistance which has been requested or provided by other ships,action being taken with regard to the discharge and movement of the ship;

number of crew and details of any injuries;

details of P&I Club and local correspondent;

other details.

2.2.4. After transmission of the initial report within the scope of the Table 1. 2.2.1 an additional report containing the information essential for the protection of the marine environment should be as soon as possible and so far as practicable transmitted. This information should include items PP; QQ; RR; SS; XX.

2.2.5. The Master of any ship engaged in assistance or rescue operation or requested to fulfil such operation should make a report containing, so far as practicable, items AA; BB; CC; EE; LL; MM; NN; PP; QQ; RR; SS; TT; UU; XX of the standard ship notification format. The Master should inform the Coastal State about the progress made in such an operation.

2.2.6 The report on a spill in a Russian port should include:

- ship name;
- ship position (berth, stay area);
- operations performed by the ship;
- date and time of spill detection;
- brief details of the polluted harbourage area (size of oil slick, sea and weather state);
- spill source;
- name and position of person who has made the report.

After the report has been made an entry should be made in the Ship's Log book to indicate text of the report and addresses of those whom it has been transmitted.

2.3. Whom to contact.

A ship being involved in an incident causing pollution or likelihood thereof should maintain contacts with the Coastal States or port, parties with an interest in the ship.

A list of contacts is given in Appendix 1.

The contacts should be maintained on a round-the-clock basis.

The Master of a vessel navigating the Nothern Sea Route shall be obliged to promptly inform an Administration Representative of any fact of pollutant discharge, as effected by that vessel or detected thereby.

Administration Representative(s) - the Head, Deputy Head, Chief State Inspectors, or State Inspectors of the Administration as well as officials of Marine Operations Headquarters and other persons authorized by the Administration to exercise specific functions within its competence. Navigation of vessels through the seaways of the Nothern Sea Route shall be organized and controlled by the following authorities:

(1) In the western part, up to the meridian 125 E - by the West Marine Operations Headquarters at the port of Dikson; and

(2) In the eastern part, E of the meridian 125 E - by the East Marine Operations Headquarters at the port of Pevek.

In case of severe accident the ship's crew will be wholly engaged in rescue operations and actions to minimize afteraffects of the accident. Therefore, when proceeding in a convoy, and when escorted by an icebreaker, reporting on the incident may be entrusted with the Master of another ship.

2.3.1. Coastal State contacts.

A contact with the Coastal State is begun with the initial report to be made as stated in 2.2.1 of this Plan.

In the absence of a listed local point in Appendix 1 or where the responsible authority mentioned in Appendix 1 cannot be contacted without delay the ship should contact the nearest coast radio station, designated ship movement reporting station or Rescue CoOrdination Centre by the quickest available means.

2.3.2. Port contacts.

While in port, contact will be made with a local point given in Appendix 1. Where an appropriate port contact address is not available in Appendix 1, details concerning local reporting procedures should be obtained upon arriving in the port.

2.3.3. Ship interest contacts.

Details of all those parties with an interest in the ship who should be advised in the event of an incident are listed in Appendix 1.

When dealing with emergency situations which necessitate transfer of oils, ballast etc. on board the ship consideration should be given to the effects produced by these transfers upon the overall stress and stability of the ship. If it is impossible to assess on board the ship the effects of such transfers upon the stress and stability of the ship the required information should be requested from the shipowner

SECTION 3. STEPS TO CONTROL DISCHARGE.

3.1. Operational oil spills.

To prevent the emergency operational oil spills requirements of the following ship's documents should be strictly adhered to:

- bunkering operations instructions (flow chart "Operations to be performed during bunkering");
- Manual for the prevention of pollution from ships.

The most likely emergency operational oil spill can occur during bunkering.

Should oil be spilt upon the deck during bunkering operations bunkers should be ceased and steps taken to eliminate the aftereffects by scooping the spillage into buckets, drums etc and cleaning it up using oil absorbing materials (sand, sawdust, rags pads of polypropilene).

No oil spilt upon the deck is allowed to be washed away to the sea. Care should be exercised that the oil soiled sand, sawdust, rags pads are not cast overboard. The sand should be disposed ashore. The sawdust, rugs and pads may be burnt up in incinerator.

Upon discovery of an oil slick in the vicinity of the ship the following measures should be implemented immediately:

- inform the responsible person of the port personnel (Appendix 1);
- make appropriate statement in the ship's logbook.
- if there is any reason to suggest that oil has been spilt into water due to any disturbances of the normal process of bunkering these operations should be immediately ceased. They may not be resumed until the causes of oil being spilt into water are removed and permission is obtained from the authorities empowered to give it. Information about the oil discharge should be transmitted to the responsible person of port personnel, owner, terminal master and ship agent.

3.1.1. Pipe leakage.

Upon discovery of a pipe leakage during bunkering operations:

ACTION TO BE TAKEN	RESPONSIBLE PERSON
- Sound emergency alarm with the kind of alarm and spillage location being indicated;	Officer on duty
- Cease loading of bunkers;	Engineer on duty
- Start the fire pump and prepare the foam smothering system for operation;	Engineer on duty
- Organize scooping of oil spilt upon the deck and take every measure to avoid oil discharge into the sea;	Engineer on duty
- Keep watch over the water surface and if an oil slick is detected alert the shore authority;	Officer on duty
- If oil has been spilt to the sea then to prevent it being spread over a large surface arrange, if the weather conditions permit it, containment of the oil slick with a synthetic rope, using the ship's boat;	Chief officer
- If oil spillage cannot be recovered by the ship's crew with the use of shipboard facilities request assistance of a surface skimmer;	Chief officer
- Assess the quantity of the oil spilt and size of the oil slick;	Officer on duty
- Should oil catche fire it will be handled under the ship's Fire Plan;	Chief engineer
- Record the composition and number of staff and equipment involved in dealing with the oil spill in harbour waters and the time spent;	Chief officer
- Make a relevant statement in the Ship's Log-book and Oil Record Book.	Chief officer Chief engineer

3.1.2. Tank overflow.

Should bunker tank overflow occur and oil has been spilt upon deck steps should be taken in accordance with the procedures set out in 3.1.1. of this Plan. Further steps should include transfer of excess oil from the overflowed tank to an empty or slack tank or to shore.

3.1.3. Hull leakage

If a hull leakage is detected in way of fuel oil tanks the following immediate measures should be taken:

- transfer oil from the affected tank into the empty or partially filled tank or discharge oil ashore or to other ship;
- pump out partially oil until its level drops below the lower edge of hull damage;
- pump out oil from the tanks arranged on the same side as the affected tank with the aim to produce list so that the affected hull portion can emerge;
- shut off pipelines connected with the affected tank;
- stop hull leakage.

When pumping out fuel oil from the affected tanks and when correcting hull cracks consideration must be given to the effect of such arrangements on hull stresses and ship stability.

ACTION TO BE TAKEN	RESPONSIBLE PERSON
- Sound emergency alarm, depending on the situation, slow down or stop the ship, record the draft, list and trim data at the moment the leakage has been detected;	Officer on duty Master
- Start the fire pump;	Engineer on duty
- Prepare the fuel oil transfer pump for operation;	Engineer on duty
- Locate the source of oil leakage. If leakage is slight the affected hull area will be identified by visual inspection since identifica tion by checking tank ullages is ineffective in this case;	Chief officer
- Shut off pipelines connected with the affected tank;	Engineer on duty
- Ascertain presence and amount of bunkers in the tanks;	Engineer on duty
- Prepare and submit to the Master heeling, trimming and righting schemes to emerge affected hull portion and schemes to transfer bunkers from the affected tanks;	Chief officer
- Pump out partially or transfer the bunkers from the affected tank;	Third engineer
- Stop hull leakage;	Chief officer
- Assess the amount of the spilt oil;	Chief officer
- Made statement in the Ship's Logbook and Oil Record Book	Chief officer Chief engineer

3.2. Spills resulting from casualities.

In all events of casualities the Master's first priority is to institute damage control taking all possible and appropriate measures to prevent or mitigate oil discharge to the sea.

3.2.1. Grounding.

If the ship runs aground the emergency alarm will be sounded and emergency response procedures initiated under the ship's Complex Bill.

If the hull is damaged in way of the bunker tanks then to prevent marine pollution the following steps should be taken in addition to those stipulated under the ship's Complex Bill:

ACTION TO BE TAKEN	RESPONSIBLE PERSON
- Start the fire pump and prepare the foam smothering system for operation;	Engineer on duty
- De-energize, whenever possible, the equipment in way of the hull damage;	Electrical officer
- Cut off the exhaust fans in engine room and accommodation;	Electrical officer
- Should oil alongside the ship catche fire it shall be handled under the ship's Fire Plan with the foam smothering means being used and oil pushed away from the ship's side by water jets emanated from the fire monitors;	Chief officer
- Obtain detailed information on the damage sustained in way of the bunker tanks through visual inspection and investigation; in doing so the ullage and sighting ports should be used with great care to avoid loss of buoyancy;	Chief officer
- Shut off the pipelines connected to the affected tanks;	Engineer on duty
- Consider the possibilities of transferring oil into the empty or slack tanks with due regard for the stability and hull stress. If the impact of oil transfer upon the stability and stress cannot be evaluated on board, a contact should be made with the owner to obtain information;	Chief officer Chief engineer
- Transfer oil from the damaged tank as ordered by the Command Centre (wheel house);	Engineer on duty
- In the absence of sufficient empty tanks on board to pump oil out of the damaged tank, request, if necessary, outside assistance and in this case it would be appropriate to transfer oil from ship to ship by (if necessary) the pumps of the damaged ship using power to be transmitted from the other ship.When transferring oil recommendations concerning bunkering operations should be followed;	
- Arrange sealing of the leak;	Chief officer Chief engineer
- When the ship is in an oilfield, seawater intake to cool machinery and to supply fire pumps should be switched over to the bottom sea valves, with consideration being given to relative positions of the sea valves and touch positions;	Engineer on duty
- Make statement in the Ship's Logbook and Oil Record Book.	Chief officer Chief engineer

3.2.2. Fire/explosion.

It fire or an explosion occurs on board the emergency alarm will be sounded and the crew initiate emergency response procedures under the ship's Fire Plan.

If the oil spilt alongside the ship catches fire the foam smothering means should be used while the oil slick should be pushed away by water jets emanated from the fire monitors.

3.2.3. Collision.

If the ship should be involved in a collision with another ship the emergency alarm should be sounded and the crew initiate emergency response procedures under the ship's Collision Bill. If collision has resulted in hull failure in the bunker tanks area then to reduce damage due to marine pollution action should be taken as stated in 3.2.4.

3.2.4. Hull failure.

If the ship suffers a structural hull failure the emergency alarm should be sounded and the crew initiate emergency response procedures under the ship's Complex Bill. In the event of hull failure in the bunker tanks area the following steps should be taken to minimize the damage from marine pollution:

ACTION TO BE TAKEN	RESPONSIBLE PERSON
- Start the fire pump and prepare the foam smothering system for operation;	Engineer on duty
- De-energize, whenever possible, the equipment in way of damage;	Electrical officer
- If oil spilt alongside catches fire it will be handled under the ship's Fire Plan, using the foam smothering means and pushing away the oil slick by water jets emanated from the fire monitors;	
- Obtain detailed information about the sustained hull damages in the cargo oil tank area by visual inspection and investigation;	Chief officer
- Shut off the pipelines connected to the damaged tank;	Engineer on duty
- Transmit an accidental oil spill message in accordance with Section 2 of this Plan;	Chief officer
- When the ship comes to be in the oil field she should be maneuvered away from the spill area in conformity with the wind and current direction, positioning the damaged side to leeward;	Master
- Shift the ship to a more convenient place to perform repair and lightening operations as well as to lessen the pollution threat to any particularly susceptible coastal areas. Such maneuver should be agreed to with the Coastal State Administration, if required;	Master
- Consider the possibilities of transferring oil from the damaged tanks into empty or slack tanks with due regard for the stability and hull stress. If the impact of oil transfer upon stability and stress cannot be evaluated on board contact should be made with the owner to obtain information;	Chief officer Chief engineer
- Pump oil from the damaged tanks as ordered by the Command Centre;	Engineer on duty
- In the absence of sufficient empty tanks on board request, if necessary, outside assistance. When transferring oil, recommendations concerning bunkering operations should be followed;	Chief officer Chief engineer
- Arrange sealing of the leak;	
- When the ship is in an oilfield, seawater intake to cool the machinery and supply the duty fire pumps should be switched over to the bottom sea valves;	Do Engineer on duty
- Made statement in the Ship's Logbook and Oil Record Book;	Chief officer Chief engineer

3.2.5. Excessive list.

An excessive list may constitute a threat of oil discharge onto the deck via the air pipes. To prevent marine pollution the following steps should be taken:

- plug the scuppers on the deck to which oil is likely to be discharged;
- transfer partially oil from the tanks on the listed side to the opposite side;

- if oil has been discharged onto the deck it should be scooped into buckets, drums etc or removed with the use of oil absorbing materials (sand, sawdust, rugs). Oil should not be washed away to the sea. No soiled materials may be cast overboard.

SECTION 4. NATIONAL AND LOCAL CO-ORDINATION.

Co-ordination between the ship and Coastal State is vital in mitigating the effects of an incident. Contact with the Coastal State will begin with the initial notification about the incident. Furthermore, efforts at mitigation should be undertaken by the ship's crew in co-ordination with the Coastal State's Administration in particular when the Coastal State should authorize such efforts. Such efforts will include:

- use of sorbents and detergents to mitigate the effects of oil spill;
- shift of the ship to a more convenient place to perform repair work and lightening operations as well as to lessen the pollution threat to any, particularly susceptible, coastal areas;
- lightening of oil to other ships etc;

Some States have agencies which assume responsibility for immediate response whenever an overboard discharge occurs and afterwards make out invoice for payment of the expenses. In other States the responsibility for the initial response action is placed on the Shipowner.

In the event of an oil spill occurred in port the Master should inform immediately the Port Authorities.

On arrival in a port the Port Authorities or agent should inform the Master on the procedure of reporting, numbers of contact telephones, procedures for involving special personnel and shore-based means.

The Master should give to the Port Authority all details required to investigate the pollution incident and render any requested assistance to prevent or overcome the effects of pollution unless such assistance disagrees with the port rules and can deteriorate the situation for the ship and her crew.

When navigating through the seaways of the Northern Sea Route Coordination of the vessel actions with the Administration of the Northern Sea Route should be provided having regard to 5.2 and 5.3, Section 5 of this Plan.

In cases where unfavorable ice, navigational, hydrographic, weather, and other conditions occur that might endanger a vessel, or where there is a threat of polluting marine environment or the Northern Coast, an Administration Representative may carry out an inspection of the vessel while it navigates the Northern Sea Route.

In cases where there is a threat of polluting marine environment or the Northern Coast, inspections of vessels may be also carried out by representatives of other Russia State Bodies authorized to do so.

At the discretion of the Administration Representative, inspections may include examination of documents certifying that the vessel complies with special requirements and cargo documents and, depending upon the particular circumstances, direct examination of the vessel's condition, her equipment, facilities, technical navigational instruments, and readiness and ability to fulfil requirements concerning prevention of marine pollution.

The Master of the vessel shall be obliged to render necessary assistance to the Administration Representative in order to ensure that examinations shall be completed in the most comprehensive and prompt way.

SECTION 5. ADDITIONAL INFORMATION.

5.1. List of Ship's Operation Papers (Reference).

NAME	LOCATION
- Complex Bill	Primary Control Station
- Bunkers Loading and Transferring Diagram, Description and Service Manual	Chief Engineer's Office
- Bunkering Operations Flow Chart	Chief Engineer's Office
- Ship's Instructions for Bunkering Operations	Chief Engineer's Office
- Air and Sounding Piping Diagram	Chief Engineer's Office
- Tankage Tables	Chief Officer's and Chief Engineer's Office
- Ballast and Bilge System Diagram, Description and Service Manual	Chief Engineer's Office
- Manual for the Prevention of Pollution from ships	Chief Engineer's Office

5.2. Preparation of a ship for navigation in ice.

5.2.1. The Shipowner or Master who intends to transit through the Northern Sea Route is to forward a notification to the NSR Administration (Marine Operations Headquarters) and an application for proceeding along the Northern Sea Route.

The Administration (Marine Operations Headquarters) is to examine the application and inform the Applicant about the possibilities of proceeding and other circumstances which have to be considered by the Shipowner or Master.

5.2.2. To be capable to sail along the Northrn Sea Route the ship should comply with specific requirements while the the Master shall have experience in ship handling in ice. In cases where such experience is lacking or at the request of the Master, the Administration (Marine Operations Headquarters) may delegate a State Pilot to the ship to render assistance in guiding the ship through the Northern Sea Route.

5.2.3. Ships having on board no proper financial security for civil responsibility of the Shipowner for the damage caused by pollution of marine environment and the Northern Coast of Russia are not permitted to sail along the Northern Sea Route.

5.2.4. It is advisable to have on board a set of oil spill control equipment including sorbents, light slick bars, protective clothing, sand, sawdust, rags etc.

5.2.5. For each ship or a group of ships proceeding in a convoy it is advisable to have a portable pump and a set of hoses for use in cases where oil is urgently transferred from the damaged tanks.

5.2.6. For a group of ships proceeding in a convoy it is advisable to have collapsible flexible receptacles to receive oil from the damaged tank.

5.2.7. Before the ship enters an ice field all the openings and manholes in the after and fore peaks, double bottom, fuel oil and cargo tanks should be securely closed while the securing devices on the watertight doors and side scuttles should be tightened up.

All the watertight compartments should be kept closed throughout the entire period when the ship is in the ice. Since in case where the ship hull sustains damage the watertight closed compartments can retain its buoyancy, prevent or minimize oil spill.

5.2.8. Before the ship enters ice field it is advisable, where possible, to transfer fuel oil from the fore tanks susceptible more often to damage during navigation in ice, into the fuel oil tanks ships or aft.

5.2.9. Prior to navigation in ice it is advisable to carry out drills for sealing possible leaks and stopping oil discharge to the sea.

5.3. Navigation in ice.

5.3.1. Ships proceed through the Arctic Sea routes within navigation period whose initial and ending date is to be specified by the Administration and Marine Operations Headquarters based on the predicted and actual ice, navigation, hydrographical, meteorological and other conditions.

5.3.2. The Master of a ship proceeding through the Northern Sea Route must follow the instructions of the Marine Operations Headquarters shall relative to ship's route and updating thereof due to changes in ice conditions and occurrence of any circumstances which can adversely affect the safety of navigation or endanger the ecological environment.

5.3.3. From considerations of maritime safety and with the aim to provide the most favorable navigational conditions the Marine Operations Headquarters establish one or another type of ship proceedings, as may be required including:

a) proceeding to a specified geographical point on recommended courses;

b) aeroplane or helicopter-guided proceeding;

c) pilotage;

d) icebreaker escorting;

e) icebreaker escorting pilotage.

The Marine Operations Headquarters have the right to substitute one type of proceeding by another.

5.3.4. In the Vilkitsky, Shocalsky, Dmitry Laptev and Sannikov Straits, in view of a complex navigational and ice situation and in order to ensure maritime safety, mandatory icebreaking escorting -pilotage of ships is established.

5.3.5. The Master of a ship proceeding along the Northern Sea Route must maintain communication with radio centre of the relevant Sea Operations Headquarters, depending on geographical position of the ship.

5.3.6. Proceeding of ships shall to be arranged and provided by the Administration through the Marine Operations Headquarters.

5.3.7. Proceeding of ships along the Arctic Sea routes are arranged and provided:

a) in the western area to the meredian of 125 E by the Marine Operations Headquarters residing in the port of Dudinka (radiotelegraph address: "Dikson HM").

b) in the eastern area to the meredian of 125 E by the Marine Operations Headquarters residing in the port Pevek (radiotelegraph address: "Pevek HM").

5.3.8. The Marine Operations Headquarters (Administration) undertake to provide the ships with navigational informations, ship guidance and salvage services.

5.3.9. The Administration and Marine Operations Headquarters are not responsible for damage to the ship or property thereon caused by proceeding under ice conditions unless it was proved that the damage was inflicted through their fault.

5.3.10. The ship may enter and proceed through the ice subject to permission by the Captain of that port in which zone the ship is found or Ice Operation Officer in the ship's

sailing area. When proceeding through the Northern Sea Route and adjoining areas the Masters are in no way allowed to enter the ice without permission given by the Ice Operation Officer.

5.3.11. In the absence of conditions to ensure safe entry of a ship and especially a loaded oil tanker into the ice edge (particularly in stormy weather) from the open sea no entry into the ice is allowed and the Master must wait for improvement of the situation getting off to a safe distance and notifying at the same time the Port Captain or Ice Operations Officer.

5.3.12. Before approaching the ice edge it is necessary to reduce ship speed to "dead slow ". The speed of proceeding through the ice is to be selected with due regard for the hull strength, nature of cargo, and ice condition, in order to avoid loss of the hull tightness with resulting outflow of oil to the sea.

5.3.13. When entering the ice in case of inevitable collision with big ice floes, the ship should be placed in a direction where the impact of the ice flow is taken up by the stem which is the strongest part of the hull, rather then by the bilge where a deeptank filled with fuel oil is usually arranged.

5.3.14. A ship proceeding through the ice has to avoid sharp turns where the fore and afterbody of the hull usually accommodating fuel oil tanks can strike dangerously at the ice floes.

5.3.15. When a ship forces its way through the ice an eye shall be continuously taken on the oil level in cargo and fuel oil tanks.

At the same time the sea surface alongside and in the wake must be monitored. A leak developing in the hull can be detected from oil traces appearing on the water surface outboard. If the oil level in the damaged tank is below the sea water level the leak can be detected from rising of the oil level in this tank.

5.3.16. When the ice gives the first indications of compacting the Master should take every measure in order not to remain amidst compact ice fields or in way of grounded hummoks where the hull is more liable to be crushed than when amidst broken ice. When a ship is under threat of damage to the hull in way of oilfilled cargo tanks , every possible measure shall be taken to avoid oil spillage.

5.4. After the Plan has been used in an emergency situation the Ship's Administration and Shipowner should evaluate its efficiency and adjust the Plan accordingly.

Every member of the ship's crew should be familiar with the contents of this Plan. Provision should be made for regular exercises on actions to be taken by the crew in emergency situations. Such exercises may be combined with other training conducted on board .

5.5. Re-approval of the Plan is required in the following cases:

- when the sailing area of the ship has been changed;
- when the ship's characteristics which exert on appreciable effect on the contents of this Plan have been changed. For example, when the tanks or pipe lines have been modified:
- when the ship's response procedure in emergency situations has been changed;
- when other changes which exert appreciable effect on the feasibility of this Plan have been made;
- upon expiration of the validity of approval;
- at the request of the Register if a need is identified to adjust the Plan.

When the details of the contact addresses, telephone, fax and telex numbers have been changed no approval of the Plan is required.

5.6. In addition to the "Standards of supply of inventory and tools"it is recommended to have on board pads, rolls and booms made of polypropylene for use in pollution control operations in emergency situations.

RECORD OF REVIEW AND CHANGES

CHANGE No	DATE	PAGES AFFECTED	

Appendix a

1. Contact information to transmit initial notification in compliance with 2.2.1 of this Plan when the ship operates on the waterway of NSR.

RUSSIAN FEDERATION

Marine Pollution Control and	Tel: +7 095 926 9474/9302/9455
Salvage Administration (MPCSA)	Fax: +7 095 926 9038
1/4 Rozhdestvenka	Tlx: 411197 MORFLOT SU
Moscow, 103759	Language(s) understood: RUSSIAN/ENGLISH

THE MASTERS OF VESSELS SHOULD COMMUNICATE WITH THE FOLLOWING STATE BODIES WHICH OPERATE 24 HOURS

1. State Maritime Rescue Co-ordination Centre	Tel: +7 095 926 10 55 Fax: +7 095 926 10 52 Tlx: 411 197
2. MRCC Murmansk	Tel: +7 815 00 5 50 65 Fax: +7 815 00 2 21 32 Tlx: 126 121 mrf su
3. MRCC Arkhangelsk	Tel: +7 818 00 47100/39968 Fax: +7 818 00 3 83 10 Tlx: 242 111 mrf su
4. MRCC Tiksi	Tel: 2 63 78 Fax: 2 26 35 Tlx: 141 147 buhta su

2. Contact information to inform the marine Operations Headquarters.

Dikson	Call signal "Dikson-radio-2" on channel 16, 24 hr Satellite-communications stations Nos. 1402724, 1402723 and answer-back units MMPI (INMARSAT), 1401514 MMPA (Horizont)
Pevek	Call signal "Pevek-radio-19" on channel 16, 24 hr Satellite-communications stations No.1400343 DUMV and answer-back unit 1402645 DUMC (INMARSAT)

3. Contact information in the ports of NSR.

Murmansk, Captain of the port	tel. 525 565
Harbour captain	tel. 525 177
Hatanga, Port dispatcher	radio RGXS
Pevek, Captain of the port	tel. 22 525
Tiksi, Port dispatcher	tel. 21 119
Dikson, Captain of the port	tel. 4723 tlx. 28853 PORT

4. Contact information to contact coastal states in other areas in compliance with MEPC/Circ. 283 of 24.08.94.

Appendix b

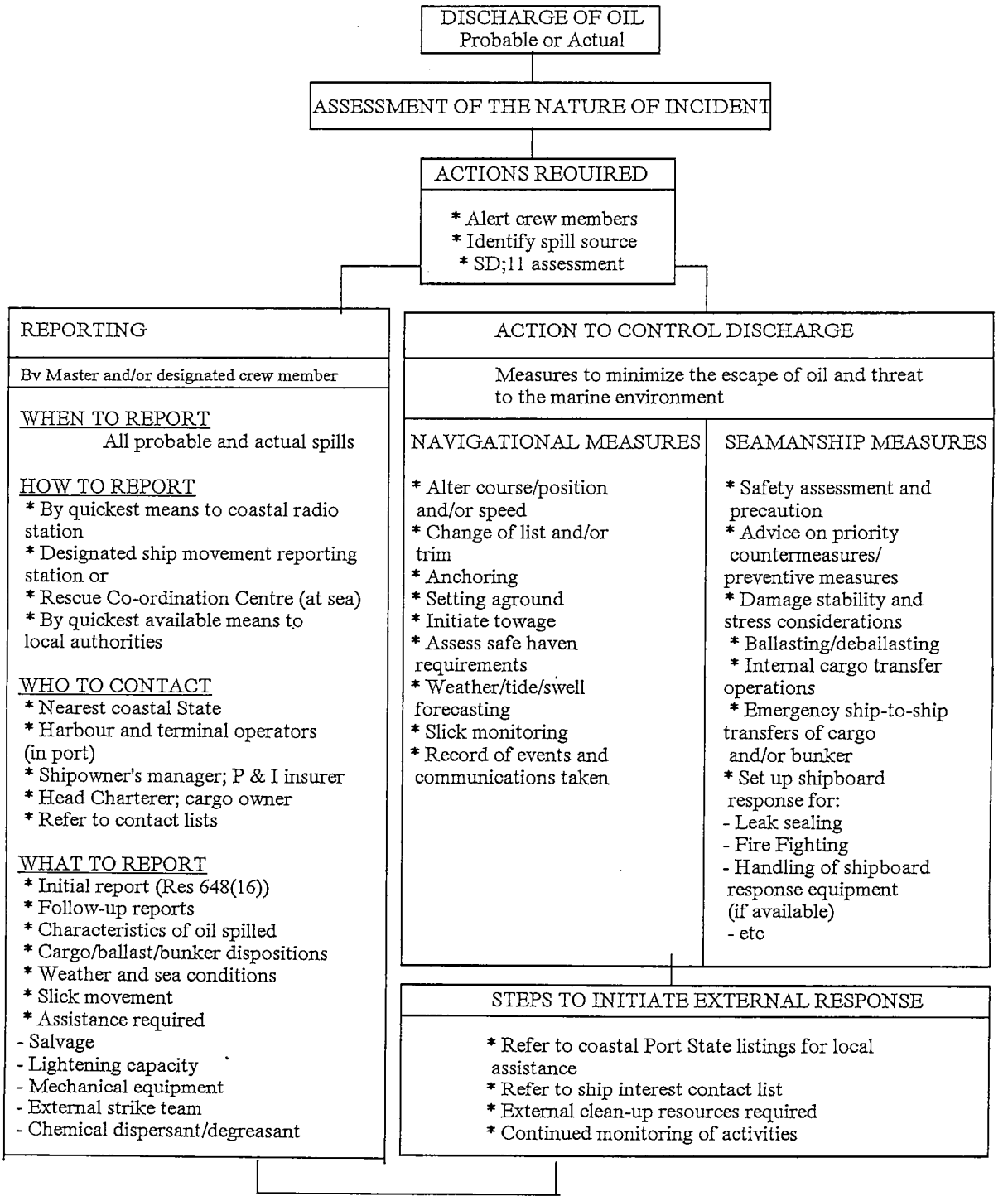
List of necessary diagrams

This Appendix should contain the following diagrams drawn for specific ship.
1. Fuel oil, lubrication oil, sludge and oily water tanks layot.
2. Tanks capacity tables.
3. Fuel oil receipt and transfer diagrams.

Appendix c

SHIPBOARD OIL POLLUTION EMERGENCY PLAN - SUMMARY FLOWCHART

This flow diagram is an outline of the course of action that shipboard personnel should follow in responding to an oil pollution emergency based on the guidelines published by the Organization. This diagram is not exhaustive and should not be used as a sole reference in response. Consideration should be given for inclusion of specific references to the Plan. The steps are designed to assist ship personnel in actions to stop or minimize the discharge of oil and mitigate its effects. These steps fall into two main categories - reporting and action.



Appendix A

Review and Comment
on INSROP Report

August 1994

II.6.4 NSR Shipboard Oil Pollution Plan_0

The authors are to be congratulated for the production of a report, which seems to be in line with the scope outlined in the INSROP PROJECT CATALOGUE 1993.

Chapter 2, covering the survey of ships, is very brief. A table summarising the findings should be included. Also the results of the examination of the peculiarities of ship operation in the high latitudes should be presented.

A summary of the results from the examination of regulations and instructions mentioned in chapter 3 should be included.

Chapter 4 is a comprehensive list of factors to consider when preparing the SOPEP.

Reviewer: Kimmo Juurma

Appendix B

November 1994

II.6.4 NSR Shipboard Oil Pollution Plan

Thank you very much for the comments on II.6.4 NSR Shipboard Oil Pollution Plan.

Your comments have been duly noted and covered by the Annual 1993 INSROP Working Paper.

Regards

V.Somkin

Appendix C

Comments on Project II.6.4: NSR Shipboard Oil Pollution Emergency Plan

Review and Comment
on INSROP Report: April 1996

II.6.4: NSR Shipboard Oil Pollution Emergency Plan.

The comprehensive survey of NSR ships might be expected to yield more information than presented in the report. For example, what clean-up equipment or pollution prevention measures do the NSR ships have currently on-board.

The IMO Guidelines for SOPEP's is followed without deviation, except for the special measures for Arctic ice navigation detailed in section 5. Certain aspects regarding on-deck clean-up and prevention of spills overboard, as pointed out by ship's crew during the survey were not followed up in the proposed NSR SOPEP.

The list of contacts is very valuable, and informative, and clear.

The authors have provided a practical template to prepare the basic SOPEP for NSR transits.

Reviewer:
V.M. Santos-Pedro

Appendix D

Comments on INSROP's Reviewes

II.6.4: NSR Shipboard Oil Pollution Emergency Plan

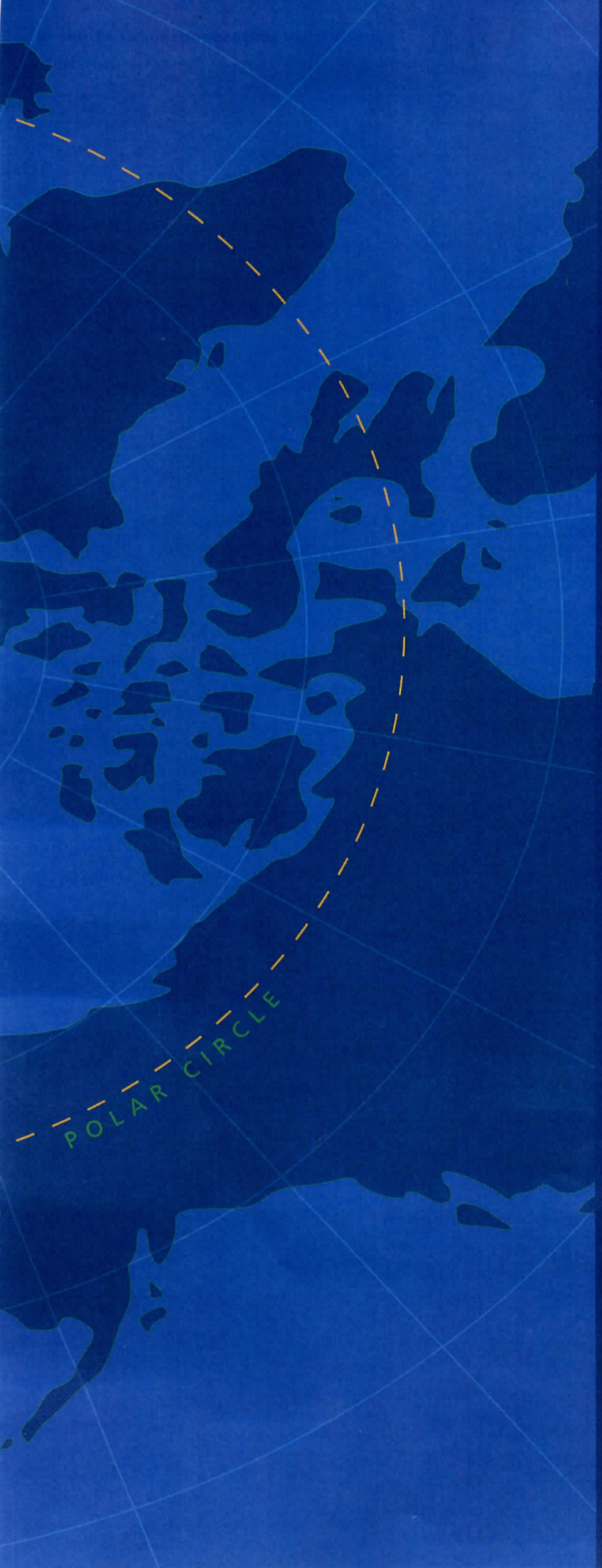
Comments of supervisor of project II.6.4 "NSR Shipboard Oil Pollution Emergency Plan"

The reports of II.6.4 are updated according to the comments of reviewer.

The shipboard materials and equipment for oil spill combating are inserted in chapter 2, part I report.

The recommendation for using of polypropylene is incorporated in section 3.1 and 5.6 of appendix IV of the report. The complex of oil spill combating equipment and technique will be developed in future.

Supervisor of the project II.6.4
V.Somkin



The three main cooperating institutions of INSROP

Ship & Ocean Foundation (SOF), Tokyo, Japan.

SOF was established in 1975 as a non-profit organization to advance modernization and rationalization of Japan's shipbuilding and related industries, and to give assistance to non-profit organizations associated with these industries. SOF is provided with operation funds by the Sasakawa Foundation, the world's largest foundation operated with revenue from motorboat racing. An integral part of SOF, the Tsukuba Institute, carries out experimental research into ocean environment protection and ocean development.

Central Marine Research & Design Institute (CNIIMF), St. Petersburg, Russia.

CNIIMF was founded in 1929. The institute's research focus is applied and technological with four main goals: the improvment of merchant fleet efficiency; shipping safety; technical development of the merchant fleet; and design support for future fleet development. CNIIMF was a Russian state institution up to 1993, when it was converted into a stock-holding company.

The Fridtjof Nansen Institute (FNI), Lysaker, Norway.

FNI was founded in 1958 and is based at Polhøgda, the home of Fridtjof Nansen, famous Norwegian polar explorer, scientist, humanist and statesman. The institute spesializes in applied social science research, with special focus on international resource and environmental management. In addition to INSROP, the research is organized in six integrated programmes. Typical of FNI research is a multi-disciplinary approach, entailing extensive cooperation with other research institutions both at home and abroad. The INSROP Secretariat is located at FNI.