



Pêches et Océans
Canada

Fisheries and Oceans
Canada

Garde côtière
canadienne

Canadian
Coast Guard



RADIO AIDS TO MARINE NAVIGATION (Pacific and Western Arctic)

CANADIAN COAST GUARD

Marine Communications and Traffic Services

Annual Edition 2010

IMPORTANT

*This publication is revised on a monthly basis (when required)
through Notices to Mariners, Section 3*





TO ALL USERS OF THIS PUBLICATION

NOTICE: RAMN Website: http://www.ccg-gcc.gc.ca/eng/CCG/MCTS_Radio_Aids

IMPORTANT: THIS PUBLICATION IS REVISED MONTHLY (WHEN REQUIRED) BY THE NOTICES TO MARINERS, SECTION 3. Website: <http://www.notmar.gc.ca/go.php?doc=eng/index>

YOUR COMMENTS ON THE CONTENTS AND YOUR SUGGESTIONS AS TO HOW THE FORMAT OF THIS PUBLICATION COULD BE IMPROVED TO MAKE THE BOOK MORE USEFUL WOULD BE WELCOMED.

PLEASE FORWARD YOUR COMMENTS BY ONE OF THE FOLLOWING METHODS:

E-MAIL ADDRESS: MCTSCTMOTTAWA@DFO-MPO.GC.CA

FACSIMILE NUMBER: 613-996-8902

MAILING ADDRESS: MANAGER
MARINE COMMUNICATIONS AND TRAFFIC SERVICES (MCTS)
CANADIAN COAST GUARD
FISHERIES AND OCEANS CANADA
200 KENT STREET, 5th FLOOR, STATION S041
OTTAWA, ON K1A 0E6
CANADA

Note: Cette publication est aussi disponible en français

This publication is available from authorized Canadian Hydrographic Service (CHS) Chart Dealers. For a complete list of authorized dealers visit <http://www.charts.gc.ca> or e-mail us at chs_sales@dfo-mpo.gc.ca. Alternatively, please contact the CHS Chart Distribution office:

**Canadian Hydrographic Service
Client Services
615 Booth Street, Room 322
Ottawa, ON K1A 0E6
Canada**

**Telephone: 613-998-4931
Facsimile: 613-998-1217
E-mail: chs_sales@dfo-mpo.gc.ca**

or visit the CHS Website at:

<http://www.charts.gc.ca>
for dealer location and related information

Some Vessel Traffic Services diagrams reproduced from Admiralty List of Radio Signals Volume 6 by permission of the Controller of Her Majesty's Stationery Office and the UK Hydrographic Office (www.ukho.gov.uk). These VTS diagrams are for the sole purpose of inclusion in RAMN and no further copying, selling or distributing of the copyright material, or any part of it, is permitted.

The UK Hydrographic Office makes the accompanying data available to Canadian Coast Guard Marine Communication & Traffic Services under the terms of Permission Agreement HO829/091202/07.

© British Crown Copyright 2009. All rights reserved.

NOT TO BE USED FOR NAVIGATION

The data is supplied under the conditions shown below.

CONDITIONS OF RELEASE

The supplied material is protected by Crown Copyright. No part of the supplied material may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise except as required to fulfill the purpose above. The copyright material, its derivatives and its outputs may not be sold or distributed or commercially exploited in either an original or derived form without the prior written permission of the UK Hydrographic Office. For the avoidance of doubt, the Recipient shall not place or permit to be placed the supplied material, its derivatives and its outputs on a computer accessible to Third Parties whether via the Internet or otherwise. The release of the supplied material in no way implies that the UK Hydrographic Office will supply further material or offer an extension to this licence agreement.

DISCLAIMER

Whilst the UK Hydrographic Office has endeavoured to ensure that the material supplied is suitable for the purpose, it accepts no liability (to the maximum extent permitted by law) for any damage or loss of any nature arising from its use. The material supplied is used entirely at the Recipient's own risk.

Latitude and longitude positions given in this publication are in NAD 83 unless otherwise indicated.

©Minister of Fisheries and Oceans Canada 2010
Published by the Canadian Hydrographic Service
Catalogue No. Fs151-8/2010E
ISBN 978-0-660-19951-1
Ottawa, Canada

**THIS ISSUE HAS BEEN REVISED TO JANUARY 1, 2010
AND CANCELS AND REPLACES ALL PREVIOUS ISSUES**

Any inquiries as to the contents of this publication or reports of errors or omissions should be directed to the nearest regional office as indicated at the end of Part 1 of this publication.

The information in this volume is grouped in six parts:

1.	Foreword (includes Advance Notices, Legend, Frequencies listing and MCTS telephone and address information)
2.	Pacific Coast, Western Arctic (including Athabasca-Mackenzie Watershed)
3.	Vessel Traffic Services
4.	General
5.	Environment Canada
6.	Loran-C Navigation System

Part 1 provides mariners with advance information on proposed changes to Fisheries and Oceans Canada, Canadian Coast Guard, Marine Communications and Traffic Services (MCTS) centres. In addition, it includes the Canadian Maritime Mobile Safety and Public Correspondence Communication Frequencies, a Legend for centre listings and the telephone/facsimile/telex directory of MCTS centres along with the Regional offices' addresses.

Part 2 lists, in tabular form, detailed operational information about individual facilities in each of the areas covered. Marine Communications and Traffic Services centres are providing continuous year round communications and special services except as noted.

Part 3 provides consolidated information concerning Vessel Traffic Services.

Part 4 gives descriptions of the various Procedures, Services and Systems available, together with general observations or directions for their use. This section also refers to radiotelephone procedures for the benefit of vessels equipped with radiotelephone but not carrying radio operators. The proper use of radio frequencies and procedures is essential to minimize congestion and delays on the channels available for communication.

Part 5 provides all relative information concerning Environment Canada's services in marine meteorology that are delivered by the Canadian Coast Guard.

Part 6 provides information, figures, tables and chartlets on the Loran-C Navigation System.

The main purpose of this publication is to present information in a convenient form on radio communications and radio navigational aids services provided in Canada by Fisheries and Oceans Canada. Also included are radio facilities of other government agencies that contribute to the safety of ships in Canadian waters.

It is published in two volumes: one for the Atlantic Coast, Gulf and St. Lawrence River to Montreal, Eastern Arctic (including Hudson Bay and Strait) the Great Lakes (including St. Lawrence River to Montreal) and Lake Winnipeg; the other for the Pacific Coast, Western Arctic and the Athabasca-Mackenzie Watershed area. Both editions are also available in French.

Issues are published in April each year. Amendments to the publication, if necessary between issues, will be made known by radio broadcasts (Notices to Shipping) and/or in Section 3 of the monthly edition of "Notices to Mariners".

Every ship station fitted on a Canadian ship or on a non-Canadian ship engaged in the coasting trade of Canada, pursuant to the *Ship Station (Radio) Regulations 1999*, and all ships in waters under Canadian Jurisdiction, pursuant to the *Charts and Nautical Publications Regulations, 1995*, are required to carry the most recent applicable edition of Radio Aids to Marine Navigation.

TABLE OF CONTENTS

	PAGE
PART 1 – FOREWORD	
Advance Notices	1-1
Canadian Maritime Mobile Safety and Public Correspondence Communication Frequencies	1-4
General Information on MCTS Centre Listings (includes legend)	1-6
Telephone, Address and other Information	1-7
PART 2 – FACILITIES INFORMATION – Pacific, Western Arctic and Athabasca & Mackenzie Basin	
<u>MCTS Centres</u>	
Comox	2-1
Inuvik	2-4
Prince Rupert	2-7
Tofino	2-13
Vancouver	2-18
Victoria	2-20
Bridge Operations – Pacific Coast	2-23
MCTS Network: Centres and Sites – Pacific Coast – Pacific region (chart)	2-24
MCTS Network: Centres and Sites – Western Arctic – Central & Arctic region (chart)	2-25
Radio Beacon Stations – continuously operating – Pacific Coast	2-26
Radar Beacon (RACONS) – Pacific Coast – B.C. (excluding Juan de Fuca)	2-26
Radar Beacon (RACONS) – Western Arctic – NWT and Nunavut	2-28
PART 3 – VESSEL TRAFFIC SERVICES (VTS)	
Pacific and Western Arctic (Responsibilities; Traffic Clearance; Communications; Zone Descriptions; Zone Application; Advance Reporting Requirements; NORDREG zone report)	3-1
Ice Advisory Service	3-9
Mackenzie River Marine Safety Advisory Procedures	3-10
Canada/USA Co-operative VTS Agreement	3-11
Tanker Exclusion Zone	3-12
Canada/USA Co-Operative VTS (VTS) (chart)	3-15
➔ Northern Canada Vessel Traffic Services (NORDREG) Zone (chart)	3-17
<u>VTS Zones Schedules</u> - Sectors & Boundaries; Identification & Frequencies; CIPs; Charts	
Prince Rupert	3-17
Tofino	3-23
Vancouver	3-26

PART 4 - GENERAL

PROCEDURES

Radiotelephone Procedures (General; Examples of procedures; How are you using your marine radio?; Phonetic Alphabet; Times; Time Zone Comparison; Time signals)	4-1
Distress Communications (Early Notification of Search and Rescue Authorities of developing situations; Alarm Signal; Distress Signal/Call/Message/Traffic/Procedure)	4-4
Urgency Communications (Urgency signal/call)	4-7
Safety Communications (Safety signal/call/message)	4-8
Athabasca – Mackenzie Watershed Area (Distress, Urgency, Safety Communications – Use of 5803 kHz)	4-9
Aids to Navigation (Positions; Reporting abnormal operation of radio aids; Radio beacons; Radar beacons (RACONS))	4-9

SYSTEMS

GMDSS – Global Maritime Distress and Safety System in Canada (charts) (What is and Why GMDSS?; Maritime Safety Information (MSI); GMDSS Sea Areas, Communications between GMDSS vessels and Non-GMDSS vessels; Safety Notice on VHF/DSC; CCG MCTS Centres; Navtex Services)	4-10
Long-Range Identification and Tracking of Vessels Regulations	4-12
VHF-DSC System – Radio Coverage Prediction (chart)	4-18
Transport Canada’s Requirements for GMDSS & Guidance on important operational alerting procedures	4-19
Emergency Position Indicating Radio Beacon (406 MHZ and INMARSAT “E” EPIRBs)	4-19
Guidance for Masters in Distress Situations and Alerting of SAR Authorities	4-21
Amver – Automated Mutual-assistance Vessel Rescue system	4-31
Differential Global Positioning System (DGPS) (table & chart)	4-37
Pre-Arrival Information Report (PAIR)	4-39

SERVICES

Notices to Shipping	4-41
Worldwide Radio Navigational Warning System (NAVAREA) (chart)	4-42
Cellular Telephone (*16) Service – Marine Emergencies	4-45
Direction Finding (VHF/DF) Service (Direction Finding bearings)	4-45
Sail Plan Service	4-45
Search and Rescue in Canadian areas of responsibility (Joint Rescue Coordination Centres (JRCC) telephone numbers; Canadian Coast Guard Auxiliary)	4-46
Marine Communications and Traffic Services Message Service (Message charges; Messages: weather, pollution, medical advice, quarantine, pilotage, official naval)	4-47
Ice Advisory Service	4-49
Canadian Hydrographic Service	4-49
Inspection of Radio Apparatus (Ship radio inspection contacts)	4-50
Radio Station Licensing and Maritime Mobile Service Identity (MMSI) Numbers	4-52
Application for Radio Inspection of a Compulsorily Fitted Vessel	4-53
Marine Telephone Service (General, Radiomedical calls, Placing & Receiving a marine telephone call)	4-54

PART 5 – ENVIRONMENT CANADA MARINE AND ICE WARNING AND FORECAST PROGRAMS	
Background	5-1
Buoys Program	5-4
Port Meteorological Officers (PMOs)	5-4
NAVTEX (example of Navtex message; abbreviation used by MSC)	5-6
Suggestions/Comments	5-10
Pacific Coast (Marine weather forecast program; Production schedule; Marine weather warnings; Weather bulletins; Buoy positions; Weatheradio Canada)	5-11
Marine Forecast Areas – Pacific waters (chart) (Marine Forecast; Marine Weather Observations)	5-12
Northern Canada (Marine weather forecast program; Production schedule; Marine weather warnings; Weather and ice messages; Radiofacsimile package available; Buoys; Weatheradio Canada)	5-14
Marine Forecast Areas – Northern Canada (chart) (Marine Forecast; Marine Weather Observations)	5-17
Canadian Ice Services (CIS) (Ice Bulletins; Production schedule; Ice warning criteria; Ice forecast program; Ice reports; Ice charts available; Ice beacons; Weatheradio Canada)	5-20
Ice Areas Canada (chart) (Ice charts; Atlantic Fleet Broadcasts; Facsimile broadcast)	5-21
PART 6 – LORAN-C NAVIGATION SYSTEM	
Loran-C description (Loran-C chain coverage; Chain details; Receiver latitude/longitude corrections; Cautionary note, Waypoint navigation; Status information; NOTSHIPS)	6-1
Table 1 – Gulf of Alaska	6-3
Table 2 – Canadian West Coast	6-3
Table 3 – U.S. West Coast	6-4
Table 4 – North Central U.S.	6-4
Loran-C Coordinate Converters	6-5
Loran-C Charts	6-7

RECORD OF CORRECTIONS TO RADIO AIDS TO MARINE NAVIGATION FROM MONTHLY NOTICES TO MARINERS (SECTION 3)

[illegible]

PART 1

FOREWORD

ADVANCE NOTICES

In order that mariners may have advance knowledge of proposed changes to existing facilities to be provided, additions, deletions and changes to such facilities under the jurisdiction of the Fisheries and Oceans Canada are listed hereunder. Effective dates of changes and dates for the commissioning of new facilities are, however, extremely hard to forecast owing to difficulties in obtaining materials and subject to provision of necessary funds. Every effort will be made to amend dates as far in advance as possible. In every case of changes to facilities and commissioning new facilities, an appropriate Notice to Mariners will be issued.

1) *Announcement regarding Loran-C Service*

On January 7, 2010, the United States Coast Guard (USCG) announced that termination of the U.S. Loran-C signal and phased decommissioning of the U.S. Loran-C infrastructure will commence on February 8, 2010. All U.S. Loran-C stations are expected to cease transmitting by October 1, 2010.

The Loran-C systems in Canada and U.S. work in tandem. Once the U.S. service is discontinued, the Canadian system will not be operational. Consequently, Canada will also decommission its Loran-C system in 2010. The official date for termination in Canada has not been set at this time although it is expected to take place on or before October 1, 2010.

Authorities in Canada and the U.S. will be collaborating on plans to discontinue Loran-C systems to minimize disruption in navigation services. Updates will be provided in CCG's monthly Notice to Mariners as further details become available.

Comments should be directed to the Manager, Aids to Navigation, Canadian Coast Guard at 200 Kent Street, 5th floor, Ottawa, Ontario, Canada K1A 0E6, by e-mail at Joanna.bellamy@dfo-mpo.gc.ca or by phone at (613) 998-1405 within three months from the date of this Notice. Any objections raised must state the facts on which they are based and should include supporting information on safety, commerce and public benefit.

2) *NAVAREAs*

The Canadian Coast Guard assumed the responsibility of NAVAREA coordination for NAVAREAs XVII and XVIII as part of the World-Wide Navigational Warning Service (WWNWS). An International SafetyNET Service for broadcasting navigational warnings in the English language will be declared to be in 'Initial Operational Condition' (IOC) effective July 1, 2010. During the IOC period, the Canadian Coast Guard will not guarantee service availability as this service will be provided on a test basis. The service is expected to be in 'Full Operational Condition' (FOC) at a time to be defined in 2011.

A NAVAREA is described as a geographical sea area for the purpose of coordinating the transmission of maritime safety information. The establishment of an International SafetyNET Service for the new NAVAREAs XVII and XVIII will permit mariners, in Arctic waters above 67°N latitude, to receive navigational warning messages and other relevant safety-related information over Inmarsat C satellite Enhanced Group Call (EGC) system when they are within the coverage area serviced by the Inmarsat satellites.

The broadcasting of SafetyNET messages to the new Arctic NAVAREAs will be addressed to rectangular area until the SafetyNET receiver modifications with the inclusion of the Arctic NAVAREA boundary limits and its identification are in place. Reception of rectangular addressed messages should be automatic providing the ship's position is inside the addressed area and within the footprint of Inmarsat coverage.

NAVAREA broadcast address areas:

NAVAREA XVII	NAVAREA XVIII
80 00N 175 00E	80 00N 125 00W
80 00N 115 00W	80 00N 050 00W
62 00N 115 00W	62 00N 050 00W
62 00N 175 00E	62 00N 125 00W

Mariners should check their manufacture's operation manuals to obtain information on the setting of their EGC equipment to receive relevant SafetyNET messages.

NAVAREA warnings will be broadcast twice daily at the following times:

NAVAREA XVII (POR) at 1130UTC and 2330UTC

NAVAREA XVIII (AOR-W) at 1100UTC and 2300UTC

Feedback concerning the reception of NAVAREA broadcasts, especially above 75°N, would be appreciated and may be sent to:

NAVAREA XVII and XVIII
Prescott MCTS Centre
Telephone: (613) 925-4471
Facsimile: (613) 925-4519
E-mail: navarea17.18@innav.gc.ca

It shall be noted that Environment Canada will act as the METAREA coordinator and will be responsible for the broadcast of maritime meteorological information through the International SafetyNET System. Details concerning this service will be communicated by means of Notices to Mariners and other maritime publications.

3) ➔ *Northern Canada Vessel Traffic Services (NORDREG) Zone*

As of July 1, 2010, the Northern Canada Vessel Traffic Services (NORDREG) Zone reporting system will become mandatory for certain vessels. The NORDREG Zone, which covers Canada's northern waters, has also been extended to the outer limit of the exclusive economic zone of Canada. The following vessels are required to report information to NORDREG:

- Vessels of 300 gross tonnage or more;
- Vessels that are engaged in towing or pushing a vessel, if the combined gross tonnage of the vessel and the vessel being towed or pushed is 500 gross tonnage or more; and
- Vessels carrying as cargo a pollutant or dangerous goods, or engaged in towing or pushing a vessel carrying as cargo a pollutant or dangerous goods.

The above vessels destined for the NORDREG Zone or navigating within the zone should contact NORDREG CANADA or the nearest CCG MCTS centre for full information on how to comply with the new requirements.

4) *Automatic Identification System (AIS) – Installation of AIS equipment in Western Canada*

In 2010, the Canadian Coast Guard will be commencing the installation of its AIS system on the Pacific Coast. Installation should be completed by the end of 2010.

AIS equipment will be installed at the following MCTS centres:

Comox
Prince Rupert
Tofino
Vancouver
Victoria

During the installation period, MCTS centres will be able to receive dynamic information (position, heading and speed), static information (vessel description) and voyage information as transmitted by the vessel's AIS. The CCG AIS system will be on 'Initial Operational Condition' (IOC) until further advised, with each MCTS centre's equipment installation being advertised through a Notice to Shipping. 'Full Operational Condition' (FOC) of the system will be promulgated by means of a Notice to Shipping and a Notice to Mariners.

Safety and binary messages services will not be provided until a decision has been made.

5) ***Vancouver MCTS – Continuous Marine Broadcast (CMB) Service***

CCG MCTS Pacific Region is planning to establish a CMB service at Vancouver MCTS Centre. The centre will broadcast from two peripheral sites: Harbour Centre (VHF ch83B), and Watts Point (WX-1). Equipment installation will take place in fall of 2009 with the first broadcast to commence in spring of 2010.

6) ***VHF peripheral site at Gabriola Island (Nanaimo area)***

CCG MCTS Pacific Region is planning to install a multi channel VHF peripheral site on Gabriola Island. This site will increase CCG's VHF radio coverage for Nanaimo, Northumberland Channel, and the northern part of the Gulf Islands. It is anticipated to be operational in spring of 2010.

7) In a move to reduce congestion and to improve monitoring and response capabilities, Pacific Region MCTS Centres changed working frequency from VHF Ch 22A (157.1 MHz) to VHF Ch 83A (157.175 MHz). Ch 22A will continue to be available at some centres but will no longer be monitored continuously.

8) ***Global Maritime Distress and Safety System (GMDSS)***

GMDSS service availability has been noted on the individual MCTS centre listings, Part 2. Canadian Coast Guard MCTS centres will continue to monitor VHF Ch 16 for distress, urgency, safety and calling purposes for the foreseeable future.

9) ***Important Safety Notice concerning VHF/DSC***

Upon receipt of a distress, urgency or safety broadcast announcement on VHF/DSC Ch 70, VHF/DSC equipment will automatically switch the DSC radio to VHF Ch 16 for the subsequent voice announcements. Mariners who are required by the *VHF Practices and Procedures Regulations* to monitor a specific VTS sector frequency should return the radio to the appropriate working frequency after determining the impact of the VHF/DSC alert broadcast announcement on their vessel's operations.

It has been determined that vessels maintaining a listening watch on a VTS sector frequency, per the requirements of the *VTS Zones Regulations* may, if navigating in congested waters, temporarily discontinue DSC watchkeeping on VHF/DSC Ch 70 until the required manoeuvre has been completed.

Vessels inadvertently or accidentally transmitting a distress/urgency/safety broadcast on VHF/DSC must cancel the distress/urgency/safety broadcast on VHF Ch 16 (page 4-23 refers). Intentionally sending a false distress alert carries penalties under the *Radiocommunication Act*.

VHF/DSC equipment must be programmed with the correct Maritime Mobile Service Identity (MMSI) numbers (reference Radio Station licensing and MMSI numbers section in Part 4; also reference page 1-7 for the MCTS centres' MMSI numbers).

10) *The Commercial Public Correspondence Service*

The cessation of the Canadian Coast Guard commercial public correspondence service has commenced as of December 31, 1999, in **selected areas**, based upon the demand for the service and the availability of alternate service delivery methods.

The Canadian Coast Guard discontinued the provision of the commercial radiotelegram service as of December 31, 2007. Provision of the commercial marine telephone service is no longer offered from MCTS centres on the Pacific Coast of Canada.

**IT IS EMPHASIZED THAT THE CANADIAN COAST GUARD WILL
CONTINUE TO PROVIDE DISTRESS AND SAFETY SERVICES**

11) *Discontinuation of 121.5/243 MHz Distress Beacon Monitoring by the COSPAS-SARSAT Satellite Constellation*

COSPAS-SARSAT is the international organization that operates a series of satellites in low altitude and geostationary orbits for search and rescue. In response to recommendations from the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO), the Council of COSPAS-SARSAT announced at its October 2000 meeting in Laval, Quebec that it will be phasing out satellite processing of distress beacons operating in the 121.5/243 MHz range and encouraging users to **adopt 406 MHz beacons by 2009** at the latest, as this is when the switch-over will be completed.

Three types of distress beacons are in use: Emergency Locator Transmitters (ELTs), used on aircraft; Emergency Positioning Indicator Radio Beacons (EPIRBs), used on vessels; and Personal Locator Beacons (PLBs), used by land-based personnel.

The impact of this change should be negligible aboard Canadian vessels as there are no 121.5 MHz marine EPIRBs that have a valid technical acceptance certificate (TAC) under the *Radiocommunication Act*. Therefore, it is illegal for anyone to sell or fit such an EPIRB in Canada or aboard a Canadian vessel. Only those COSPAS-SARSAT EPIRBs transmitting on 406 MHz are approved for use in Canada and these units will not be impacted by this change in satellite detection.

The use of 406 MHz distress beacons over the 121.5/243 MHz distress beacons will minimize the problems with false alerts being received by rescue coordination centres. Since its inception in 1982 the COSPAS-SARSAT System has provided distress alert information which has assisted in the rescue of over 18,865 persons in 5,317 distress situations.

Mariners are encouraged to fit float-free EPIRBs and **register** their COSPAS-SARSAT 406 MHz EPIRBs free-of-charge with the Canadian Beacon Registry, P.O. Box 1000 Stn Forces, Astra, ON K0K 3W0, by telephone at 1-877-406-SOS1(7671), by facsimile at 1-877-406-FAX8(3298), by e-mail CBR@sarnet.dnd.ca or on the Website at <http://canadianbeaconregistry.forces.gc.ca>.

**IMPORTANT !
DON'T FORGET TO REGISTER YOUR EPIRB
IT COULD SAVE YOUR LIFE**

Discontinuation of INMARSAT 'E' EPIRB monitoring service as of December 1, 2006

INMARSAT has discontinued their monitoring service of INMARSAT 'E' EPIRB distress alerts as of **December 1, 2006**. Mariners should check with INMARSAT for exchange of any currently held INMARSAT 'E' EPIRBs. Further, mariners should only purchase and fit COSPAS-SARSAT 406 MHz EPIRBs from now on.

**CANADIAN MARITIME MOBILE SAFETY AND PUBLIC CORRESPONDENCE COMMUNICATION
FREQUENCIES**

The frequencies listed below are those in general use by ships in Canadian waters for inter-ship communications and for ship/shore communications with MCTS centres operated by the Canadian Coast Guard.

Part 2 of this publication contains individual listings for MCTS centres operated by the Canadian Coast Guard, giving details of the communication and special services provided to ships.

Frequencies		Channel	Class of Emission	Remarks
Ship kHz	Coast kHz			
	490		F1B	NAVTEX Service (French)
	518		F1B	NAVTEX Service (English)
2040			J3E	Inter-ship (vessels other than fishing and towing)
2054	2054		J3E	Public correspondence
2182	2182		J3E	International distress and calling
2187.5	2187.5		G2B	Distress, safety & calling (DSC)
2318			J3E	Inter-ship (fishing vessels)
2340	2458		J3E	Public correspondence
2366			J3E	Inter-ship (other than fishing vessels)
2638			J3E	Inter-ship (shared with U.S. vessels)
2738			J3E	Inter-ship (shared with U.S. vessels)
3023	3023		J3E	International SAR On-Scene (aircraft/vessels)
4071	4363	403	J3E	Public correspondence
4125	4125		J3E	Distress and Safety including Search and Rescue (aircraft/vessels)
4177.5	4177.5		F1B	Narrow Band Direct Printing (NBDP)
4207.5	4207.5		F1B	Alerting frequency (DSC)
5680	5680		J3E	International SAR On-Scene (aircraft/vessels)
5803	5803		J3E	Distress & calling (Athabasca & Mackenzie Inland waterways)
6215	6215		J3E	International distress and calling
6267	6318.5		F1B	Radioteletype
6268	6268		F1B	Narrow Band Direct Printing (NBDP)
6312	6312		F1B	Alerting frequency (DSC)
8291	8291		J3E	International distress and calling
8376.5	8376.5		F1B	Narrow Band Direct Printing (NBDP)
8414.5	8414.5		F1B	Alerting frequency (DSC)
12290	12290		J3E	International distress and calling
12520	12520		F1B	Narrow Band Direct Printing (NBDP)
12577	12577		F1B	Alerting frequency (DSC)
16420	16420		J3E	International distress and calling
16695	16695		F1B	Narrow Band Direct Printing (NBDP)
16804.5	16804.5		F1B	Alerting frequency (DSC)

Frequencies		Channel	Class of Emission	Remarks
Ship MHz	Coast MHz			
156.250	156.250	05A	F3E	Vessel Traffic Services
156.300	156.300	06	F3E	Inter-ship safety and International SAR On-Scene (aircraft/vessels)
156.525	156.525	70	G2B	Exclusively for digital selective calling (DSC) for distress, safety and calling
156.550	156.550	11	F3E	Vessel Traffic Services and Pilotage
156.575	156.575	71	F3E	Vessel Traffic Services
156.600	156.600	12	F3E	VTS/Ports Operations/Pilotage
156.650	156.650	13	F3E	Bridge to Bridge navigational traffic
156.700	156.700	14	F3E	VTS/Ports Operations/Pilotage
156.725	156.725	74	F3E	Vessel Traffic Services
156.800	156.800	16	F3E	International distress, safety and calling
	161.650	21B	F3E	Weather & NOTSHIP broadcasts
156.925	156.925	78A	F3E	Inter-ship for Fishing vessels
157.100	157.100	22A	F3E	Ship and Canadian Coast Guard liaison (channel unmonitored)
157.175	157.175	83A	F3E	Ship and Canadian Coast Guard liaison
157.225	161.825	84	F3E	Public Correspondence
157.275	161.875	85	F3E	Public Correspondence
157.300	161.900	26	F3E	Public Correspondence
161.975	161.975	87B	G2B	AIS-1
162.025	162.025	88B	G2B	AIS-2
	162.400	WX2	F3E	Weather & Notices to Shipping broadcasts
	162.475	WX3	F3E	Weather & Notices to Shipping broadcasts
	162.550	WX1	F3E	Weather & Notices to Shipping broadcasts

Notes Reference VHF:

- (a) “A” following a channel number means Simplex Operation on the ship station transmitting frequency.
- (b) “B” following a channel number means ship stations receive only the higher coast station transmitting frequency.

GENERAL INFORMATION ON MCTS CENTRE LISTINGS

- (1) Transmit and receive frequencies are listed in kHz.
- (2) **Receiving frequencies printed in bold type are continuously monitored by MCTS centres.**
- (3) The numbered areas mentioned in the remarks column of centers providing communications and special services are shown on the marine weather forecasts maps, and are listed in detail under the heading “Weather Forecast Areas” in Part 5.
- (4) Pacific regions’ MCTS centres have changed their working frequency from VHF channel 22A (157.1 MHz) to VHF channel 83A (157.175 MHz). Channel 22A may be available for use at some centres but is no longer monitored continuously.
- (5) Frequencies for which the J3E single sideband modes of emission are shown in the MCTS centre listings are designated by the carrier frequencies. The assigned frequencies are 1.4 kHz higher than the carrier frequencies listed. (This note also applies to the medium and high radiotelephone frequencies listed in the “Canadian Maritime Mobile Safety and Public Correspondence Communications Frequencies” section).

Legend for MCTS Centre Listings	
AIS	Automatic Identification System
BC	Broadcast
C	Continuously Operating Radiobeacon
CMB	Continuous Marine Broadcast
DF	Direction Finding
DSC	Digital Selective Calling
F1B	Radioteletype
F3E	Radiotelephony, Frequency Modulation
G2B	Phase modulation, digital information, automatic reception
H+	This symbol followed by a number indicates minutes past the hour
J3C	Facsimile – Single-sideband, Suppressed Carrier
J3E	Radiotelephony – Single-sideband, Suppressed Carrier
MCTS	Marine Communications and Traffic Services
MMSI	Maritime Mobile Service Identity Numbers
NAVTEX	Automated Narrow Band Direct Printing Telegraphy Service
NBDP	Narrow Band Direct Printing
SC	Ship Control (Bridge Operations)
SS	Ship/Shore – is an indicator for ship to shore communication and shore to ship communication
TS	Time Signals
UTC	Indicates Coordinated Universal Time (for practical purposes, UTC is equivalent to GMT)
*	Indicates that on this frequency, facilities are available for connecting ships directly to the commercial telephone system on shore
#	Indicates that broadcasts are made simultaneously on these frequencies
♦	VHF Direction-Finding service is available
➔	Indicates change or addition since last complete Edition

telephone / Facsimile / Telex Directory

Telephone / Facsimile / Telex					
Service	Telephone Number	Facsimile Number	Telex Number	Answer Back Code	MMSI Number
MCTS Centre (call sign)					
COMOX, BC (VAC)	250-339-3613 866-823-1110	250-339-2372			00 316 0014
INUVIK, NT (VFA)	867-777-2667	867-777-2851			00 316 0024
PRINCE RUPERT, BC (VAJ)	250-627-3081	250-627-3070			00 316 0013
TOFINO, BC (VAE)	250-726-7777 250-726-7716	250-726-4474			00 316 0012
VANCOUVER, BC (VAS)	604-775-8919	604-666-8453	043-52586	CGTC VAS VCR	00 316 0010
VICTORIA, BC (VAK)	250-363-6611	250-363-6556			00 316 0011
VTs Offshore					
VANCOUVER, BC	604-666-6011	604-666-8453	04352586	CGTC VAS VCR	
NORDREG Canada					
IQUALUIT, NU	867-979-5724	867-979-4264	063-15529	NORDREG CDA	

Joint Rescue Coordination Centre (JRCC)			
Service	Telephone Number	Facsimile Number	Telex Number
VICTORIA, BC	250-363-2333 1-800-567-5111	250-363-2944	
TRENTON, ON	613-965-3870 1-800-267-7270	613-965-7190	066-2282

Regional Office Addresses (covering the Pacific coast and Western Arctic)

Regional Superintendent
Marine Communications and Traffic Services
Fisheries and Oceans Canada
Canadian Coast Guard
Pacific Region
Institute of Ocean Sciences
P.O. Box 6000, 9860 W. Saanich Road
SIDNEY, BC V8L 4B2
Telephone: 250-363-8922
Facsimile: 250-363-8929

*Regional Superintendent
Marine Communications and Traffic Services
Fisheries and Oceans Canada
Canadian Coast Guard
Central and Arctic Region
520 Exmouth Street
SARNIA, ON N7T 8B1
Telephone: 519-383-1937
Facsimile: 519-383-1991

Regional Notices to Shipping (NOTSHIP) Issuing Authorities

Fisheries and Oceans Canada
Canadian Coast Guard
Vancouver MCTS Centre
Suite 2380, P.O. Box 12107
555 West Hastings Street
VANCOUVER, BC V6B 4N6
Telephone: 604-666-6011
Facsimile: 604-666-8453
E-Mail: OFFSHORE@RMIC.GC.CA

Fisheries and Oceans Canada
Canadian Coast Guard
Inuvik MCTS Centre
P.O. BOX 2659
INUVIK, NT X0E 0T0
Telephone: 867-777-2667
Facsimile: 867-777-2851

PART 2

COMOX, BRITISH COLUMBIA Marine Communications and Traffic Services Centre

MMSI: 00 316 0014

Call Sign: VAC

Hours: H24

For Radio Services, call Comox Coast Guard Radio.

For Vessel Traffic Services, call Comox Traffic – refer to section 3.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge – MCTS Operations
Comox MCTS Centre
P.O. Box 220
Lazo, BC V0R 2K0

Telephone Numbers: **250-339-3613** **MCTS Operations**
 866-823-1110 **Toll Free – MCTS Operations (within BC only)**

250-339-2523 Officer-in-Charge
250-339-2129 Shift Supervisor
250-890-0391 Administration
250-339-0748 Continuous Marine Broadcast (CMB) - South area
250-974-5305 Continuous Marine Broadcast (CMB) - North area

Facsimile: 250-339-2372

Electronic Mail: mctskomox@dfo-mpo.gc.ca

Website: <http://www.ccg-gcc.gc.ca/e0003902>

MCTS Comox / VAC – Ship/Shore Communications				
Communication sites located at:	Channel	Transmit Frequencies	Receive Frequencies	Remarks
Cape Lazo 49°42'24"N 124°51'41"W	Ch16 Ch26 Ch71 Ch83A			
Discovery Mountain 50°19'25"N 125°22'16"W	Ch16 Ch70 Ch71 Ch83A Ch84			
Alert Bay 50°35'12"N 126°55'28"W	Ch16 Ch26 Ch71 Ch83A			

MCTS Comox / VAC – Ship/Shore Communications				
Communication sites located at:	Channel	Transmit Frequencies	Receive Frequencies	Remarks
Port Hardy 50°41'35"N 127°41'53"W	Ch16 Ch70 Ch71 Ch83A Ch84			
Texada Island 49°41'47"N 124°26'07"W	Ch16 Ch70 Ch71 Ch83A Ch84			

MCTS Comox / VAC – Broadcasts		
Time PST	Frequency	Contents
0720	WX1 Texada Island Alert Bay WX3 Port Hardy Ch21B Discovery Mountain Cape Lazo	RADIOTELEPHONY: <ul style="list-style-type: none"> All Notices to Shipping. Notices to Fish Harvesters. <ul style="list-style-type: none"> Weekly shellfish update (every Tuesday).
1320	WX1 Texada Island Alert Bay WX3 Port Hardy Ch21B Discovery Mountain Cape Lazo	RADIOTELEPHONY: <ul style="list-style-type: none"> All Notices to Shipping. Notices to Fish Harvesters.
2020	WX1 Texada Island Alert Bay WX3 Port Hardy Ch21B Discovery Mountain Cape Lazo	RADIOTELEPHONY: <ul style="list-style-type: none"> All Notices to Shipping. Notices to Fish Harvesters.

MCTS Comox / VAC Broadcasts																							
Time PST	Frequency	Contents																					
Continuous North Interrupted during live broadcasts	WX1 Alert Bay WX3 Port Hardy	RADIOTELEPHONY: <ul style="list-style-type: none"> Safety Notices to Shipping only. Technical synopsis and marine forecast areas 5, 6, 11, 12, 13, 14. Wave height forecast areas 5, 6, 14. Extended marine forecast areas 5, 6, 11, 12, 13, 14. Automated Weather Reports: <table> <tr> <td>1. Fanny Island</td><td>3. Cape St. James</td><td>5. Solander Island</td></tr> <tr> <td>2. Herbert Island</td><td>4. Sartine Island</td><td></td></tr> </table> Ocean Buoy Reports: <table> <tr> <td>1. South Hecate Strait</td><td>3. East Dellwood</td><td>5. South Brooks</td></tr> <tr> <td>2. South Moresby</td><td>4. West Sea Otter</td><td></td></tr> </table> Lighthouse Weather Reports: <table> <tr> <td>1. McInnes Island</td><td>4. Pine Island</td><td>7. Chatham Point</td></tr> <tr> <td>2. Addenbroke Island</td><td>5. Scarlett Point</td><td>8. Cape Scott</td></tr> <tr> <td>3. Egg Island</td><td>6. Pulteney Point</td><td>9. Quatsino</td></tr> </table>	1. Fanny Island	3. Cape St. James	5. Solander Island	2. Herbert Island	4. Sartine Island		1. South Hecate Strait	3. East Dellwood	5. South Brooks	2. South Moresby	4. West Sea Otter		1. McInnes Island	4. Pine Island	7. Chatham Point	2. Addenbroke Island	5. Scarlett Point	8. Cape Scott	3. Egg Island	6. Pulteney Point	9. Quatsino
1. Fanny Island	3. Cape St. James	5. Solander Island																					
2. Herbert Island	4. Sartine Island																						
1. South Hecate Strait	3. East Dellwood	5. South Brooks																					
2. South Moresby	4. West Sea Otter																						
1. McInnes Island	4. Pine Island	7. Chatham Point																					
2. Addenbroke Island	5. Scarlett Point	8. Cape Scott																					
3. Egg Island	6. Pulteney Point	9. Quatsino																					
Continuous South Interrupted during live broadcasts	WX1 Texada Island Ch21B Discovery Mountain Cape Lazo	RADIOTELEPHONY: <ul style="list-style-type: none"> Safety Notices to Shipping only. Technical synopsis and marine forecast areas 11, 12, 13. Extended marine forecast areas 11, 12, 13. Automated Weather Reports: <table> <tr> <td>1. Fanny Island</td><td>3. Sisters Islet</td><td>5. Entrance Island</td></tr> <tr> <td>2. Grief Point</td><td>4. Ballenas Island</td><td></td></tr> </table> Ocean Buoy Reports: <table> <tr> <td>1. Sentry Shoal</td><td>2. Halibut Bank</td><td></td></tr> </table> Local and Lighthouse Weather Reports: <table> <tr> <td>1. Chatham Point</td><td>3. Cape Lazo</td><td>5. Merry Island</td></tr> <tr> <td>2. Cape Mudge</td><td>4. Chrome Island</td><td>6. Entrance Island</td></tr> </table>	1. Fanny Island	3. Sisters Islet	5. Entrance Island	2. Grief Point	4. Ballenas Island		1. Sentry Shoal	2. Halibut Bank		1. Chatham Point	3. Cape Lazo	5. Merry Island	2. Cape Mudge	4. Chrome Island	6. Entrance Island						
1. Fanny Island	3. Sisters Islet	5. Entrance Island																					
2. Grief Point	4. Ballenas Island																						
1. Sentry Shoal	2. Halibut Bank																						
1. Chatham Point	3. Cape Lazo	5. Merry Island																					
2. Cape Mudge	4. Chrome Island	6. Entrance Island																					

INUVIK, NORTHWEST TERRITORIES

Marine Communications and Traffic Services Centre

Call Sign: VFA

HOURS: H24

Open only from approximately mid-May until late-October.

Opening and closing will be announced by notice to shipping.

For Radio Services, call Inuvik Coast Guard Radio.

Accepts messages to be directed to NORDREG CANADA.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Inuvik MCTS Centre
Officer-in-Charge – MCTS Operations
P.O. Box 2659
INUVIK, NT X0E 0T0

Telephone Numbers: **867-777-2667** **MCTS Operations**

867-777-3625 Officer-in-Charge

Facsimile: 867-777-2851

Electronic Mail: VFA@DFO-MPO.GC.CA

MCTS Inuvik / VFA – Ship/Shore Communications				
Communication sites located at:	Channel	Transmit Frequencies	Receive Frequencies	Remarks
Inuvik 68°19'26"N 133°35'00"W	403 601 826 1214	2182J3E 2558J3E 4363J3E 5803J3E 6218.6J3E 6501J3E 8794J3E 13116J3E	2182 2142* 4071 * 5803 6218.6 6200* 8270* 12269*	Operational mid-May approximately to late-October approximately.
Hay River 60°50'00"N 115°47'00"W	403 601 826	4363J3E 5803J3E 6218.6J3E 6501J3E 8794J3E	4071 5803 6218.6 6200 8270	Operational mid-May approximately to late-October approximately.
Enterprise 60°36'30"N 116°13'08"W	Ch16 Ch26			Operational mid-May approximately to late-October approximately.
Parson's Lake 68°53'50"N 133°56'13"W	Ch16 Ch26*			Operational mid-May approximately to late-October approximately.

MCTS Inuvik / VFA – Ship/Shore Communications				
Communication sites located at:	Channel	Transmit Frequencies	Receive Frequencies	Remarks
Cambridge Bay 69°06'47"N 105° 00'55"W	Ch16 Ch26*			Operational early July approximately to mid-October approximately.
	403 601 826	2182J3E 2558J3E 4363J3E 6501J3E 8794J3E	2182 2142* 4071* 6200* 8270	Operational early July approximately to mid-October approximately.
Yellowknife 62°25'41"N 114°24'19"W	Ch16 Ch85			Operational mid-May approximately to late-October approximately.

MCTS Inuvik / VFA – Broadcasts		
Time UTC	Frequency	Contents
0115	5803 kHz Inuvik 4363J3E Hay River Ch26 Parson's Lake and Enterprise Ch85 Yellowknife	RADIOTELEPHONY: <ul style="list-style-type: none"> • Technical synopsis for Western Arctic waters (if applicable for Mackenzie River and Great Slave Lake area) available on request. • Marine forecast for Great Slave Lake (Area 180). • Marine forecast for Mackenzie River (Area 110). • ODAS Weather Buoys 45141 and 45150. • Mackenzie Stage Forecast (Mackenzie/Strong Point, Liard at Fort Liard, Liard at Liard Mouth, Mackenzie at Fort Simpson, Mackenzie at Norman Wells, Mackenzie at Sans Sault, Mackenzie at Fort Good Hope). • Notice to Shipping (Mackenzie Delta, Mackenzie River & Great Slave Lake).
0200	8456J3C	RADIOFACSIMILE: <ul style="list-style-type: none"> • Marine Wind Prognosis (Availability of charts may vary depending on shipping). • Ice Analysis (Mid July to 15 October) Amundsen Gulf, Queen Maud and McClure Strait. • Ice Analysis Beaufort Sea/Alaskan Coast. Note: Also available on request.
0235	4363J3E Cambridge Bay 6218.6J3E Inuvik Ch26 Parson's Lake and Cambridge Bay	RADIOTELEPHONY: <ul style="list-style-type: none"> • Technical synopsis for Western Arctic waters available on request. • Forecasts for marine areas 111 to 122 inclusive. • Alaska Marine Forecast. • Notices to Shipping. • Mackenzie Delta. • Canadian waters west of 90°W. Note: Ice conditions and forecasts available on request.

MCTS Inuvik / VFA – Broadcasts		
Time UTC	Frequency	Contents
1315	5803J3E Inuvik 4363J3E Hay River Ch26 Parson's Lake and Enterprise Ch85 Yellowknife	RADIOTELEPHONY: <ul style="list-style-type: none"> • Technical Synopsis for Western Arctic waters (if applicable for Mackenzie River and Great Slave Lake area) available on request. • Marine Forecast for Great Slave Lake (Area 180). • Marine forecast for Mackenzie River (Area 110). • ODAS Weather Buoys 45141 and 45150. • Mackenzie Stage Forecast (Mackenzie/Strong Point, Liard at Fort Liard, Liard at Liard Mouth, Mackenzie at Fort Simpson, Mackenzie at Norman Wells, Mackenzie at Sans Sault, Mackenzie at Fort Good Hope). • Notice to Shipping (Mackenzie Delta, Mackenzie River & Great Slave Lake).
1435	4363J3E Cambridge Bay 6218.6J3E Inuvik Ch26 Parson's Lake and Cambridge Bay	RADIOTELEPHONY: <ul style="list-style-type: none"> • Technical synopsis for Western Arctic waters available on request. • Forecasts for marine areas 111 to 122 inclusive. • Alaska Marine Forecast. • Notices to Shipping. • Mackenzie Delta. • Canadian waters west of 90°W. Note: Ice conditions and forecasts available on request.
1630	8456J3C	RADIOFACSIMILE: <ul style="list-style-type: none"> • Marine Surface Analysis (Availability of charts may vary depending on shipping). • Ice Analysis (mid July to October 15) Amundsen Gulf, Queen Maud and McClure Strait. • Ice Analysis Beaufort Sea/Alaskan Coast. Note: Also available on request.

PRINCE RUPERT, BRITISH COLUMBIA

Marine Communications and Traffic Services Centre

MMSI: 00 316 0013

Call Sign: VAJ

Hours: H24

For Radio Services, call Prince Rupert Coast Guard Radio.

For Vessel Traffic Services, call Prince Rupert Traffic – refer to section 3.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Officer-in-Charge – MCTS Operations
Prince Rupert MCTS Centre
Bag 4444
Prince Rupert, BC V8J 4K2

Telephone Numbers: 250-627-3074 MCTS Operations/Supervisor

250-627-3077 Officer-in-Charge
250-624-9009 Continuous Marine Broadcast (CMB)
250-627-3081 Marine Emergency / Safety

Facsimile: 250-627-3070 MCTS Operations
250-627-3068 Officer-in-Charge

Electronic Mail: mctsprincerupert@dfo-mpo.gc.ca

Website: <http://www.ccg-gcc.gc.ca/e0003903>

♦ VHF Direction Finding Advisory Service:

A VHF/DF advisory service is available to vessels within range of the receiver sites located at Mount Hays, Dundas Island, Cumshewa, Van Inlet, Naden Harbour, Barry Inlet, Mount Gil, Klemtu and Calvert Island. Information concerning position, bearing and distance information may be provided for use at the discretion of the user.

MCTS Prince Rupert / VAJ – Ship/Shore Communications				
Communication sites located at:	Channel	Transmit Frequencies	Receive Frequencies	Remarks
Prince Rupert 54°17'51"N 130°25'06"W		2182J3E 2054J3E 4125J3E	2182 2054 4125	
Hunter Point 53°15'31 N 132°42'53"W		2182J3E 2054J3E	2182 2054	
Barry Inlet ♦ 52°34'30 N 131°45'13"W	Ch11 Ch16 Ch26 Ch83A			
Cumshewa ♦ 53°09'33 N 131°59'47"W	Ch11 Ch16 Ch70 Ch83A Ch84			

MCTS Prince Rupert / VAJ – Ship/Shore Communications				
Communication sites located at:	Channel	Transmit Frequencies	Receive Frequencies	Remarks
Dundas Island ♦ 54°31'16 N 130°54'55"W	Ch16 Ch22A Ch70 Ch71 Ch83A Ch84			
Kitimat 54°03'20 N 128°37'51"W	Ch11 Ch16 Ch83A			
Klemtu ♦ 52°34'45"N 128°33'45"W	Ch11 Ch16 Ch70 Ch83A Ch84			
Rose Inlet 52°13'18"N 131°12'54"W	Ch11 Ch16 Ch26 Ch70 Ch83A			
Mount Dent 55°12'58"N 129°59'18"W	Ch16 Ch84			
Mount Gil ♦ 53°15'46 N 129°11'42"W	Ch11 Ch16 Ch26 Ch70 Ch83A			
Mount Hays ♦ 54°17'12"N 130°18'49"W	Ch11 Ch16 Ch70 Ch71 Ch83A Ch84			
Naden Harbour ♦ 53°57'18"N 132°56'30"W	Ch11 Ch16 Ch22A Ch70 Ch71 Ch83A Ch84			
Van Inlet ♦ 53°15'08 N 132°32'31"W	Ch11 Ch16 Ch26 Ch83A			
Calvert Island ♦ 51°35'21"N 128°00'43"W	Ch11 Ch16 Ch70 Ch83A Ch84			

MCTS Prince Rupert / VAJ – Broadcasts		
Time PST	Frequency	Contents
0030	518F1B	NAVTEX: (D) <ul style="list-style-type: none"> Marine forecast areas 2, 3, 4, 5, 13, 14, 15, 16, 17. Automated Reports, Ocean Buoy Reports.
0430	518F1B	NAVTEX: (D) <ul style="list-style-type: none"> Marine forecast areas 2, 3, 4, 5, 13, 14, 15, 16, 17. Automated Reports, Ocean Buoy Reports.

MCTS Prince Rupert / VAJ – Broadcasts																																									
Time PST	Frequency	Contents																																							
0515	2054J3E Prince Rupert Hunter Point Ch21B Mount Hays Kitimat Mount Dent Rose Inlet WX1 Klemtu Van Inlet WX2 Barry Island Dundas Island Mount Gil Calvert Island WX3 Cumshewa Naden Harbour	RADIOTELEPHONY: <ul style="list-style-type: none"> All Notices to Shipping. Technical synopsis and marine forecast areas 2, 3, 4, 5, 13, 14, 15, 16, 17. Wave height forecast areas 2, 3, 4, 5, 14, 15, 16. Extended marine forecast areas 2, 3, 4, 5, 13, 14, 15, 16, 17. Automated Weather Reports: <table> <tr> <td>1. Grey Inlet</td><td>6. Kindakun Rock</td><td>11. Cape St. James</td></tr> <tr> <td>2. Lucy Island</td><td>7. Prince Rupert</td><td>12. Cathedral Point</td></tr> <tr> <td>3. Holland Rock</td><td>8. Langara Island</td><td>13. Sartine Island</td></tr> <tr> <td>4. Bonilla Island</td><td>9. Sandspit</td><td>14. Herbert Island</td></tr> <tr> <td>5. Rose Spit</td><td>10. Cumshewa Island</td><td></td></tr> </table> Ocean Buoy Reports: <table> <tr> <td>1. North Nomad</td><td>5. North Hecate Strait</td><td>9. West Sea Otter</td></tr> <tr> <td>2. Middle Nomad</td><td>6. South Hecate Strait</td><td>10. South Moresby</td></tr> <tr> <td>3. West Dixon Entrance</td><td>7. West Moresby</td><td>11. East Dellwood</td></tr> <tr> <td>4. Central Dixon Entrance</td><td>8. Nanakwa Shoal</td><td></td></tr> </table> Lighthouse Weather Reports: <table> <tr> <td>1. Green Island</td><td>5. Boat Bluff</td><td>9. Egg Island</td></tr> <tr> <td>2. Triple Island</td><td>6. McInnes Island</td><td>10. Pine Island</td></tr> <tr> <td>3. Bonilla Island</td><td>7. Ivory Island</td><td>11. Cape Scott</td></tr> <tr> <td>4. Langara Island</td><td>8. Addenbroke Island</td><td>12. Dryad Point</td></tr> </table> <ul style="list-style-type: none"> Notices to Fish Harvesters. 	1. Grey Inlet	6. Kindakun Rock	11. Cape St. James	2. Lucy Island	7. Prince Rupert	12. Cathedral Point	3. Holland Rock	8. Langara Island	13. Sartine Island	4. Bonilla Island	9. Sandspit	14. Herbert Island	5. Rose Spit	10. Cumshewa Island		1. North Nomad	5. North Hecate Strait	9. West Sea Otter	2. Middle Nomad	6. South Hecate Strait	10. South Moresby	3. West Dixon Entrance	7. West Moresby	11. East Dellwood	4. Central Dixon Entrance	8. Nanakwa Shoal		1. Green Island	5. Boat Bluff	9. Egg Island	2. Triple Island	6. McInnes Island	10. Pine Island	3. Bonilla Island	7. Ivory Island	11. Cape Scott	4. Langara Island	8. Addenbroke Island	12. Dryad Point
1. Grey Inlet	6. Kindakun Rock	11. Cape St. James																																							
2. Lucy Island	7. Prince Rupert	12. Cathedral Point																																							
3. Holland Rock	8. Langara Island	13. Sartine Island																																							
4. Bonilla Island	9. Sandspit	14. Herbert Island																																							
5. Rose Spit	10. Cumshewa Island																																								
1. North Nomad	5. North Hecate Strait	9. West Sea Otter																																							
2. Middle Nomad	6. South Hecate Strait	10. South Moresby																																							
3. West Dixon Entrance	7. West Moresby	11. East Dellwood																																							
4. Central Dixon Entrance	8. Nanakwa Shoal																																								
1. Green Island	5. Boat Bluff	9. Egg Island																																							
2. Triple Island	6. McInnes Island	10. Pine Island																																							
3. Bonilla Island	7. Ivory Island	11. Cape Scott																																							
4. Langara Island	8. Addenbroke Island	12. Dryad Point																																							
0830	518F1B	NAVTEX: (D) <ul style="list-style-type: none"> Notices to Shipping. 																																							
1115	2054J3E Prince Rupert Hunter Point Ch21B Mount Hays Kitimat Mount Dent Rose Inlet WX1 Klemtu Van Inlet WX2 Barry Island Dundas Island Mount Gil Calvert Island WX3 Cumshewa Naden Harbour	RADIOTELEPHONY: <ul style="list-style-type: none"> All Notices to Shipping. Technical synopsis and marine forecast areas 2, 3, 4, 5, 13, 14, 15, 16, 17. Wave height forecast areas 2, 3, 4, 5, 14, 15, 16. Extended marine forecast areas 2, 3, 4, 5, 13, 14, 15, 16, 17. Automated Weather Reports: <table> <tr> <td>1. Grey Inlet</td><td>6. Kindakun Rock</td><td>11. Cape St. James</td></tr> <tr> <td>2. Lucy Island</td><td>7. Prince Rupert</td><td>12. Cathedral Point</td></tr> <tr> <td>3. Holland Rock</td><td>8. Langara Island</td><td>13. Sartine Island</td></tr> <tr> <td>4. Bonilla Island</td><td>9. Sandspit</td><td>14. Herbert Island</td></tr> <tr> <td>5. Rose Spit</td><td>10. Cumshewa Island</td><td></td></tr> </table> Ocean Buoy Reports: <table> <tr> <td>1. North Nomad</td><td>5. North Hecate Strait</td><td>9. West Sea Otter</td></tr> <tr> <td>2. Middle Nomad</td><td>6. South Hecate Strait</td><td>10. South Moresby</td></tr> <tr> <td>3. West Dixon Entrance</td><td>7. West Moresby</td><td>11. East Dellwood</td></tr> <tr> <td>4. Central Dixon Entrance</td><td>8. Nanakwa Shoal</td><td></td></tr> </table> Lighthouse Weather Reports: <table> <tr> <td>1. Green Island</td><td>5. Boat Bluff</td><td>9. Egg Island</td></tr> <tr> <td>2. Triple Island</td><td>6. McInnes Island</td><td>10. Pine Island</td></tr> <tr> <td>3. Bonilla Island</td><td>7. Ivory Island</td><td>11. Cape Scott</td></tr> <tr> <td>4. Langara Island</td><td>8. Addenbroke Island</td><td>12. Dryad Point</td></tr> </table> <ul style="list-style-type: none"> Notices to Fish Harvesters. <ul style="list-style-type: none"> Weekly shellfish updates (every Tuesday). 	1. Grey Inlet	6. Kindakun Rock	11. Cape St. James	2. Lucy Island	7. Prince Rupert	12. Cathedral Point	3. Holland Rock	8. Langara Island	13. Sartine Island	4. Bonilla Island	9. Sandspit	14. Herbert Island	5. Rose Spit	10. Cumshewa Island		1. North Nomad	5. North Hecate Strait	9. West Sea Otter	2. Middle Nomad	6. South Hecate Strait	10. South Moresby	3. West Dixon Entrance	7. West Moresby	11. East Dellwood	4. Central Dixon Entrance	8. Nanakwa Shoal		1. Green Island	5. Boat Bluff	9. Egg Island	2. Triple Island	6. McInnes Island	10. Pine Island	3. Bonilla Island	7. Ivory Island	11. Cape Scott	4. Langara Island	8. Addenbroke Island	12. Dryad Point
1. Grey Inlet	6. Kindakun Rock	11. Cape St. James																																							
2. Lucy Island	7. Prince Rupert	12. Cathedral Point																																							
3. Holland Rock	8. Langara Island	13. Sartine Island																																							
4. Bonilla Island	9. Sandspit	14. Herbert Island																																							
5. Rose Spit	10. Cumshewa Island																																								
1. North Nomad	5. North Hecate Strait	9. West Sea Otter																																							
2. Middle Nomad	6. South Hecate Strait	10. South Moresby																																							
3. West Dixon Entrance	7. West Moresby	11. East Dellwood																																							
4. Central Dixon Entrance	8. Nanakwa Shoal																																								
1. Green Island	5. Boat Bluff	9. Egg Island																																							
2. Triple Island	6. McInnes Island	10. Pine Island																																							
3. Bonilla Island	7. Ivory Island	11. Cape Scott																																							
4. Langara Island	8. Addenbroke Island	12. Dryad Point																																							

MCTS Prince Rupert / VAJ – Broadcasts																																									
Time PST	Frequency	Contents																																							
1230	518F1B	NAVTEX: (D) <ul style="list-style-type: none"> Marine forecast areas 2, 3, 4, 5, 13, 14, 15, 16, 17. Automated Reports, Ocean Buoy Reports. 																																							
1630	518F1B	NAVTEX: (D) <ul style="list-style-type: none"> Marine forecast areas 2, 3, 4, 5, 13, 14, 15, 16, 17. Automated Reports, Ocean Buoy Reports. 																																							
1715	2054J3E Prince Rupert Hunter Point Ch21B Mount Hays Kitimat Mount Dent Rose Inlet WX1 Klemtu Van Inlet WX2 Barry Island Dundas Island Mount Gil Calvert Island WX3 Cumshewa Naden Harbour	RADIOTELEPHONY: <ul style="list-style-type: none"> All Notices to Shipping. Technical Synopsis and marine forecast areas 2, 3, 4, 5, 13, 14, 15, 16, 17. Wave height forecast areas 2, 3, 4, 5, 14, 15, 16. Extended marine forecast areas 2, 3, 4, 5, 13, 14, 15, 16, 17. Automated Weather Reports: <table> <tr> <td>1. Grey Inlet</td><td>6. Kindakun Rock</td><td>11. Cape St. James</td></tr> <tr> <td>2. Lucy Island</td><td>7. Prince Rupert</td><td>12. Cathedral Point</td></tr> <tr> <td>3. Holland Rock</td><td>8. Langara Island</td><td>13. Sartine Island</td></tr> <tr> <td>4. Bonilla Island</td><td>9. Sandspit</td><td>14. Herbert Island</td></tr> <tr> <td>5. Rose Spit</td><td>10. Cumshewa Island</td><td></td></tr> </table> Ocean Buoy Reports: <table> <tr> <td>1. North Nomad</td><td>5. North Hecate Strait</td><td>9. West Sea Otter</td></tr> <tr> <td>2. Middle Nomad</td><td>6. South Hecate Strait</td><td>10. South Moresby</td></tr> <tr> <td>3. West Dixon Entrance</td><td>7. West Moresby</td><td>11. East Dellwood</td></tr> <tr> <td>4. Central Dixon Entrance</td><td>8. Nanakwa Shoal</td><td></td></tr> </table> Lighthouse Weather Reports: <table> <tr> <td>1. Green Island</td><td>5. Boat Bluff</td><td>9. Egg Island</td></tr> <tr> <td>2. Triple Island</td><td>6. McInnes Island</td><td>10. Pine Island</td></tr> <tr> <td>3. Bonilla Island</td><td>7. Ivory Island</td><td>11. Cape Scott</td></tr> <tr> <td>4. Langara Island</td><td>8. Addenbroke Island</td><td>12. Dryad Point</td></tr> </table> <ul style="list-style-type: none"> Notices to Fish Harvesters. 	1. Grey Inlet	6. Kindakun Rock	11. Cape St. James	2. Lucy Island	7. Prince Rupert	12. Cathedral Point	3. Holland Rock	8. Langara Island	13. Sartine Island	4. Bonilla Island	9. Sandspit	14. Herbert Island	5. Rose Spit	10. Cumshewa Island		1. North Nomad	5. North Hecate Strait	9. West Sea Otter	2. Middle Nomad	6. South Hecate Strait	10. South Moresby	3. West Dixon Entrance	7. West Moresby	11. East Dellwood	4. Central Dixon Entrance	8. Nanakwa Shoal		1. Green Island	5. Boat Bluff	9. Egg Island	2. Triple Island	6. McInnes Island	10. Pine Island	3. Bonilla Island	7. Ivory Island	11. Cape Scott	4. Langara Island	8. Addenbroke Island	12. Dryad Point
1. Grey Inlet	6. Kindakun Rock	11. Cape St. James																																							
2. Lucy Island	7. Prince Rupert	12. Cathedral Point																																							
3. Holland Rock	8. Langara Island	13. Sartine Island																																							
4. Bonilla Island	9. Sandspit	14. Herbert Island																																							
5. Rose Spit	10. Cumshewa Island																																								
1. North Nomad	5. North Hecate Strait	9. West Sea Otter																																							
2. Middle Nomad	6. South Hecate Strait	10. South Moresby																																							
3. West Dixon Entrance	7. West Moresby	11. East Dellwood																																							
4. Central Dixon Entrance	8. Nanakwa Shoal																																								
1. Green Island	5. Boat Bluff	9. Egg Island																																							
2. Triple Island	6. McInnes Island	10. Pine Island																																							
3. Bonilla Island	7. Ivory Island	11. Cape Scott																																							
4. Langara Island	8. Addenbroke Island	12. Dryad Point																																							
2030	518F1B	NAVTEX: (D) <ul style="list-style-type: none"> Notices to Shipping. 																																							

MCTS Prince Rupert / VAJ – Broadcasts																																									
Time PST	Frequency	Contents																																							
2315	2054J3E Prince Rupert Hunter Point Ch21B Mount Hays Kitimat Mount Dent Rose Inlet WX1 Klemtu Van Inlet WX2 Barry Island Dundas Island Mount Gil Calvert Island WX3 Cumshewa Naden Harbour	RADIOTELEPHONY: <ul style="list-style-type: none"> All Notices to Shipping. Technical Synopsis and marine forecast areas 2, 3, 4, 5, 13, 14, 15, 16, 17. Wave height forecast areas 2, 3, 4, 5, 14, 15, 16. Extended marine forecast areas 2, 3, 4, 5, 13, 14, 15, 16, 17. Automated Weather Reports: <table> <tr> <td>1. Grey Inlet</td><td>6. Kindakun Rock</td><td>11. Cape St. James</td></tr> <tr> <td>2. Lucy Island</td><td>7. Prince Rupert</td><td>12. Cathedral Point</td></tr> <tr> <td>3. Holland Rock</td><td>8. Langara Island</td><td>13. Sartine Island</td></tr> <tr> <td>4. Bonilla Island</td><td>9. Sandspit</td><td>14. Herbert Island</td></tr> <tr> <td>5. Rose Spit</td><td>10. Cumshewa Island</td><td></td></tr> </table> Ocean Buoy Reports: <table> <tr> <td>1. North Nomad</td><td>5. North Hecate Strait</td><td>9. West Sea Otter</td></tr> <tr> <td>2. Middle Nomad</td><td>6. South Hecate Strait</td><td>10. South Moresby</td></tr> <tr> <td>3. West Dixon Entrance</td><td>7. West Moresby</td><td>11. East Dellwood</td></tr> <tr> <td>4. Central Dixon Entrance</td><td>8. Nanakwa Shoal</td><td></td></tr> </table> Lighthouse Weather Reports: <table> <tr> <td>1. Green Island</td><td>5. Boat Bluff</td><td>9. Egg Island</td></tr> <tr> <td>2. Triple Island</td><td>6. McInnes Island</td><td>10. Pine Island</td></tr> <tr> <td>3. Bonilla Island</td><td>7. Ivory Island</td><td>11. Cape Scott</td></tr> <tr> <td>4. Langara Island</td><td>8. Addenbroke Island</td><td>12. Dryad Point</td></tr> </table> <ul style="list-style-type: none"> Notices to Fish Harvesters. 	1. Grey Inlet	6. Kindakun Rock	11. Cape St. James	2. Lucy Island	7. Prince Rupert	12. Cathedral Point	3. Holland Rock	8. Langara Island	13. Sartine Island	4. Bonilla Island	9. Sandspit	14. Herbert Island	5. Rose Spit	10. Cumshewa Island		1. North Nomad	5. North Hecate Strait	9. West Sea Otter	2. Middle Nomad	6. South Hecate Strait	10. South Moresby	3. West Dixon Entrance	7. West Moresby	11. East Dellwood	4. Central Dixon Entrance	8. Nanakwa Shoal		1. Green Island	5. Boat Bluff	9. Egg Island	2. Triple Island	6. McInnes Island	10. Pine Island	3. Bonilla Island	7. Ivory Island	11. Cape Scott	4. Langara Island	8. Addenbroke Island	12. Dryad Point
1. Grey Inlet	6. Kindakun Rock	11. Cape St. James																																							
2. Lucy Island	7. Prince Rupert	12. Cathedral Point																																							
3. Holland Rock	8. Langara Island	13. Sartine Island																																							
4. Bonilla Island	9. Sandspit	14. Herbert Island																																							
5. Rose Spit	10. Cumshewa Island																																								
1. North Nomad	5. North Hecate Strait	9. West Sea Otter																																							
2. Middle Nomad	6. South Hecate Strait	10. South Moresby																																							
3. West Dixon Entrance	7. West Moresby	11. East Dellwood																																							
4. Central Dixon Entrance	8. Nanakwa Shoal																																								
1. Green Island	5. Boat Bluff	9. Egg Island																																							
2. Triple Island	6. McInnes Island	10. Pine Island																																							
3. Bonilla Island	7. Ivory Island	11. Cape Scott																																							
4. Langara Island	8. Addenbroke Island	12. Dryad Point																																							

MCTS Prince Rupert / VAJ – Broadcasts																																								
Time PST	Frequency	Contents																																						
Continuous Interrupted during live broadcasts	Ch21B Mount Hays Kitimat Mount Dent Rose Inlet	RADIOTELEPHONY: <ul style="list-style-type: none"> All Notices to Shipping. Technical synopsis and marine forecast areas 2, 3, 4, 5, 13, 14, 15, 16, 17. Wave height forecast areas 2, 3, 4, 5, 14, 15, 16. Extended marine forecast areas 2, 3, 4, 5, 13, 14, 15, 16, 17. 																																						
	WX1 Klemtu Van Inlet WX2 Barry Inlet Dundas Island Mount Gil Calvert Island WX3 Cumshewa Naden Harbour	Automated Weather Reports: <table> <tr> <td>1. Grey Inlet</td><td>6. Kindakun Rock</td><td>11. Cape St. James</td></tr> <tr> <td>2. Lucy Island</td><td>7. Prince Rupert</td><td>12. Cathedral Point</td></tr> <tr> <td>3. Holland Rock</td><td>8. Langara Island</td><td>13. Sartine Island</td></tr> <tr> <td>4. Bonilla Island</td><td>9. Sandspit</td><td>14. Herbert Island</td></tr> <tr> <td>5. Rose Spit</td><td>10. Cumshewa Island</td><td></td></tr> </table> Ocean Buoy Reports: <table> <tr> <td>1. North Nomad</td><td>5. North Hecate Strait</td><td>9. West Sea Otter</td></tr> <tr> <td>2. Middle Nomad</td><td>6. South Hecate Strait</td><td>10. South Moresby</td></tr> <tr> <td>3. West Dixon Entrance</td><td>7. West Moresby</td><td>11. East Dellwood</td></tr> <tr> <td>4. Central Dixon Entrance</td><td>8. Nanakwa Shoal</td><td></td></tr> </table> Lighthouse Weather Reports: <table> <tr> <td>1. Green Island</td><td>5. Boat Bluff</td><td>9. Egg Island</td></tr> <tr> <td>2. Triple Island</td><td>6. McInnes Island</td><td>10. Pine Island</td></tr> <tr> <td>3. Bonilla Island</td><td>7. Ivory Island</td><td>11. Cape Scott</td></tr> <tr> <td>4. Langara Island</td><td>8. Addenbroke Island</td><td>12. Dryad Point</td></tr> </table> <ul style="list-style-type: none"> Notices to Fish Harvesters. 	1. Grey Inlet	6. Kindakun Rock	11. Cape St. James	2. Lucy Island	7. Prince Rupert	12. Cathedral Point	3. Holland Rock	8. Langara Island	13. Sartine Island	4. Bonilla Island	9. Sandspit	14. Herbert Island	5. Rose Spit	10. Cumshewa Island		1. North Nomad	5. North Hecate Strait	9. West Sea Otter	2. Middle Nomad	6. South Hecate Strait	10. South Moresby	3. West Dixon Entrance	7. West Moresby	11. East Dellwood	4. Central Dixon Entrance	8. Nanakwa Shoal		1. Green Island	5. Boat Bluff	9. Egg Island	2. Triple Island	6. McInnes Island	10. Pine Island	3. Bonilla Island	7. Ivory Island	11. Cape Scott	4. Langara Island	8. Addenbroke Island
1. Grey Inlet	6. Kindakun Rock	11. Cape St. James																																						
2. Lucy Island	7. Prince Rupert	12. Cathedral Point																																						
3. Holland Rock	8. Langara Island	13. Sartine Island																																						
4. Bonilla Island	9. Sandspit	14. Herbert Island																																						
5. Rose Spit	10. Cumshewa Island																																							
1. North Nomad	5. North Hecate Strait	9. West Sea Otter																																						
2. Middle Nomad	6. South Hecate Strait	10. South Moresby																																						
3. West Dixon Entrance	7. West Moresby	11. East Dellwood																																						
4. Central Dixon Entrance	8. Nanakwa Shoal																																							
1. Green Island	5. Boat Bluff	9. Egg Island																																						
2. Triple Island	6. McInnes Island	10. Pine Island																																						
3. Bonilla Island	7. Ivory Island	11. Cape Scott																																						
4. Langara Island	8. Addenbroke Island	12. Dryad Point																																						

TOFINO, BRITISH COLUMBIA
Marine Communications and Traffic Services Centre

MMSI: 00 316 0012

Call Sign: VAE

Hours: H24

For Radio Services, call Tofino Coast Guard Radio.

For Vessel Traffic Services, call Tofino Traffic – refer to section 3.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Tofino MCTS Centre
Officer-in-Charge – MCTS Operations
PO Box 190
Ucluelet, BC V0R 3A0

Telephone Numbers:	250-726-7777	MCTS Operations
	250-726-7313	Officer-in-Charge
	250-726-7770	Administration
	250-726-7716	Tofino Coast Guard Radio
	250-726-3415	Continuous Marine Broadcast (CMB)

Facsimile:	250-726-4474	MCTS Operations
	250-726-7234	Administration and Technical Dept.

Electronic Mail: mcts_tofino@telus.net

Website: <http://www.ccg-gcc.gc.ca/e0003904>

♦ VHF Direction Finding Advisory Service:

A VHF/DF advisory service is available to vessels within range of the Mount Ozzard receiver site. Information concerning position, bearing and distance information may be provided for use at the discretion of the user.

MCTS Tofino / VAE – Ship/Shore Communications				
Communication sites located at:	Channel	Transmit Frequencies	Receive Frequencies	Remarks
Amphitrite Point 48°55'31"N 125°32'25"W		2182J3E 2054J3E 4125J3E		
Eliza Dome 49°52'24"N 127°07'13"W	Ch16 Ch70 Ch74 Ch83A Ch84			
Mount Ozzard ♦ 48°57'34"N 125°29'30"W	Ch16 Ch22A Ch70 Ch74 Ch83A Ch84			

MCTS Tofino / VAE – Ship/Shore Communications				
Communication sites located at:	Channel	Transmit Frequencies	Receive Frequencies	Remarks
Port Alberni 49°13'07"N 124°48'43"W	Ch16 Ch26 Ch74 Ch83A			
Estevan Point 49°22'59"N 126°32'00"W	Ch16 Ch83A			
			2182 2054 4125	
Nootka 49°35'36"N 126°36'52"W	Ch16 Ch26 Ch74 Ch83A			
Esperanza 49°50'32"N 126°48'22"W	Ch16 Ch83A			
Holberg 50°38'24"N 128°07'34"W	Ch16 Ch26 Ch70 Ch74 Ch83A			

MCTS Tofino / VAE – Broadcasts																			
Time PST	Frequency	Contents																	
0110	518F1B	NAVTEX: (H) <ul style="list-style-type: none">• Notices to Shipping.• Weather: Automated Reports, Ocean Buoy Reports.																	
0450	2054J3E Amphitrite Point Ch21B Esperanza Mount Ozzard Holberg WX1 Eliza Dome WX2 Port Alberni Nootka WX3 Estevan Point	RADIOTELEPHONY: <ul style="list-style-type: none">• All Notices to Shipping.• Technical synopsis and marine forecast areas 1, 5, 6, 7, 8, 13, 14.• Wave height forecast areas 1, 5, 6, 7, 14.• Extended marine forecast areas 1, 5, 6, 7, 8, 13, 14. Automated Weather Reports: <table><tr><td>1. Cape St. James</td><td>4. Solander Island</td><td>7. Discovery Island</td></tr><tr><td>2. Herbert Island</td><td>5. Sheringham Point</td><td></td></tr><tr><td>3. Sartine Island</td><td>6. Race Rocks</td><td></td></tr></table> Ocean Buoy Reports: <table><tr><td>1. West Sea Otter</td><td>3. South Brooks</td><td>5. South Moresby</td></tr><tr><td>2. East Dellwood</td><td>4. La Prouse</td><td></td></tr></table> Automated Weather Reports for Juan de Fuca Strait: <table><tr><td>1. Cape Flattery</td><td>2. “JA” Buoy</td></tr></table> <ul style="list-style-type: none">• Notices to Fish Harvesters.	1. Cape St. James	4. Solander Island	7. Discovery Island	2. Herbert Island	5. Sheringham Point		3. Sartine Island	6. Race Rocks		1. West Sea Otter	3. South Brooks	5. South Moresby	2. East Dellwood	4. La Prouse		1. Cape Flattery	2. “JA” Buoy
1. Cape St. James	4. Solander Island	7. Discovery Island																	
2. Herbert Island	5. Sheringham Point																		
3. Sartine Island	6. Race Rocks																		
1. West Sea Otter	3. South Brooks	5. South Moresby																	
2. East Dellwood	4. La Prouse																		
1. Cape Flattery	2. “JA” Buoy																		
0510	518F1B	NAVTEX: (H) <ul style="list-style-type: none">• Marine forecast areas 1, 6, 7, 8, 9, 10, 11, 12, 13.• Automated Reports, Ocean Buoy Reports.																	
0910	518F1B	NAVTEX: (H) <ul style="list-style-type: none">• Marine forecast areas 1, 6, 7, 8, 9, 10, 11, 12, 13.• Automated Reports, Ocean Buoy Reports.																	

MCTS Tofino / VAE – Broadcasts																			
Time PST	Frequency	Contents																	
1050	2054J3E Amphitrite Point Ch21B Esperanza Mount Ozzard Holberg WX1 Eliza Dome WX2 Port Alberni Nootka WX3 Estevan Point	RADIOTELEPHONY: <ul style="list-style-type: none">All Notices to Shipping.Technical synopsis and marine forecast areas 1, 5, 6, 7, 8, 13, 14.Wave height forecast areas 1, 5, 6, 7, 14.Extended marine forecast areas 1, 5, 6, 7, 8, 13, 14. Automated Weather Reports: <table><tr><td>1. Cape St. James</td><td>4. Solander Island</td><td>7. Discovery Island</td></tr><tr><td>2. Herbert Island</td><td>5. Sheringham Point</td><td></td></tr><tr><td>3. Sartine Island</td><td>6. Race Rocks</td><td></td></tr></table> Ocean Buoy Reports: <table><tr><td>1. West Sea Otter</td><td>3. South Brooks</td><td>5. South Moresby</td></tr><tr><td>2. East Dellwood</td><td>4. La Perouse</td><td></td></tr></table> Automated Weather Reports for Juan de Fuca Strait: <table><tr><td>1. Cape Flattery</td><td>2. “JA” Buoy</td></tr></table> <ul style="list-style-type: none">Notices to Fish Harvesters.	1. Cape St. James	4. Solander Island	7. Discovery Island	2. Herbert Island	5. Sheringham Point		3. Sartine Island	6. Race Rocks		1. West Sea Otter	3. South Brooks	5. South Moresby	2. East Dellwood	4. La Perouse		1. Cape Flattery	2. “JA” Buoy
1. Cape St. James	4. Solander Island	7. Discovery Island																	
2. Herbert Island	5. Sheringham Point																		
3. Sartine Island	6. Race Rocks																		
1. West Sea Otter	3. South Brooks	5. South Moresby																	
2. East Dellwood	4. La Perouse																		
1. Cape Flattery	2. “JA” Buoy																		
1310	518F1B	NAVTEX: (H) <ul style="list-style-type: none">Notices to Shipping.Weather: Automated Reports, Ocean Buoy Reports.																	
1315	Ch21B Esperanza Mount Ozzard Holberg WX1 Eliza Dome WX2 Port Alberni Nootka WX3 Estevan Point	RADIOTELEPHONY: <ul style="list-style-type: none">Weekly shellfish update (every Tuesday).																	

MCTS Tofino / VAE – Broadcasts																			
Time PST	Frequency	Contents																	
1650	2054J3E Amphitrite Point Ch21B Esperanza Mount Ozzard Holberg WX1 Eliza Dome WX2 Port Alberni Nootka WX3 Estevan Point	RADIOTELEPHONY: <ul style="list-style-type: none">All Notices to Shipping.Technical synopsis and marine forecast areas 1, 5, 6, 7, 8, 13, 14.Wave height forecast areas 1, 5, 6, 7, 14.Extended marine forecast areas 1, 5, 6, 7, 8, 13, 14. Automated Weather Reports: <table><tr><td>1. Cape St. James</td><td>4. Solander Island</td><td>7. Discovery Island</td></tr><tr><td>2. Herbert Island</td><td>5. Sheringham Point</td><td></td></tr><tr><td>3. Sartine Island</td><td>6. Race Rocks</td><td></td></tr></table> Ocean Buoy Reports: <table><tr><td>1. West Sea Otter</td><td>3. South Brooks</td><td>5. South Moresby</td></tr><tr><td>2. East Dellwood</td><td>4. La Pouse</td><td></td></tr></table> Automated Weather Reports for Juan de Fuca Strait: <table><tr><td>1. Cape Flattery</td><td>2. “JA” Buoy</td></tr></table> <ul style="list-style-type: none">Notices to Fish Harvesters.	1. Cape St. James	4. Solander Island	7. Discovery Island	2. Herbert Island	5. Sheringham Point		3. Sartine Island	6. Race Rocks		1. West Sea Otter	3. South Brooks	5. South Moresby	2. East Dellwood	4. La Pouse		1. Cape Flattery	2. “JA” Buoy
1. Cape St. James	4. Solander Island	7. Discovery Island																	
2. Herbert Island	5. Sheringham Point																		
3. Sartine Island	6. Race Rocks																		
1. West Sea Otter	3. South Brooks	5. South Moresby																	
2. East Dellwood	4. La Pouse																		
1. Cape Flattery	2. “JA” Buoy																		
1710	518F1B	NAVTEX: (H) <ul style="list-style-type: none">Marine forecast areas 1, 6, 7, 8, 9, 10, 11, 12, 13.Automated Reports, Ocean Buoy Reports.																	
2110	518F1B	NAVTEX: (H) <ul style="list-style-type: none">Marine forecast areas 1, 6, 7, 8, 9, 10, 11, 12, 13.Automated Reports, Ocean Buoy Reports.																	
2250	2054J3E Amphitrite Point Ch21B Esperanza Mount Ozzard Holberg WX1 Eliza Dome WX2 Port Alberni Nootka WX3 Estevan Point	RADIOTELEPHONY: <ul style="list-style-type: none">All Notices to Shipping.Technical synopsis and marine forecast areas 1, 5, 6, 7, 8, 13, 14.Wave height forecast areas 1, 5, 6, 7, 14.Extended marine forecast areas 1, 5, 6, 7, 8, 13, 14. Automated Weather Reports: <table><tr><td>1. Cape St. James</td><td>4. Solander Island</td><td>7. Discovery Island</td></tr><tr><td>2. Herbert Island</td><td>5. Sheringham Point</td><td></td></tr><tr><td>3. Sartine Island</td><td>6. Race Rocks</td><td></td></tr></table> Ocean Buoy Reports: <table><tr><td>1. West Sea Otter</td><td>3. South Brooks</td><td>5. South Moresby</td></tr><tr><td>2. East Dellwood</td><td>4. La Pouse</td><td></td></tr></table> Automated Weather Reports for Juan de Fuca Strait: <table><tr><td>1. Cape Flattery</td><td>2. “JA” Buoy</td></tr></table> <ul style="list-style-type: none">Notices to Fish Harvesters.	1. Cape St. James	4. Solander Island	7. Discovery Island	2. Herbert Island	5. Sheringham Point		3. Sartine Island	6. Race Rocks		1. West Sea Otter	3. South Brooks	5. South Moresby	2. East Dellwood	4. La Pouse		1. Cape Flattery	2. “JA” Buoy
1. Cape St. James	4. Solander Island	7. Discovery Island																	
2. Herbert Island	5. Sheringham Point																		
3. Sartine Island	6. Race Rocks																		
1. West Sea Otter	3. South Brooks	5. South Moresby																	
2. East Dellwood	4. La Pouse																		
1. Cape Flattery	2. “JA” Buoy																		

MCTS Tofino / VAE – Broadcasts																																		
Time PST	Frequency	Contents																																
Continuous Interrupted during live broadcasts	Ch21B	RADIOTELEPHONY: <ul style="list-style-type: none">Safety Notices to Shipping Only.Technical synopsis and marine forecast areas 1, 5, 6, 7, 8, 13, 14.Wave height forecast areas 1, 5, 6, 7, 14.Extended marine forecast areas 1, 5, 6, 7, 8, 13, 14. Automated Weather Reports: <table><tr><td>1. Cape St. James</td><td>4. Solander Island</td><td>7. Discovery Island</td></tr><tr><td>2. Herbert Island</td><td>5. Sheringham Point</td><td></td></tr><tr><td>3. Sartine Island</td><td>6. Race Rocks</td><td></td></tr></table> Ocean Buoy Reports: <table><tr><td>1. West Sea Otter</td><td>3. South Brooks</td><td>5. South Moresby</td></tr><tr><td>2. East Dellwood</td><td>4. La Pouse</td><td></td></tr></table> Local and Lighthouse Weather Reports: <table><tr><td>1. Trial Island</td><td>6. Lennard Island</td><td>11. Pine Island</td></tr><tr><td>2. Carmanah Point</td><td>7. Estevan Point</td><td>12. Egg Island</td></tr><tr><td>3. Pachena Point</td><td>8. Nootka</td><td>13. McInnes Island</td></tr><tr><td>4. Cape Beale</td><td>9. Quatsino</td><td></td></tr><tr><td>5. Amphitrite Point</td><td>10. Cape Scott</td><td></td></tr></table> <ul style="list-style-type: none">U.S. coastal weather forecast for Western Washington. Automated Weather Reports for Juan de Fuca Strait: <table><tr><td>1. Cape Flattery</td><td>2. “JA” Buoy</td></tr></table>	1. Cape St. James	4. Solander Island	7. Discovery Island	2. Herbert Island	5. Sheringham Point		3. Sartine Island	6. Race Rocks		1. West Sea Otter	3. South Brooks	5. South Moresby	2. East Dellwood	4. La Pouse		1. Trial Island	6. Lennard Island	11. Pine Island	2. Carmanah Point	7. Estevan Point	12. Egg Island	3. Pachena Point	8. Nootka	13. McInnes Island	4. Cape Beale	9. Quatsino		5. Amphitrite Point	10. Cape Scott		1. Cape Flattery	2. “JA” Buoy
	1. Cape St. James		4. Solander Island	7. Discovery Island																														
	2. Herbert Island		5. Sheringham Point																															
	3. Sartine Island		6. Race Rocks																															
	1. West Sea Otter		3. South Brooks	5. South Moresby																														
	2. East Dellwood		4. La Pouse																															
	1. Trial Island		6. Lennard Island	11. Pine Island																														
	2. Carmanah Point		7. Estevan Point	12. Egg Island																														
	3. Pachena Point		8. Nootka	13. McInnes Island																														
	4. Cape Beale		9. Quatsino																															
5. Amphitrite Point	10. Cape Scott																																	
1. Cape Flattery	2. “JA” Buoy																																	
Mount Ozzard																																		
Esperanza																																		
Holberg																																		
WX1																																		
Eliza Dome																																		
WX2																																		
Port Alberni																																		
Nootka																																		
WX3																																		
Estevan Point																																		

VANCOUVER, BRITISH COLUMBIA
Marine Communications and Traffic Services Centre

MMSI: 00 316 0010

Call Sign: VAS

Hours: H24

For Radio Services, call Vancouver Coast Guard Radio.

For Vessel Traffic Services, call Vancouver Traffic – refer to section 3.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Vancouver MCTS Centre
Officer-in-Charge – MCTS Operations
555 West Hastings Street
Suite 2380
P.O. Box 12107
Vancouver, BC V6B 4N6

Telephone Numbers: 604-775-8919 MCTS Operations Centre/Shift Supervisor

604-666-1004	Officer-in-Charge
604-666-1003	Administration
604-666-6011	Regional Marine Information Centre
604-775-8920	Emergency Phone to Safety Position
604-666-3655	Continuous Marine Broadcast (CMB)

Facsimile: 604-666-8453

Telex Number: 043-52586 CGTC VAS VCR

Electronic Mail: mctsvancouver@dfo-mpo.gc.ca

Website: <http://www.ccg-gcc.gc.ca/e0003905>

MCTS Vancouver / VAS – Ship/Shore Communications				
Communication sites located at:	Channel	Transmit Frequencies	Receive Frequencies	Remarks
Vancouver 49°17'05"N 123°06'44"W	Ch12 Ch16 Ch26 Ch83A			
Watts Point (Howe Sound) 49°38'54"N 123°12'36"W	Ch12 Ch16 Ch26 Ch70 Ch83A			

MCTS Vancouver / VAS – Broadcasts		
Time PST	Frequency	Contents
0730	Ch26 Vancouver Watts Point	RADIOTELEPHONY: <ul style="list-style-type: none"> • Notices to Shipping.
1330	Ch26 Vancouver Watts Point	RADIOTELEPHONY: <ul style="list-style-type: none"> • Notices to Shipping.
2130	Ch26 Vancouver Watts Point	RADIOTELEPHONY: <ul style="list-style-type: none"> • Notices to Shipping.

VICTORIA, BRITISH COLUMBIA

Marine Communications and Traffic Services Centre

MMSI: 00 316 0011

Call Sign: VAK

Hours: H24

For Radio Services, call Victoria Coast Guard Radio.

For Vessel Traffic Services, call Victoria Traffic – refer to section 3.

Mailing Address: Fisheries and Oceans Canada
Canadian Coast Guard
Victoria MCTS Centre
Officer-in-Charge – MCTS Operations
Institute of Ocean Sciences
9860 West Saanich Road
P.O. Box 6000
Sidney, BC V8L 4B2

Telephone Numbers:	250-363-6611 1-800-661-9202	MCTS Operations Toll Free MCTS Operations (within B.C. only)
	250-363-6818	Officer-in-Charge
	250-363-6836	Administration
	250-363-6333	Shift Supervisor
	250-363-6880	Continuous Marine Broadcast (CMB) – Mount Helmcken
	250-363-6492 or	Continuous Marine Broadcast (CMB) – Bowen Island/Mount Parke
	604-666-3655	
	1-800-661-9202	Toll Free MCTS Operations (within B.C. only)

Facsimile: 250-363-6556

Electronic Mail mctsvictoria@dfo-mpo.gc.ca

Website: <http://www.ccg-gcc.gc.ca/e0003906>

♦ VHF Direction Finding Advisory Service:

A VHF/DF advisory service is available to vessels within range of the Bowen Island, Mount Parke, Mount Newton, Mount Helmcken receiver sites. Information concerning position, bearing and distance information may be provided for use at the discretion of the user.

MCTS Victoria / VAK – Ship/Shore Communications				
Communication sites located at:	Channel	Transmit Frequencies	Receive Frequencies	Remarks
Annacis Island 49°11'35"N 122°55'09"W	Ch16 Ch26 Ch70 Ch74 Ch78A Ch83A			

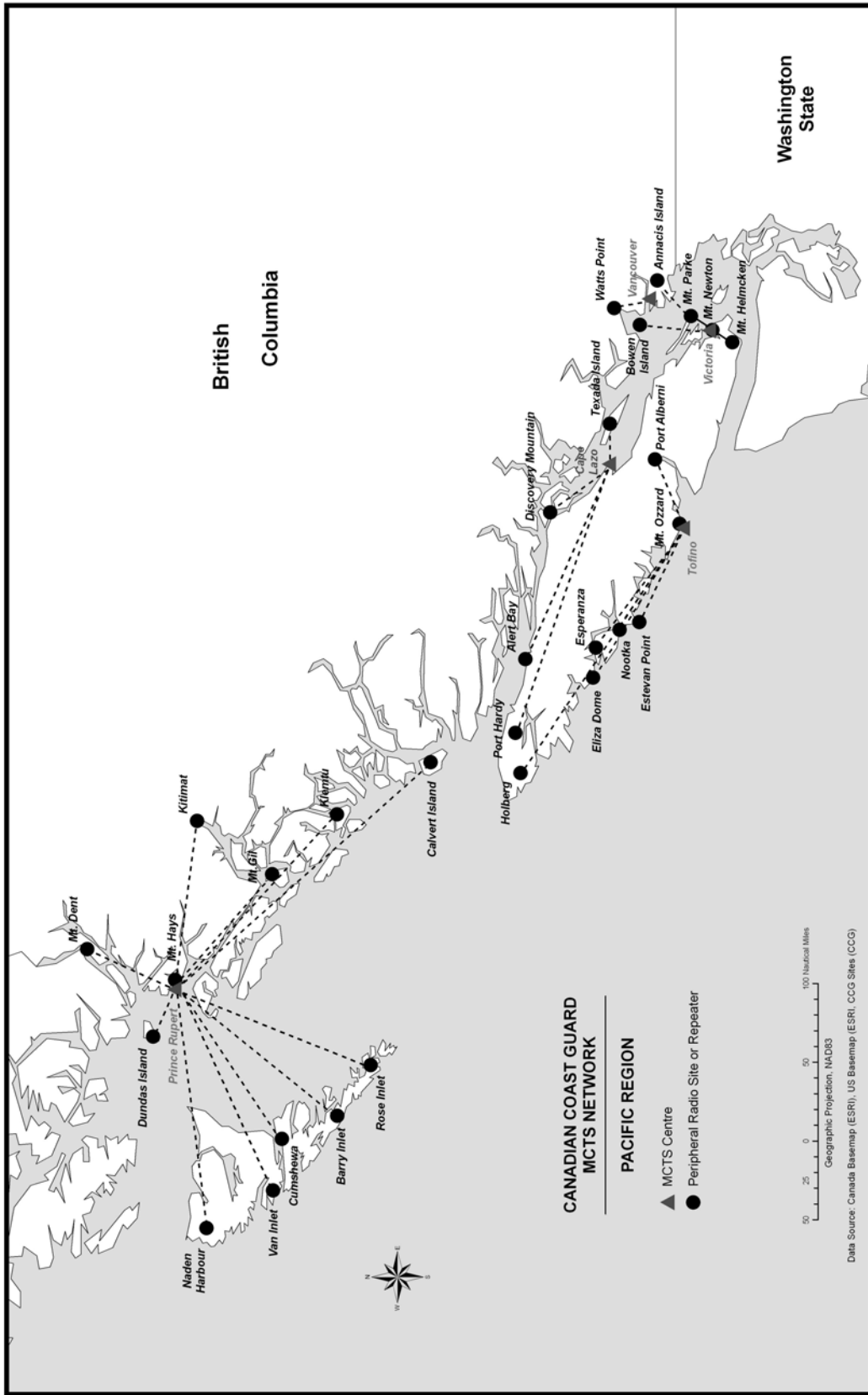
MCTS Victoria / VAK – Ship/Shore Communications				
Communication sites located at:	Channel	Transmit Frequencies	Receive Frequencies	Remarks
Bowen Island ♦ 49°20'41"N 123°23'13"W	Ch11 Ch16 Ch70 Ch74 Ch83A Ch84			
Mount Parke ♦ 48°50'23"N 123°17'41"W	Ch11 Ch16 Ch22A Ch26 Ch70 Ch74 CH78A Ch83A			
Mount Newton ♦ 48°36'48"N 123°26'35"W	Ch11 Ch16 Ch22A Ch70 Ch83A Ch84			
Mount Helmcken ♦ 48°24'07"N 123°34'17"W	Ch11 Ch16 Ch22A Ch70 Ch83A Ch84			

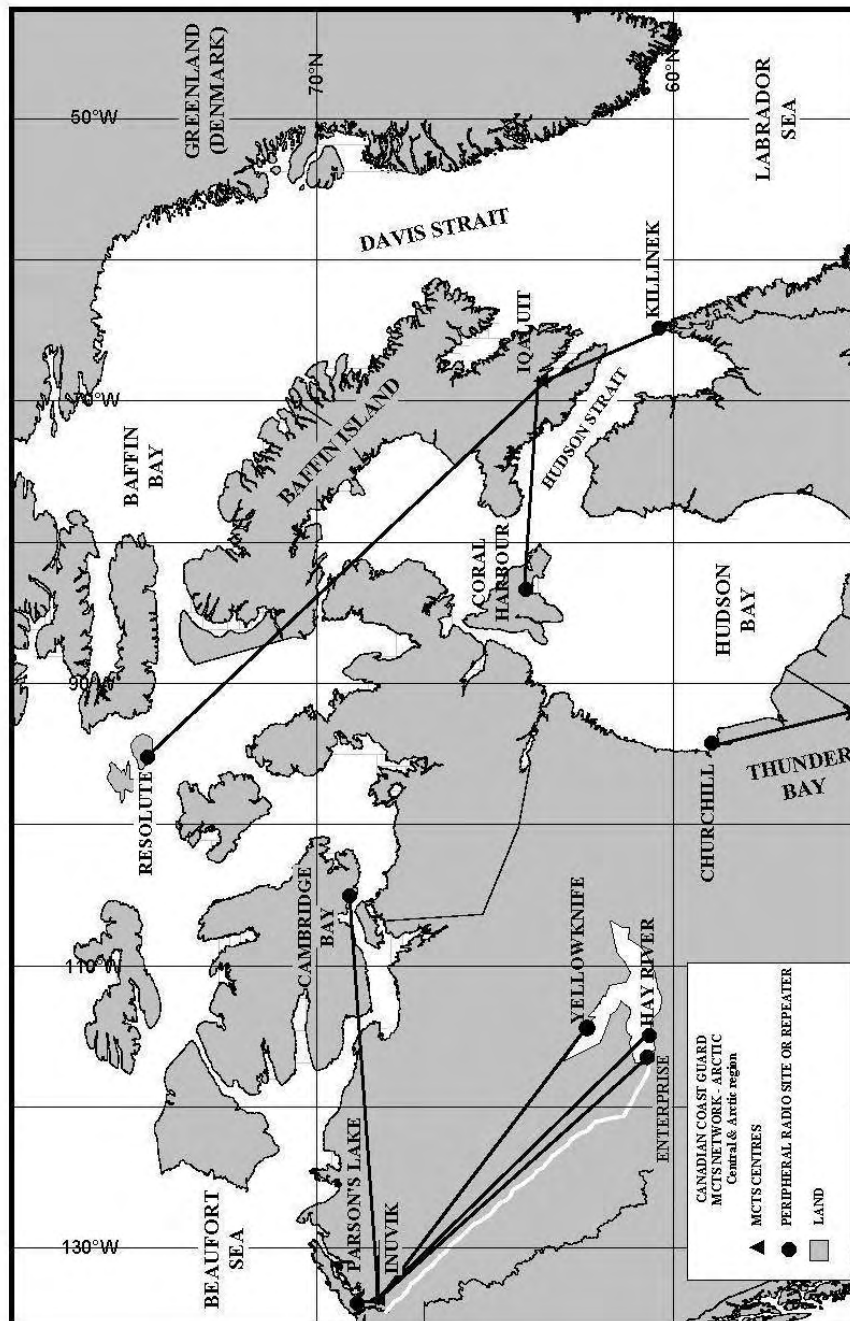
MCTS Victoria / VAK – Broadcasts		
Time PST	Frequency	Contents
0710	Ch21B Mount Parke WX3 Bowen Island Mount Helmcken	RADIOTELEPHONY: <ul style="list-style-type: none"> All Notices to Shipping. Notices to Fish Harvesters. <ul style="list-style-type: none"> Weekly shellfish update (every Tuesday).
1310	Ch21B Mount Parke WX3 Bowen Island Mount Helmcken	RADIOTELEPHONY: <ul style="list-style-type: none"> All Notices to Shipping. Notices to Fish Harvesters.
2110	Ch21B Mount Parke WX3 Bowen Island Mount Helmcken	RADIOTELEPHONY: <ul style="list-style-type: none"> All Notices to Shipping. Notices to Fish Harvesters.

MCTS Victoria / VAK – Broadcasts																										
Time PST	Frequency	Contents																								
Continuous Interrupted during live broadcasts	Ch21B Mount Parke WX3 Bowen Island	RADIOTELEPHONY: <ul style="list-style-type: none">Safety Notices to Shipping only.Technical synopsis and marine forecast areas 8, 9, 10, 11.Extended marine forecast areas 7, 8, 9, 10, 11. Automated Weather Reports: <table><tr><td>1. Sheringham Point</td><td>5. Kelp Reef</td><td>9. Pam Rocks</td></tr><tr><td>2. Race Rocks</td><td>6. Saturna Island</td><td>10. Entrance Island</td></tr><tr><td>3. Victoria/Gonzales Point</td><td>7. Sandheads</td><td>11. Ballenas Island</td></tr><tr><td>4. Discovery Island</td><td>8. Point Atkinson</td><td>12. Sisters Islet</td></tr></table> Ocean Buoy Report: <ul style="list-style-type: none">Halibut Bank Lighthouse Weather Reports: <table><tr><td>1. Chrome Island</td><td>3. Entrance Island</td></tr><tr><td>2. Merry Island</td><td>4. Trial Island</td></tr></table> Local Weather Reports: <ul style="list-style-type: none">Tsawwassen <ul style="list-style-type: none">Fraser River Salmon Fishery Information.	1. Sheringham Point	5. Kelp Reef	9. Pam Rocks	2. Race Rocks	6. Saturna Island	10. Entrance Island	3. Victoria/Gonzales Point	7. Sandheads	11. Ballenas Island	4. Discovery Island	8. Point Atkinson	12. Sisters Islet	1. Chrome Island	3. Entrance Island	2. Merry Island	4. Trial Island								
1. Sheringham Point	5. Kelp Reef	9. Pam Rocks																								
2. Race Rocks	6. Saturna Island	10. Entrance Island																								
3. Victoria/Gonzales Point	7. Sandheads	11. Ballenas Island																								
4. Discovery Island	8. Point Atkinson	12. Sisters Islet																								
1. Chrome Island	3. Entrance Island																									
2. Merry Island	4. Trial Island																									
Continuous Interrupted during live broadcasts	WX3 Mount Helmcken	RADIOTELEPHONY: <ul style="list-style-type: none">Safety Notices to Shipping only.Technical synopsis and marine forecast areas 7, 8, 9, 10, 11.Wave height forecast area 7.Extended marine forecast areas 7, 8, 9, 10, 11. Automated Weather Reports: <table><tr><td>1. Sheringham Point</td><td>4. Discovery Island</td><td>6. Saturna Island</td></tr><tr><td>2. Race Rocks</td><td>5. Kelp Reef</td><td>7. Sandheads</td></tr><tr><td>3. Victoria / Gonzales Point</td><td></td><td></td></tr></table> Ocean Buoy Report: <ul style="list-style-type: none">La Perouse Bank Local Lighthouse Weather Reports: <table><tr><td>1. Estevan Point</td><td>4. Cape Beale</td><td>6. Carmanah Point</td></tr><tr><td>2. Lennard Island</td><td>5. Pachena Point</td><td>7. Trial Island</td></tr><tr><td>3. Amphitrite Point</td><td></td><td></td></tr></table> <ul style="list-style-type: none">U.S. coastal weather forecasts for inland waters from Cape Flattery to Cape Shoalwater out to 10 miles, Cape Flattery to Cape Shoalwater 10 to 60 miles, Northern Inland waters including the San Juan Islands, Puget Sound and Hood Canal. Automated Weather Reports for Juan de Fuca Strait: <table><tr><td>1. Cape Flattery</td><td>4. Smith Island</td></tr><tr><td>2. “JA” Buoy</td><td>5. Ogden Point</td></tr><tr><td>3. Hein Bank</td><td></td></tr></table>	1. Sheringham Point	4. Discovery Island	6. Saturna Island	2. Race Rocks	5. Kelp Reef	7. Sandheads	3. Victoria / Gonzales Point			1. Estevan Point	4. Cape Beale	6. Carmanah Point	2. Lennard Island	5. Pachena Point	7. Trial Island	3. Amphitrite Point			1. Cape Flattery	4. Smith Island	2. “JA” Buoy	5. Ogden Point	3. Hein Bank	
1. Sheringham Point	4. Discovery Island	6. Saturna Island																								
2. Race Rocks	5. Kelp Reef	7. Sandheads																								
3. Victoria / Gonzales Point																										
1. Estevan Point	4. Cape Beale	6. Carmanah Point																								
2. Lennard Island	5. Pachena Point	7. Trial Island																								
3. Amphitrite Point																										
1. Cape Flattery	4. Smith Island																									
2. “JA” Buoy	5. Ogden Point																									
3. Hein Bank																										

Bridge Operations – Pacific Coast			
Name Coordinates Call Sign	Class of Service	Channel	Remarks
JOHNSON STREET BRIDGE VICTORIA HARBOUR 48°25'40"N 123°21'52"W VAH20	SC	12	Operated by the City of Victoria, BC. Ship traffic control only.
MARPOLE RAILWAY BRIDGE, BC 49°12'00"N 123°07'31"W VGC248	SC	16 74 06 08	Operated by <i>Canadian Pacific Railway</i> . Note: In operation from 0730 to 1500 local time.
NEW WESTMINSTER RAILWAY BRIDGE, BC 49°12'32"N 122°53'25"W XLZ35	SC	16 11 12 74	Operated by Department of Public Works. Ship traffic control only.
QUEENSBORO RAILWAY BRIDGE, BC 49°11'51"N 122°55'23"W XJJ62	SC	16 74 06 08	Operated by <i>BC Southern Railway</i> .
SECOND NARROWS RAILWAY BRIDGE 49°17'42"N 123°01'27"W CJU52	SC	12	Operated by <i>Canadian National Railway</i> . Ship traffic control only.

Note: See current “*Sailing Directions*” for a list of bridges that require radio contact for opening.





Radio Beacon Stations – Pacific Coast Continuously Operating Radio Beacons (All stations located in British Columbia)				
Name Location	Frequency kHz	Range Nautical Miles	Identifier	Remarks
ACTIVE PASS 48°52'26"N 123°17'23"W	378	50	..- .-.-. (A P)	Open year round. Caution: bearing error could result from coastal refraction. (NAV Canada)
DEAD TREE POINT 53°21'01"N 131°56'23"W	248	25	--- --- --- (Z Z P)	Open year round. (NAV Canada)
MASSETT 54°01'54"N 132°07'38"W	278	25	----- ..- (1 U)	Open year round. (NAV Canada)
PRINCE RUPERT 54°15'49"N 130°25'20"W	218	100	--- ..- (P R)	Open year round. (NAV Canada)
SANDSPIT* 53°11'48"N 131°46'33"W	368	75	--- --- (Z P)	Open year round. Caution: bearing error could result from coastal refraction. (NAV Canada)
TOFINO 49°02'54"N 125°42'16"W	359	50	--- .- --- (Y A Z)	Open year round. Caution: bearing error could result from coastal refraction. (NAV Canada)

*Note: The NAV Canada operated Sandspit radio beacon on 368 kHz is not the same one used for DGPS.

Radar Beacon (RACONS) – Pacific Coast (All stations located in British Columbia, excluding Juan De Fuca)				
Name Location	Range Nautical Miles	Arc Degrees	Identifier	Remarks
ALEXANDRA BANK BIFURCATION LIGHT BUOY DAX 54°14'08.1"N 130°34'06.1"W	15	360	--- (K)	Open year round.
BILLARD ROCK WHISTLE BUOY "M3" QUATSINO SOUND 50°25'47.2"N 127°57'47.7"W	15	360	--- (G)	Open year round.
BURRARD INLET CAUTIONARY LIGHT BUOY "QB" 49°19'02.2"N 123°12'04.5"W	15	360	--- (K)	Open year round.
BUTTERWORTH ROCKS 54°14'08"N 130°58'30"W (NAD 27)	15	360	--- (X)	Open year round.
CANOE PASS LIGHT AND BELL BUOY "T14" 49°02'17.4"N 123°15'22.7"W	15	360	--- (K)	Open year round.
DAVEY ROCK LIGHT BUOY "N32" 50°51'36.3"N 127°31'9.7"W	15	360	--- (Q)	Open year round.
ESPERANZA INLET LIGHT AND WHISTLE BUOY "M40" 49°47'07.4"N 127°02'28.5"W	15	360	--- (K)	Open year round.

Radar Beacon (RACONS) – Pacific Coast (All stations located in British Columbia, excluding Juan De Fuca)				
Name Location	Range Nautical Miles	Arc Degrees	Identifier	Remarks
HANMER ROCKS BROWNS PASSAGE 54°19'26.5"N 130°49'20.3"W	15	360	-- (M)	Open year round.
JACINTO ISLAND 52°56'31"N 129°36'43"W (NAD 27)	15	360	--. (Q)	Open year round.
JUAN DE FUCA TRAFFIC LANE SEPARATION LIGHT BUOY "J" U.S.A. 48°29'36.8"N 125°00'00"W	8	360	--- (O)	Open year round.
LAWN POINT SECTOR LIGHT 53°25'29.8"N 131°54'50.3"W (NAD 27)	15	360	-. (K)	Open year round.
PINE ISLAND 50° 58' 32.2" N 127° 43' 40.7" W	15	270	-. (M)	Open year round.
RACE ROCKS SOUTH CAUTIONARY LIGHT BUOY "VF" 48°14'04.4"N 123°31'58.7"W	15	360	-. (B)	Open year round.
ROBERTS BANK 49°05'15.7"N 123°18'36.9"W	15	360	-. (N)	Open year round.
ROBERTS BANK CAUTIONARY LIGHT BUOY "TA" 49°04'25.4"N 123°22'50.7"W	15	360	--- (O)	Open year round.
ROSARIO STRAIT TRAFFIC LANE ENTRANCE BUOY R (U.S.) 48° 16' 25.3" N 123° 6' 34.6" W			- (T)	Operated by USA
ROSE SPIT 54°09'40"N 131°39'35.2"W (NAD 27)	15	360	--. (Q)	Open year round.
ROSENFELD ROCK LIGHT BUOY "U59" 48°48'11.4"N 123°01'38.7"W	15	360	-. (C)	Open year round.
SEAL ROCKS 53°59'58.8"N 130°47'31.3"W (NAD 27)	15	360	-. (Y)	Open year round.
SEAPOL ROCKS LIGHT AND WHISTLE BUOY "Y49" 48°48'53.3"N 125°12'19.1"W	15	360	-. (K)	Open year round.
STENHOUSE SHOAL, LIGHT AND WHISTLE BUOY "D59" 54°20'07"N 130°56'03"W	15	360	-. (C)	Open year round.
THRASHER ROCK 49°09'00"N 123°38'30"W	15	360	-. (X)	Open year round.

Radar Beacon (RACONS) – Pacific Coast (All stations located in British Columbia, excluding Juan De Fuca)				
Name Location	Range Nautical Miles	Arc Degrees	Identifier	Remarks
VANCOUVER APPROACH CAUTIONARY LIGHT BUOY “QA” 49°16'34.4"N 123°19'18.4"W	15	360	--. (G)	Open year round.
VICTORIA HARBOUR CAUTIONARY LIGHT BUOY “VH” 48°22'31.3"N 123°23'33.7"W	15	360	-- (K)	Open year round.

Radar Beacon (RACONS) – Western Arctic (All stations located in NWT and Nunavut)				
Name Location	Range Nautical Miles	Arc Degrees	Identifier	Remarks
ATKINSON POINT 69°56'46.7"N 131°26'59.3"W	5	360	-- (Y)	Navigation season only.
BAILLIE ISLANDS 70°38'16.5"N 128°15'46.6"W	20	360	-- (K)	Navigation season only.
CALTON POINT BEAUFORT SEA 69°30'09"N 139°06'30"W (NAD 27)	12	360	--. (G)	Navigation season only.
CAPE DALHOUSIE 70°16'05"N 129°42'36"W (NAD 27)	5	360	--. (Z)	Navigation season only.
COLLINSON HEAD 69°34'30"N 138°51'34"W	10	360	-- (N)	Navigation season only.
HARDISTY ISLAND 61°43'52.7"N 114°35'00.2"W	10	360	--. (G)	Navigation season only.
KAY POINT 69°17'26"N 138°22'42"W (NAD 27)	20	190	-- (K)	Navigation season only.
PELLY ISLAND 69°37'27.6"N 135°29'10.3"W (NAD27)	5	360	-- (Y)	Navigation season only.
PILOT ISLANDS RANGE 62°13'04"N 114°06'49.3"W	15	360	--. (C)	Navigation season only.
PITT HEAD 69°09'15"N 136°10'30"W (NAD 27)	10	360	-- (K)	Navigation season only.
PULLEN ISLAND 69°46'26.5"N 134°23'24.4"W	20	360	--. (G)	Navigation season only.
RELIEF ISLAND 70°08'45"N 130°49'30"W (Chart 7664 – NAD 27)	20	210	-- (Z)	Navigation season only.
SHINGLE POINT 69°00'30"N 137°34'12"W (NAD 27)	10	360	-- (Y)	Navigation season only.

Radar Beacon (RACONS) – Western Arctic (All stations located in NWT and Nunavut)				
Name Location	Range Nautical Miles	Arc Degrees	Identifier	Remarks
TUKTOYAKTUK ISLAND RANGE 69°27'21.3"N 132°59'49"W (NAD27)	5	360	--. (C)	Navigation season only.
WARREN POINT 69°45'00"N 132°21'30"W	10	360	--. (C)	Navigation season only.
CACHE POINT 68°39'24"N 113°25'00"W	20	360	--. (G)	Navigation season only.
CAPE BEXLEY, 69°00'40"N 115°55'00"W	10/20	210	--. (Y)	Navigation season only.
DELTA ISLAND, 68°35'26"N 100°01'45"W (NAD unknown)	20	360	--. (G)	Navigation season only.
M'CLINTOCK POINT, 69°18'45"N 99°53'00"W (NAD unknown)	20	360	--. (C)	Navigation season only.
NORDENSKIOLD ISLANDS 68°21'12"N 100°47'12" W (NAD unknown)	10	360	-- (K)	Navigation season only.
RISTVEDT ISLAND 68°30'51.8"N 97°15'13.9"W (NAD unknown)	10	360	--. (Y)	Navigation season only.
TAYLOR POINT 69°37'15"N 95°35'24"W (NAD Unknown)	6	360	--. (Q)	Navigation season only.
WIIK ISLAND 68°31'24"N 99°33'07"W (NAD Unknown)	10	360	--. (Z)	Navigation season only.

PART 3

VESSEL TRAFFIC SERVICES (VTS)

PACIFIC AND WESTERN ARCTIC

The purpose of this section is to describe to shipboard personnel the ship reporting procedures to be followed by vessels within or intending to enter a Vessel Traffic Services Zone.

RESPONSIBILITIES

There is no intention on the part of the CCG to attempt to navigate or manoeuvre ships from a shore station and nothing in this publication overrides the authority of the master of his responsibility for the safe navigation of his ship. Information passed to the master is intended to assist him in the safe conduct of his ship.

A Marine Communications and Traffic Services (MCTS) Officer may, with respect to any vessel of a prescribed class that is about to enter or is within a VTS zone:

- (a) grant a clearance to the vessel to enter, leave or proceed within the VTS zone;
- (b) direct the master, pilot or person in charge of the deck watch of the vessel to provide any pertinent information in respect of that vessel that may be specified in the direction;
- (c) direct the vessel to use any radio frequencies in communications with coast stations or other vessel that may be specified in the direction; and
- (d) direct the vessel at the time, between the times or before or after any event that may be specified in the direction;
 - to leave a VTS Zone,
 - to leave or refrain from entering any area within a VTS Zone that may be specified in the direction, or
 - to proceed to or remain at any location within a VTS Zone that may be specified in the direction.

A vessel as well as the master, pilot or person in charge of the deck watch of a vessel, shall comply with a direction given to it or them by an MCTS Officer. Notwithstanding, the master, pilot or person in charge of the deck watch may take any action that may be required to ensure the safety of life, the ship or any other ship.

The master of a ship shall ensure that before the ship enters a VTS Zone the ship's radio equipment is capable of receiving and transmitting radio communications on the appropriate VTS sector frequency.

TRAFFIC CLEARANCE

A "Traffic Clearance" is an authorization for a ship to proceed subject to such conditions as may be included in the authorization. The traffic clearance is predicated upon ship report information and known waterway/traffic conditions. A traffic clearance does not eliminate the need for other authorizations required by legislation or by-laws.

Should any factor upon which the traffic clearance is predicated alter to the detriment of safe navigation, the traffic clearance may be delayed or other conditions may be attached to the traffic clearance.

A Traffic Clearance is required prior to:

- entering a VTS zone;
- commencing a departure manoeuvre;
- commencing a manoeuvre that may be detrimental to safe navigation;
- proceeding after being stranded, stopped due to breakdown of main propulsion machinery or steering gear, or involved in a collision.

COMMUNICATIONS

Radiotelephone procedures used in communicating with an MCTS centre are those specified by the International Telecommunications Union in the *"Manual for Use by the Maritime Mobile and Maritime Mobile Satellite Services"*.

A continuous listening watch shall be maintained on the appropriate VTS sector frequency on radio equipment located:

- at any place on board the ship, where the ship is at anchor or moored to a buoy; and
- in the vicinity of the ship's conning position, where the ship is underway.

A continuous listening watch may be suspended if an MCTS Officer directs the ship to communicate with coast stations and/or other ship stations on a different VHF radio frequency.

All times given in local VTS zone reports should be in local time and in accordance with the 24-hour clock system.

Navigation safety calls on designated VTS sector frequencies should be kept to the minimum consistent with the safety requirement of the situation.

Communication Difficulties

Where a ship, for any reason other than ship board radio equipment failure is unable to obtain the required traffic clearance or after receiving a traffic clearance, is unable to maintain direct communication with the appropriate MCTS centre, the master may nevertheless proceed on his route, but shall take all reasonable measures to communicate with the appropriate MCTS centre as soon as possible and obtain the specified clearance.

Ship Board Radio Equipment Malfunction

In the event of a ship board radio equipment failure where the ship is unable to obtain the required traffic clearance or after receiving a traffic clearance, is unable to maintain direct communication with the appropriate MCTS centre, the vessel shall:

- (a) if it is in a port or anchorage where repairs can be made, remain in the port until the vessel is able to establish communications in accordance with the *Canada Shipping Act, 2001*, Part 5, Section 6(a); or
- (b) if it is not in a port or anchorage where repairs can be made, proceed to the nearest reasonably safe port or anchorage on its route and remain there until the vessel is able to establish communications in accordance with the *Canada Shipping Act, 2001*, Part 5, Section 6(b).

English Language

All communications with Tofino, Seattle, Prince Rupert, Comox, Vancouver or Victoria Traffic must be made in clear, unbroken English. At least one person capable of conducting two-way radio communications using the English language must be present on the bridge at all times within the CVTS reporting area. When language problems do arise, communications may be preceded by using message markers as found in the IMO Standard Marine Navigational Vocabulary (SMNV).

ZONE DESCRIPTION

Western Canada

VTS Zones in Western Canada include all Canadian waters on the west coast of Canada as described in the VTS Zone Schedules of this Part and referred to in the *Vessel Traffic Services Zone Regulations*.

→Northern Canada

The Northern Canada Vessel Traffic Services (NORDREG) Zone consists of:

- (a) the shipping safety control zones prescribed by the *Shipping Safety Control Zones Order*;¹
- (b) the waters of Ungava Bay, Hudson Bay and Kugmallit Bay that are not in a shipping safety control zone;
- (c) the waters of James Bay;
- (d) the waters of Koksoak River from Ungava Bay to Kuujjuaq;
- (e) the waters of Feuilles Bay from Ungava Bay to Tasiujaq;
- (f) the waters of Chesterfield Inlet that are not within a shipping safety control zone and the waters of Baker Lake; and
- (g) the waters of Moose River from James Bay to Moosonee.

Athabasca – Mackenzie Watershed

From Tuktoyaktuk to Great Slave Lake, danger areas have been designated and reporting procedures established for vessels in these areas.

ZONE APPLICATION

Western Canada – Offshore

With respect to the Western Canada VTS Zones, the *Vessel Traffic Services Zone Regulations* require a report to be made at least 24 hours before the ship enters a VTS Zone from seaward including Alaska, or as soon as possible where the estimated time of arrival at that VTS Zone is less than 24 hours after the ship departs from the last port of call, where the ship is:

- a) of 500 tons gross tonnage or more;
- b) engaged in towing or pushing a vessel, where the combined tonnage of the ship and the vessel being towed or pushed is 500 tons gross tonnage or more; or
- c) carrying a pollutant or dangerous goods, or engaged in towing or pushing a vessel carrying a pollutant or dangerous goods as prescribed in the;
 - i) *Oil Pollution Prevention Regulations*,
 - ii) *Pollutant Substances Regulations*
 - iii) *Dangerous Goods Shipping Regulations*,
 - iv) *International Maritime Dangerous Goods (IMDG) Code*, and
 - v) *Dangerous Chemicals and Noxious Liquid Substances Regulations*.

Participation seaward of Canadian and U.S. territorial waters for vessels between 300 and 500 tons gross tonnage is strongly encouraged to receive the benefit of Vessel Traffic Services. The offshore services are typically available to about 50 nautical miles. These benefits include traffic information, warnings of vessel congestion or other hazardous conditions, and many other forms of transit assistance.

Western Canada – Local VTS Zones

For vessels within or about to enter a Western Canada VTS Zone, the *Vessel Traffic Services Zone Regulations* apply in respect of:

- a) every ship twenty metres or more in length;

¹ The Shipping Safety Control Zones cover Canada's coastal northern waters within the area enclosed by the 60th parallel of north latitude, the 141st meridian of west longitude and the outer limit of the exclusive economic zone; however, where the international boundary between Canada and Greenland is less than 200 nautical miles from the baselines of the territorial sea of Canada, the international boundary shall be substituted for that outer limit.

- b) every ship engaged in towing or pushing any vessel or object, other than fishing gear, where;
 - i) the combined length of the ship and any vessel or object towed or pushed by the ship is forty-five metres or more in length, or
 - ii) the length of the vessel or object being towed or pushed by the ship is twenty metres or more in length.

For vessels within or about to enter a Western Canada VTS Zone, the *Vessel Traffic Services Zone Regulations* do not apply in respect of:

- a ship engaged in towing or pushing any vessel or object within a log booming ground;
- a pleasure yacht that is less than 30 metres in length; and
- a fishing vessel that is less than 24 metres in length and not more than 150 tons gross tonnage.

➔Northern Canada VTS (NORDREG) Zone

With respect to the Northern Canada VTS (NORDREG) Zone the *Northern Canada Vessel Traffic Services Zone Regulations* apply to the following classes of vessels:

- (a) vessels of 300 gross tonnage or more;
- (b) vessels that are engaged in towing or pushing another vessel, if the combined gross tonnage of the vessel and the vessel being towed or pushed is 500 gross tonnage or more; and
- (c) vessels that are carrying as cargo, a pollutant or dangerous goods, or that are engaged in towing or pushing a vessel that is carrying as cargo a pollutant or dangerous goods.

Participation is mandatory.

ADVANCE REPORTING REQUIREMENTS

If bound for a Canadian port:

Pre-Arrival Information Report (PAIR)

The Canadian *Marine Transportation Security Regulations* (MTSRs) require Pre-Arrival Information Report (PAIR) to be filed prior to entry into Canadian waters. Message format and contact information may be found in Part 4.

VTS Offshore Report

The *Vessel Traffic Services Zone Regulations* require all vessels greater than 500 GRT to file an Offshore report 24 hours prior to entering a Canadian VTS Zone from seaward, or as soon as practical where the estimated time of arrival of the ship to a Canadian VTS Zone is less than 24 hours after the time the ship departed its last port of call. VTS Offshore reports can be sent to:

E-mail:	OFFSHORE@RMIC.GC.CA
Telephone:	604-666-6011
Facsimile:	604-666-8453
Telex:	04352586
Telex Answerback:	CGTC VAS VCR

Or via a CCG MCTS centre, free of charge

If bound for a U.S. Port:

Notice of Arrival

A **96-hour Notice of Arrival** (NOA) must be filed in accordance with the 33 Code of Federal Regulations (CFR) Part 160 (dated February 28, 2003) directly to the U.S. Coast Guard National Vessel Movement Center (NVMC) via one of the following methods:

E-mail: SANS@NVMC.USCG.gov
Telephone: 1-800-708-9823
Facsimile: 1-800-547-8724

The electronic Notice of Arrival/Departure (e-NOA/D) can be found at the NVMC Website: <http://www.nvmc.uscg.gov>.

Western Canada – VTS Offshore Report

Information Required

- (a) the name of the ship;
- (b) the radio call sign of the ship;
- (c) the name of the master of the ship;
- (d) the position of the ship;
- (e) the time (UTC) the ship arrived at the position;
- (f) the course of the ship, if any;
- (g) the speed of the ship, if any;
- (h) the prevailing weather conditions;
- (i) the estimated time (UTC) that the ship will enter the VTS Zone;
- (j) the name of the VTS Zone the ship intends to enter;
- (k) the destination of the ship;
- (l) the estimated time (UTC) of arrival of the ship at the destination;
- (m) the intended route of the ship;
- (n) the name of the last port of call of the ship;
- (o) the draught of the ship;
- (p) any dangerous goods, listed by class, or pollutant, that is carried on board the ship or the vessel being towed or pushed by the ship;
- (q) any defect in the ship's hull, main propulsion systems or steering systems, radars, compasses, radio equipment, anchors or cables;
- (r) any discharge, or threat of discharge, into the water, of a pollutant from the ship or the vessel being towed or pushed by the ship, and any damage to the ship or vessel that may result in the discharge of a pollutant from the ship or vessel into the water;
- (s) the name of the Canadian or United States agent of the ship; and
- (t) ➔ the date of expiration of a certificate referred to in Article VII of the *International Convention on Civil Liability for Oil Pollution Damage, 1969/1992*, the International Oil Pollution Prevention Certificate, the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk, the Certificate of Fitness and the Certificate of Compliance, if any issued to the ship, (The following is also requested: the date and expiration of the ISM Safety Management Certificate, the ISM document of compliance, and the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 Certificate (known as Bunkers Convention Certificate), if any, issued to the ship.)

Western Canada Local VTS Zone Report

With respect to the Western Canada VTS Zones, the *Vessel Traffic Services Zone Regulations* specify that the master of a ship shall report to an MCTS Officer in accordance with the following requirements.

Information Required

Dependent upon the reporting requirement the following information shall be required to be reported:.

- (a) the name of the ship;
- (b) the radio call sign of the ship;
- (c) the position of the ship;
- (d) the estimated time that the ship will enter the VTS zone;
- (e) the destination of the ship;
- (f) the estimated time that the ship will arrive at its destination;
- (g) whether any pollutant or dangerous goods cargo is carried on board the ship or any vessel or object being towed or pushed by the ship;
- (h) the estimated time that the ship will depart the berth; and
- (i) the estimated time at which the ship will next arrive at a location requiring a report.

Entering a Zone

At least 15 minutes before a ship intends to enter a VTS zone, a report shall be made specifying the information listed in (a), (b), (c), (d), (e), (f) and (g).

Exception: Ships already in possession of a valid traffic clearance are not required to provide this report.

Arrival at a Calling-In-Point (CIP)

When a ship arrives at a CIP a report shall be made specifying the information listed in (a), (c) and (i).

Arrival at a Berth

As soon as practicable after a ship arrives at a berth, a report shall be made specifying the information listed in (a) and (c).

Departure Manoeuvre

A departure manoeuvre is defined as an operation during which a vessel leaves a berth and gets safely underway:

- Immediately before commencing a departure manoeuvre, a report shall be made specifying the information listed in (a), (b), (c), (e), (f), (g) and (h);
- Immediately after completing the departure manoeuvre, a report shall be made specifying the information listed in (a), (c) and (i).

Manoeuvres

A traffic clearance is required 15 minutes prior to commencing any manoeuvre such as:

- i) a compass adjustment;
- ii) the calibration and servicing of navigational aids;
- iii) a sea trial;
- iv) a dredging operation;
- v) the laying, picking up and servicing of submarine cables; or any other manoeuvre that may be detrimental to safe navigation.

Prior to commencing a manoeuvre a report shall be made specifying the information listed in (a) and (c), plus a description of the intended manoeuvre. As soon as practical after the manoeuvre is completed, a report describing the manoeuvre just completed shall be made.

Change in Information

A report shall be made whenever a significant change occurs in the information previously provided in any report made pursuant to the *Vessel Traffic Services Zone Regulations*.

Non-Routine Reports

Pursuant to the *Vessel Traffic Services Zone Regulations* a report indicating the vessel's name, position and a description of the incident shall be made as soon as the master becomes aware of any of the following conditions:

- i) the occurrence on board the ship of any fire;
- ii) the involvement of the ship in a collision, grounding or striking;
- iii) any defect in the ship's hull, main propulsion systems or steering systems, radars, compasses, radio equipment, anchors or cables;
- iv) any discharge or probable discharge of a pollutant from the ship into the water;
- v) another ship in apparent difficulty;
- vi) any obstruction to navigation;
- vii) any aid to navigation that is functioning improperly, damaged, off-position or missing;
- viii) the presence of any pollutant in the water;
- ix) the presence of a ship that may impede the movement of other ships; and
- x) any ice and weather conditions that are detrimental to safe navigation.

Notes

- (1) Items (vi), (vii) and (viii) are not required if the information has been previously promulgated by a Notice to Shipping.
- (2) Mariners are encouraged to provide, on a voluntary basis, any information pertaining to charts and publications which may not be on board so that arrangements can be made to embark the necessary items.

Variations from requirements

Ferries and other vessels on regularly scheduled voyages may be exempted from making routine reports. Formal variations to reporting procedures will be granted only where alternate arrangements to provide essential information are made and where the equivalent procedure or practice is deemed to be as safe as that required in the regulations.

Formal variations may be obtained by submitting a written request to the appropriate Regional MCTS Superintendent, Canadian Coast Guard (see Page 1-8). In circumstances other than those described above, informal variations may be granted from time to time on a one time only basis by an MCTS Officer where the procedure or practice requested is deemed to be as safe as that required in the regulations.

→NORDREG Zone Reports

Format

NORDREG reports shall be addressed to NORDREG CANADA and communicated either directly to NORDREG CANADA or to the nearest Canadian Coast Guard MCTS centre. The master of a ship shall ensure that these reports are made in accordance with the stated requirements.

The information requested from the ships is derived from the standard reporting format shown in International Maritime Organization resolution A.851(20) – General Principles for Ship Reporting Systems and Ship Reporting Requirements, Including Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Pollutants.

Every report shall begin with the term “NORDREG” (system identifier) and be followed by whichever of the following two letters corresponds to the report:

- (a) “SP”, in the case of a sailing plan report;
- (b) “PR”, in the case of a position report;
- (c) “FR”, in the case of a final report;
- (d) “DR”, in the case of a deviation report.

The report must include the applicable designators followed by the information required in accordance with the table on page 3-8.

Content and time and geographical position for submitting reports

Vessels shall send a report as follows, and provide the information required in accordance with the table on page 3-8 that corresponds to the designators specified:

When the vessel is about to enter the NORDREG Zone

A sailing plan report (SP) shall be provided when the vessel is about to enter the NORDREG zone and must include the following designators: A, B, either C or D, E, F, G, H, I, L, O, P, Q, S, T, W, and X.

Note: Designators O, Q, T are not required when entering directly from the ECAREG Zone.

Vessels about to enter the NORDREG zone should provide the sailing plan report 24 hours in advance of entering the zone, or as soon as possible after leaving a port that is less than 24 hours from the NORDREG Zone. This ensures vessels are not delayed in obtaining a clearance from MCTS and enables MCTS to assess current conditions and prepare relevant safety information for the vessel.²¹

Departing a berth/anchorage

A sailing plan report (SP) shall be provided more than one hour but not more than two hours before a vessel departs from a berth within the NORDREG Zone, unless the vessel is moving to another berth in the same port. The sailing plan report must include the following designators: A, B, either C or D, H, I, L, O, P, Q, S, T, W, and X.

Note: Designators O, P, Q, S, T, W, X are not required if the corresponding information has not changed since the previous sailing plan report.

Getting Underway After an Incident

A sailing plan report (SP) shall be provided immediately before a vessel gets underway within the NORDREG Zone if the vessel; has been stranded, has stopped as a result of a breakdown in the main propulsion systems or steering systems, has been involved in a collision. The sailing plan report must include the following designators: A, B, either C or D, I, L, O, P, Q, S, T, W and X.

Note: Designators O, P, Q, S, T, W, X are not required if the corresponding information has not changed since the previous sailing plan report.

Entering at Zone Boundary

A position report (PR) shall be provided immediately after a vessel enters the NORDREG Zone and must include the following designators: A, B, either C or D, E, F, and S.

² Vessels must obtain a clearance from MCTS before entering the NORDREG zone.

Daily

A position report (PR) shall be provided daily at 1600 UTC, unless the vessel is transmitting LRIT information. The position report shall include the following designators: A, B, either C or D, E, F, and S.

Other Situations

A position report (PR) shall be provided with designators A, B, either C or D, E, F, S and X as soon as feasible after a vessel's master becomes aware of any of the following:

- another vessel in apparent difficulty,
- any obstruction to navigation,
- any aid to navigation that is not functioning properly or is damaged, out of position or missing.
- any ice or weather conditions that are hazardous to safe navigation
- a pollutant in the water.

Arrival at berth/anchorage

A final report (FR) shall be provided on the arrival of a vessel at a berth within the NORDREG Zone and include the following designators: A and K.

Exiting the Zone

A final report (FR) shall be provided immediately before a vessel exits the NORDREG Zone and include the following designators: A and K

Deviation Report

A deviation report (DR) shall be provided when a vessel's position varies significantly from the position that was expected based on the sailing plan report, or when a vessel's intended voyage changes from the sailing plan report. The deviation report must include the following designators: A, B, either C or D and the other designators included in the sailing plan report if the corresponding information has changed since that report.

NORDREG Zone Report: Designators and Information Required		
Designator	Subject and Information Required	
A	Vessel.	The vessel's name, the name of the state whose flag the vessel is entitled to fly and, if applicable, the vessel's call sign, International Maritime Organization ship identification number and Maritime Mobile Service Identity (MMSI) number.
B	Date and time.	Date and time corresponding to the vessel's position under designator C or D given in Coordinated Universal Time (UTC). A 6-digit group followed by a Z, the first 2 digits giving the day of the month, the next two digits giving the hour and the last two digits giving the minutes.
C or D	Vessel's position by latitude and longitude.	A 4-digit group giving latitude in degrees and minutes suffixed with N and a 5-digit group giving longitude in degrees and minutes suffixed with W.
D	Vessel's position by geographical name of place.	If the vessel is at a known place, the name of the place. If the vessel is not at a known place, the name of a known place followed by the vessel's true bearing (3-digits) and distance in nautical miles from the place.
E	Vessel's course.	True course. A 3-digit group.
F	Vessel's speed.	Speed in knots. A 2-digit group.
G	The vessel's last port of call.	The name of the port of call.

NORDREG Zone Report: Designators and Information Required		
Designator	Subject and Information Required	
H	Vessel's entry into the NORDREG Zone or departure from a berth within the NORDREG Zone.	Estimated date and time the vessel will enter the NORDREG Zone or depart the berth within the NORDREG Zone, as appropriate. Date and time expressed as under designator B and entry or departure position expressed as under designator C or D.
I	Vessel's destination and expected time of arrival.	The name of the destination followed by expected time of arrival, expressed as under designator B.
K	Vessel's exit from the NORDREG Zone or arrival at the vessel's destination.	Date and time vessel exits the NORDREG Zone or arrives at its berth within the NORDREG Zone. Exit date and time expressed as under designator B and exit or arrival position expressed as under designator C or D.
L	Vessel's intended route.	A brief description of the intended route through the NORDREG Zone.
O	Vessel's maximum present static draught.	A 4-digit group giving metres and centimetres.
P	Cargo.	A brief description of the vessel's cargo and the cargo of any vessel being towed or pushed. The description must include: (a) in the case of a dangerous good, the class and quantity; and (b) in the case of a pollutant, the technical name and quantity.
Q	Defects, damage and deficiencies, as well as circumstances adversely affecting the vessel's normal navigation.	Brief details of any defects, damage or deficiencies of the vessel or its machinery, equipment or charts and nautical publications, or circumstances that adversely affect normal navigation.
S	Weather and Ice.	A brief description of the prevailing weather and ice conditions.
T	Vessel's authorized representative, agent or owner.	The name and contact information of; (a) in the case of a Canadian vessel, its authorized representative; (b) in the case of a foreign vessel, its Canadian or American agent or owner; (c) in the case of a pleasure craft that is not a Canadian vessel, the pleasure craft's owner.
W	Persons on board the vessel.	The number of persons.
X	Additional information for sailing plan report. Information to be reported in a position report in certain situations.	(a) In the case of a sailing plan report the following information: (i) the total amount of oil on board that is for use as fuel or carried as cargo, expressed in cubic metres, (ii) if the vessel's owner or master holds an arctic pollution prevention certificate in respect of the vessel; the certificate's expiry date and the name of its issuing authority, (iii) the vessel's ice class, if applicable, and the name of the classification society that assigned the ice class (iv) if the vessel is getting underway after having been stranded, stopped as a result of a breakdown in the main propulsion or steering system or involved in a collision; a brief description of the applicable incident. (b) In the case of a position report required after becoming aware of: another vessel in difficulty; any obstruction to navigation; an aid to navigation that is not functioning properly or is damaged, out of position or missing; any ice or weather conditions that are hazardous to safe navigation and a pollutant in the water - then a brief description of the applicable matter.

NORDREG reports shall be sent to:

*Iqaluit MCTS Centre
Telephone: 867-979-5724/5269
Facsimile: 867-979-4264
Telex (Telefax): 063-15529
Telegraphic Identifier: NORDREG CDA
E-mail: IQANORDREG@INNAV.GC.CA

***Note:** Operational from approximately mid-June until late November. Yearly opening and closing dates will be advertised by Notice to Shipping.

ICE ADVISORY SERVICE

Arctic and Hudson Strait and Bay

The Canadian Coast Guard operates a service for the support of ships navigating in the ice congested Canadian Arctic, and other ice free northern waters, during the summer navigation season. Access to this service can be obtained by calling NORDREG CANADA. This support includes the promulgation of up-to-date information on ice conditions; advice on routes; aids to navigation; icebreaker support when available and considered necessary; and organization of convoys when conditions dictate.

Throughout the navigation season, ice advisories, forecasts and synoptic ice charts are issued by Canadian Ice Service in Ottawa, and broadcast daily by radio and radio facsimile. Particulars of the time of transmissions and radio frequencies used, etc. will be found in Part 2 of this publication.

The Canadian Coast Guard has established an MCTS centre at Iqaluit, Nunavut. The centre opens in mid June and is staffed until late November.

Contact information for NORDREG Canada is as follows:

Fisheries and Oceans	Telephone:	867-979-5724/5269
Canadian Coast Guard	Facsimile:	867-979-4264
NORDREG Canada	Telex (Telefax):	063-15529
P.O. Box 189	Telegraphic Identifier:	NORDREG CDA
IQALUIT NU X0A 0H0	E-mail:	IQANORDREG@INNAV.GC.CA

The Canadian Coast Guard has a limited number of icebreakers available for the support of shipping. Because of heavy commitments, it is emphasized therefore, that icebreaker support cannot always be provided at short notice. In order to make the best possible use of available resources, it is most important that the Arctic Canada Traffic System (NORDREG CANADA) is as well informed as possible about the position and movements of ships in the Canadian Arctic. Ships bound for or leaving Hudson Bay or the High Arctic are required to contact NORDREG CANADA in accordance with procedures specified in Part 3, Vessel Traffic Services, of this publication.

MACKENZIE RIVER MARINE SAFETY ADVISORY PROCEDURES

For the purpose of enhancing navigation safety on the Mackenzie River danger areas have been designated and reporting procedures established for vessels in these areas.

The following *Marine Safety Advisory Procedures* on the Mackenzie River should be followed by all vessels on the river, and they should report to MCTS Inuvik before entering, whilst proceeding through, and on leaving the danger zones (1-10) on the river listed below:

1. **Wrigley Harbour to Horn River**
 - Downbound traffic reports in at Mile 0 and out at Mile 65.
 - Upbound traffic reports in at Mile 65 and out at Mile 0.

2. **Head of the Line to Fort Simpson**
 - Downbound traffic reports in at Mile 130, and again before leaving Mile 181 and reports out at Mile 205.
 - Upbound traffic reports in at Mile 205 and out at Mile 130.
3. **Camsell Bend to Jones Landing**
 - Downbound traffic reports in at Mile 282 and out at Mile 325.
 - Upbound traffic reports in at Mile 325 and out at Mile 282.
4. **Blackwater River to Old Fort Point**
 - Downbound traffic reports in at Mile 400 and out at Mile 480.
 - Upbound traffic reports in at Mile 480 and out at Mile 400.
5. **Sans Sault Rapids**
 - Downbound traffic reports in at Mile 620 and out at Mile 645.
 - Upbound traffic reports in at Mile 645 and out at Mile 620.
6. **Ramparts Rapids**
 - Downbound traffic reports in at Mile 667 and out at Mile 680.
 - Upbound traffic reports in at Mile 680 and out at Mile 667.
7. **Oniak Channel**
 - Traffic reports in when entering the Oniak Channel from the following channels: Middle Channel, Luker Channel and East Channel.
 - Traffic reports out when leaving the Oniak Channel to the following channels: Middle Channel, Luker Channel and East Channel.
8. **East Channel – Inuvik to Tununuk**
 - Downbound traffic reports when leaving Inuvik and out when either entering Oniak Channel or at Mile 1040.
 - Upbound traffic for Inuvik reports in at Mile 1040 or when entering from the Oniak Channel and reports arrival at Inuvik.
9. **East Channel – Kittigazuit**
 - Downbound traffic reports in at Mile 1070 and out at the fairway buoy at Mile 1081.
 - Upbound traffic reports in at the fairway buoy at Mile 1081 and out at Mile 1070.
10. **Vessels should also report to Inuvik MCTS before entering and upon leaving the following restricted channels in the Mackenzie Delta:**

- Aklavik Channel	- Peel River
- Arctic Red River	- Phillips Channel
- Husky Channel	- Schooner Channel
- Napoiak Channel	- Tiktalik Channel
- Neklek Channel	- Tuktoyaktuk Entrance Channel
- Peel Channel	

Mariners should also report in and out of any other restricted channels in the Delta at their own discretion.

All vessels should maintain a continuous radio watch on the Western Arctic Emergency and Calling Frequency, 5803 kHz (SSB), from the time that they reach the first reporting point previous to entering a danger area until the time that they report clear of the danger area.

If contact cannot be made with the Inuvik MCTS Centre on 5803 kHz, VHF Ch 16 (156.8 MHz) may be used where available either directly or through another ship, for possible relay to the Inuvik MCTS Centre.

The Safety Advisory calls should consist of the following information:

- (a) Name of towing vessel and number of barges in the tow and whether riding high or low;
- (b) Direction of voyage i.e. northbound, southbound, etc.;
- (c) Danger Zone;
- (d) Mileage;
- (e) Time;
- (f) Remarks.

EXAMPLE:

Inuvik Coast Guard Radio this is Kitikmeot, southbound with 6 barges riding high, entering Area 6 at Mile 680, 1030 Local estimating Mile 660 at 1530 local, have you any traffic?

If contact cannot be made with Inuvik MCTS, either directly or through another ship, the vessel shall broadcast her position to advise any vessels in the area.

CANADA / UNITED STATES CO-OPERATIVE VESSEL TRAFFIC SYSTEM AGREEMENT

In 1979 by formal agreement, the Canadian and the United States Coast Guards established the Co-operative Vessel Traffic System (CVTS) for the Strait of Juan de Fuca region. The purpose of this agreement is to provide for a co-operative system of vessel traffic management in the applicable waters in order to enhance safe and expeditious movement of vessel traffic while minimizing the risk of pollution of the marine environment.

Co-operative Vessel Traffic Services (CVTS)

Participation with Tofino, Seattle, and Victoria Traffic is mandatory within Canadian and U.S. territorial waters. Though participation seaward of Canadian and U.S. territorial waters is voluntary, vessels are strongly encouraged to participate to receive the full benefit of the Vessel Traffic Services available further offshore, typically about 50 nautical miles. These benefits include traffic information, warnings of vessel congestion or other hazardous conditions, and many other forms of transit assistance.

Tofino Traffic

West Coast Approaches to Juan de Fuca Strait

Vessel Traffic Services from 124° 40' 00" W in Juan de Fuca Strait westward to the 127° West meridian of longitude, and intersecting to the south to 48° North parallel of latitude from the west coast of Washington State are provided by the CCG from the Tofino MCTS Centre at Amphitrite Point, BC (Tofino Traffic).

All communications with vessels in these areas will be conducted on VHF Ch 74 (156.725 MHz).

Seattle Traffic

Juan de Fuca Strait

Vessel Traffic Services in the area containing all Canadian and United States waters from the meridian of longitude 124 40 00 W which intersects the Canadian and United States shorelines thence easterly through the Juan de Fuca Strait, including all waters south and east of a line from Church Point to Race Rocks light to the intersection of the Canada/United States International boundary to Hein Bank light and bell buoy to Cattle Point, and south of a line from Sucia Island to Clements Reef buoy "2", to Alden Bank lighted gong buoy "A" to the shoreline at Birch Point, including the U.S. Gulf Island waters are provided by the United States Coast Guard from the Puget Sound VTS Centre located in Seattle, WA (Seattle Traffic).

All communications with vessels in these areas will be conducted on VHF Ch 5A (156.250 MHz).

Victoria Traffic

Haro Strait and Approaches, Boundary Pass, South Portion Strait of Georgia

Vessel Traffic Services in the area containing all Canadian and United States waters north and east of a line from Church Point to Race Rocks light to the intersection of the Canada/United States International boundary to Hein Bank light and bell buoy to Cattle Point including all of Haro Strait, Boundary Passage and the southern portion of the Strait of Georgia are provided by the Canadian Coast Guard from the Victoria MCTS Centre located at Patricia Bay, BC (Victoria Traffic).

All communications with vessels in these areas will be conducted on VHF Ch 11 (156.55 MHz).

TANKER EXCLUSION ZONE (TEZ)

In order to reduce the likelihood of grounding on the BC Coast, in the event of propulsion or steering gear breakdown, loaded tankers operating from Valdez Alaska to U. S. West Coast ports should refrain from operating in the Tanker Exclusion Zone.

The Tanker Exclusion Zone is defined as follows:

A Line From 54 00N 136 17W to
 51 05N 132 30W to
 48 32N 126 30W to
 48 32N 125 09W

OPERATING PROCEDURES

Southbound tankers from Alaska for Juan de Fuca Strait should observe the following:

Report by message to VTS OFFSHORE crossing 54 North latitude in accordance with normal IMO standard ship reporting system format.

In the event that a tanker develops a defect or deficiency which in any way impairs the progress of the ship, a message, stating the problem and the master's intentions, shall be sent without delay to the Canadian or U.S. Coast Guard via either of the following means:

- (a) via any Canadian Marine Communication and Traffic Services centre free of charge; or
- (b) to the Regional Marine Information Centre (RMIC) at: offshore@rmic.gc.ca.

TURN POINT – SPECIAL OPERATING AREA (SOA)

The Turn Point SOA has been established to enhance order and predictability, the efficient and safe movement of goods and services, and to further reduce the risk of accidents with respect to vessels transiting the boundary waters of Haro Strait and Boundary Passage in the vicinity of Turn Point on Stuart Island, Washington.

The Turn Point SOA consists of those Canadian and United States Waters contained within a four (4) sided area connected by the following coordinates:

48 41.324 N 123 14.245 W (Turn Point Light, LL255/US 19790);
48 42.400 N 123 13.967 W;
48 41.087 N 123 17.631 W (Arachne Reef Light, LL254.3);
48 39.732 N 123 16.438 W (Tom Point Light, LL225).

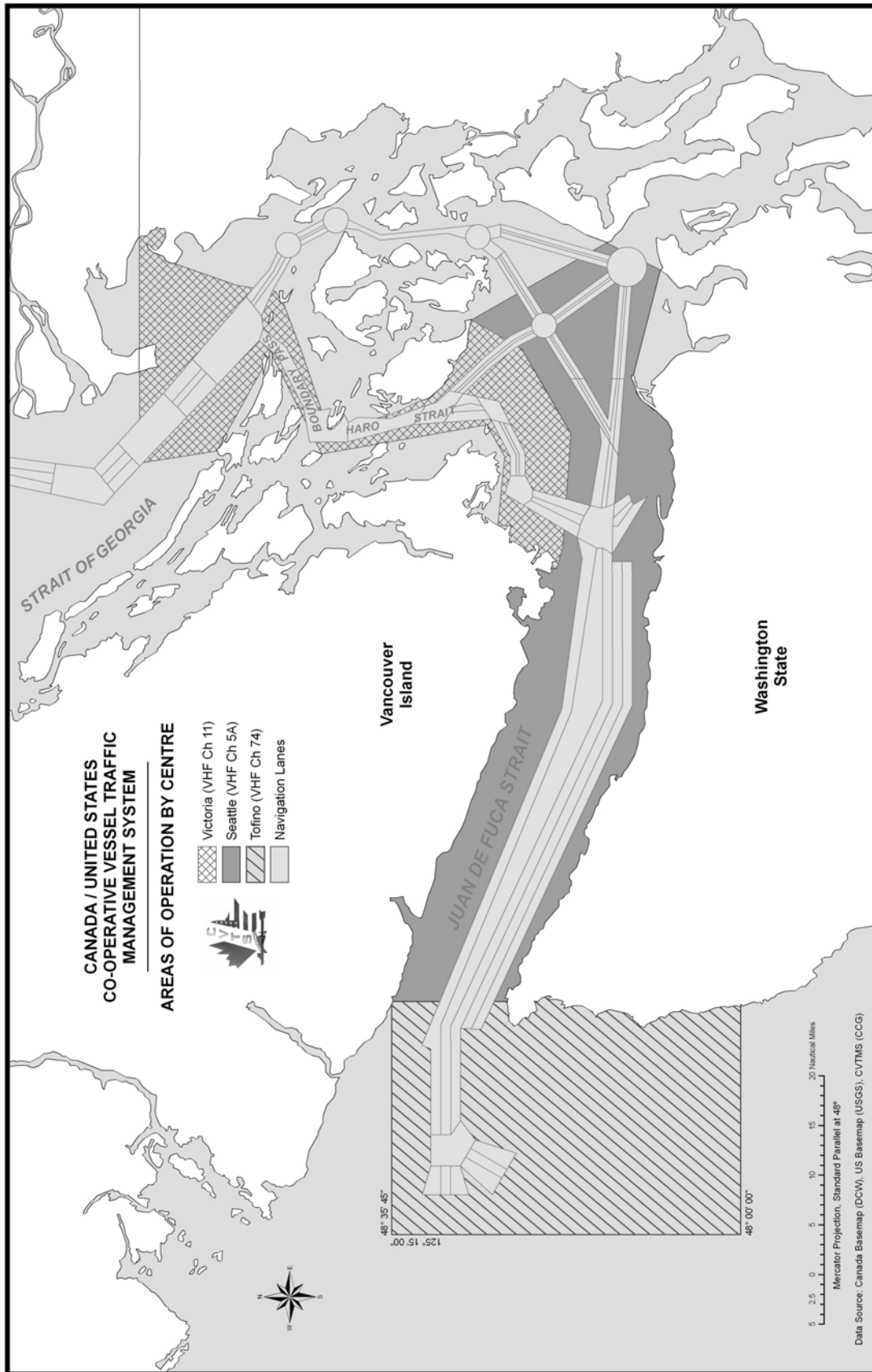
Application

These procedures apply to all Canadian and U.S. VTS participant vessels within or approaching the Turn Point SOA from Boundary Passage, southbound for Haro Strait; and from Haro Strait, northbound for Boundary Passage or Swanson Channel, however, they do not apply to vessels southbound out of Swanson Channel.

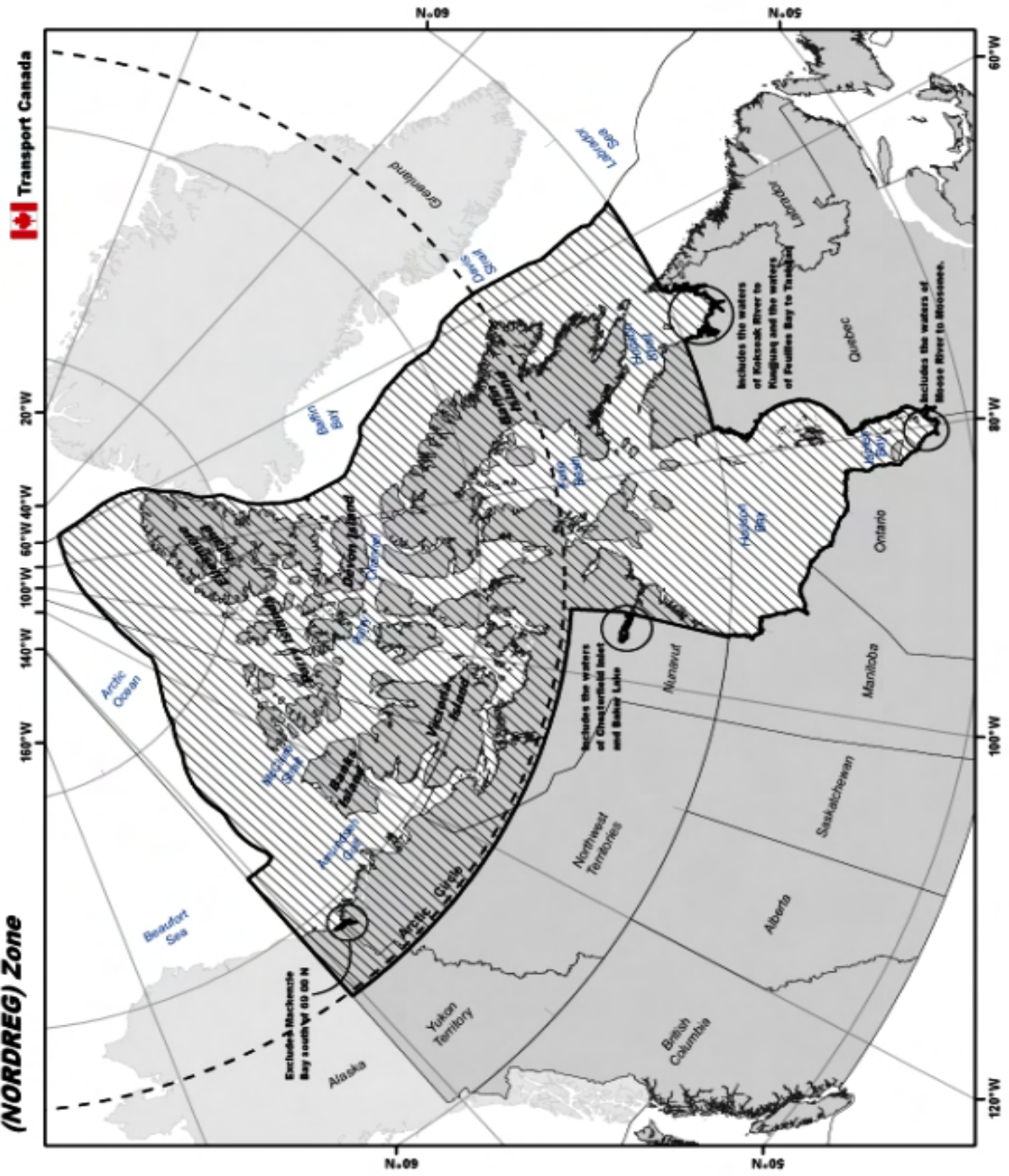
Movement Procedures

- a) A VTS participant, if towing astern, do so with as short a hawser as safety and good seamanship permits.
- b) A VTS participant of 100 metres or more in length (LOA) will make best efforts consistent with safety and industry practices:
 - i) not to enter the Turn Point SOA when another VTS participant of 100 metres or more in length is already located within the SOA, unless;
 - (1) when following astern a minimum .5NM (5 cables) separation is maintained with the vessel ahead,
 - (2) when overtaking in the SOA with the concurrence of MCTS Victoria that there is no opposing traffic and a CPA of at least .5NM (5 cables) is maintained,
 - (3) if outbound from Boundary Pass and meeting an inbound vessel from Haro Strait already in the SOA, enter only after the outbound vessel is past the vector heading of the inbound vessel engaged in the turn and maintain at least a .5NM (5 cables) CPA,
 - (4) if inbound from Haro Strait and meeting an outbound vessel from Boundary Pass already in the SOA, enter only after the outbound vessel has crossed a bearing line between Turn Point and Arachne Reef and maintain at least a .5NM (5 cables) CPA;
 - ii) maintain a distance off of Turn Point of at least .3 NM (3 cables).

All VTS participants approaching the Turn Point SOA are expected to make safe passing arrangements with other VTS participants at either Monarch Head or Blunden Islet southbound; and Lime Kiln Light (LL222/US19695) or Kellett Bluff Light (LL229/US19720) northbound. These arrangements should be made no later than reaching CIP 6 at Gowlland Point (LL253/US19800) southbound and approximately abeam Danger Shoal Light and Horn Buoy (US19775) northbound.



Northern Canada Vessel Traffic Services (NORDREG) Zone



VESSEL TRAFFIC SERVICES ZONE SCHEDULES

PRINCE RUPERT VTS ZONE

Sectors and Boundaries	
Sector	Boundaries
1	All Canadian waters north of Vancouver Island from a line joining Cape Caution light 51°09'50"N 127°47'06"W; to Triangle Island 50°52'00"N 129°05'00"W; thence following a line 220 degrees (T) to the limit of the Territorial Sea; and thence to the Alaska/British Columbia border, but not including those waters described in Sector 2 or mainland inlets and channels outside VHF coverage.
2	All Canadian waters bounded by a line running from Bareside Point 53°54'12"N 130°16'31"W; to Swede Point 53°53'16"N 130°15'35"W. Then following the northern shoreline of Pitt Island to a position of 53°48'03"N 129°58'31"W; thence to a position of 53°48'41.4"N 129°57'07.9"W; thence northward following the mainland shore to a position of 54°09'38"N 129°57'37"W; thence to a position of 54°11'53"N 129°58'51"W; thence northward following the mainland shore to 54°37'57"N 130°26'31"W; thence to a position of 54°38'02"N 130°26'31"W; thence northward along the west shore of Maskelyne Island to Maskelyne Point 54°38'55"N 130°26'42"W; thence to Wales Point 54°42'17"N 130°28'33"W; thence westward along the shore of Wales Island to 54°42'06"N 130°31'47"W; thence to a position of 54°42'27"N 130°36'50"W; thence westward along the International Boundary to Cape Muzon light 54°39'48"N 132°41'30"W; thence westward along the shore of Dall Island to Point Cornwallis light 54°42'12"N 132°52'17"W; thence southward to Langara Point 54°15'23"N 133°03'30"W; thence southward along the west coast of Langara Island to Lacy Island 54°13'18"N 133°05'24"W; thence southward to Cape Knox on Graham Island 54°11'00"N 133°05'00"W; thence eastward along Graham Island shoreline to Rose Spit 54°11'12.5"N 131°38'43"W; thence south-eastward to Seal Rocks 54°00'00"N 130°47'26"W; thence to Oval Point on Porcher Island 53°56'24"N 130°43'15"W, thence eastward following Porcher Island shoreline to Bareside Point.

Identification and Frequencies			
Sector	Identifier	Channel	Frequency (MHz)
1	<i>"Prince Rupert Traffic"</i>	11	156.55
2	<i>"Prince Rupert Traffic"</i>	71	156.575

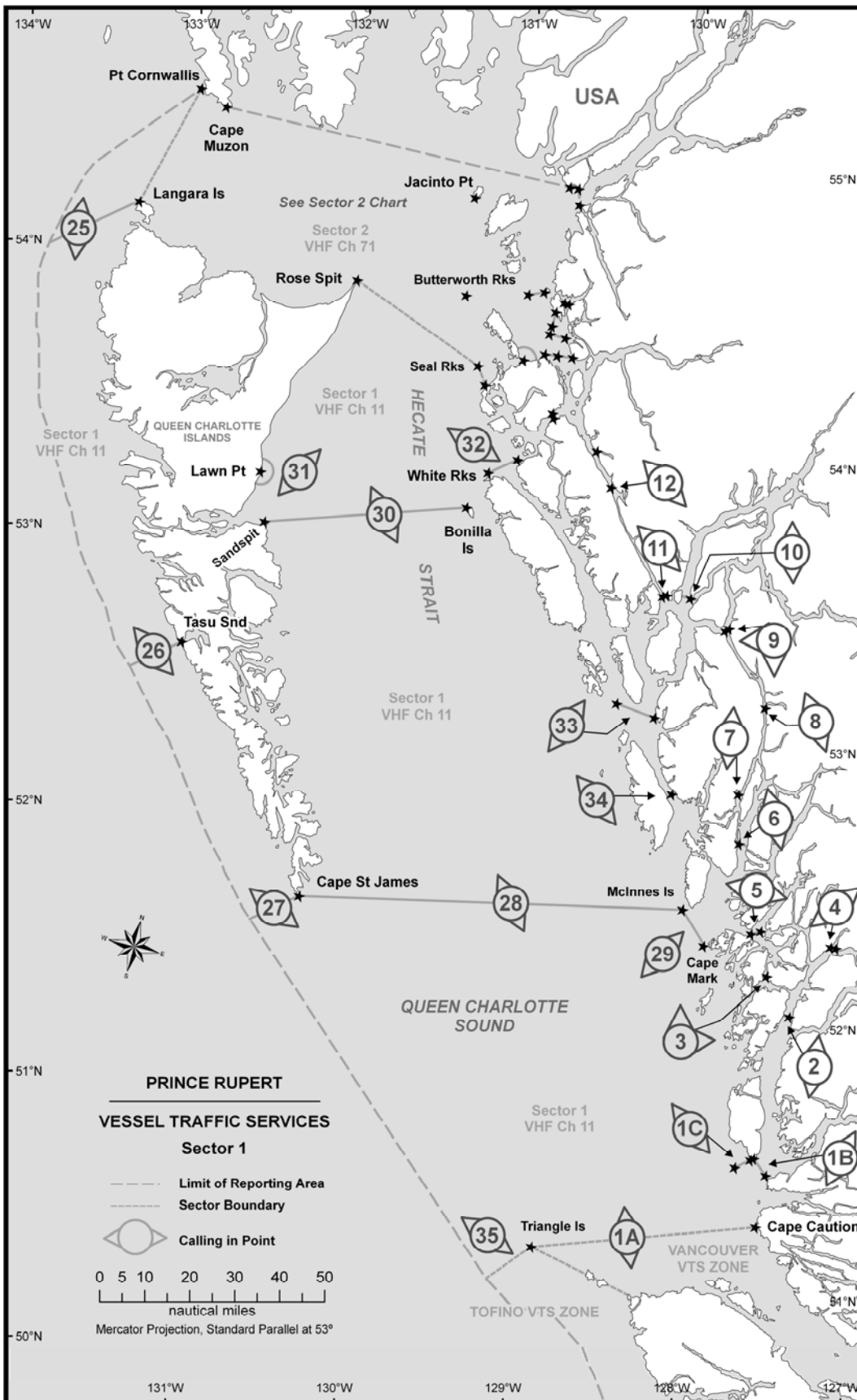
All times shall be given in Pacific Standard Time or Pacific Daylight Saving Time, whichever is in effect.

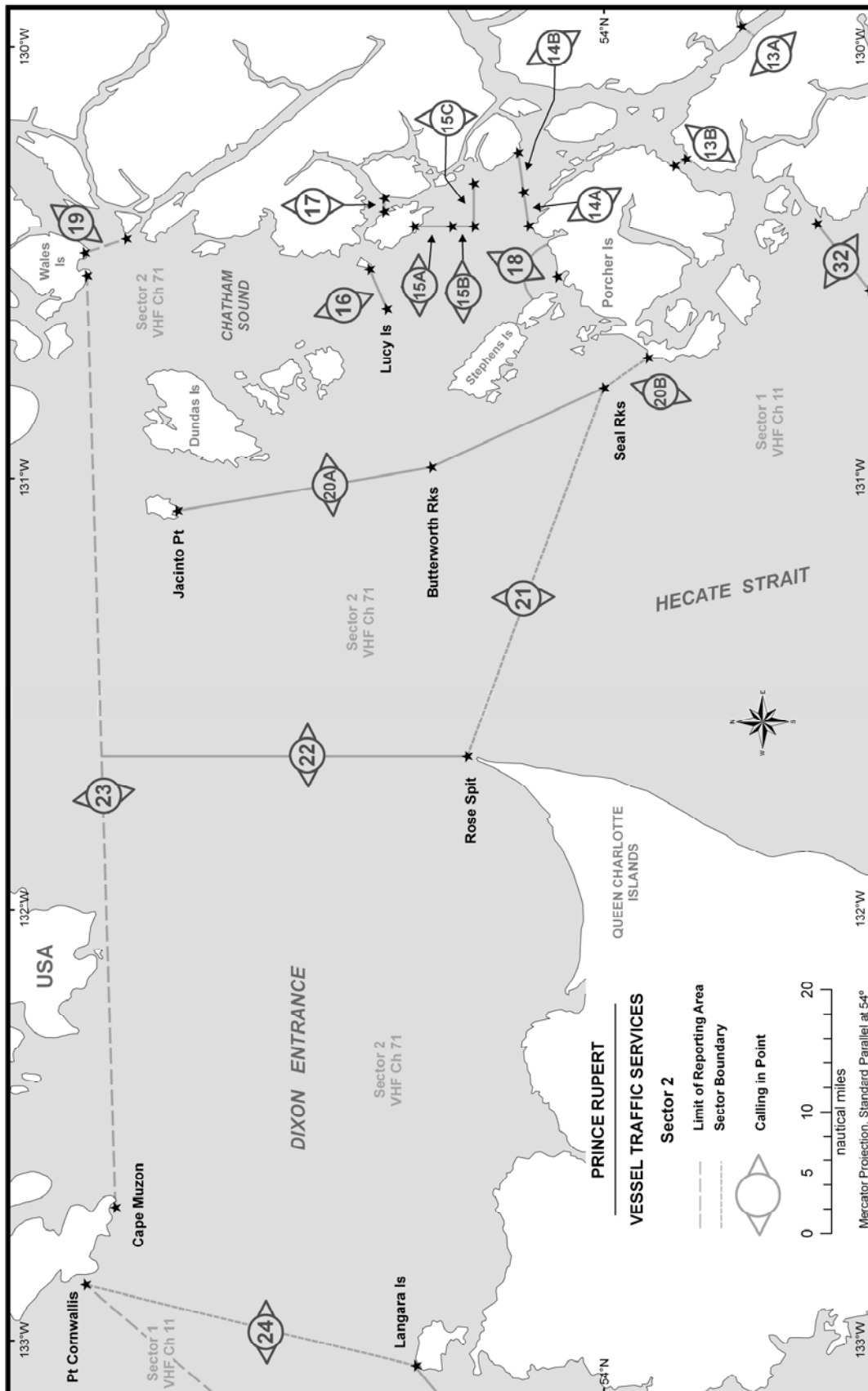
Calling-In-Points				
Number	Sector	Name	General Description and Conditions	Geographic Description
1A	Change	Cape Caution Triangle Island	A line joining Cape Caution light with Triangle Island.	A line running from 51°09'50"N 127°47'06"W; to 50°52'00"N 129°05'00"W
1B	1	Dugout Rocks	A line joining Dugout Rocks light with Cape Calvert. Mariners bound for Fitz Hugh Sound shall report ETA Dugout Rocks.	A line running from 51°22'01.5"N 127°48'23.5"W; to 51°25'04"N 127°54'16"W
1C	1	Pearl Rocks	A line joining Pearl Rocks with the southern most of the Sorrow Islands and thence Cape Calvert. Mariners bound for Queen Charlotte Sound via North Passage shall report ETA Pearl Rocks.	A line running from 51°22'00"N 128°00'12"W; to 51°24'33"N 127°55'18"W; thence 51°25'04"N 127°54'16"W

Calling-In-Points				
Number	Sector	Name	General Description and Conditions	Geographic Description
2	1	Fog Rocks	Fog Rocks light.	A line running 090° - 270° (T) through 51°58'21"N 127°55'02"W
3	1	Walker Island	Walker Island light Lama Passage.	A line running 090° - 270° (T) through 52°05'58"N 128°06'55"W
4	1	Barba Point	A line joining Barba Point and Boscowitz Point.	A line running from 52°16'11"N 127°44'55"W; to 52°16'06"N 127°47'00"W
5	1	Idol Point	A line joining Idol Point light to Graven Point.	A line running from 52°14'19"N 128°16'31"W; to 52°15'27"N 128°13'19"W
6	1	Freeman Point	Freeman Point light. If northbound, mariners shall report ETA Boat Bluff light and Ditmars Point. Mariners shall advise if intending to transit Hiekish Narrows.	A line running 090° - 270° (T) through 52°33'11.5"N 128°29'18"W
7	1	Ditmars Point	Ditmars Point. If southbound, mariners shall report ETA Boat Bluff light and Freeman Point.	A line running 090° - 270° (T) through 52°43'48"N 12° 34'12"W
8	1	Griffin Point	Griffin Point light. If northbound, mariners shall report which side of Work Island they intend to transit. If southbound, mariners shall advise if intending to transit Hiekish Narrows.	A line running 090° - 270° (T) through 53°03'56"N 128°32'54"W
9	1	Kingcome Point	A line joining Kingcome Point light and Angler Cove. If southbound, mariners shall report which side of Work Island they intend to transit.	A line running from 53°17'57"N 128°54'23"W; to 53°18'44"N 128°53'17"W
10	1	Money Point	Money Point light. Mariners bound for Kitimat shall report an ETA for Emilia Island light.	A line running 090° - 270° (T) through 53°22'55"N 129°09'50"W
11	1	Sainty Point	A line joining Sainty Point light and Yolk Point. If northbound, mariners shall report an ETA for Tom Island light and Pitt Island light.	A line running from 53°22'18"N 129°18'40"W; to 53°21'47"N 129°20'00"W
12	1	Pitt Island light	Pitt Island light. If southbound, mariners shall report an ETA for Tom Island light and Sainty Point light.	A line running 045° - 225° (T) through 53°42'00"N 129°48'38"W
13A	Change	Baker Inlet	A line across Grenville Channel from Baker Inlet light.	A line running 052° - 232° (T) through 53°48'41.4"N 129°57'07.9"W
13B	Change	Swede Point	A line across Ogden Channel joining Bareside Point and Swede Point.	A line joining 53°54'12"N 130°16'31"W; and 53°53'16"N 130°15'35"W
14A	2	Lawyer Islands	A line joining Hunt Point and Lawyer Islands.	A line joining 54°06'11"N 130°24'54"W; to 54°06'36"N 130°20'12"W
14B	2	Genn Islands	A line joining Lawyer Islands and Hazel Point.	A line joining 54°06'36"N 130°20'12"W, to 54°07'03"N 130°14'39"W
15A	2	Petrel Rock	A line from Digby Island to West Kinahan Island.	A line running 180° (T) from 54°15'33"N 130°25'00"W; to 54°12'30"N 130°25'00"W
15B	2	Greentop Islet	A line from West Kinahan Island to a position near Greentop Islet.	A line running from 54°12'30"N 130°25'00"W; to 54°10'40"N 130°25'00"W
15C	2	Holland Rock	A line from a position near Greentop Islet to Kitson Island.	A line running from 54°10'40"N 130°25'00"W; to 54°10'40"N 130°19'00"W
16	2	Lucy Islands	A line from Lucy Islands light to Tugwell Island.	A line running from 54°17'46"N 130°36'25"W; to 54°19'10"N 130°30'54"W

Calling-In-Points				
Number	Sector	Name	General Description and Conditions	Geographic Description
17	2	Pillsbury Point	A line joining Pillsbury Point and Tobey Point.	A line running from 54°17'58"N 130°21'05"W; to 54°17'58"N 130°22'55"W
18	2	Edye Passage	A 3 NM arc centered on Table Point. Mariners are encouraged to call at Gull Rocks when entering or exiting Edye Passage.	An arc centered on 54°03'49"N 130°31'55"W; Radius 3 nautical miles bearing from seaward 137° - 233° (T)
19	2	Wales Point	A line joining Wales Point to Maskelyne Point.	A line running from 54°42'17"N 130°28'33"W; to 54°38'55"N 130°26'42"W
20A	2	Butterworth Rocks	A line from Jacinto Point light to Butterworth Rocks light thence to Seal Rocks light. Mariners shall report routing if not using Brown Passage.	A line running from 54°34'47"N 131°04'30"W; to 54°14'08"N 130°58'30"W, thence 54°00'00"N 130°47'26"W
20B	Change	Seal Rocks	A line joining Seal Rocks light to Oval Point on Porcher Island.	A line running from 54°00'00"N 130°47'26"W; to 53°56'24"N 130°43'15"W
21	Change	Rose Spit Seal Rocks	A line joining Rose Spit with Seal Rock light.	A line running from 54°11'12.5"N 131°38'43"W; to 54°00'00"N 130°47'26"W
22	2	Rose Spit	A line extending 000° (True) from Rose Spit to the International Boundary.	A line running 000° (T) from 54°11'12.5"N 131°38'43"W; to the International Boundary
23	2	International Boundary Dixon Entrance	A line following the International Boundary between Alaska, USA and British Columbia, Canada between Cape Muzon light and Wales Island. Mariners shall report whether their route is through Holliday Passage, Oriflamme Passage or Main Passage when transiting Chatham Sound.	A line running from 54°39'48"N 132°41'30"W; to 54°42'06"N 130°31'47"W
24	Change	Langara Point / Point Cornwallis	A line joining Langara Point light and Point Cornwallis light.	A line running from 54°15'23"N 133°03'30"W; to 54°42'12"N 132°52'17"W
25	1	Langara Island	A line extending 220° (True) from Langara Point light to the limit of the Territorial Sea.	A line running 220° (T) from 54°15'23"N 133°03'30"W; to the limit of the Territorial Sea
26	1	Tasu Sound	A line extending 220° (True) from Davidson Point light to the limit of the Territorial Sea. Mariners shall report at Davidson Point entering or exiting Tasu Sound.	A line running 220° (T) from 52°44'32"N 132°06'42"W; to the limit of the Territorial Sea
27	1	Cape St. James	A line extending 220° (True) from Cape St. James light to the limit of the Territorial Sea.	A line running 220° (T) from 51°56'10"N 131°00'52"W; to the limit of the Territorial Sea
28	1	McInnes Island Cape St. James	A line joining McInnes Island light and Cape St. James light.	A line running from 52°15'42"N 128°43'13"W; to 51°56'10"N 131°00'52"W
29	1	Cape Mark McInnes Island	A line from Cape Mark light to McInnes Island light.	A line running from 52°08'59"N 128°32'18"W; to 52°15'42"N 128°43'13"W
30	1	Bonilla Island Sandspit	A line joining Bonilla Island sector light and Sandspit aeronautical beacon.	A line running from 53°29'34"N 130°38'09"W; to 53°15'10"N 131°48'48"W
31	1	Lawn Point	A 3 NM arc centered on Lawn Point.	An arc centered on 53°25'29.7"N 131°54'50.2"W; Radius 3 nautical miles, bearing from seaward 180° - 000° (T)
32	1	White Rocks	A line joining Browning Entrance light to Hankin Rock light.	A line running from 53°38'05"N 130°33'48"W; to 53°42'28"N 130°24'36"W

Calling-In-Points				
Number	Sector	Name	General Description and Conditions	Geographic Description
33	1	Duckers islands	A line joining Duckers Islands light to Dupont Island light. If northbound, mariners shall report whether route is through Squally Channel or Whale Channel.	A line running from 52°55'31.4"N 129°11'28.5"W; to 52°56'23.3"N 129°26'10.2"W
34	1	Wilson Rock	A line across Laredo Channel through Wilson Rock.	A line running 232° - 052° (T) through 52°40'00"N 128°57'55"W
35	Change	Triangle Island	A line extending 220° (True) from Triangle Island to the limit of the Territorial Sea.	A line running 220° (T) from 50°52'00"N 129°05'00"W; to 50°42'11"N 129°18'00"W





TOFINO VTS ZONE

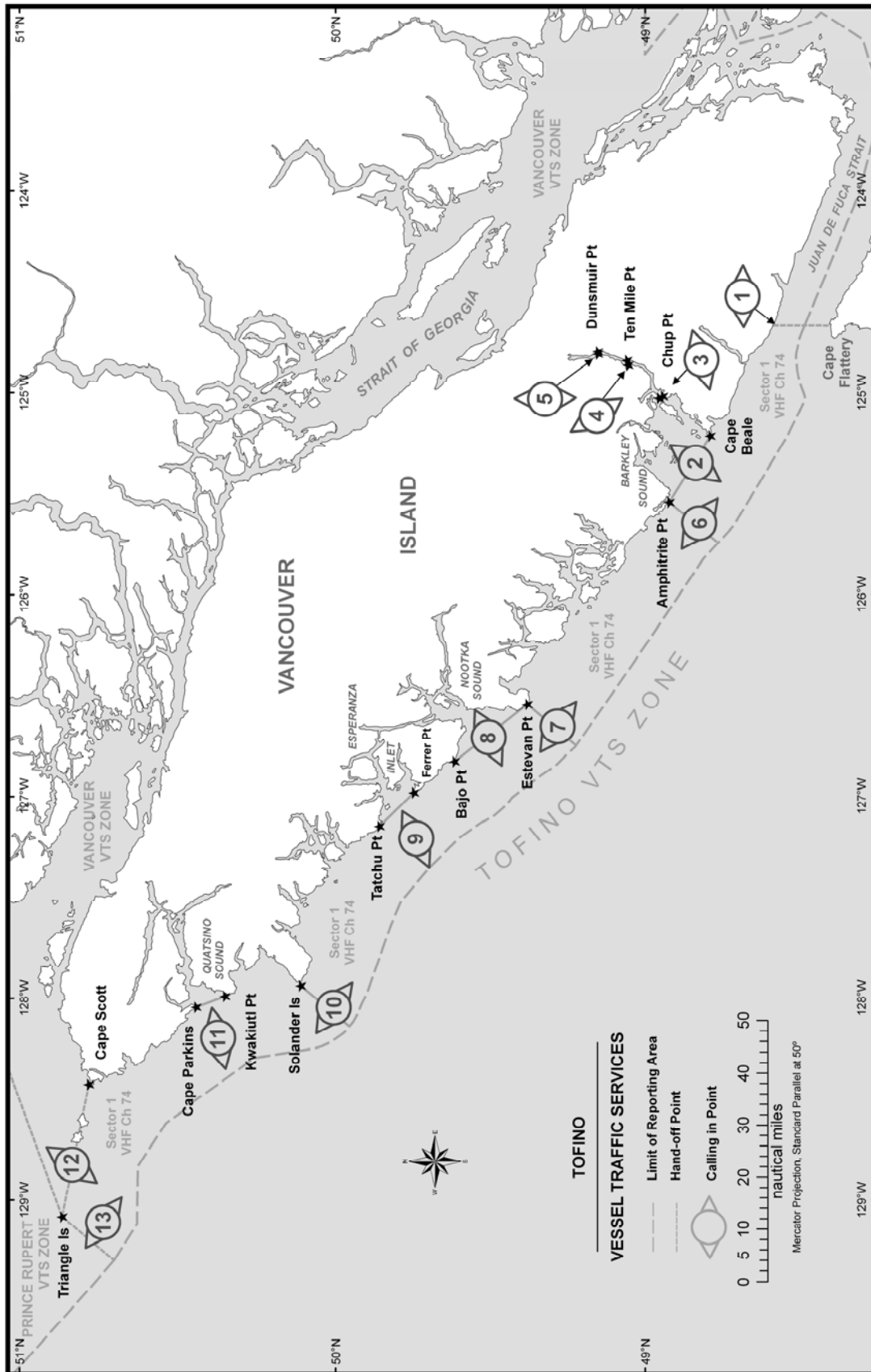
Sectors and Boundaries	
Sector	Boundaries
1	The following describes all Canadian waters which are contained in the Tofino Vessel Traffic Services Zone excluding those United States waters within that portion of the Canada/United States Co-operative Vessel Traffic Management System (CVTMS) administered by the Tofino Vessel Traffic Centre bounded by a line drawn from: 48°28'36"N 124°40'00"W, to 48°34'58"N 124°40'00"W, thence following the shoreline to 48°40'00"N 124°51'00"W, to 48°40'11".5N 124°51'29"W, thence following the shoreline to 48°43'18"N 125°05'54"W, to 48°47'16"N 125°12'59".5W thence following the shoreline to 48°53'03"N 125°04'24"W, to 48°56'00"N 125°01'50".5W thence following the shoreline to 48°56'51"N 125°00'02".5W to 48°57'28"N 124°59'15"W, thence following the shoreline to 49°14'27"N 124°48'46"W, to 49°14'27"N 124°50'13".5W thence following the shoreline to 49°04'13".5N 124°51'16"W, to 49°03'20".5N 124°51'44"W, thence following the shoreline to 48°59'03"N 124°57'54"W, to 48°58'41"N 124°59'34"W, thence following the shoreline to 48°57'19"N 125°01'50"W, to 48°57'57"N 125°04'50".5W to 48°59'06"N 125°09'39".5W to 48°58'48"N 125°10'57"W, thence following the shoreline to 49°00'59".5N 125°18'39"W, to 49°01'54"N 125°19'26".5W thence following the shoreline to 48°55'18"N 126°30'29"W, to 48°55'18"N 125°32'06".5W thence following the shoreline to 49°05'41"N 125°53'18"W, to 49°17'03"N 126°13'44"W, to 49°23'00"N 126°32'34"W, to 49°44'57"N 126°58'54"W, to 49°51'35"N 127°08'56"W, to 49°59'49"N 127°27'06".5"W, to 50°04'48"N 127°48'47"W, thence following the shoreline to 50°13'14"N 127°47'54"W, to 50°19'28"N 127°58'26"W, thence following the shoreline to 50°21'09"N 127°59'27".5W to 50°26'38"N 128°02'43".5W to 50°28'11"N 128°06'05"W, thence following the shoreline to 50°38'23".5N 128°19'35"W, to 50°40'15"N 128°21'40"W, thence following the shoreline to 50°46'57"N 128°25'32"W, to 50°52'00"N 129°05'00"W, thence following a line 220° (T) to the limit of the Territorial Sea 50°42'11"N 129°18'00"W, thence following the Territorial Sea Boundary south eastward to intersect the International boundary at 48°28'36"N 124°40'00"W, thence a line Northward to the Canadian shoreline at 48°34'58"N 124°40'00"W.

Identification and Frequencies			
Sector	Identifier	Channel	Frequency (MHz)
1	<i>"Tofino Traffic"</i>	74	156.725

All times shall be given in Pacific Standard Time or Pacific Daylight Saving Time whichever is in effect.

Calling-In-Points				
Number	Sector	Name	General Description and Conditions	Geographic Description
1	1	Zone Limit	A line running north along the meridian 124°40'00"W from the International Boundary to the Vancouver Island shoreline. Administered by Seattle and Tofino Traffic (CVTS).	
2	1	Cape Beale	A line joining Cape Beale light with Amphitrite Point light. Mariners shall indicate whether their course is through Trevor Channel, Imperial Eagle Channel or Loudoun Channel.	A line joining 48°47'13"N 125°12'51"W; to 48°55'17"N 125°32'23"W
3	1	Chup Point	A line joining Chup Point with Mutine Point.	A line joining 48°57'20"N 125°01'37"W; to 48°56'33"N 125°01'06"W

Calling-In-Points				
Number	Sector	Name	General Description and Conditions	Geographic Description
4	1	Ten Mile Point	A line extending 256° (True) from Ten Mile Point light to the opposite shore of Alberni Inlet.	A line extending 256° (T) from 49°03'34"N 124°50'22"W; to 49°03'20.5"N 124°51'44"W
5	1	Dunsmuir Point	A line extending 090° (True) from Dunsmuir Point light to the opposite shore of Alberni Inlet.	A line extending 090° (T) from 49°09'16"N 124°48'26"W; to 49°09'16"N 124°47'42"W
6	1	Amphitrite Point	A line extending 220° (True) from Amphitrite Point light to the limit of the Territorial Sea.	A line extending 220° (T) from 48°55'17"N 125°32'23"W; to 48°46'06"N 125°44'02"W
7	1	Estevan Point	A line extending 220° (True) from Estevan Point light to the limit of the Territorial Sea.	A line extending 220° (T) from 49°23'00"N 126°32'32"W; to 49°13'47"N 126°44'25.5"W
8	1	Nootka Sound	A line joining Estevan Point light and Bajo Point.	A line joining 49°23'00"N 126°32'32"W; to 49°37'06"N 126°49'35"W
9	1	Esperanza Inlet	A line joining Ferrer Point and Tatchu Point.	A line joining 49°44'57"N 126°58'54"W; to 49°51'35"N 127°08'56"W
10	1	Solander Island	A line extending 220° (True) from Solander Island light to the limit of the Territorial Sea.	A line extending 220° (T) from 50°06'40.5"N 127°56'17"W; to 49°57'26"N 128°08'16"W
11	1	Kains Island (Quatsino Sound)	A line joining Kwakiutl Point and Cape Parkins.	A line joining 50°21'09"N 127°59'27.5"W; to 50°26'38"N 128°02'43.5"W
12	1	Cape Scott Triangle Island	A line extending 281° (True) from Cape Scott light, passing through Cox and Lanz Islands to Triangle Island.	A line extending 281° (T) from 50°46'57"N 128°25'32"W; to 50°52'00"N 129°05'00"W
13	1	Zone Limit	A line extending 220° (True) from Triangle Island to the limit of the Territorial Sea.	A line extending 220° (T) from 50°52'00"N 129°05'00"W; to 50°42'11"N 129°18'00"W



VANCOUVER VTS ZONE

Sectors and Boundaries	
Sector	Boundaries
1	All Canadian waters north of and included within a line from the shoreline of Vancouver Island at 48°34'58"N 124°40'00"W; southward along the meridian of longitude 124°40'00"W, to a point which intersects the International Boundary; thence following the International Boundary eastward and northward through the waters known as the Strait of Juan de Fuca, Haro Strait, Boundary Passage, and the Strait of Georgia to a point which intersects the Canadian shoreline at 49°00'00"N 123°05'20"W; thence to Roberts Bank light 49°05'16"N 123°18'31.5"W; thence to Sandheads light 49°06'23"N 123°18'04"W; thence to the Iona breakwater light 49°12'18"N 123°15'50"W; thence 270° (T) 6.6 nautical miles to 49°12'18"N 123°25'53"W; thence 000° (T) 8.15 nautical miles to Cape Roger Curtis light 49°20'24"N 123°25'53"W; thence 303° (T) 4.8 nautical miles to Gower Point 49°23'01"N 123°32'06"W; thence following the shoreline to a line joining Reception Point light 49°28'15.9"N 123°53'12"W; to Merry Island light 49°28'03.5"N 123°54'40"W; to Ballenas Island light 49°21'02"N 124°09'32"W; to Cottam Point 49°18'57"N 124°12'45"W.
2	All Canadian waters of the south or main arm of the Fraser River east of the Sandheads light 49°06'23"N 123°18'04"W; to a line running 090° (T) from Shoal Point 49°11'45"N 122°54'51"W, to the opposite south shore.
3	All Canadian waters contained north and east of a line from the Iona breakwater light, 49°12'18"N 123°15'50"W; thence 270° (T) 6.6 nautical miles to 49°12'18"N 123°25'53"W; thence 000° (T) 8.15 nautical miles to Cape Roger Curtis light 49°20'24"N 123°25'53"W; thence 303° (T) 4.8 nautical miles to Gower Point 49°23'01"N 123°32'06"W; including all the waters of Howe Sound and Burrard Inlet.
4	All Canadian waters bounded on the south by a line from Reception Point light, 49°28'15.9"N 123°53'12"W; to Merry Island light 49°28'03.5"N 123°54'40"W; to Ballenas Island light 49°21'02"N 124°09'32"W; to Cottam Point 49°18'57"N 124°12'45"W; and bounded on the north by a line from Cape Scott light 50°46'57"N 128°25'32"W; to 50°52'00"N 129°05'00"W; to Cape Caution light 51°09'50"N 127°47'06"W.

Identification and Frequencies			
Sector	Identifier	Channel	Frequency (MHz)
1	"Seattle Traffic" (CIP 1, 3, 5, and 8)	05A	156.25
1	"Victoria Traffic"	11	156.55
2	"Victoria Traffic"	74	156.725
3	"Vancouver Traffic"	12	156.6
4	"Comox Traffic"	71	156.575

All times shall be given in Pacific Standard Time or Pacific Daylight Saving Time whichever is in effect.

SPECIAL OPERATING PROCEDURES

Outbound Vessels at Brotchie Ledge

Pilots are requested to advise *Victoria Traffic* of the outbound vessel's ETA for Race Rocks, when possible.

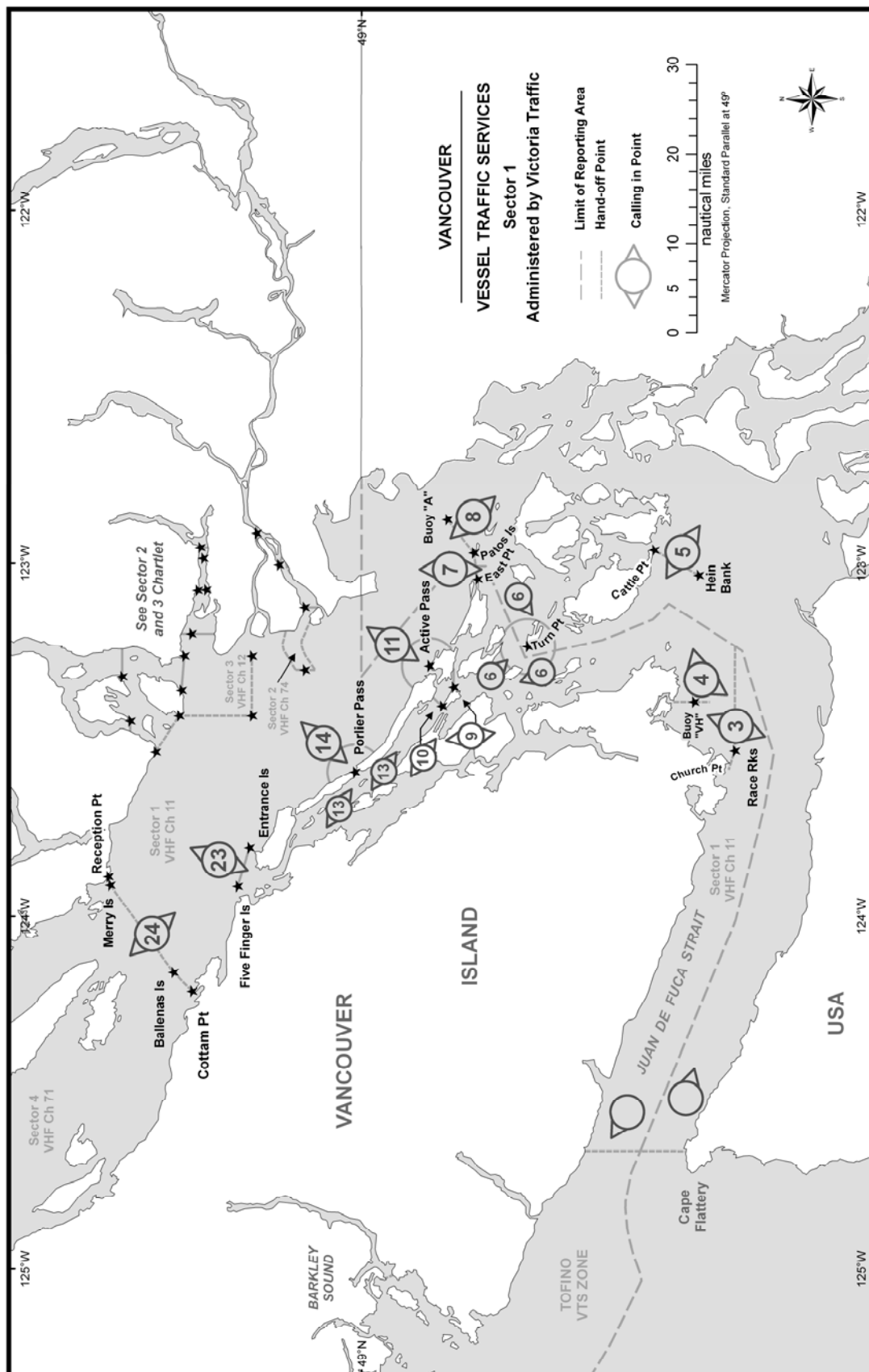
Point Grey / Point Atkinson

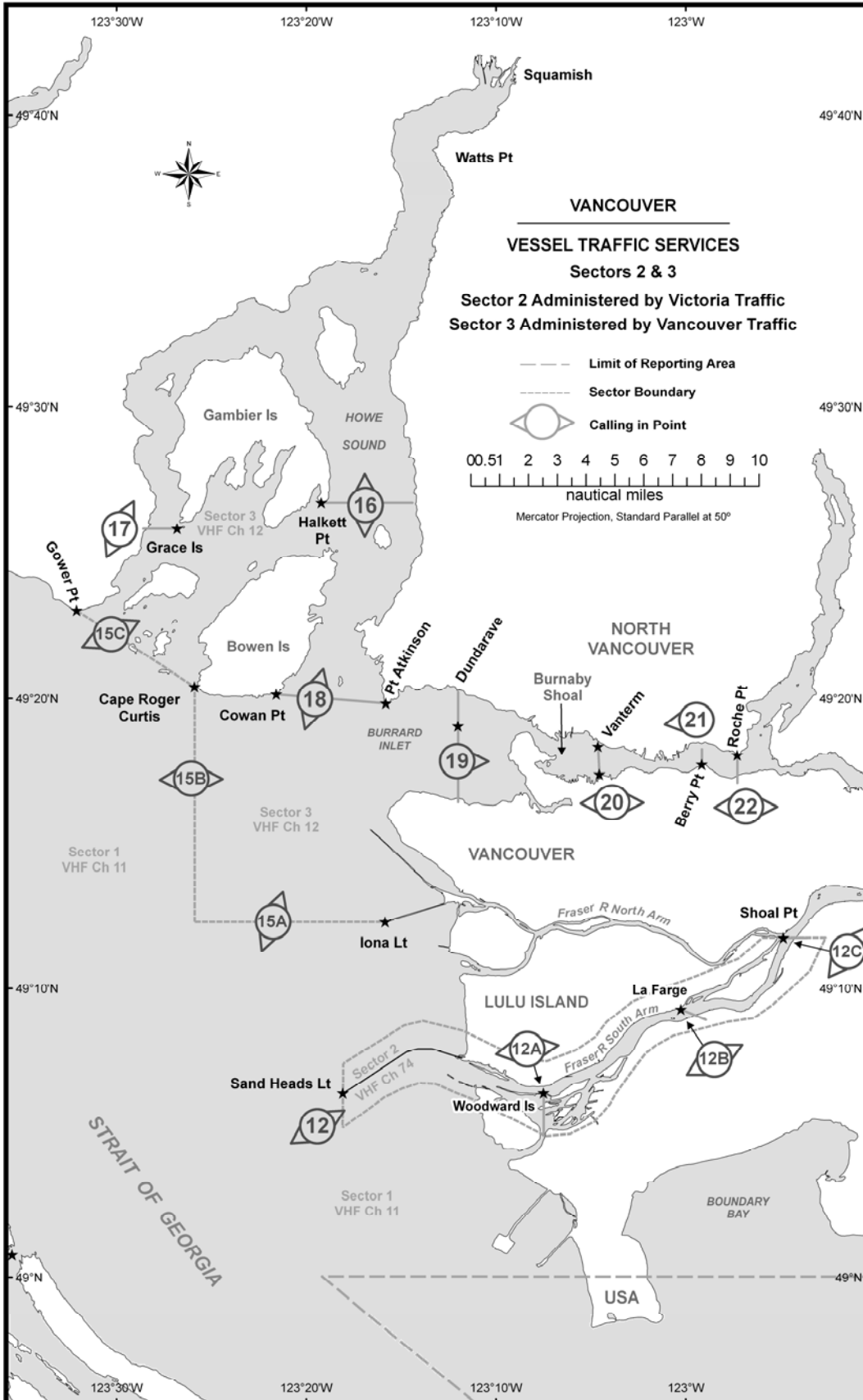
Inbound vessels will initiate a broadcast at a line joining Point Grey/Point Atkinson indicating an ETA for First Narrows. (Vancouver Traffic will only respond if there is traffic to report.)

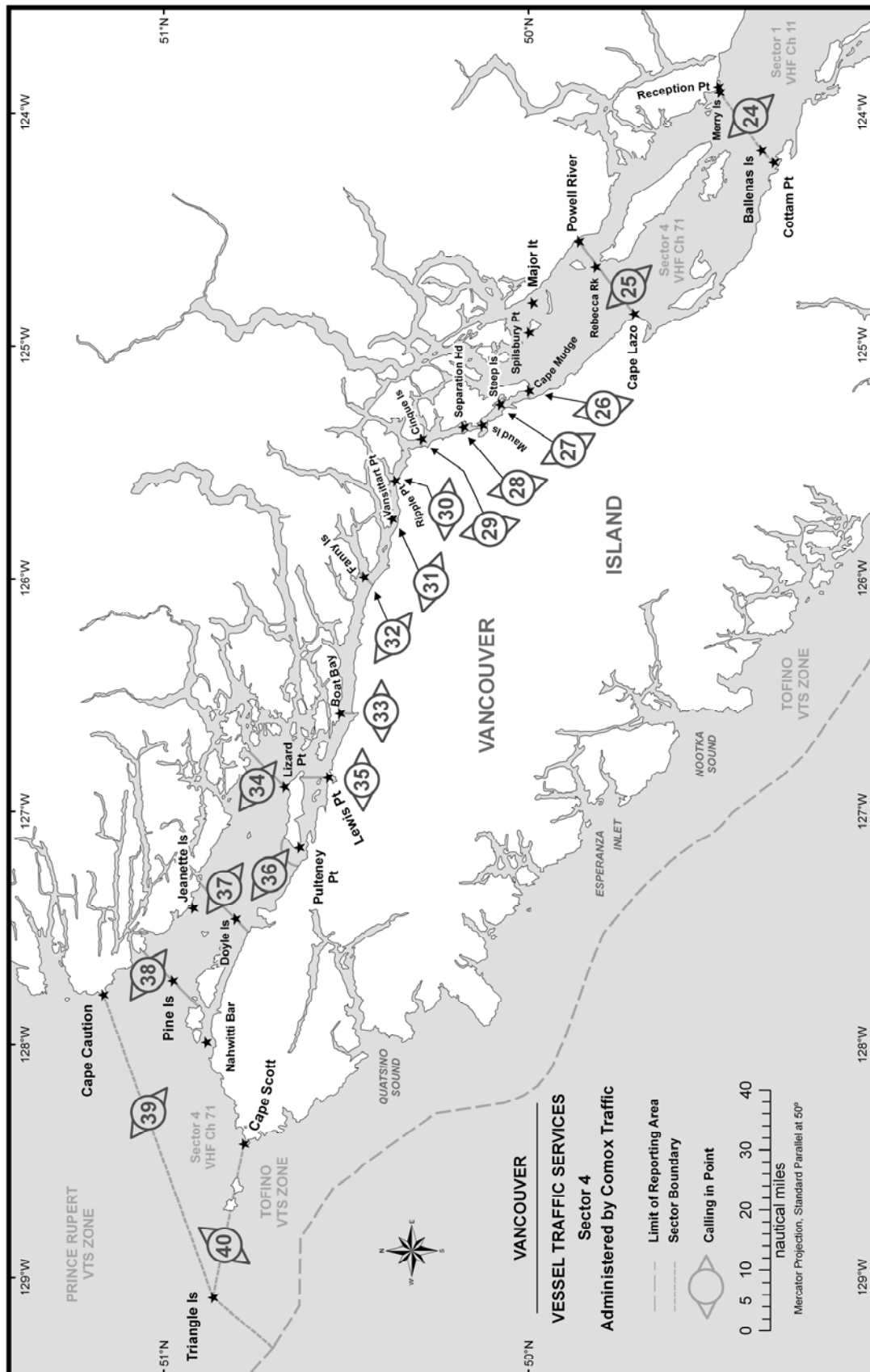
Calling-In-Points				
Number	Sector	Name	General Description and Conditions	Geographic Description
1	Change	Zone Limit	A line running north along the meridian 124 40 00W from the International Boundary to the Vancouver Island shoreline. Administered by Seattle and Tofino Traffic (CVTS).	A line running north from 48°28'36"N 124°40'00"W; to 48°34'58"N 124°40'00"W
3	Change	Race Rocks	A line running 090° -270° (True) through Race Rocks light. Administered by Seattle and Victoria Traffic (CVTS).	A line running 090° - 270° (T) through 48°17'54"N 123°31'54"W
4	1	Buoy "VH"	A line running 000° -180° (True) through buoy "VH".	A line running 000° -180° (T) through 48°22'32"N 123°23'29"W
5	Change	Hein Bank	A line joining Hein Bank light and bell buoy with Cattle Point light, San Juan Island. Administered by Seattle & Victoria Traffic (CVTS).	A line running from 48°22'00"N 123°02'01"W, to 48°27'03"N 122°57'45"W
6	1	Turn Point	3 NM before reaching Turn Point light	A circle centered on 48°41'20"N 123°14'10"W, Radius 3 nautical miles
7	1	East Point	A line joining East Point light, Saturna Island with Patos Island light. Mariners are encouraged to call 3NM from East Point light when entering or exiting Boundary Pass.	A line running from 48°47'00"N 123°02'42"W, to 48°47'24"N 122°58'13"W
8	Change	Patos Island	A line joining, Patos Island light with Alden Bank light and gong buoy "A". Administered by Seattle & Victoria Traffic (CVTS).	A line running from 48°47'24"N 122°58'13"W, to 48°50'24"N 122°52'32"W
9	1	At Portlock Point	At Portlock Point.	A line running 090° - 270° (T) through 48°49'41"N 123°21'02"W
10	1	Peile Point	At Peile Point light.	A line running 045° - 225° (T) through 48°51'00"N 123°24'14"W
11	1	Active Pass	Approaching from the Strait of Georgia, 3NM Northeast of Georgina Point light. Entering Strait of Georgia when clear of Active Pass.	An arc centered on 48°52'24.5"N 123°17'24.5"W Radius 3 nautical miles
12	Change	Sandheads	At Sandheads light.	A line running 000° - 180° (T) through 49°06'23"N 123°18'04"W
12A	2	Woodward Island (Crown Forest)	At Woodward Island light at N.E. end of Island.	A line running 000° - 180° (T) through 49°06'23.5"N 123°07'29.5"W
12B	2	La Farge	At La Farge Cement Plant.	A line running 157° - 337° (T) through 49°09'16.5"N 123°00'15"W
12C	Change	Shoal Point Zone Limit	At Shoal Point. Limit of Sector 2 – Victoria Traffic.	A line running 090° - 270° (T) through 49°11'45"N 122°54'51"W
13	1	West Porlier Pass	3 NM before entry to or after exit from Porlier Pass.	An arc centered on Virago Rock Sector light LL. 289.3, 49°00'46.5"N 123°35'29.5"W, Radius 3 nautical miles on a line of bearing from seaward 350° - 130° (T)
14	1	East Porlier Pass	3 NM before entry to or after exit from Porlier Pass.	An arc centered on Virago Rock Sector light LL. 289.3, 49°00'46.5"N 123°35'29.5"W, Radius 3 nautical miles on a line of bearing from seaward 180° - 265° (T)
15A	Change	Iona	A line due west of the Iona Breakwater light intersecting with Cape Roger Curtis line (15B).	A line running from 49°12'18"N 123°15'50"W, to 49°12'18"N 123°25'53"W

Calling-In-Points				
Number	Sector	Name	General Description and Conditions	Geographic Description
15B	Change	Cape Roger Curtis	A line due south of Cape Roger Curtis intersecting with Iona Breakwater light line (15A).	A line running from 49°12'18"N 123°25'53"W, to 49°20'24"N 123°25'53"W
15C	Change	Gower Point	A line joining Cape Roger Curtis and Gower Point.	A line running from 49°20'24"N 123°25'53"W, to 49°23'01"N 123°32'06"W
16	3	Halkett Point	A line joining Halkett Point and the mainland at a point south of Lions Bay.	A line running 090° - 270° (T) from 49°26'43"N 123°19'12"W, to the mainland shoreline
17	3	Grace Island	A line joining Grace Island light and the mainland at a point south of Langdale.	A line running 090° - 270° (T) from 49°25'50"N 123°26'48"W, to the mainland shoreline
18	3	Cowan Point Point Atkinson	A line joining Cowan Point light on Bowen Island with Point Atkinson light on the mainland.	A line running from 49°20'08.5"N 123°21'34.5"W, to 49°19'50"N 123°15'48"W
19	3	Dundarave	2 NM west of Lions Gate Bridge. Eastbound only report.	A line running 000° - 180° (T) through buoy "QB" 49°19'02.5"N 123°12'00"W
20	3	Vanterm	A line joining the west end of Vancouver Ocean Terminals with the east end of Burrard Yards Corporation Dry Dock. Outbound vessel traffic will be given First Narrows advisory at Vanterm (CIP 20). Vessel traffic departing west of CIP 20 will be given First Narrows advisory on departure. Outbound vessels broadcast position at Burnaby Shoal. An updated traffic advisory will be given as required.	A line running 358° - 178° (T) from 49°17'23"N 123°04'33"W, to 49°18'21"N 123°04'37"W
21	3	Berry Point	A line running 000° - 180° (True) from Berry Point light to intersect the opposite north shoreline. Westbound only report.	A line running 000° - 180° (T) from 49°17'43"N 122°59'09"W
22	3	Roche Point	At Roche Point light.	A line running 000° - 180° (T) through 49°18'02.5"N 122°57'17"W
23	1	Entrance Island/ Five Fingers Island	A line joining Entrance Island light and Five Fingers Island.	A line running from 49°12'34"N 123°48'25"W, to 49°13'53"N 123°54'52"W
24	Change	Ballenas Island Merry Island Welcome Passage	A line joining Ballenas Island light and Merry Island light; thence Reception Point light. When northbound, mariners shall indicate whether their route is through Malaspina Strait via Epsom Pt or Welcome Passage, Sabine Channel, Stevens Passage, West of Sisters Island or Ballenas Channel.	A line running from 49°28'15.9"N 123°53'12"W to 49°28'03.5"N 123°54'40"W to 49°21'02"N 124°09'32"W to 49°18'57"N 124°12'45"W
25	4	Cape Lazo Powell River	A line joining Cape Lazo light and Powell River Breakwater South Entrance South light. When southbound, mariners shall indicate whether their route is through Malaspina Strait via Epsom Pt or Welcome Passage, Sabine Channel, Stevens Passage, West of Sisters Island or Ballenas Channel.	A line running from 49°42'24.5"N 124°51'41.5"W, to 49°51'36.9"N 124°33'05.7"W

Calling-In-Points				
Number	Sector	Name	General Description and Conditions	Geographic Description
26	4	Cape Mudge	At Cape Mudge light. If northbound, mariners shall report ETA for Steep Island and Maud Island light.	A line running 090° - 270° (T) through 49°59'56"N 125°11'38"W
27	4	Steep Island	At Steep Island light. If northbound,, mariners shall report ETA for Separation Head and update Maud Island light ETA if any change.	A line running 050° - 230° (T) through 50°04'45"N 125°15'06"W
28	4	Separation Head	At Separation Head. If southbound, mariners shall report ETA for Steep Island and update Maud Island light ETA if any change.	A line running 090° - 270° (T) through 50°10'51"N 125°21'02"W
29	4	Cinque Island	At Cinque Island light. If southbound, mariners shall report ETA for Separation Head and Maud Island light.	A line running 090° - 270° (T) through 50°17'44"N 125°23'59.5"W
30	4	Ripple Point	Ripple Point light.	A line running 000° - 180° (T) through 50°22'05"N 125°34'42"W
31	4	Vansittart Point	Vansittart Point light.	A line running 000° - 180° (T) through 50°22'37"N 125°44'31"W
32	4	Fanny Island	Fanny Island light.	A line running 045° - 225° (T) through 50°27'13"N 125°59'30"W
33	4	Boat Bay	Boat Bay light.	A line running 000° - 180° (T) through 50°31'11"N 126°34'37"W
34	4	Lizard Point	Lizard Point light. When northbound at Lizard Point, mariners shall indicate whether their route is through Goletas Channel, Gordon Channel, Ripple Passage or Richards Channel.	A line running 045° - 225° (T) through 50°40'17.5"N 126°53'36"W
35	4	Lewis Point	Lewis Point light.	A line running 000° - 180° (T) through 50°33'07"N 126°51'10"W
36	4	Pulteney Point	3 NM north of Pulteney Point light. When southbound, call 3NM before Pulteney Point light. When northbound, call at Pulteney Point light, mariners shall indicate whether their route is through Goletas Channel, Gordon Channel, Ripple Passage or Richards Channel.	An arc centered on 50°37'51"N 127°09'12"W, Radius 3 nautical miles
37	4	Doyle Island	Doyle Island light.	A line running 045° - 225° (T) through 50°48'20"N 127°27'32"W
38	4	Pine Island	Pine Island light.	A line running 045° - 225° (T) through 50°58'33"N 127°43'35"W
39	Change	Cape Caution Triangle Island	A line joining Cape Caution light with Triangle Island. When southbound at Cape Caution, mariners shall indicate whether their route is through Scott Channel, Goletas Channel (Nahwitti Bar), Gordon Channel (Pine Island), Bolivar Passage, Ripple Passage or Richards Channel.	A line running from 51°09'50"N 127°47'06"W, to 50°52'00"N 129°05'00"W
40	Change	Cape Scott	A line joining Cape Scott light with Triangle Island.	A line running from 50°46'57"N 128°25'32"W, to 50°52'00"N 129°05'00"W







PART 4

GENERAL

PROCEDURES

RADIOTELEPHONE PROCEDURES

General

In the interest of safe navigation, and especially during bad weather conditions, masters should ensure that a continuous listening watch is maintained on 2182 kHz. Where practicable, and having due regard for Vessel Traffic Services and Seaway Control requirements, a conscientious listening watch should be maintained on VHF Ch 16 (156.8 MHz).

2182 kHz AND CH 16 (156.8 MHz) SHALL ONLY BE USED FOR DISTRESS, URGENCY AND SAFETY COMMUNICATIONS AND FOR CALLING PURPOSES. THE CLASS OF EMISSION TO BE USED FOR RADIOTELEPHONY ON THE FREQUENCY 2182 kHz SHALL BE J3E.

Initial calls must be made directly on the safety and calling frequency 2182 kHz. This procedure is required because MCTS centres do not monitor MF working frequencies.

Initial calls should be made directly on any of the VHF working frequencies shown in bold type, in the “Receiving” column of the MCTS centre listing, in which case the MCTS centre will reply on the corresponding frequency shown in the “Transmitting” column. It is necessary on the initial call for the channel number (see listings) to be indicated. This procedure is required to provide MCTS Officers, who guard a number of frequencies simultaneously, with a positive indication of the correct channel to be selected for answering the call. Before making a call directly on a working frequency, care should be taken to listen for a period long enough to ensure that the channel is not in use.

Requests for radio checks shall be made to the MCTS centre in the same manner outlined above for initial calls.

If difficulty is experienced in establishing contact with the MCTS centre, or if contact is desired with another vessel, the initial call may be made on the calling frequency Ch 16 in which case the station called will reply on the same frequency. As soon as communication has been established a change must be made to an agreed working frequency and all further communications made on that frequency.

Masters of compulsorily-fitted ships are reminded that a radio log of all distress and urgency communications and safety communications pertaining to their own ship should be kept and maintained onboard their vessels.

The following examples will illustrate the procedure to be used:

Initial call, when a vessel is attempting to establish communication on a working frequency with a specific station:

Item	Spoken
Name of station called (spoken three times)	TOFINO COAST GUARD RADIO
The words “THIS IS”	THIS IS
Type, name, radio call sign of vessel calling (spoken three times)	STEAMER FAIRMOUNT CYLD
and channel	CHANNEL 26
Invitation to reply	OVER

Initial call, when a vessel wishes to establish communications with any station within range (or within a certain area):

Item	Spoken
General call (spoken three times).	ALL STATIONS (or ALL SHIPS IN JOHNSTONE STRAIT)
The words "THIS IS"	THIS IS
Type, name and radio call sign of vessel (spoken three times)	TANKER IMPERIAL CORNWALL/VCVC
Invitation to reply	OVER

When a station wishes to broadcast information rather than to establish communication, it proceeds with the message instead of giving the invitation to reply.

A radio message from a ship consists of several parts, which shall be transmitted on the working frequency in the following order:

- Type, name and radio call sign of the originating ship;
- The date and time the message originated* (Preferably in UTC. Daylight Saving Time shall not be used);
- The address;
- The text or body of the message;
- The signature.

Note: Items (a) and (b) taken together, are known as the "preamble".

* Date and time may be sent as one group, the first two figures indicate the date, the last four the time.

Example of a ship to shore radio message:

MESSAGE: FROM M/V WEST WIND, CALL SIGN V2AG
FILED: 071225UTC
ADDRESS: NORDREG CANADA
TEXT: 1600 UTC REPORT, ANCHORED IN MACKENZIE BAY AWAITING ICEBREAKER
SUPPORT
SIGNATURE: MASTER

An acknowledgment of receipt of a message shall not be given until the receiving operator is certain that the transmitted information has been received correctly.

While it is not practical to lay down precise words and phrases for all radiotelephone procedures, the following should be used where applicable:

Word or phrase	Meaning
ACKNOWLEDGE	Let me know that you have received and understood this message.
CORRECTION	An error has been made in this transmission. The correct version is.....
GO AHEAD	Proceed with your message.
OVER	My transmission is ended and I expect a response from you.
OUT	This conversation is ended and no response is expected.
READ BACK	After I have given OVER, repeat this entire message back to me exactly as received.
ROGER	I have received all of your last transmission.
RECEIVED NUMBER	Receipt of your message number..... is acknowledged.
STAND BY	Wait until you hear further from me.
VERIFY	Check with the originator and send the correct version.
WORDS TWICE	As a request - Please send each word twice. As information - I will send each word twice.

How are you using your marine radio?

There are over 150 thousand licensed radio stations in British Columbia. Each of these stations is assigned specific frequencies to suit their unique requirements. For the most part, clear and unobstructed communications on the airwaves is possible because most observe the rules that govern radio operation.

But a serious problem has developed in the use of synthesized two-way radio on board vessels on the West Coast. Certain vessel operators are selecting unauthorized channels on synthesized radio. This is causing severe interference to land based municipal services. In such cases, Industry Canada intends to lay charges under the *Radiocommunication Act* and the *Radiocommunication Regulations*.

Your cooperation in using only assigned marine channels is very important. Your safety, and the safety of others, depends on it.

Phonetic Alphabet

When it is necessary to spell out call signs, service abbreviations and words whose spelling might be misinterpreted, the following letter spelling table shall be used:

A - ALFA	F - FOXTROT	K - KILO	O - OSCAR	S - SIERRA	W - WHISKEY
B - BRAVO	G - GOLF	L - LIMA	P - PAPA	T - TANGO	X - X-RAY
C - CHARLIE	H - HOTEL	M - MIKE	Q - QUEBEC	U - UNIFORM	Y - YANKEE
D - DELTA	I - INDIA	N - NOVEMBER	R - ROMEO	V - VICTOR	Z - ZULU
E - ECHO	J - JULIETT				

Times

Times are expressed in four figures, the first two denoting the hour and the last two the minutes, the day starting at midnight with 0000 and ending at 2400. The standard of time (e.g. UTC) is stated at the head of the appropriate column, or against the figures involved.

Time Zone Comparison

PST PACIFIC STANDARD TIME

To convert from Coordinated Universal Time to Local Standard Time look opposite UTC under the appropriate column. For corresponding Daylight Saving Time, add one hour.

UTC	PST
0000	1600
0100	1700
0200	1800
0300	1900
0400	2000
0500	2100
0600	2200
0700	2300
0800	0000
0900	0100
1000	0200
1100	0300
1200	0400
1300	0500
1400	0600
1500	0700
1600	0800
1700	0900
1800	1000
1900	1100
2000	1200
2100	1300
2200	1400
2300	1500

Time Signals

Canada's official time is the responsibility of the National Research Council's Institute for National Measurement Standards, Ottawa, ON. Its short wave radio station CHU, with transmitters located at 45 17 47N 75 45 22W is equipped with vertical antennas to give the best possible coverage to the maximum number of Canadian users. The signal is transmitted continuously on 3330 kHz, 7850 kHz and 14 670 kHz, upper single-sideband H3E (AM compatible). A cesium atomic clock generates the carrier frequencies (accurate to a part in 10^{-11}) and the UTC seconds pulses (accurate to 50 microseconds). The start of each UTC second is marked by the start of 300 cycles of a 1000 Hz tone, with certain omissions and identifications. Every half-minute is marked by omitting the preceding tone (for second 29). In the 9 seconds preceding each minute, the second pulses are shortened to "ticks" to provide a window for the voice announcement, followed by a longer tone. The start of this tone marks the exact minute given by the announcement. This tone is one-half second long, except for the exact hour - when it is one full second long and in this case only is followed by 9 seconds of silence.

The bilingual voice announcement which is heard each minute takes the form:

"CHU Canada - Coordinated Universal Time -- hours -- minutes -- heures -- minutes" for even minutes, and

"CHU Canada - Temps Universel Coordonné -- heures -- minutes -- hours -- minutes" for odd minutes.

A small number of the longer time announcements use the abbreviation "UTC" rather than the full form.

Following international practice, Canada's official time is based on Coordinated Universal Time (UTC) which is kept within one second of UT1, the time on the Greenwich meridian as used for celestial navigation. Users interested in the ultimate accuracy of celestial navigation can determine UT1 with an accuracy of 0.1 seconds by decoding the difference $DUT1 = UT1 - UTC$, as transmitted by CHU in the internationally accepted code. The number of tenths of a second of DUT1 can be decoded by counting the number of emphasized second pulses that follow each minute. If the emphasized pulses occur for any of the seconds 1 to 8, DUT1 is positive; if the emphasized pulses occur for any of the seconds 9 to 16, DUT1 is negative. CHU emphasizes second pulses by splitting them (0.1 s of tone, 0.1 s of silence, 0.1 s of tone) so that a double tone is heard.

DISTRESS COMMUNICATIONS IN RADIOTELEPHONY

EARLY NOTIFICATION OF SEARCH AND RESCUE AUTHORITIES OF DEVELOPING SITUATIONS

In the interest of ensuring the highest level of safety, mariners should immediately notify the Canadian Coast Guard, through any MCTS centre of any situation which is or may be developing into a more serious situation requiring assistance from the Search and Rescue (SAR) System. The need for the earliest possible alerting of SAR Authorities to potential maritime emergencies cannot be over-emphasized.

This advice is given in accordance with IMO Circular MSC/Circ.892 and similar advice found in the ICAO/IMO International Aeronautical and Maritime SAR (IAMSAR) Manual Volume III. Further, there have been similar recommendations arising from serious SAR cases in the Canadian SAR Region where masters have failed to provide this notice until after the situation deteriorated.

This notification allows SAR authorities to carry out preliminary and contingency planning that could make a critical difference if the situation worsens. Time lost in the initial stages of a SAR mission may be crucial to its eventual outcome.

It is always best to consider the "worst-case scenario" and to alert SAR authorities accordingly. This notification places no obligations upon the master except to advise the Canadian Coast Guard when the situation has been corrected.

Canadian MCTS centres provide coverage of all marine distress frequencies, however, each centre does not necessarily guard each frequency (refer to centre listings Part 2). MCTS provides communications between the JRCC/MRSC and the vessel or vessels concerned with the distress.

The radiotelephone distress frequencies are:

- i) 2182 kHz on medium frequency (MF) band; and
- ii) 156.8 MHz (Ch 16) on very high frequency band (VHF); and
- iii) any other available frequency on which attention might be attracted if transmissions on 2182 kHz and 156.8 MHz are not possible or successful.

The digital selective calling (DSC) frequencies are:

- i) Ch 70 in the VHF band;
- ii) 4207.5 kHz;
- iii) 6312.0 kHz;
- iv) 8414.5 kHz;
- v) 12577 kHz; and
- vi) 16804.5 kHz in the High Frequency (HF) bands.

When another craft or person is in distress:

- i) all transmissions capable of interfering with the distress traffic must be stopped;
- ii) attention must be concentrated on the distress communications and all information possible intercepted; and
- iii) a station in the vicinity of the distressed craft must acknowledge receipt of the distress message if received, giving its own position in relation to that of the craft in distress and stating the action being taken.

Distress communications consist of the:

- **Distress Alert (when using VHF or HF DSC);**
- **Distress Signal;**
- **Distress Call;**
- **Distress Message; and**
- **Distress Traffic.**

Transmission of a DSC Distress Alert, a Distress Signal and/or a Distress Call announces that the ship, aircraft, other vehicle, or person that is making the transmission is:

- i) threatened by serious and imminent danger and requires immediate assistance; or
- ii) aware of another ship, aircraft, other vehicle or person is threatened by serious and imminent danger and requires immediate assistance.

Distress communications should be repeated by the craft in distress until an answer is heard.

The **DSC Distress Alert** will automatically switch marine radios to the associated distress frequency for the subsequent transmission of the distress signal, the distress call and the distress message.

The Alarm Signal

The radiotelephone Alarm Signal consists of the continuous alternate transmission of two audio tones of different pitch for a period of at least thirty seconds but not to exceed one minute. The sound of this tone is similar to that used by some ambulances.

The Alarm Signal is used by Canadian MCTS centres to alert ships:

- i) that a mayday relay broadcast is about to follow; or
- ii) that a Tsunami warning, preceded by the Urgency Signal (PAN PAN) is about to follow; or,
- iii) that the transmission of an urgent cyclone warning, preceded by the Safety Signal (SÉCURITÉ), is about to follow.

The Alarm Signal transmitted by the coast radio station will normally be sent for a period not exceeding thirty (30) seconds and will be followed by a ten (10) second continuous tone.

The **Distress Signal** consists of the word "MAYDAY".

The **Distress Call** consists of:

- i) the word “MAYDAY” (spoken three times)
- ii) the words “THIS IS” followed by
- iii) the name of the ship in distress (spoken three times)
- iv) the call sign or other identification, and
- v) the ship’s MMSI (if a DSC distress alert has been sent).

The Distress Call:

- i) should not be addressed to a particular coast radio station or ship; and
- ii) has absolute priority over all other transmissions and all coast radio stations and ships that hear this call must cease any transmissions that will interfere with it and must listen on the frequency used for this call.

The **Distress Message** consists of:

- i) the word “MAYDAY”;
- ii) the name of the ship in distress;
- iii) the call sign or other identification;
- iv) the ship’s MMSI (if a DSC distress alert has been sent)
- v) the position of the ship in distress;
- vi) the nature of the distress;
- vii) the kind of assistance needed;
- viii) any other useful information which might assist the rescue; and,
- ix) the word “OVER”, which is an invitation to acknowledge and reply.

The DSC Distress Alert Acknowledgement to an “All Stations” DSC Distress Alert announcement shall normally be made by an MCTS centre.

Ship stations may acknowledge receipt of a DSC Distress Alert by **radiotelephony** on the associated distress and calling frequency after an MCTS centre has had time to initiate contact with the vessel in distress.

Distress Traffic consists of all messages about the immediate assistance required by the ship in distress. Prior to the transmission of any Distress Traffic, the Distress Signal “MAYDAY” must be sent once before the call. The control of Distress Traffic is the responsibility of the ship in distress or of the ship or coast radio station sending a Distress Message.

A mobile station that learns that another mobile station is in distress may transmit the distress message if:

- i) the station in distress cannot transmit it;
- ii) the master or person responsible for the craft carrying the station which intervenes believes that further help is necessary;
- iii) although not in a position to render assistance, it has heard a distress message which has not been acknowledged.

In the above situation the distress message relay takes the following form:

- i) the radiotelephone Alarm Signal if possible;
- ii) the words “MAYDAY RELAY” (spoken three times);
- iii) the words, “ALL STATIONS” or specific MCTS centre, as appropriate (spoken three times);
- iv) the words “THIS IS”;
- v) the name of the mobile station repeating the distress message (spoken three times);
- vi) the call sign or other identification of the mobile station repeating the distress message;
- vii) the MMSI of the mobile station repeating the distress message (if the initial distress alert was sent by DSC)
- viii) the repetition of the distress message;
- ix) the word, “OVER”

When Distress Traffic has ceased or when silence is no longer necessary the station that has controlled the Distress Traffic must transmit a message on the distress frequency advising that the distress traffic has ceased:

- i) the word “MAYDAY”;
- ii) the words “ALL STATIONS” (spoken three times);
- iii) the words “THIS IS”;
- iv) the name of the station which has controlled the distress traffic (spoken three times);
- v) the call-sign or other identification of the station which has controlled the distress traffic;
- vi) the current Coordinated Universal Time (UTC);
- vii) the MMSI (if the initial distress alert was sent by DSC) and the name and call sign of the ship that was in distress and a brief description of the resolution of the distress;
- viii) the words “SEELONCE FEENEE”;
- ix) the word “OUT”.

Distress Procedure Example

Initiate a VHF or HF DSC Distress Alert.

Then, on the associated distress and calling frequency, the following distress call and distress message should be spoken slowly and distinctly.

Distress Signal	“MAYDAY” (three times)
the words	“THIS IS”
name of ship	“Nonsuch” (three times)
MMSI number	“316010115” (if initial distress alert was sent by DSC)
Distress Signal	“MAYDAY”
name of ship	“Nonsuch”
MMSI number	“316010115” (if initial distress alert was sent by DSC)
position	“Off Iles-St-Marie”
nature of distress	“Struck rock and taking on water”
assistance needed	“Require help to abandon ship”
other useful information	“5 persons on board”
invitation to acknowledge and reply	“OVER”

URGENCY COMMUNICATIONS

The DSC Urgency Announcement will automatically switch marine radios to the associated distress frequency for the subsequent transmission of the urgency signal, the urgency call and the urgency message.

The **Urgency Signal** consists of the words “PAN PAN”.

The **Urgency Call** consists of:

- i) the words “PAN PAN” (spoken three times);
- ii) the words “ALL STATIONS” or station specific call (spoken three times);
- iii) the words “THIS IS” followed by;
- iv) the name of the station making the call (spoken three times); and
- v) the call-sign or other identification; and
- vi) the ship’s MMSI (if the initial Urgency announcement was sent by DSC).

The urgency signal shall be transmitted only on the authority of the master or the person responsible for the ship, aircraft or other vehicle carrying the mobile station.

The Urgency signal indicates that the calling station has a very urgent message to transmit concerning the safety of a ship, aircraft or other vehicle, or the safety of a person.

The urgency signal, the urgency call, and the urgency message shall be sent on the distress frequencies 2182 kHz and Ch 16 (156.8 MHz). If transmission on these frequencies is impossible, any other available frequency on which attention might be attracted should be used.

The urgency signal has priority over all other communications, except distress, and all stations which hear it must take care not to interfere with the transmission of the message which follows the urgency signal.

Stations which hear the urgency signal must continue to listen for at least three minutes. At the end of this period, if no urgency message has been heard, normal service may be resumed. However, stations which are in communication on frequencies other than those used for transmission of the urgency signal may continue their normal work without interruption provided the urgency message is not addressed “to all stations”.

The DSC Urgency Acknowledgement to an “All Stations” DSC Urgency Announcement shall normally be made by an MCTS centre. Ship stations may acknowledge, by radiotelephony, the receipt of a DSC Urgency Announcement on the associated distress and calling frequency after an MCTS centre has had time to initiate contact with the vessel in distress.

SAFETY COMMUNICATIONS

The **Safety Signal** consists of the word “SÉCURITÉ”.

The **Safety Call** consists of:

- i) the word “SÉCURITÉ” (spoken three times)
- ii) the words “ALL STATIONS” (spoken three times)
- iii) the words “THIS IS” followed by
- iv) the name of the station making the call (spoken three times);
- v) the call-sign or other identification;
- vi) the station’s MMSI (if the initial announcement was sent by DSC)
- vii) a brief description of the context of the “Safety Message”
- viii) the channel or frequency for the Safety broadcast;
- ix) the word “OUT”

The safety signal indicates that the station is about to transmit an important navigational or meteorological warning. The safety message should be sent on a working frequency, which is announced at the end of the call.

The safety call is transmitted on the distress frequencies 2182 kHz and Ch 16 (156.8 MHz). If transmission on these frequencies is impossible, any other available frequency on which attention might be attracted shall be used.

A ship station which receives an “All Stations” DSC Safety Announcement shall not acknowledge receipt.

All stations hearing the safety signal shall shift to the working frequency indicated in the call and listen to the safety message until satisfied it does not concern them.

The **Safety Message** format consists of:

- i) the word “SÉCURITÉ”
- ii) the words “ALL STATIONS” (spoken three times)
- iii) the words “THIS IS” followed by
- iv) the name of the station making the call (spoken three times)
- v) the call sign or other identification of the transmitting station;
- vi) the MMSI of the transmitting station (if the initial announcement was sent by DSC)
- vii) the details of the safety message;
- viii) the word “OUT”

ATHABASCA – MACKENZIE WATERSHED AREA: DISTRESS, URGENCY, SAFETY COMMUNICATIONS – USE OF 5803 kHz

The frequency 5803 kHz is the distress and calling frequency for the Athabasca – Mackenzie inland waterways. This frequency should be carried on all commercial vessels and should be monitored at all times when the vessel is in active operation on the waterways.

This frequency will not be used for any type of communication other than distress, urgency and safety communications and for the purpose of establishing initial radio contact with another vessel or shore station. After initial contact is made, for other than distress or emergency communication, the vessel and/or shore station involved will immediately transfer to an established working frequency.

For the provision of relay or assistance in communication to a land station or other vessel, the Canadian Coast Guard will provide, during the shipping season, 24 hour receive and transmit facilities on 5803 kHz from MCTS Inuvik/VFA.

AIDS TO NAVIGATION

Positions

All positions expressed in latitude and longitude of the radio aids to navigation listed in this publication are approximate and are taken from the largest scale Canadian Hydrographic Service charts, where available, or British Admiralty charts of the vicinity. Mariners should bear in mind when plotting the position of any given aid that it is preferable to use a chart with the aid already located on it than to plot it from a position given in latitude and longitude.

Reporting Abnormal Operation of Radio Aids

A marine radio aid observed to be operating abnormally should be reported, as soon as possible to an MCTS centre.

Reports shall be as complete as possible, giving full details including time, date, the position from which the observation was made, and details and description of conditions, such as weather and reception, prevailing at the time of the observation.

It is also requested that ships report abnormal MCTS centre operation, such as poor quality of marine telephone calls, unreadability of broadcasts, failure to answer calls, etc.

To ensure prompt corrective action, such reports must include the date, time and position of ship when the observation was made, together with details of prevailing weather and reception conditions.

Radio Beacons

Marine radio beacons generally operate in the 285 - 325 kHz. Radio beacon service enables ships fitted with direction finding equipment to take a bearing or to take several consecutive bearings which will provide a fix. See Part 2 for details on individual listings

Radar Beacons (RACONS)

Radar beacons (Racons) may be established at lighthouses, on buoys or at other specific charted locations ashore or afloat to enhance identification and detection range of these features by radar.

Some Racons operate only in the X band 9320-9500 MHz, whilst others are dual band X/S, X band plus S band of 2920-3100 MHz. It should also be noted that the slow sweep (SS) type of Racon will give a response every 72-120 seconds, whilst the frequency agile Racon (FAR) will respond more frequently.

The Racon signal appears on the radar display as a line commencing at the approximate range of the Racon and extending outwards along its line of bearing from the ship toward the limit of the display. The signal displayed may be a solid line or it may be broken into a code consisting of a series of dots and dashes as shown in relevant publications.

SYSTEMS

GMDSS – GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM IN CANADA

What is GMDSS?

The Global Maritime Distress and Safety System (GMDSS) is an international system using improved terrestrial and satellite technology and ship-board radio systems. It ensures rapid alerting of shore-based rescue and communications authorities in the event of an emergency. In addition, the system alerts vessels in the immediate vicinity and provides improved means of locating survivors.

GMDSS was developed through the International Maritime Organization (IMO) and represents a significant change in the way maritime safety communications are conducted. While it is mandatory for all ships subject to the International *Convention for the Safety Of Life At Sea* (SOLAS) (cargo ships 300 gross tons or greater and all passenger vessels, on international voyages), GMDSS will impact on all radio-equipped vessels, regardless of size. All SOLAS ships are required to fully comply with GMDSS.

Why GMDSS?

GMDSS was developed to **SAVE LIVES** by modernizing and enhancing the current radiocommunications system. By utilizing satellite and digital selective calling technology, GMDSS provides a more effective distress alerting system. It improves the current system by:

- increasing the probability that an alert will be sent when a vessel is in distress;
- increasing the likelihood that the alert will be received;
- increasing the ability to locate survivors;
- improving rescue communications and coordination; and
- providing mariners with vital maritime safety information.

Maritime Safety Information (MSI)

Maritime Safety Information broadcasts, which comprise distress alerts, SAR information, navigational and weather warnings, as well as forecasts, can be received in three different ways in GMDSS:

1. NAVTEX receivers are fully automatic and receive broadcasts in coastal regions up to 300 nautical miles offshore;
2. INMARSAT-C terminals receive Enhanced Group Call – SafetyNET (EGC) broadcasts for areas outside NAVTEX coverage;
3. HF Narrow Band Direct Printing (NBDP) receivers can be used where service is available as an alternate to EGC.

GMDSS Sea Areas – International

Although ship-to-ship alerting is still an important function in GMDSS, the emphasis is on two way communications between ships and shore facilities. All GMDSS ships must be capable of communicating with the shore and transmitting a distress alert by two different means. The equipment carried by a GMDSS ship is therefore determined by its area of operation and the availability of shore-based communications services.

There are four “Sea Areas” defined in the GMDSS:

Sea Area A1	Within range of shore-based VHF/DSC coast station (40 nautical miles)
Sea Area A2	Within range of shore-based MF/DSC coast station (excluding sea areas A1)(150 nautical miles)
Sea Area A3	Within the coverage of an INMARSAT geostationary satellite (approximately 70°N to 70°S) (excluding sea areas A1 & A2)
Sea Area A4	The remaining areas outside sea areas A1, A2 & A3 (polar regions)

GMDSS Sea Areas – Canada

In Canada, as a result of consultations with the Canadian marine industry, it has been decided to implement sea areas A1 on the east and west coasts. Outside of A1 will be an A3 sea area with an A4 sea area in the Arctic.

Consideration was given to the implementation of an A2 sea area, but due to budgetary constraints and the marine industry’s preference for sea areas A1 and A3, sea area A2 is not being planned at this time.

Communications between GMDSS Vessels & Non-GMDSS Vessels

Since February 1, 1999, GMDSS larger ships have been maintaining an automated listening watch on GMDSS VHF/DSC Ch 70 and MF/DSC 2187.5 kHz. This at times creates the situation, where vessels fitted with traditional, non-GMDSS radio equipment, may have had difficulties alerting or contacting a GMDSS ship. The Coast Guard is addressing this by monitoring both GMDSS and traditional distress frequencies. Canadian Coast Guard MCTS centres will continue to monitor 2182 kHz and Ch 16 for distress, urgency, safety and calling purposes for the foreseeable future. Further, the Coast Guard and Transport Canada encourage all vessels to fit VHF/DSC in the interest of increased safety.

Important Safety Notice concerning VHF/DSC

After having received a distress, urgency or safety broadcast announcement on VHF/DSC Ch 70 the VHF/DSC equipment will automatically switch the DSC radio to VHF Ch 16 for the subsequent voice announcements. Mariners who are required by the *VHF Practices and Procedures Regulations* to monitor a specific VTS sector frequency should return the radio to the appropriate working frequency after determining, on Channel 16, the impact of the VHF/DSC alert broadcast announcement on their vessel’s’ operations.

It has been determined that vessels maintaining a listening watch on a VTS sector frequency, per the requirements of the *VTS Zone Regulations* may, if navigating in congested waters, temporarily discontinue DSC watchkeeping on VHF/DSC Channel 70 until the required manoeuvre has been completed.

Vessels inadvertently or accidentally transmitting a distress/urgency/safety broadcast on VHF/DSC must cancel the distress/urgency/safety broadcast on VHF Ch 16. Intentionally sending a false distress alert carries penalties under both the *Canada Shipping Act* and the *Radiocommunication Act*.

VHF/DSC equipment must be programmed with the correct Maritime Mobile Service Identity (MMSI) numbers (reference Radio Station licensing and MMSI numbers section in Part 4 also reference page 1-7 for the MCTS centres’ MMSI numbers).

Canadian Coast Guard Marine Communications and Traffic Services (MCTS) Centres

To help ease the transition to GMDSS and bridge the communication gap between the two systems, Canadian Coast Guard MCTS centres will continue to monitor the current distress and safety channels VHF Ch 16 and MF 2182 kHz for the foreseeable future. Once Canada’s sea areas have all been implemented, lower cost DSC equipment is available, and it is determined that these services are no longer required, these listening watches may be discontinued. This decision will be evaluated at that time.

To supplement the broadcasting of Maritime Safety Information (MSI) on NAVTEX and INMARSAT EGC, MCTS centres will continue safety broadcasts using the existing VHF continuous marine broadcast system.

LRIT

LONG-RANGE IDENTIFICATION AND TRACKING OF VESSELS REGULATIONS

INTERPRETATION

Definitions

1. (1) The following definitions apply in these Regulations.

“cargo vessel”

“cargo vessel” means a vessel that is not a passenger vessel and is of 300 gross tonnage or more.

“international voyage”

“international voyage” means a voyage between a port in one country and a port in another country, but does not include a voyage solely on the Great Lakes, the St. Lawrence River and their connecting and tributary waters as far east as the lower exit of the St. Lambert Lock at Montréal.

“LRIT equipment”

“LRIT equipment” means information-transmitting equipment for the long-range identification and tracking of a vessel.

“LRIT information”

“LRIT information” means the information referred to in section 5.

“Minister”

“Minister” means the Minister of Transport.

“passenger vessel”

“passenger vessel” means a vessel that carries more than 12 passengers.

“sea area A1”, “sea area A2”, “sea area A3” and “sea area A4”

“sea area A1”, “sea area A2”, “sea area A3” and “sea area A4” have the meanings assigned by regulation 2.1 of Chapter IV of SOLAS.

“SOLAS”

“SOLAS” means the International Convention for the Safety of Life at Sea, 1974, and the Protocol of 1988 relating to the Convention, as amended from time to time.

When vessel is constructed

(2) For the purpose of these Regulations, a vessel is constructed on the earliest of

(a) the day on which its keel is laid;

(b) the day on which construction identifiable with a specific vessel begins; and

(c) the day on which assembly of the vessel reaches the lesser of 50 tonnes and 1% of the estimated mass of all structural material.

APPLICATION

Cargo vessels and passenger vessels

2. (1) These Regulations apply in respect of Canadian vessels everywhere if they

(a) are engaged on international voyages; and

(b) are cargo vessels or passenger vessels.

Exceptions

(2) These Regulations do not apply in respect of

(a) pleasure craft; or

(b) government vessels.

COMPLIANCE

Authorized representative

3. The authorized representative of a vessel shall ensure that the requirements of sections 4 to 10 are met.

LRIT EQUIPMENT

Vessels to be fitted

4. (1) Every vessel shall be fitted with LRIT equipment.

Exception — sea area A1

(2) Subsection (1) does not apply in respect of a vessel that operates exclusively in sea area A1 if it is fitted with an automatic identification system that meets the requirements of and is operated in accordance with section 65 of the *Navigation Safety Regulations*.

Exception — vessels constructed before December 31, 2008

(3) A vessel constructed before December 31, 2008 is not required to be fitted with LRIT equipment before

(a) if the vessel is certified under subsection 51(4) of the *Ship Station (Radio) Technical Regulations, 1999* for operation in sea area A1 and sea area A2 or in sea area A1, sea area A2 and sea area A3, the later of the day on which these Regulations come into force and the day on which its radio installation is first inspected after December 31, 2008; or

(b) if the vessel is certified under subsection 51(4) of the *Ship Station (Radio) Technical Regulations, 1999* for operation in sea area A1, sea area A2, sea area A3 and sea area A4,

(i) while the vessel is operating in sea area A1, sea area A2 or sea area A3, the later of the day on which these Regulations come into force and the day on which its radio installation is first inspected after December 31, 2008, or

(ii) while the vessel is not operating in sea area A1, sea area A2 or sea area A3, the later of the day on which these Regulations come into force and the day on which its radio installation is first inspected after July 1, 2009.

Interpretation

(4) For the purpose of subsection (3), inspection of a vessel's radio installation occurs when it is inspected as required by section 51 of the *Ship Station (Radio) Technical Regulations, 1999*.

Automatic transmission

5. The LRIT equipment fitted on a vessel to meet the requirements of section 4 shall automatically transmit the following information:

- (a) the vessel's identity;
- (b) the vessel's position, particularly its latitude and longitude; and
- (c) the date and time of the transmission.

Type approval or certification

6. (1) The LRIT equipment fitted on a vessel to meet the requirements of section 4 shall be type-approved or certified by the Minister as meeting the performance standards and functional requirements set out in section 4 of the *Revised performance standards and functional requirements for the long-range identification and tracking of ships*, the annex to International Maritime Organization Resolution MSC.263(84), as amended from time to time.

Interpretation

- (2) For the purpose of interpreting section 4 of the annex referred to in subsection (1),
 - (a) "should" shall be read to mean "shall"; and
 - (b) "Administration" shall be read to mean "Minister".

Switching off equipment

7. (1) The LRIT equipment fitted on a vessel to meet the requirements of section 4 shall be capable of being switched off on board.

Master

- (2) The vessel's master may switch off the LRIT equipment
 - (a) when international agreements, rules or standards provide for the protection of navigational information; and
 - (b) in exceptional circumstances and for the shortest duration possible when the equipment's operation is considered by the vessel's master to compromise the safety or security of the vessel.

Informing authorities

- (3) If the master switches off the LRIT equipment in the case provided for by paragraph (2)(b), the master shall
 - (a) without undue delay inform a Marine Communications and Traffic Services centre of the Canadian Coast Guard and, if the vessel is in the waters of a contracting government, the relevant maritime authority of that government; and
 - (b) make an entry, in the record of navigational activities and incidents maintained in accordance with section 85 of the *Navigation Safety Regulations*, setting out the reasons for the decision and indicating the period during which the equipment was switched off.

Reducing frequency of or temporarily stopping transmission

- 8.** (1) The LRIT equipment fitted on a vessel to meet the requirements of section 4 shall be capable of
 - (a) being configured to transmit the LRIT information at a reduced frequency of once every 24 hours; and
 - (b) temporarily stopping the transmission of LRIT information.

Master

(2) While a vessel is undergoing repairs, modifications or conversions in dry dock or in port or is laid up, the vessel's master may, on his or her own

initiative, and shall, if directed to do so by the Minister,

- (a) reduce the frequency of the transmission of LRIT information to once every 24 hours; or
- (b) temporarily stop the transmission of LRIT information.

Informing authorities

(3) If the master reduces the frequency of or temporarily stops the transmission of LRIT information under subsection (2), the master shall

- (a) without undue delay inform a Marine Communications and Traffic Services centre of the Canadian Coast Guard and, if the vessel is in the waters of a contracting government, the relevant maritime authority of that government; and
- (b) make an entry, in the record of navigational activities and incidents maintained in accordance with section 85 of the *Navigation Safety Regulations*, indicating the period during which the transmission of LRIT information was reduced in frequency or temporarily stopped, and whether or not the Minister directed the action.

Failure of system

9. If the Minister or the Canadian Coast Guard informs the master of a vessel that any part of the system used to receive LRIT information from the vessel or to disseminate the information has failed, the master shall make an entry, in the record of navigational activities and incidents maintained in accordance with section 85 of the *Navigation Safety Regulations*, setting out the date and time the master was informed.

Electromagnetic interference

10. LRIT equipment shall be installed so that electromagnetic interference does not affect the proper functioning of navigational equipment.

Issuance of proof of type approval or of certificate

11. (1) On application, the Minister shall issue a proof of type approval or a certificate for LRIT equipment if the Minister determines that the equipment meets the performance standards and functional requirements referred to in subsection 6(1).

Carry proof or certificate on board

(2) A vessel's master shall ensure that a proof of type approval or a certificate issued under subsection (1) for the LRIT equipment fitted on the vessel to meet the requirements of section 4 is

- (a) in the case of a proof of type-approval, carried on board in the form of
 - (i) a label that is securely affixed to the equipment in a readily visible location, or
 - (ii) a document that is kept in a readily accessible location; and
- (b) in the case of a certificate, carried on board in a readily accessible location.

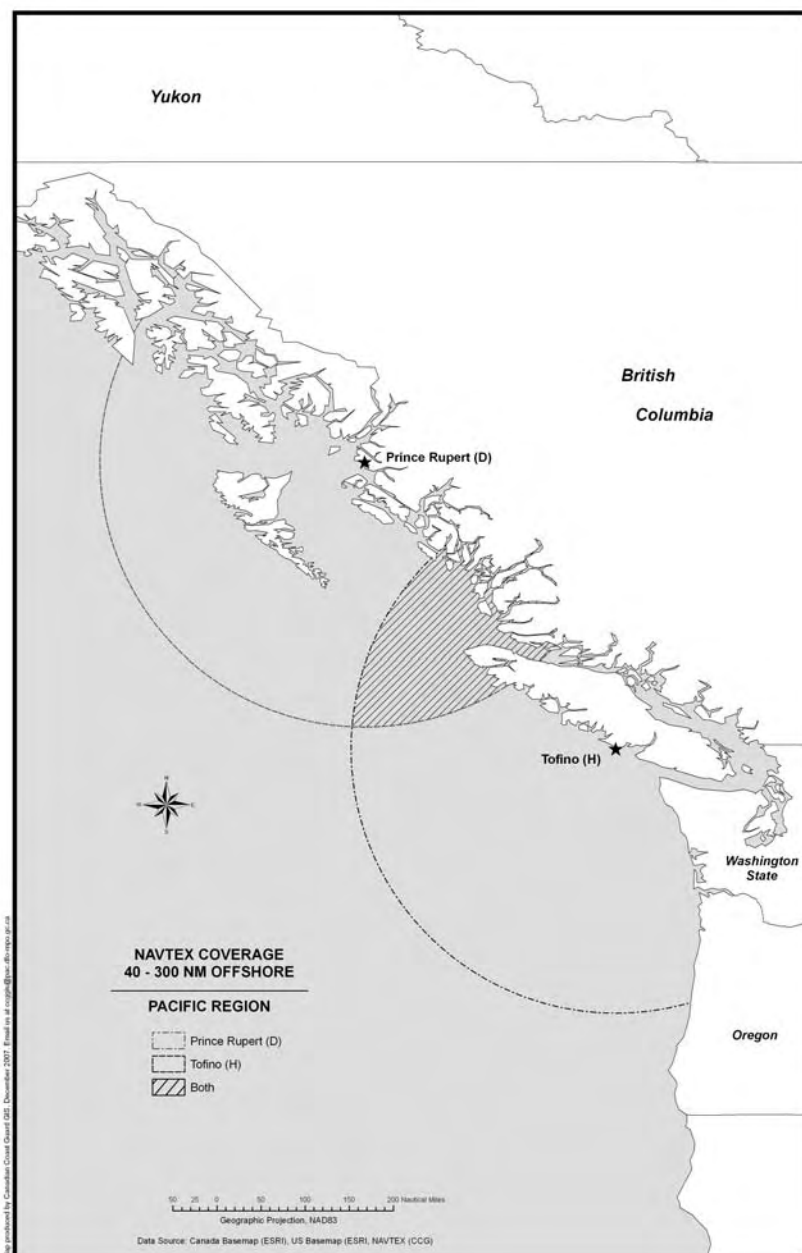
CANADIAN NAVTEX SERVICE

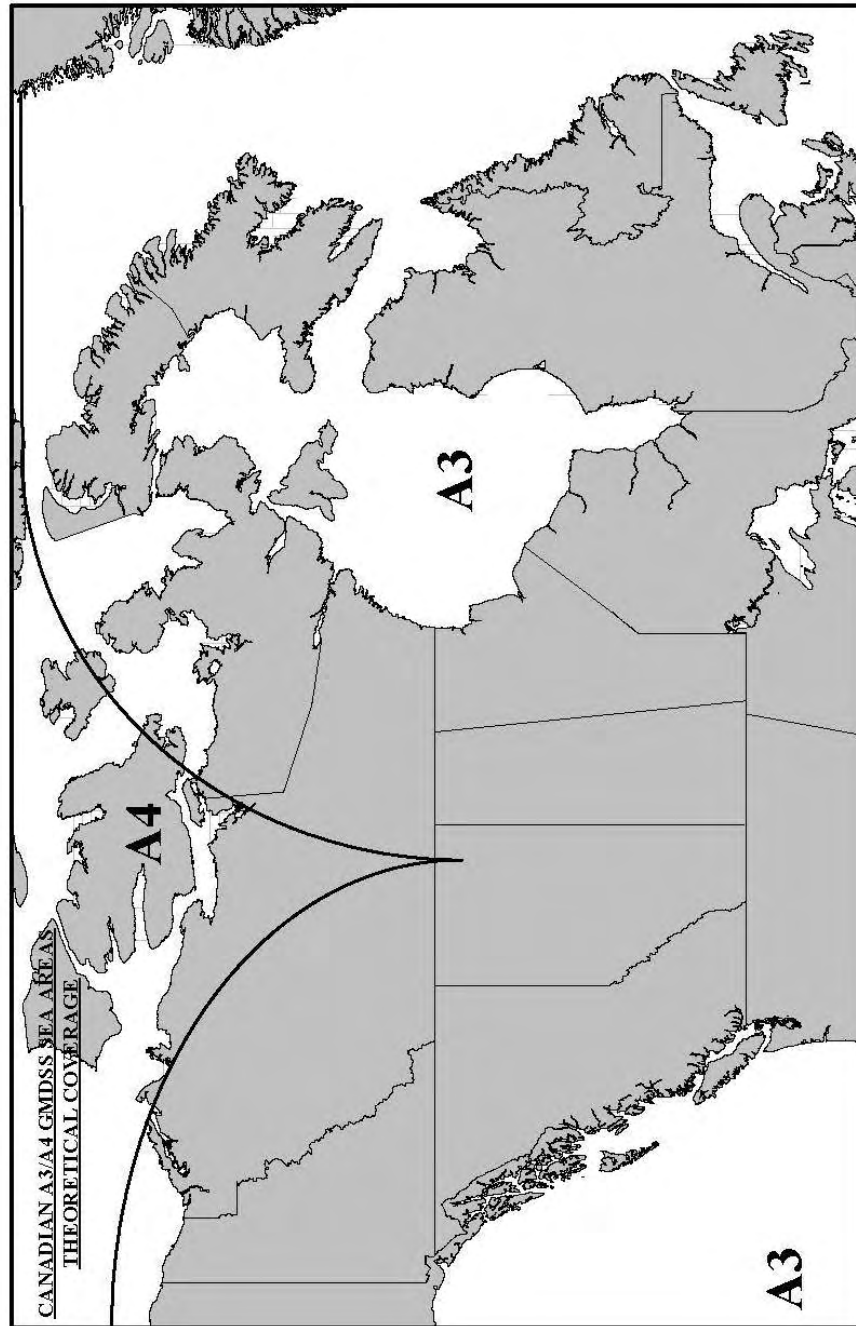
NAVTEX Service is available from the following transmitting sites:

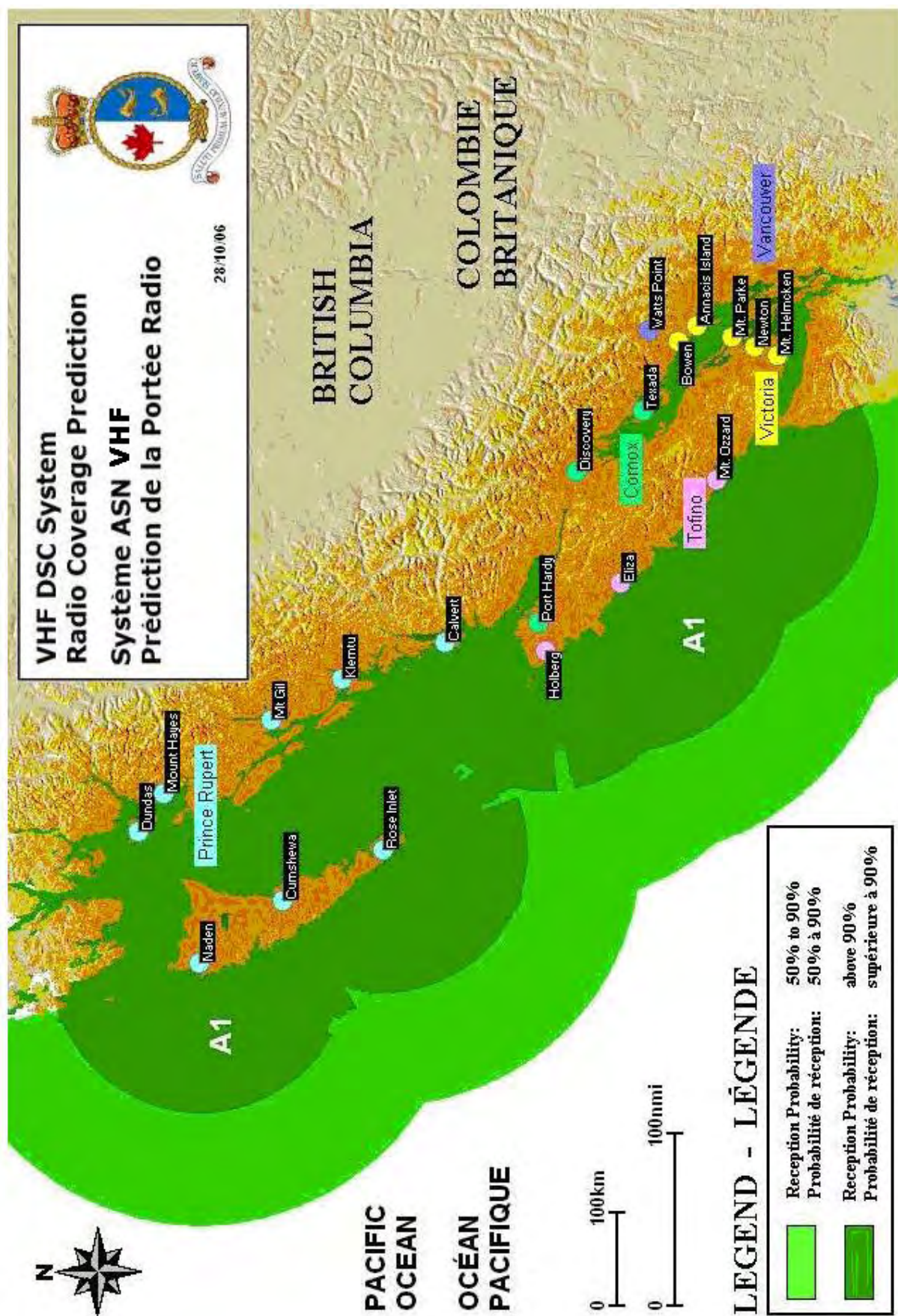
Site	Position	Range (NM)	ID
Tofino	48 55N 125 32W	300	H
Prince Rupert	54 17N 130 25W	300	D

The service uses the frequency 518 kHz for the broadcast of the following subject-Indicator content:

- | | |
|-------------------------------|------------------------------|
| (A) Navigational Warnings | (E) Meteorological forecasts |
| (B) Meteorological Warnings | (G) AIS messages |
| (C) Ice Reports | (H) Loran-C messages |
| (D) Search and Rescue Reports | (K) DGPS Notices to Shipping |
- Broadcast time and content is shown in individual MCTS centre listings.







TRANSPORT CANADA'S REQUIREMENTS FOR THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS) AND GUIDANCE ON IMPORTANT OPERATIONAL ALERTING PROCEDURES

Masters and radio operators are urged to review and use the following important information on the use of GMDSS radio equipment to help ensure the GMDSS and Search and Rescue (SAR) services can operate as efficiently and effectively as possible.

New Regulations

Following several years of development and consultation, the new *Ship Station (Radio) Regulations*, 1999 and the new *Ship Station (Radio) Technical Regulations*, 1999 came into force on April 1, 2001. These Regulations affect Canadian domestic ships operating on the seacoasts of Canada, which are not in a Vessel Traffic Services Zone, and that:

- are 20 metres in length or more and certified to carry more than 12 passengers; or
- have a gross tonnage of 300 tons or more.

These ships will be carrying and using radio equipment consistent with the GMDSS.

The new regulations also phase-in requirements over the next couple of years that will apply to smaller commercial ships operating on the seacoasts of Canada (Note in particular that by **April 1, 2002**, vessels 8 metres or more in length and operating more than 20 miles from shore will need an EPIRB. By **February 1, 2003**, tow boats, vessels carrying more than 6 passengers and vessels of closed construction more than 8 metres in length will need a VHF/DSC radio). In addition, amendments have been made to other regulations to update the requirements pertaining to survival craft radio equipment e.g., *Life Saving Equipment Regulations*, *Small Fishing Vessel Inspection Regulations* and the *Large Fishing Vessel Inspection Regulations*, 1999. The following table summarizes the carriage requirements of the *Ship Station (Radio) Regulations*, 1999. However the actual regulations should be consulted for specific requirements and are available at: <http://www.tc.gc.ca/eng/acts-regulations/acts-2001c26.htm>.

EMERGENCY POSITION INDICATING RADIO BEACONS (406 MHZ)

It is recommended that a float-free EPIRB be carried on board ships and pleasure crafts operating offshore. To be effective, 406 MHz EPIRBs **must be registered** with the Canadian Beacon Database by telephone at 1-800-727-9414; facsimile 613-996-3746; or, on the Website at: <http://www.canadianbeaconregistry.forces.gc.ca/>

Note: INMARSAT discontinued their monitoring service of INMARSAT "E" EPIRB distress alerts as of **December 1, 2006**.

Mariners should check with INMARSAT for exchange of any currently held INMARSAT 'E' EPIRBs. Further, mariners should only purchase and fit COSPAS-SARSAT 406 MHz EPIRBs.

- Float-free EPIRBs should not be fitted under ledges or structures that would impede their ability to float free. Do not install the EPIRB with lanyard attached to the superstructure of your vessel.
- Both manually activated EPIRBs and float-free EPIRBs should be readily accessible so that in the event of an emergency, it is available for immediate use.
- EPIRBs should be tested using the "TEST" button, by the operator every 6 months. This test should be recorded in the radio log.
- EPIRB battery packs and hydrostatic release units should be replaced per the manufacturer's recommendations.

A list of 406 MHz EPIRBs approved for use in Canada is available on the Website at: <http://www.tc.gc.ca/MarineSafety/APCI-ICPA/default.asp>.

Ship Station (Radio) Regulations, 1999

	Ships ≥ 20m and certified to carry >12 passengers, or ships ≥300gt
	All other ships

- Requirements for Safety Convention ships are not shown as they must comply with the Safety Convention.
- Requirements for ships on inland voyages and minor waters voyages are not shown since there are no new requirements.
- Regulations do not apply to a pleasure yacht not carrying a master or crew for hire, or a tow-boat in a booming ground.

Equipment	Sea Area A1 or VHF Area	Sea Area A3	Sea Area A4
VHF Radio with DSC (SSRR)	Yes -unless ship operates within a VTS Zone, then will have until January 31, 2003, or until the sea area A1 is completed, whichever is latest.		
INMARSAT Ship Earth Station with EGC, and MF Radio with DSC, or MF/HF Radio with DSC and NBDP (SSRR)	No	Yes (EGC required only if outside NAVTEX range)	Yes MF/HF option only
NAVTEX Receiver (no change to current requirement-SSRR)	No	Yes • if ≥ 150gt tow boat • if ≥ 300gt cargo ship • if ≥ 24m fishing, or • if passenger ship	No
EPIRB (float-free) (SSRR)	Yes • if ≥20m (and beyond home trade IV voyage) • if tug >5gt and <20m if voyage >50 miles long and >2 miles from shore • if ≥ 15gt and go beyond home-trade III voyage limits i.e., 20 miles from shore by April 1, 2001 • if ≥ 8m and go beyond home-trade III voyage limits on April 1, 2002 (Note: EPIRB does not have to be float-free if less than 15gt) -exempted are ships on home-trade voyages, class IV or minor waters voyages		
Radar Transponder(s) (SARTs) (SSRR, Life Saving Equipment Regulations, Large Fishing Vessel Inspection Regulations, and Small Fishing Vessel Inspection Regulations)	No	Yes 2 are required, unless ship is certified to carry ≤ 12 passengers and is <500gt, then carry 1	
Survival Craft VHF Portable Radio (Life Saving Equipment Regulations, Large Fishing Vessel Inspection Regulations)	Yes 3 are required, unless ship is certified to carry ≤ 12 passengers and is <500gt, then carry 2 (new requirement for ships on home-trade voyages, class III)		
Reserve Source of Energy	No	Yes 3 are required if ship is certified to carry >12 passengers and is >5gt	
	Yes		
	Yes if ship is ≥20m, is carrying more than 6 passengers, or is a tow-boat		

DSC: digital selective calling

EGC: enhanced group calling

NBDP: narrow band direct printing

Additional requirements: emergency procedures card, operating and routine maintenance manuals, consumable spare parts, radio publications, time piece, weather facsimile (Arctic), spare antennas (some ships ≥20m).

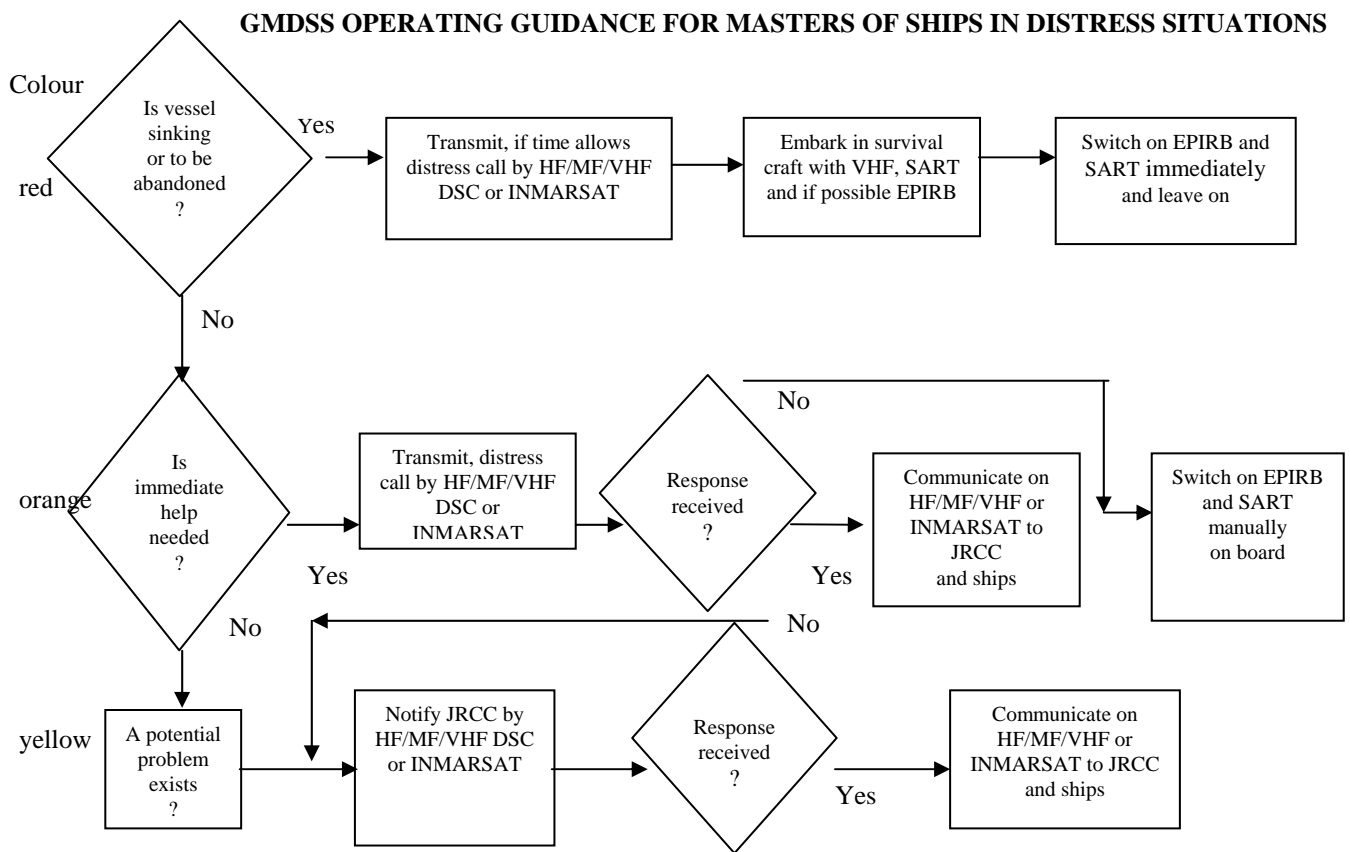
GUIDANCE FOR MASTERS IN DISTRESS SITUATIONS AND ALERTING OF SAR AUTHORITIES

In 1992, the International Maritime Organization (IMO) prepared a flow chart providing GMDSS operating guidance for masters of ships in distress situations (COM/Circ.108). It was recommended that this chart be displayed on the ship's bridge.

Later, another circular (MSC/Circ.892) was prepared to strongly emphasize the importance for ships to alert SAR authorities at the earliest possible moment in any situation that may involve a danger to life or that has the potential of developing into such a situation.

The following is for the mariner's information and guidance:

- GMDSS Operating Guidance for Masters of Ships in Distress Situations; and
- Alerting the Search and Rescue Authorities.



1. EPIRB should float-free and activate automatically if it cannot be taken into survival craft.
2. Where necessary, ships should use any appropriate means to alert other ships.
3. Nothing above is intended to preclude the use of any and all available means of distress alerting.

RADIO DISTRESS COMMUNICATIONS

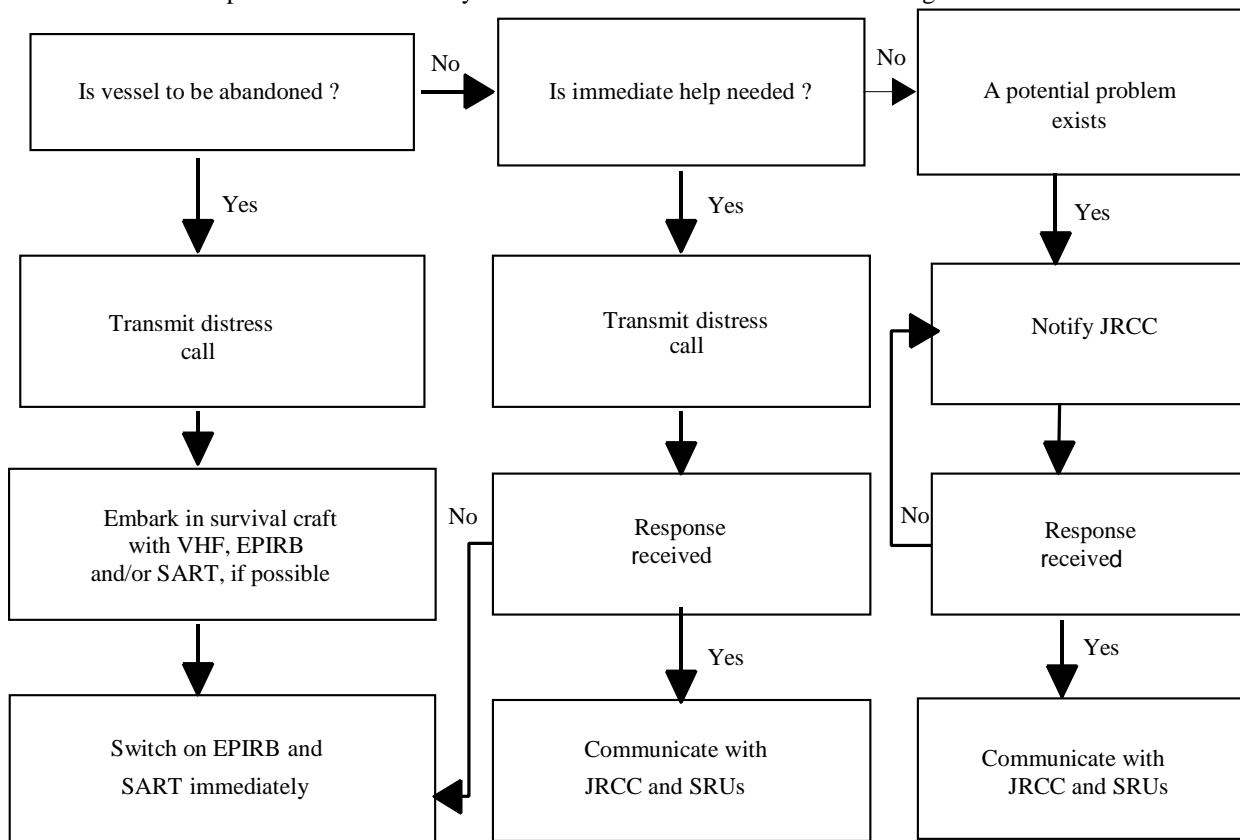
	Digital Selective Calling (DSC)	Radiotelephone	Radiotelex
VHF	Channel 70	Channel 16	
MF	2187.5 kHz	2182 kHz	2174.5 kHz
HF4	4207.5 kHz	4125 kHz	4177.5 kHz
HF6	6312 kHz	6215 kHz	6268 kHz
HF8	8414.5 kHz	8291 kHz	8376.5 kHz
HF12	12577 kHz	12290 kHz	12520 kHz
HF16	16804.5 kHz	16420 kHz	16695 kHz

Alerting the Search and Rescue Authorities (MSC/Circ.892)

1. The need for the earliest possible alerting of the search and rescue (SAR) co-ordination authority to maritime emergencies cannot be over-emphasized.
2. It is essential to enable shore-based facilities to respond without delay to any situation which constitutes, or has the potential to constitute, a danger to life. Time lost in the initial stages of an incident may be crucial to its eventual outcome. It cannot be regained.
3. Factors to be considered include position (in relation to hazards and to shore-based or other SAR units); time of day; weather conditions (actual & forecast); the number of persons at risk or potentially at risk; specific assistance required, etc.
4. It is always best to consider the 'worst-case scenario' and to alert the SAR organization accordingly. Depending on the circumstances, the co-ordinating authority may choose to alert or despatch SAR facilities as a precautionary measure and/or to reduce transit times. If assistance is not subsequently required, any such positive response can be easily curtailed. But time lost through delays in notification can *never* be regained.
5. It is therefore essential that the SAR co-ordinating authority be informed *immediately* of:
 - i) all maritime SAR incidents;
 - ii) any situation which may develop into a SAR incident; and
 - iii) any incident which may involve or lead to danger to life, the environment or to property which may require action from the SAR services and/or other authorities.

Operating guidance for masters of ships in distress or urgency situations*

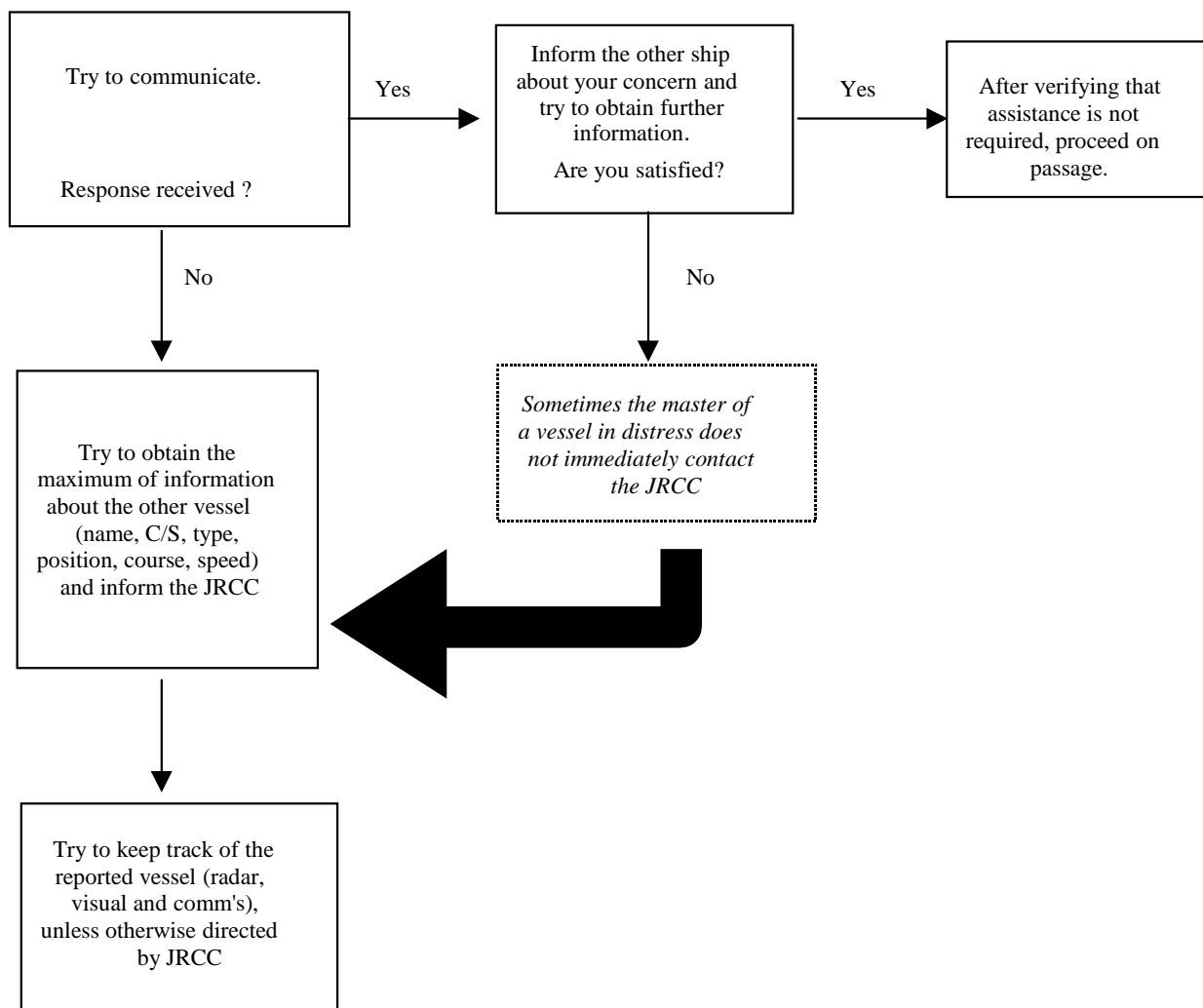
6. The following diagram shows standard procedures for distress/urgency message routing. It is for guidance only, and does not preclude the use of any and all available means of distress alerting.



* To be considered in conjunction with IMO publication 969 - GMDSS Operating Guidance for Masters of Ships in Distress Situations (COM/Circ.108 of 23 January 1992).

Operation guidance for masters of ships observing another vessel apparently in danger

7. The following diagram shows suggested procedures for reporting concerns about the safety of another vessel (fire, smoke, adrift, navigating towards a danger, etc.).



Note: For local JRCC contact information, refer to section *SEARCH AND RESCUE IN CANADIAN AREAS OF RESPONSIBILITY* (Part 4 of this publication).

False Distress Alerts and Distress Relay Alerts

The GMDSS has been in force for ships on international voyages since February 1, 1999, following its seven-year phase-in. During this time, considerable experience was gained internationally in the operation of the GMDSS. While the GMDSS has proven its overall effectiveness, the high number of accidental distress alert activations and the inappropriate and unintended Digital Selective Calling (DSC) distress relay alerts have detracted from the efficiency of the system. Excessive false alerts and distress relay alerts can create an unnecessary burden and workload for SAR services. They may also cause confusion and undermine mariner's confidence in the GMDSS. They could potentially have a serious impact on real distress situations.

With the aim of minimizing the number of false alerts and distress alert relays, the following information is provided:

- "Instructions for Mariners and Others on How to Cancel a False Alert" (appendix to IMO Resolution A.814(19) entitled Guidelines for the Avoidance of False Distress Alerts);
- "Procedure for Responding to DSC Distress Alerts by Ships" (COMSAR/Cir.25).

Instructions for Mariners and Others* on How to Cancel a False Distress Alert

(Appendix to IMO Resolution A.814(19))

DSC

1 VHF

1. switch off transmitter immediately**;
2. switch equipment on and set to Channel 16; and
3. make broadcast to "All Stations" giving the ship's name, call sign and MMSI number, and cancel the false distress alert.

Example

All Stations, All Stations, All Stations

This is NAME, CALL SIGN

MMSI NUMBER, POSITION

Cancel my distress alert of

DATE, TIME UTC

= Master NAME, CALL SIGN

MMSI NUMBER, DATE, TIME UTC

2 MF

1. switch off equipment immediately**;
2. switch equipment on and tune for radiotelephony transmission on 2182 kHz; and
3. make broadcast to "All Stations" giving the ship's name, call sign and MMSI number, and cancel the false distress alert.

Example

All Stations, All Stations, All Stations

This is NAME, CALL SIGN

MMSI NUMBER, POSITION

Cancel my distress alert of

DATE, TIME UTC,

= Master NAME, CALL SIGN

MMSI NUMBER, DATE, TIME UTC

3 HF

As for MF, but the alert must be cancelled on all the frequency bands on which it was transmitted. Hence, in stage 2.2 the transmitter should be tuned consecutively to the radiotelephony distress frequencies in the 4, 6, 8, 12 and 16 MHz bands, as necessary.

* Appropriate signals should precede these messages in accordance with the *ITU Radio Regulations* Chapter NIX.

** This applies when the false alert is detected during transmission.

4 INMARSAT-C

Notify the appropriate JRCC to cancel the alert by sending a distress priority message via the same CES through which the false distress alert was sent.

NAME, CALL SIGN, IDENTITY NUMBER

POSITION

Cancel my Inmarsat-C distress

alert of DATE, TIME UTC

= Master +

5 EPIRBs

If for any reason an EPIRB is activated accidentally, the ship should contact the nearest coast station or an appropriate coast earth station or JRCC and cancel the distress alert.

6 General

6.1 Notwithstanding the above, ships may use any means available to them to inform the appropriate authorities that a false distress alert has been transmitted and should be cancelled.

6.2 No action will normally be taken against any ship or mariner for reporting and cancelling a false distress alert. However, in view of the serious consequences of false alerts, and the strict ban on their transmission, Governments may prosecute in cases of repeated violations.

Procedure for Responding to DSC Distress Alerts by Ships (COMSAR/Circ.25)

1 Introduction

The Sub-Committee on Radiocommunications and Search and Rescue (COMSAR) decided that Digital Selective Calling (DSC) relays of distress alerts on all shipborne DSC equipment should be reduced and prepared a procedure for responding to VHF/MF and HF distress alerts, given in flow diagrams 1 and 2 which follow recommending that it be displayed on the ship's bridge as A4 size posters. It also prepared the following guidance.

2 Distress Relays

2.1 Radio personnel serving on ships should be made aware of the consequences of transmitting a distress relay call and of routing a DSC distress relay alert to other than coast stations (CS).

2.2 The number of unintended activations of DSC distress alerts and DSC distress relay alerts creates extra work load and confusion to (M) JRCCs and also causing delay in the response-time. The original distress alert from a ship in distress should not be disrupted by other ships, by transmitting a DSC distress relay alert.

- 2.3 Recommendation ITU-R M.541-8 on Operational procedures for the use of DSC equipment in the Maritime Mobile Service identifies only two situations in which a ship would transmit a distress relay call (distress relay alert):
1. on receiving a distress alert on a HF channel, which is not acknowledged by a coast station within 5 minutes. The distress relay call should be addressed to the appropriate coast station (Annex 1, paragraph 3.4.2 and Annex 3, paragraph 6.1.4); and
 2. on knowing that another ship in distress is not itself able to transmit the distress alert and the Master of the ship considers that further help is necessary. The distress relay call should be addressed to "all ships" or to the appropriate coast station (Annex 3, paragraph 1.4).
- 2.4 In no case is a ship permitted to transmit a DSC distress relay call on receipt of a DSC distress alert on either VHF or MF channels.
- 2.5 Distress relay calls on HF channels should be initiated manually.
- 2.6 Compliance with operational and technical provisions above would prevent transmissions of inappropriate distress relay calls.

3 All coast stations call

- 3.1 Recommendation ITU-R M.493-9 on DSC systems for use in the Maritime Mobile Service provides for "group calls" an address consisting of the characters corresponding to the station's Maritime Mobile Service identity (MMSI) and a number of administrations have already assigned a "group call" MMSI to their coast stations in addition to the coast station's individual MMSI.
- 3.2 By multilateral agreements, a "group call" MMSI could be assigned to all coast stations of a specific region, e.g., an JRCC area and could comply with IMO's requirement without need of introducing further modifications to GMDSS equipment.
- 3.3 An alternative method to implement an "all coast stations" call without the need to modify Recommendation ITU-R M.493-9 could be to define one MMSI world-wide as an address for all coast stations, in accordance with Nos. S19.100 to S19.126 of the ITU Radio Regulations. However, this solution would also require a modification of the setup at each coast station participating in the GMDSS.

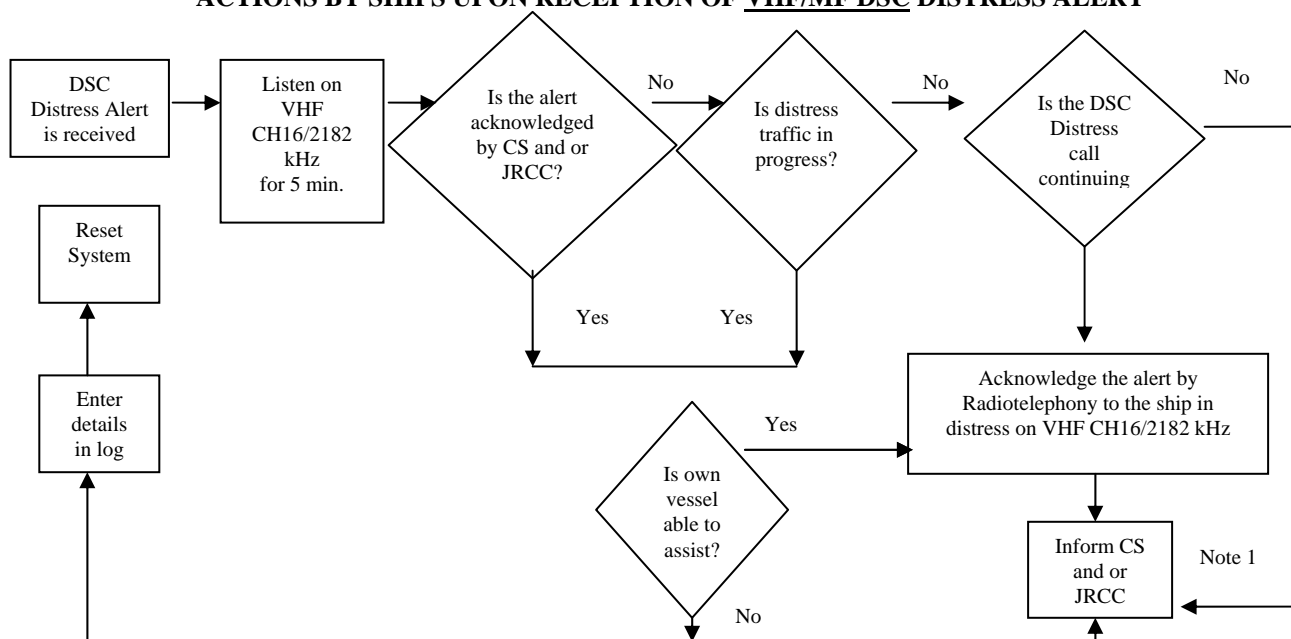
4 Authorization

It should be noted that on ships, distress alerts, distress acknowledgements and distress relay calls can only be transmitted with permission of the Master of the ship.

5 Flow diagrams

- 5.1 The simplified flow diagrams 1 and 2 describe actions to be taken aboard ships upon receipt of distress alerts from other ships. Administrations should give wide distribution of these flow diagrams to ships and training institutions.
- 5.2 Member Governments are invited to bring the above guidance and the attached flow diagrams to the attention of their shipowners, seafarers, coast stations, JRCCs and all others concerned.

FLOW DIAGRAM 1 (COMSAR/Cir.25)
ACTIONS BY SHIPS UPON RECEPTION OF VHF/MF DSC DISTRESS ALERT

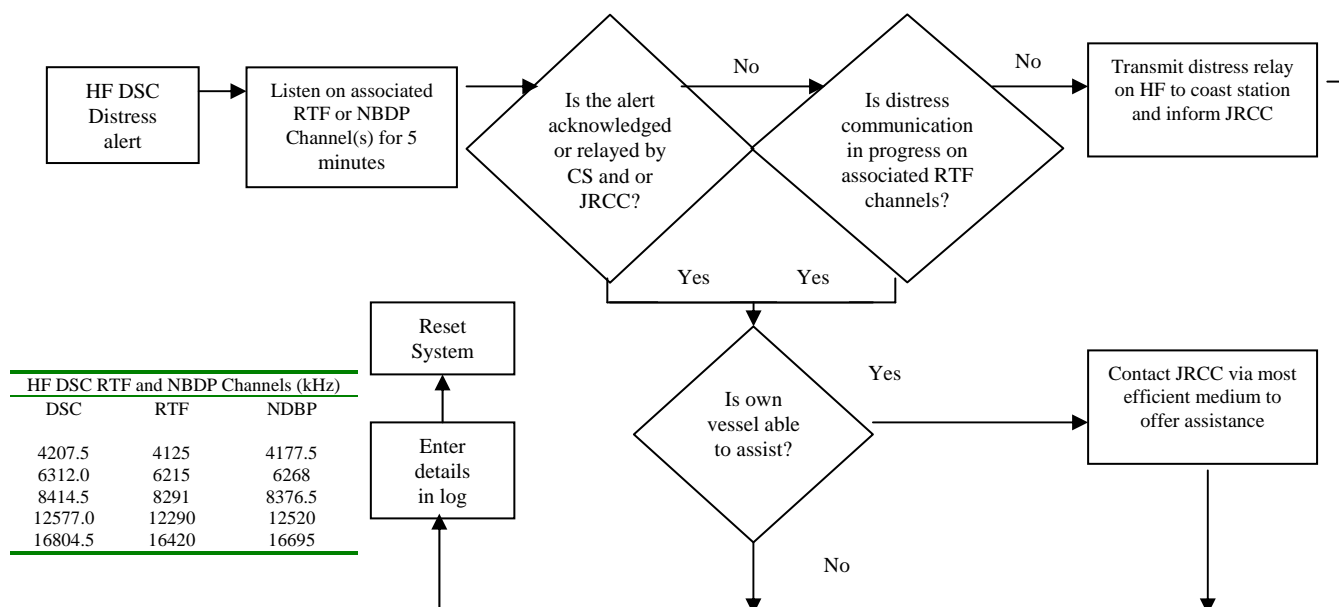


REMARKS:

Note 1: Appropriate or relevant JRCC and/or Coast Station shall be informed accordingly. If further DSC alerts are received from the same source and the ship in distress is beyond doubt in the vicinity, a DSC acknowledgement may, after consultation with a JRCC or Coast Station, be sent to terminate the call.

Note 2: In no case is a ship permitted to transmit a DSC distress relay call on receipt of a DSC distress alert on either VHF channel 70 or MF Channel 2187.5 kHz
 CS = Coast Station JRCC = Joint Rescue Co-ordination Center

FLOW DIAGRAM 1 (COMSAR/Cir.25)
ACTIONS BY SHIPS UPON RECEPTION OF HF-DSC DISTRESS ALERT



HF DSC RTF and NBDP Channels (kHz)		
DSC	RTF	NBDP
4207.5	4125	4177.5
6312.0	6215	6268
8414.5	8291	8376.5
12577.0	12290	12520
16804.5	16420	16695

REMARKS:

Note 1: If it is clear the ship or persons in distress are not in the vicinity and/or other crafts are better placed to assist, superfluous communications which could interfere with search and rescue activities are to be avoided. Details should be recorded in the appropriate logbook.

Note 2: The ship should establish communications with the station controlling the distress as directed and render such assistance as required and appropriate.

Note 3: Distress relay calls should be initiated manually.

CS = Coast Station JRCC = Joint Rescue Coordination Centre



Transport
Canada

DISTRESS AND SAFETY RADIO/TELEPHONE PROCEDURES

TO BE DISPLAYED BESIDE RADIO/TELEPHONE

Name of ship:

MMSI number:

BEFORE DEPARTING

- Have you left a call plan with a responsible person ashore?
- Does your vessel plan take into consideration adverse weather, navigational hazards and fuel requirements?
- Have you verified that your radio equipment is operational?
- Have you charged and checked any batteries used to power radio equipment for emergency communications?
- If equipped with VHF-DSC (Digital Selective Calling), do you have a valid MMSI number and have you connected the call to your GPS?
- If equipped with an EPIRB, have you registered* your EPIRB with the Canadian Coast Guard?
- Do you have an available visual distress signal aboard? (flares, signaling light, etc)

EARLY ALERTING OF SAR

Transport Canada strongly recommends you report, without delay, any situation that has the potential to constitute a danger to life. Time lost in the initial stages of a potential distress incident cannot be regained and may be critical to the outcome. See example for URGENT (PAN PAN) message.

EXAMPLE OF DISTRESS PROCEDURE (MAYDAY)

Press distress alert button followed by distress message "MAYDAY, MAYDAY, MAYDAY. This is NONSUCH, NONSUCH, NONSUCH. MAYDAY NONSUCH NONSUCH NONSUCH. MAYDAY NONSUCH NONSUCH NONSUCH. Ship has taken on water and in danger of capsizing. I require immediate assistance. 4 persons on board, are talking to float." Over*

EXAMPLE OF URGENT PROCEDURE (PAN PAN)

"PAN PAN, PAN PAN, PAN PAN, St. John's Coast Guard Radio, St. John's Coast Guard Radio, This is NONSUCH, NONSUCH, NONSUCH. MMSI 316999999, 5 miles East of Cape Bonaville, 5 persons on board, we have taken on water in lazarette and are presently trying to pump out excess water. Over".

* MMSI numbers and 400 MHz EPIRB registration are available free of charge from Industry Canada and the Maritime Search and Rescue Secretariat, 1-800-727-0814 respectively.

DISTRESS PROCEDURES

For use only when in grave and imminent danger and IMMEDIATE ASSISTANCE is required.

1. Send DSC Alert
2. Send distress call on VHF CH16
3. Activate EPIRB

1. Send DSC Alert

Ensure radio is switched on. Press and hold the red "distress" button for 5 seconds.

2. Send distress call on VHF CH16

Switch to VHF CH16 and transmit distress call and message:

MAYDAY MAYDAY MAYDAY

THIS IS _____ (Vessel name 3 times)

MAYDAY followed by vessel name and MMSI number

POSITION _____

NATURE OF DISTRESS _____

AID REQUIRED _____

NUMBER OF PERSONS ON BOARD _____

If outside of VHF coverage, send the distress message on 2182 kHz or use other suitable means of communication.

3. Activate EPIRB

Activate EPIRB (or PLB) by following directions printed on beacon body.

Take EPIRB with you to the survival craft.

Ensure EPIRB is vertical, with antenna pointed upward.

Distress, Urgency and Safety Signals

MAYDAY means a mobile unit or person is threatened by grave and imminent danger and requests immediate assistance.

MAYDAY RELAY means the calling station is relaying a distress message on behalf of a mobile unit or person who cannot be contacted by grave and imminent danger.

PAN PAN means the calling station has a very urgent message to transmit concerning the safety of a mobile unit or a person.

SECURITE means the calling station has an important navigational or meteorological warning to transmit.

Canceling a False VHF-DSC Distress Alert

Distress Alert

Transmit on VHF CH16: All stations. All stations. All stations. This is _____ West, (vessel name) MMSI number _____, position _____, Distress Alert at date and time. This is _____, (vessel name) MMSI number _____, Out.

Phonetic Alphabet

A	Alpha	H	Hotel	O	Oscar	V	Victor
B	Bravo	I	India	P	Papa	W	Whiskey
C	Charlie	J	Juliet	Q	Quebec	X	X-Ray
D	Delta	K	Kilo	R	Romeo	Y	Yankee
E	Echo	L	Lima	S	Sierra	Z	Zulu
F	Foxtrot	M	Mike	T	Tango		
G	Golf	N	November	U	Uniform		

Canada

TP 9019E (02/2005)

AMVER – AUTOMATED MUTUAL-ASSISTANCE VESSEL RESCUE SYSTEM

Note: A 96-hour pre-arrival report to U.S. ports is required under 33 CFR 160

The Amver System, operated by the United States Coast Guard, is a maritime mutual assistance program that provides important aid to the development and coordination of search and rescue (SAR) efforts in the oceans of the world.

Merchant vessels of all nations making offshore passages of more than 24 hours are encouraged to send sail plans and periodic position reports to the Amver Center in Martinsburg, WV. There is no charge for these radio messages when they are sent through MCTS centres. Information from these messages is entered into a computer that generates and maintains dead reckoning positions for participating vessels throughout their voyages. The predicted locations and SAR characteristics of all vessels known to be within a given area are furnished upon request to recognized SAR agencies of any nation for use during an emergency. Predicted vessels' locations are disclosed only for reasons related to maritime safety.

Amver is a free and voluntary program. An Amver participant is under no greater obligation to render assistance during an emergency than a vessel that is not participating. Benefits to shipping include:

- improved likelihood of rapid aid in emergencies;
- reduced number of calls for assistance to vessels not favourably located;
- reduced time lost for vessels responding to calls for assistance. An Amver participant is under no greater obligation to render assistance during an emergency than a vessel that is not participating.

Details of Amver System operations may be obtained from Amver Maritime Relations Office, U.S Coast Guard, Battery Park Building, 1 South Street, New York, NY 10004-1499 (Telephone: 212-668-7764, Fax 212-668-7684). Amver instructions are also available at Coast Guard Captain of the Port and Marine Safety Offices in major United States coastal ports. The instructions are published in the following languages: Chinese, Danish, Dutch, English, French, German, Greek, Italian, Japanese, Norwegian, Polish, Portuguese, Spanish, and Swedish. Requests for instructions should state the language desired if other than English. Amver Website: <http://www.amver.com>

Ship Station (Radio) Technical Regulations, 1999 now specify compulsory participation in Amver for certain ships when departing on an offshore voyage of more than 24 hours duration.

The provisions apply to all Canadian ships and to all non-Canadian ships engaged in the coasting trade of Canada. Of this group, the following are exempted:

- fishing vessels engaged in fishing;
- ships operated by the Canadian government on law enforcement duties;
- vessels whose voyages will be within the waters of an Arctic Shipping Safety Control Zone, Hudson Bay, James Bay or Ungava Bay; and
- vessels in other waters provided their voyages are within VHF or MF coverage areas.

It should be noted that the above exemptions do not amount to a prohibition; and that all other ships proceeding on an offshore voyage of more than 24 hours duration are encouraged to participate in Amver.

I. To Participate

Any merchant vessel of one thousand gross tons or more on a voyage of greater than twenty-four hours to anywhere on the globe is to be part of the Amver system. International participation is voluntary regardless of vessel's or company's flag, country of origin, or destination.

II. The Information Reported

Information voluntarily provided by vessels to Amver is kept strictly confidential and is protected by the Coast Guard. It will be released only for safety purposes.

III. What and When You Report

- A. Sail plan message should be sent on or before departure.
- B. Position Reports should be sent within twenty-four hours of departure and subsequently no less frequently than every forty-eight hours until arrival.
- C. Arrival Reports should be sent immediately prior to or upon arrival at the Port of Destination.
- D. Reports are to be sent during the Radio Officer's normal duty hours.
- E. At the discretion of the vessel, reports may be sent more frequently than the above schedule, as, for example, in heavy weather or under other adverse conditions.

IV. Report Format

As previous Amver participants will note, the format described below represents a change which serves two purposes: First, the new format will permit the automated data processing system to enter your information into Amver more accurately and efficiently. Second, the new format conforms with the International Maritime Organization (IMO) proposed standard, thus reducing the number of different formats in use. As other systems also adopt the IMO format, we will have moved closer to a single format worldwide.

V. Amver System Communications Network

The following methods are recommended for ships to transmit Amver Sail Plan, Position, Deviation and Arrival reports. Details are available on the Amver Website at <http://www.amver.com>

Electronic Mail via the Internet: Amver address is: amvermsg@amver.com

AMVER/SEAS "Compressed Message" via Inmarsat-C thru TELENOR:

Amver address: NOAA telephone number entered in the ADDRESSBOOK. For information, please see the instruction sheet for your brand of Inmarsat-C transceiver. AMVER/SEAS software can be downloaded from the Internet at:

<http://seas.amverseas.noaa.gov/seas/goosplots.html>

or requested from:

TELENOR Satellite Services
1101 Wootton Parkway, 10th Floor
Rockville, Maryland 20852
301-838-7800

Internet E-mail: customercare@telenor-usa.com

HF Radiotelex Service of U.S. Coast Guard Communications Stations: Full information on how to send Amver messages this way can be found at: <http://www.navcen.uscg.gov/marcomms/cgcomms/call.htm>

HF Radio at no cost via Coast Guard Contractual Agreements with the following companies:

Globe Wireless Super Station Network

Mobile Marine Radio (WLO)

Telex: Amver Address: (0) 230 127594 AMVERNYK

Telefax: To the USCG Operations Systems Center in Martinsburg: 304-264-2505

If messages are relayed through Canadian Coast Guard Ships no ship charge will be assessed. All Amver messages forwarded via the stations listed, should be addressed to Amver Vancouver, rather than COAST GUARD New York, to ensure that no charge is applied in delivery.

VI. Amver Voyage Report Types

There are four types of Amver Reports – Sail, Arrival, Position, and Deviation Reports.

- A. Reporting format. Each line of Amver Report text starts with a line identifier. Line identifiers are “Amver” or a single letter. The line identifier and the data items on the line are each separated from each other by a single slash (“/”). Lines are terminated by two slashes (“//”).
- B. Reporting data. Amver participants need to be familiar with four types of reports - Sail, Arrival, Position, and Deviation Reports. Note that Amver permits sail plan and departure to be combined into a single report. Amver accepts sail plan information separately - for example, several days prior to departure. Report identifiers are as follows:

AMVER/SP//	Sail Plan & Departure
AMVER/PR//	Position Report
AMVER/FR//	Arrival Report
AMVER/DR//	Deviation Report

- C. Details. Paragraph IX includes a discussion of each report type. Each example is followed by an explanation. Note that not all the lines in the example are necessary for each type of report. The required and optional lines are discussed in each section.

VII. Other Required Information

Amver also needs other information which might be useful in an emergency. This includes data such as the ship length, communications equipment, radio watch schedule, speed, rig, and so forth. This information is collected separately once, by completion of the Search and Rescue Questionnaire (SAR-Q) found on the Amver Website at <http://amver.com> which is then retained in the automatic data processing system, periodically validated, and used only for search-and-rescue purposes.

VIII. Release of Information

All voluntary information collected under these instructions will be only released to recognized search-and-rescue authorities. Information regarding vessels required to participate in Amver will be forwarded to the U.S. Maritime Administration, via the keyword MAREP on the Y-Line.

IX. Description of Voyage Reports

An example and explanation of each of the four types of Amver reports follows. Numbers in parentheses refer to footnotes at the end of the section.

- A. Sail Plan & Departure Report.** The “L” lines contain routing and “turnpoint” information needed by Amver. Amver needs data about every intended turnpoint, but also accepts information about any points along the intended track, even though they might not be turnpoints. Turnpoint information is needed by Amver to maintain plot accuracy.

Example:	Explanation:
AMVER/SP// A/SANDY JOAN//ABCD// B/110935Z// E/145// F/126// G/NORVOROSK/4510N/03820E// I/GIBRALTERGI/3600N/00600W/140730Z// L/RL/140/4130N/02910E/112000Z// L/RL/140/4010N/02620E/112300Z// L/RL/140/3630N/02330E/120330Z// L/RL/140/3650N/01520E/121500Z// L/RL/140/3800N/01000E/130100Z// L/LR/060// M/GKA/GKM// V/MD/NURSE// X/NEXT/REPORT/120900Z// Z/SITOR/INSTALLED/SELCALL/NUMBER/IS/99999/ / Z//EOR	Required - AMVER/SP// A /vessel/name/International Radio/Call Sign// B /intended time of departure or departure time// (1) G /port of departure/latitude//longitude// (2) I /port of destination/latitude//longitude/estimated time of arrival// (1) (2) (3) L / route information ...// (1) (3) (4) Z // end of report Optional - E /current course// (5) F /estimated average speed// (6) M /current coastal radio station//next coastal radio station, if any// V /onboard medical resources// (7) X /up to 65 characters of amplifying comments// (8) (9)

B. Arrival Report.

Example:	Explanation:
AMVER FR// A/SANDY/JOAN/ABCD// K/NEW YORK/US/4040N/07420W/180600Z// X/PROBLEMS WITH MF XMTR AGENT/ADVISED// Z//EOR	Required - AMVER FR// A /vessel name International Radio Call Sign// K /port name latitude longitude time of arrival// (1) (3) Z // end of report Optional - X /up to 65 characters of amplifying comments// (8) (9)

C. Position Report.

Example:	Explanation:
AMVER /PR// A/SANDY/JOAN/ABCD// B/120300Z// C/3630N/02330E// E/145// F/126// M/GKM// X/NEXT REPORT/131800Z// Z//EOR	Required - AMVER /PR// A /vessel name International Radio Call Sign// B /time at position// (1) C /latitude longitude// (3) Z //end of report Optional - E /current course (5)// F /average speed (6)// M /current coastal radio station next coastal radio station, if any// X /up to 65 characters of amplifying comments (8) (9)//

D. Deviation Report. Used to report sail plan and other changes.

Example:	Explanation:
AMVER /DR// A/SANDY/JOAN/ABCD// B/120300Z// E/095// F/220// G/NORVOROSK/4470N/03780E// I/NEW YORK US/4040N/07420W/180800Z// L/GC/220// M/GKA/WSL/NMN// V/MD/NURSE// X/DIVERTING BEST SPEED TO NEW YORK US// Z//EOR	Required - AMVER /DR// A /vessel name International Radio Call Sign// Z //end of report One or more of the following optional items - B /intended time of departure// (1) E /intended course// (5) F /intended average speed// (6) G /port of departure latitude longitude// (2) I /port of destination latitude longitude estimated time of arrival// (1) (2) (3) L /..... route information// (1) (3) (4) M /current coastal radio station next coastal radio station, if any V /onboard medical resources// (7) X /up to 65 characters of amplifying comments// (8) (9)

Footnotes:

- (1) All times must be expressed as a six-digit group giving date of month (first two digits), hours and minutes (last four digits). Only Universal Coordinated Time (i.e. Greenwich Mean Time) is to be used. The six-digit date-time-group is to be followed by either Z or GMT. The month is optional, and may be added, if appropriate. The first three digits of the English-language month are used. The following examples are acceptable:
- 290900Z 290900 Z 290900Z DEC
- (2) Port latitude longitude refers to the geographic position of the pilot station. Both port name and geographic position are required from U.S. flag vessels.
- (3) Latitude is a four-digit group expressed in degrees and minutes, and suffixed with “N” for north or “S” for south. Longitude is a five-digit group expressed in degrees and minutes, and suffixed with “E” for east or “W” for west. For example: C/4000N/03500W//

- (4) The “L” lines contain most of the sail plan information. As many “L” lines as needed may be used. The “L” lines contain routing data to each of the intermediate points, and to the destination. Data about all turnpoints are required, unless the voyage will follow a great circle with no delays at intermediate points. In addition to turnpoint information, data about other points along each leg are useful. Following, is the information desired for each intermediate point: navigation, method, leg speed, latitude, longitude, port or landmark name ETA estimated time of departure.

For example:

L/RL/125/0258N/07710W/ABACO/111200Z//
L/RL/125/0251N/07910W/NWPROVCHAN/112145Z//
L/RL/125/0248N/08020W/120255Z//
L/RL/125//

NAVIGATION METHOD IS REQUIRED. It is either “GC” for great circle, or “RL” for rhumb line.

LEG SPEED is useful, but is not required. See footnote (6).

LATITUDE LONGITUDE IS REQUIRED. See footnote (3).

PORT OR LANDMARK NAME is useful, but is not required.

ETA IS REQUIRED. See footnote (1).

ESTIMATED TIME OF DEPARTURE IS REQUIRED, if the ship will lay over at the intermediate point.

A final NAVIGATION METHOD is required to route the ship to its destination. A final LEG SPEED is useful, but not required.

- (5) True course is a three-digit group.
- (6) Speed is a three-digit group in knots and tenths of knots. For example, 20.5 knots would be written as 205, without a period or decimal point.
- (7) If the optional “V” line is used, one or more of the following is required:
/MD/for physician
/PA/for physician’s assistant
/NURSE/
/NONE/
For example: V/DOCTOR/NURSE//
- (8) Any information provided in the Remarks line will be stored in the Amver’s automatic data processing system for later review. However, no immediate action will be taken, nor will the information be routinely passed to other organizations. The remarks line cannot be used as a substitute for sending information to other search-and-rescue authorities or organizations. However, Amver will, at the request of other SAR authorities, forward remarks line information to the requesting agencies.
- (9) Next report information is not currently used by the Amver System, but is expected to aid in future development.

DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS)

Since May 2000 the Canadian Coast Guard DGPS service has been available from 19 DGPS stations located on the East and West coasts of Canada and parts of the Great Lakes. DGPS corrections are broadcast from medium frequency (MF) radiobeacon transmitters located to cover selected marine areas and waterways. The broadcasts are in accordance with international standards for radiobeacon DGPS services. DGPS provides continuous precise positioning of better than 10 metres for 95% or better of the time (provided that suitable DGPS receiver equipment is utilized, properly installed and maintained).

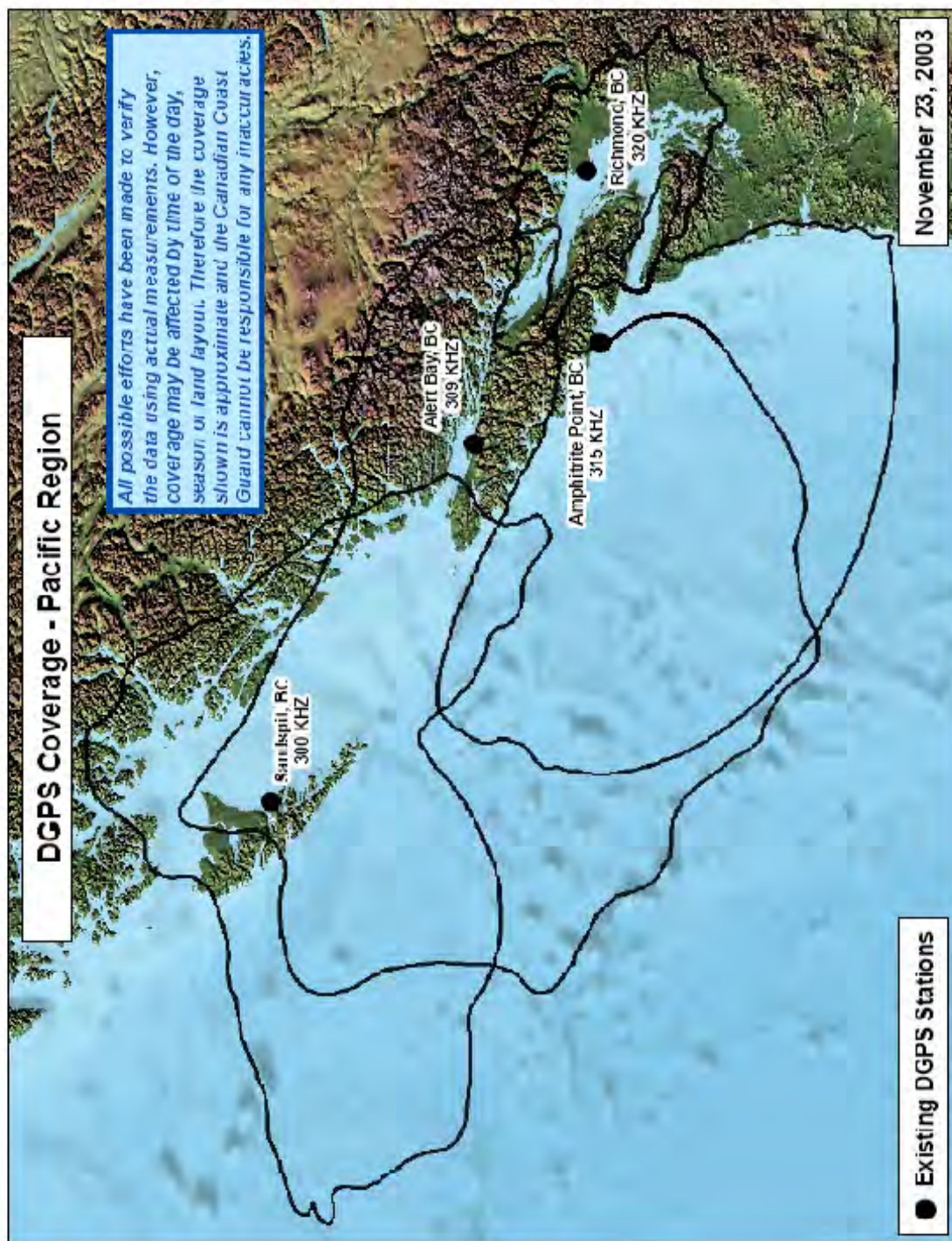
Additional information on the use of the DGPS service will be announced through Notices to Mariners. General information is also available from the CCG Website: http://www.ccg-gcc.gc.ca/eng/CCG/DGPS_Home

The corrections from the DGPS service are calculated at the reference station in the NAD 83 coordinates. To process the information properly, DGPS receivers should be adjusted to the WGS 84 setting. Although WGS 84 and NAD 83 are essentially the same (only a few centimetres difference), it is highly recommended that all DGPS receivers be set to WGS 84 to take full advantage of the precision of DGPS. When utilizing charts other than NAD 83, DGPS latitude and longitude positions must be adjusted to the appropriate datum using the information contained in the charts.

The table that follows provides information on existing DGPS broadcasts. A list of United States Coast Guard (USCG) DGPS transmitters providing coverage in Canadian waters may be obtained directly from the USCG. <http://www.navcen.uscg.gov/dgps/default.htm>.

Figures 1, 2 & 3 show the nominal coverage from existing broadcast stations. Users should be aware that coverage is subject to short and long term variations due to environmental and seasonal conditions.

CCG DGPS Broadcasts Pacific Coast					
Station Name	Location NAD 83	Frequency and Transmission Rate	IALA Reference Station ID	IALA Radiobeacon ID	Remarks
Alert Bay, BC	50°35'N 126°55'W	309 kHz 200 bps	300, 301	909	Full Operational Service
Amphitrite Point, BC	48°55'N 125°33'W	315 kHz 200 bps	302, 303	908	Full Operational Service
Richmond, BC	49°06'N 123°11'W	320 kHz 200 bps	304, 305	907	Full Operational Service
Sandspit, BC	53°14'N 131°49'W	300 kHz 200 bps	306, 307	906	Full Operational Service



PRE-ARRIVAL INFORMATION REPORT (PAIR)

Note: pursuant to the *Marine Transportation Security Regulations*, the following pre-arrival information requirement does not apply to vessels operating solely on the Great Lakes or to the portions of a vessel's voyage on the Great Lakes after pre-arrival information has been given prior to its entrance into the St. Lawrence Seaway, neither, to fishing vessels, pleasure craft and government vessels.

The master of the following vessels, engaged on a voyage from a port in one country to a port in another country:

- SOLAS vessel of 500 tons gross tonnage or more or is carrying more than 12 passengers;
- NON-SOLAS vessel that is more than 100 tons gross tonnage, other than a towing vessel;
- NON-SOLAS vessel that carries more than 12 passengers; or
- NON-SOLAS vessel that is a towing vessel engaged in towing a barge astern or alongside or pushing ahead, if the barge is carrying certain dangerous cargoes.

shall ensure their vessel does not enter Canadian waters unless the master submits their pre-arrival information to a Canadian Marine Communications and Traffic Services (MCTS) centre before entering Canadian waters.

All pre-arrival information must be provided at least 96 hours prior to entering Canadian waters unless the total duration of the voyage before entering Canadian waters is less than 96 hours in which case the notification must be provided at least 24 hours prior to entering Canadian waters.

If the duration of the segment of the voyage before entering Canadian waters is less than 24 hours, vessels are required to send a pre-arrival report as soon as practicable before entering Canadian waters but no later than the time of departure from their last port of call.

The Pre-Arrival Information must be sent to one of the addresses below:

- a) Vessels planning to enter Canadian waters inbound to a Canadian port on the West Coast shall send pre-arrival information to the Canadian Coast Guard Regional Marine Information Centre (RMIC) via one of the following methods listed below:
- E-mail: Offshore@RMIC.gc.ca
INMARSAT: telex 04352586 "CGTC VAS VCR"
any Canadian Coast Guard MCTS centre, free of charge; or
directly to CVTS Offshore by Fax: (604) 666-8453

- b) Vessels planning to enter Canadian waters inbound to a Canadian port on the East Coast including a Canadian or American port in the Great Lakes shall send pre-arrival information to ECAREG Canada via one of the following methods listed below:

St. John's MCTS Centre
Telex - 016-4530
Facsimile - (709) 772-5369
Telegraphic Identifier - CCGTC SNF
E-mail: ecaregsnf@innav.gc.ca

Halifax MCTS Centre
Telex - 019-22510
Facsimile - (902) 426-4483
Telegraphic Identifier - CCG MRHQ DRT
E-mail: hlxecareg1@innav.gc.ca

- c) Vessels planning to enter Canadian waters inbound to a Canadian port within the Canadian Arctic Zone shall send pre-arrival information to NORDREG Canada via one of the following methods listed below:

*Iqaluit MCTS Centre
Facsimile - (867) 979-4264
Telex (Telefax) 063-15529
Telegraphic Identifier - NORDREG CDA
Email: iqanordreg@innav.gc.ca

***Open only during the navigation season (mid-June to mid-December).**

It is the responsibility of the Master of the vessel to ensure all information provided to the Government of Canada (Transport Canada) in the pre-arrival information is complete and accurate. Masters of vessels subject to the *Marine Transportation Security Regulations* (as described above) failing to submit or submitting an incomplete or inaccurate pre-arrival information risk subjecting their vessel to control actions such as, but not limited to: inspection, detention, redirection or expulsion from Canadian waters.

Vessels can obtain a blank template of the 96 hour pre arrival report by sending an email to 96@tc.gc.ca

The Master of a vessel shall ensure that the following pre-arrival information in respect of the vessel is reported:

- a) its name;
- b) its country of registry;
- c) the name of its registered owner;
- d) the name of its operator;
- e) the name of its classification society;
- f) its international radio call sign;
- g) its International Ship Security Certificate, Canadian Vessel Security Certificate or ship security compliance document number;
- h) its International Maritime Organization number, if it is a SOLAS ship;
- i) the date of issuance, date of expiry and name of the issuing body of its International Ship Security Certificate, Canadian Vessel Security Certificate, or ship security compliance document;
- j) confirmation that the vessel has an approved vessel security plan;
- k) the current MARSEC level;
- l) a statement of *when* its last 10 declarations of security were completed;
- m) details of any security threats to the vessel during the last ten calls at marine facilities;
- n) a statement as to whether the vessel consents to tracking by the Canadian Government;
- o) details of any deficiencies in its security equipment and systems, including the communication systems, and the way in which the master of the vessel intends to correct them;
- p) if applicable, the name of its agent and their 24-hour telephone and facsimile numbers;
- q) if applicable, the name of the vessel's charterer;
- r) its position and time at which it reached that position;
- s) its course and speed;
- t) its destination and estimated time of arrival at its destination;
- u) the name of a contact person at the marine facility that it will visit and their 24-hour telephone and facsimile numbers;
- v) the following information in respect of its last ten marine facilities visited:
 - i) the receiving facility;
 - ii) the marine facility visited;
 - iii) the city and country;
 - iv) the date and time of arrival, and
 - v) the date and time of departure;
- w) a general description of the cargo, including cargo amount; and
- x) if applicable, the presence and description of any dangerous substances or devices on board.

If the master reported pre-arrival information more than 24 hours before entering Canadian waters, the master of a vessel shall ensure that the vessel does not enter Canadian waters unless the master reports any change in that information 24 hours before entering Canadian waters to the MCTS centre in accordance with the instructions set out in the most recent edition of the Canadian Coast Guard *Radio Aids to Marine Navigation*.

It is recommended that a complete copy of the vessel's Interim International Ship Security Certificate (IISSC), International Ship Security Certificate (ISSC), Interim Canadian Vessel Security Certificate (ICVSC), Canadian Vessel Security Certificate (CVSC) or Ship Security Compliance document, and any pages containing the Endorsement information, is to be included with the Pre Arrival Information Report.

SERVICES

NOTICES TO SHIPPING

Notices to Shipping (NOTSHIPS) issued for the west coast of Canada and the western Arctic are assigned an alphanumeric designator. The alphanumeric designator consists of an alpha character which identifies the Canadian Coast Guard (CCG) NOTSHIP issuing authority. The alpha character is followed by a number commencing with the number 001 on January 1 each year and subsequently increases throughout the year. Alpha designators utilized in Canadian NOTSHIPS are as follows:

P – Pacific

A – Arctic

H – Athabasca-Mackenzie Watershed

Broadcast times and radio frequencies for NOTSHIP broadcasts by CCG MCTS centres are listed in Part 2 of this publication.

Some NOTSHIPS remain in effect for extended periods of time. To reduce broadcast time, these notices are designated as Written NOTSHIP and bear the same number as the corresponding broadcast notice.

Written NOTSHIPS are printed and distributed to shipping companies, agents, and other interested parties as indicated in the table below:

Distribution of Written Notices to Shipping					
Designator	NOTSHIP Authority	Post	Fax	Email	Internet
P	Pacific Region	X			http://www.pacific.ccg-gcc.gc.ca/mcts-sctm/notship/index_e.htm
A	Central & Arctic Region		X	X	
H			X	X	

Persons may have their names added to or deleted from mailing lists by contacting the appropriate NOTSHIP issuing authority in their area (refer to page 1-8).

Masters are reminded of the regulatory requirement to report any danger, potential danger or hazard to navigation which they may encounter. Reports should be forwarded to the appropriate MCTS centre as soon as possible to ensure the widest distribution to mariners through broadcast NOTSHIPS.

Information Updates

Notices to Mariners contain information which serves to correct charts and related publications. Up-to-date information is available to vessels inbound for Canadian waters on any changes which have occurred between the date of issue of the most recent monthly edition of Canadian Notices to Mariners held on board. Vessels wishing to avail themselves of this service should send their request directly to *VTS OFFSHORE* or *NORDREG CANADA*. Requests may also be routed via any MCTS centre as listed in Part 2 of this document.

When making this request the following information shall be included:

- ship's name and call-sign;
- present position, destination and intended route;
- most recent monthly edition of Canadian Notices to Mariners held on board;
- list of recent Notices to Shipping held on board.

Ice information, ice routing and icebreaker assistance may be obtained from the Arctic Canada Traffic System (*NORDREG CANADA*). Refer to Notice Number 6 of the Annual Edition, Notices to Mariners or the publication "Ice Navigation in Canadian Waters" for additional information.

WORLD-WIDE NAVIGATIONAL WARNING SERVICE (WWNWS)

(a) NAVAREA Warnings

NAVAREAS XVII AND XVIII

The Canadian Coast Guard assumed the responsibility of NAVAREA coordination for NAVAREAs XVII and XVIII, as part of the World-Wide Navigational Warning Service (WWNWS), and will be declared to be in 'Initial Operational Condition' (IOC) effective January 31, 2010. During the IOC period, the Canadian Coast Guard will not guarantee service availability as this service will be provided on a test basis. The service is expected to be in 'Full Operational Condition' (FOC) at a time to be defined in 2011.

NAVAREA XVII will be bound by a position south to the Canadian coastline at the 120°00'.00W meridian to:

- 67° 00'.00N 168° 58'.00W,
- 90° 00'.00N 168° 58'.00W,
- 90° 00'.00N 120° 00'.00W,

NAVAREA XVIII bound by a position on the Canadian coastline at the 120°00'.00W meridian to:

- 90° 00'.00N 120°00'.00W,
- 90° 00'.00N 035°00'.00W,
- 67° 00'.00N 035°00'.00W;

The broadcasting of SafetyNET messages to the new Arctic NAVAREAs will be addressed to rectangular areas until the SafetyNET receiver modifications with the inclusion of the Arctic NAVAREA boundary limits and its identification are in place. Reception of rectangular addressed messages should be automatic providing the ship's position is inside the addressed area. However, mariners should check their manufacture's operation manuals to obtain information on the setting of their EGC equipment to receive relevant SafetyNET messages.

NAVAREA XVII and XVIII warnings will be broadcast over Inmarsat-C EGC SafetyNet as follows:

NAVAREA XVII (POR) at 1130UTC and 2330UTC

NAVAREA XVIII (AOR-W) at 1100UTC and 2300UTC

NAVAREA XVII and XVIII warnings concerning hazards located above 70 degrees north latitude will be broadcast by Narrow Band Direct Printing (NBDP) on the frequency 8416.5 KHz at 0220, 0320, 0420, 1420, 1520 and 1620 UTC. Check the listing in Section II for Iqaluit MCTS to obtain more details about the broadcast content.

NAVAREAS IV AND XII

The United States of America is responsibility for NAVAREAS IV and XII.

NAVAREA IV covers the North Atlantic Ocean West of 35°W and north of 7°N. NAVAREA IV warnings are broadcasts over the AOR-W satellite at 1000UTC and 2200UTC. Ice reports for the North Atlantic are broadcast at 1200UTC. NAVAREA IV warnings are broadcast over NBDP from: Boston (NMF) at 0140 UTC on 6314 kHz, 8416.5 kHz, and 12579 kHz (FIB) and at 1630 UTC on 8416.5 kHz, 12579 kHz, and 16806.5 kHz (FIB).

NAVAREA XII covers the North Pacific Ocean east of 180° and north of the equator, plus the area north of 3° 25'S and east of 120°W. NAVAREA XII warnings are broadcasts over the POR satellite at 1030UTC and 2230UTC. These messages are broadcast over NBDP by Honolulu (NMO) at 0330 and 1730 UTC daily, on 8416.5 kHz, 12579 kHz, and 22376 kHz (FIB).

Consult the publication NP283 (2) Admiralty List of Radio Signals Volume 3 Part 2, for the listing of all NAVAREA Coordinators and broadcast schedules.

The area warning system should normally be sufficient for the ships which proceed along the main oceanic routes of an Area. However, in some waters knowledge of the coastal warnings may prove necessary.

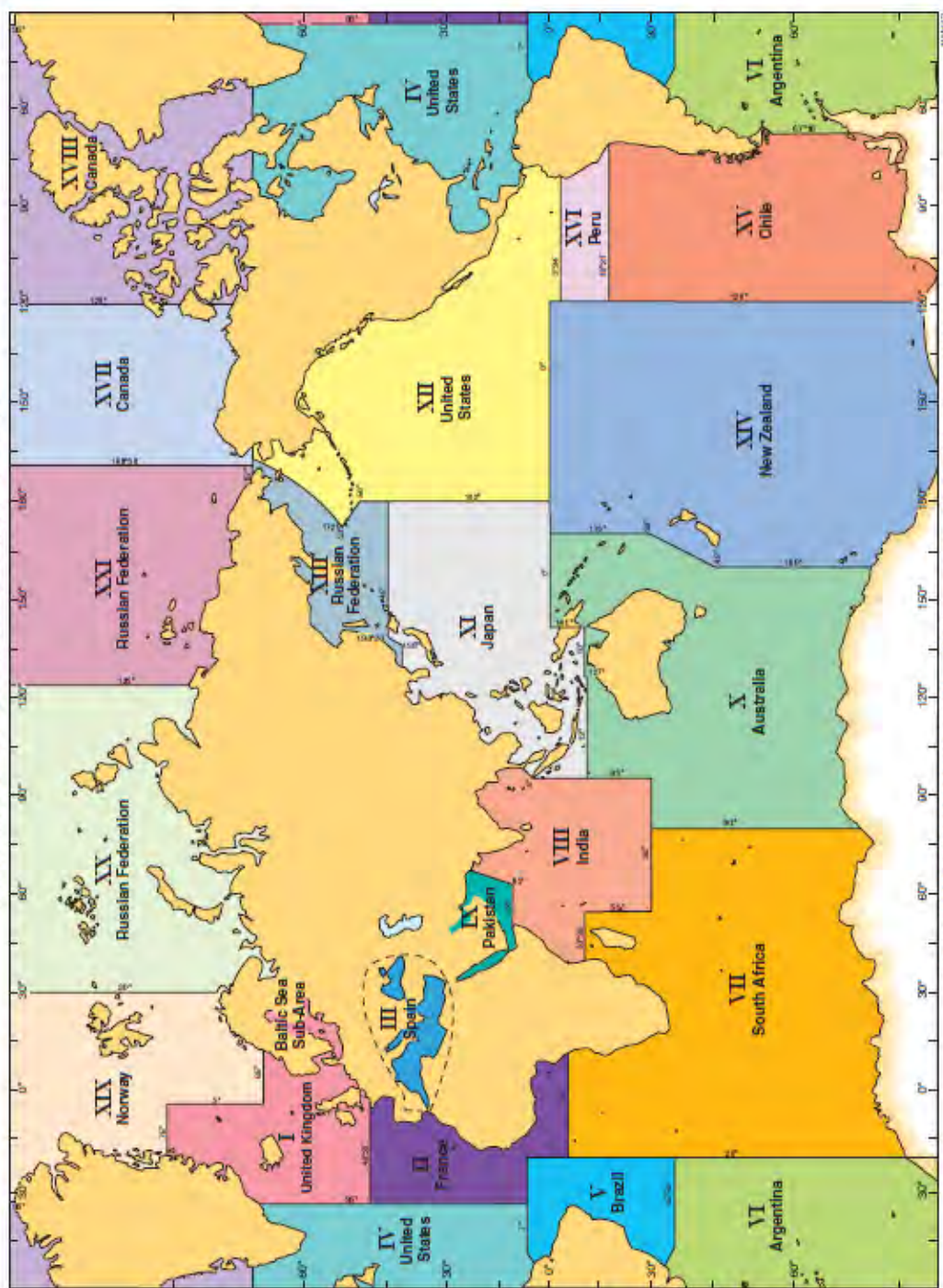
(b) Subject Matter of Warnings

The following subjects are considered suitable for broadcast as NAVAREA warnings. This list is not exhaustive and should be regarded only as a guideline. Furthermore, it presupposes that sufficiently precise information about the item has not previously been disseminated in Notices to Mariners:

1. casualties to lights, fog signals and buoys and other aids to navigation affecting main shipping lanes;
2. the presence of dangerous wrecks in or near main shipping lanes and if relevant, their marking;
3. establishment of major new aids to navigation or significant changes to existing ones when such establishment or change might be misleading to shipping;
4. the presence of large unwieldy tows in congested waters;
5. drifting hazards including derelict ships, ice, mines, containers and other large items;
6. areas where search and rescue (SAR) and anti-pollution operations are being carried out (for avoidance of such areas);
7. the presence of newly-discovered rocks, shoals, reefs and wrecks likely to constitute a danger to navigation, and, if relevant, their marking;
8. Unexpected alteration or suspension of established routes;
9. cable or pipe-laying activities, the towing of large submerged objects for research or exploration purposes, the employment of manned or unmanned submersibles, or other underwater operations constituting potential danger in or near shipping lanes;
10. the establishment of research or scientific instruments in or near shipping lanes;
11. the establishment of offshore structures in or near shipping lanes;
12. significant malfunction of radio-navigation services and shore-based maritime safety information and radio services;
13. information concerning special operations which might affect the safety of shipping, sometimes over wide areas, e.g. naval exercises, missile firings, space missions, nuclear tests, ordnance dumping zones, etc. It is important that where the degree of hazard is known, this information is included in the relevant warning. Whenever possible, such warnings should be originated not less than five days in advance of the scheduled event and reference may be made to relevant national publications in the warning;
14. acts of piracy and armed robbery against ships;
15. tsunamis and other natural phenomena, such as abnormal changes in sea level;
16. World Health Organization (WHO) health advisory information; and
17. Security related requirements, in accordance with the requirements of the International Ship and Port Facility Security Code only.

Where the area is served by NAVTEX, it should provide navigational warnings for the entire NAVTEX service area. Where the area is not served by NAVTEX, it is necessary to include all warnings relevant to the coastal waters up to 250 miles from the coast in the International SafetyNet service broadcast.

WORLD-WIDE NAVIGATIONAL WARNING SERVICE - NAVAREAS*



*Arctic NAVAREAS XVII, XVIII, XIX, XX and XXI are not operational as of January 2008

CELLULAR TELEPHONE (*16) SERVICE – MARINE EMERGENCIES

MCTS centres in certain parts of Canada are connected to the cellular telephone network system where cellular telephone users can, **in an emergency situation only, dial *16 or #16 (dependant upon the service provider)** on their cellular telephone to access an MCTS centre in order to obtain assistance.

Mariners are cautioned that **a cellular telephone is not a good substitute for a marine radio** because the maritime mobile radio safety system in the southern waters of Canada is based principally on VHF communications. VHF has the advantage that a call can be heard by the closest MCTS centre(s) and by ships in the vicinity which could provide immediate assistance. On the other hand, the telephone cellular network is a party-to-party system and the benefit of the broadcast mode in an emergency situation cannot be obtained.

Mariners are reminded that the use of marine radio distress frequencies to obtain assistance in an emergency situation is the best option and that cellular telephone should be used only as an alternative should the VHF radiotelephone set not be available. Standard distress alerting equipment, such as marine radio and EPIRBs should never be replaced by cellular telephone alone.

Note: Details of this service may be obtained by contacting local cellular telephone companies; however, mariners are cautioned that not all cellular telephone companies provide this service.

DIRECTION FINDING (VHF/DF) SERVICE

MCTS centres in certain parts of Canada are provided with VHF/DF equipment, primarily to determine or confirm the bearing, from a DF facility, of a vessel requiring assistance in a distress or other emergency situation. In addition, an estimated line of position from a DF facility can be provided to vessels that are uncertain of their locations. Location of VHF/DF facilities will be found in the appropriate centre listings in Part 2 of this publication. The intent of this service is not to provide a navigation service. Positions must be regarded as estimates only. Mariners are cautioned that any information provided shall be used at their own discretion.

Direction Finding Bearings

Any MCTS centre will, on request, transmit signals that will enable a ship to take a radio bearing with its own direction finder. It is pointed out to masters of ships fitted with direction finding equipment employing DF loops that serious error may result in bearings taken if metallic material or equipment (poles, wires, winches, etc.) are erected in proximity to the DF antenna equipment after calibration.

Masters of ships are urged to exercise caution in the use of commercial radio broadcasting stations as radio beacons. Bearings taken on such stations may be very inaccurate owing to errors caused by coastal refraction and the calibration of the Direction Finder employed may vary considerably due to the wide difference in frequencies used, (i.e. the standard broadcast band spreads over approximately 1060 kHz). In addition, it is advisable to make certain that the position of the broadcast transmitter (not the studio) is accurately known before using it as a navigation aid.

SAIL PLAN SERVICE

All small craft operators, including those making day trips, are encouraged to file a Sail Plan with a responsible person. This person should be instructed to call the Joint Rescue Coordination Centre (JRCC) if the vessel becomes overdue. The telephone number can be found at the front of most telephone books and should be included with the Sail Plan. In circumstances where it is not possible to file a Sail Plan with a responsible person, a Sail Plan may be filed by telephone, radio or in person with any Coast Guard MCTS centre. While at sea, masters/operators who have filed a sail plan with an MCTS centre are encouraged to file a daily position report during long trips. Upon your return, be sure to close (or deactivate) the sail plan you filed earlier. Forgetting to do so can result in an unwarranted search for you.

The information to be provided should be in accordance with the listing below:

- vessel identification (boat's name and licence number)
- sail or power
- vessel size and type
- colour of hull, deck, and cabin
- type of engines
- other distinguishing features
- radios and channels monitored (MF / HF / VHF;
- Maritime Mobile Service Identity (MMSI)
- satellite and/or cellular telephone number
- description of life rafts or small boats available
- number and type of flares
- number of lifejackets, PFDs and/or survival suits
- other safety equipment
- name, address, and telephone number of vessel owner
- other information
- date and time of departure
- number of people on board
- departure point
- route and stop-over points
- destination
- estimated date and time of arrival at destination, and
- telephone number of an emergency contact person

SEARCH AND RESCUE IN CANADIAN AREAS OF RESPONSIBILITY

The Canadian Forces (CF) in co-operation with the Canadian Coast Guard (CCG) has overall responsibility for coordination of federal aeronautical and maritime Search and Rescue (SAR) activities in Canada, including Canadian waters and the high seas off the coasts of Canada. The CF provides dedicated SAR aircraft in support to marine SAR incidents. The CCG coordinates maritime SAR activities within this area and provides dedicated maritime SAR vessels in strategic locations.

Joint Rescue Coordination Centres (JRCC) are maintained at Victoria, BC, Trenton, ON and Halifax, NS. These centres are staffed 24 hours a day by Canadian Forces and Canadian Coast Guard personnel. Each JRCC is responsible for an internationally agreed upon designated area known as a Search and Rescue Region (SRR). In addition, Maritime Rescue Sub-Centres (MRSC), staffed by Coast Guard personnel, are maintained at St. John's, NL and at Québec, QC to coordinate local marine SAR operations.

JRCC VICTORIA

Emergency telephone number

1-800-567-5111 (Pacific Region only)
250-363-2333
250-363-2944 (facsimile)
431699932 / 33 (telex - INMARSAT C)
JRCCVictoria@sarnet.dnd.ca (e-mail)
PO Box 17000 (mailing address)
Station Forces, BC
V9A 7N2

JRCC TRENTON

Emergency telephone number

1-800-267-7270 (Central Canada only)
613-965-3870
613-965-7190 (facsimile)
066-2282 (telex)
431699928 / 29 (telex - INMARSAT C)

Canadian Coast Guard Auxiliary

The Canadian Coast Guard Auxiliary (CCGA) is an association of approximately 4500 dedicated volunteers operating close to 1300 vessels to support the Canadian Coast Guard in Marine Search and Rescue.

For more information on maritime SAR services in Canada, refer to Section 28 of the Annual Edition of Notices to Mariners, published by the Canadian Coast Guard, Marine Navigation Services.

MARINE COMMUNICATIONS AND TRAFFIC SERVICES MESSAGE SERVICE

Messages no longer accepted:

- (a) Ships' business messages;
- (b) Private messages.

Messages handled without charge by MCTS Centres:

- (a) Messages pertaining to weather or ice information and ice routing;
- (b) Messages concerning aids to navigation;
- (c) AMVER Messages, addressed AMVER HALIFAX;
- (d) Radiomedical messages;
- (e) Messages reporting pollution;
- (f) Messages addressed to a port or a member of the Canadian Coast Guard that involves a report of a ship movement, position or condition;
- (g) Messages addressed to a Joint Rescue Co-ordination Centre (JRCC) or Maritime Rescue Sub-Centre (MRSC);
- (h) Pilotage messages;
- (i) Official Naval messages;
- (j) Quarantine messages addressed to "Quarantine";
- (k) Messages requesting a doctor to meet the ship on arrival.

Weather Messages

Weather reports in the international meteorological code, made at the standard synoptic hours of 0000, 0600, 1200 and 1800 UTC, are solicited from ships of all nationalities which have been recruited by their own national weather service, or other weather services, to make weather reports on a regular basis. These reports should be made and transmitted to the nearest MCTS centre, irrespective of the ship's position. In fact, reports made close to, or even within sight of land, are equally important to reports made offshore, due to the greater variability of weather conditions in proximity to a coastline.

Pollution Messages

All vessels plying Canadian and adjacent waters are requested to report oil slicks or pollution of any type to the nearest MCTS centre.

Medical Advice Messages

Masters of ships may obtain medical advice by addressing a radiotelegram to "Radiomedical" and routing it via the nearest MCTS centre which will refer the message to the nearest medical authority and transmit the reply to the ship.

Quarantine Messages

1. In the following circumstances only, the person in charge of a vessel shall, by radio, at least 24 hours prior to the vessel's estimated time of arrival at its port of destination, notify or cause the notification of a quarantine officer at the quarantine station designated in paragraph (3) for that port of the occurrence:

Where, in the course of a voyage of a vessel,

(a) a member of the crew or a passenger on board the vessel exhibits one or more of these signs or symptoms:

- Appears obviously unwell;
- Cough with blood
- Fever or chills (profuse sweating, unusually flushed or pale skin, shivering; and
- Shortness of breath or difficulty breathing;
- Repeated coughing;
- Diarrhea
- Headache
- Recent confusion
- Skin Rash;
- Bruising or bleeding without injury;
- Death

That person(s) should be isolated in order to minimize the exposure of crew and passengers.

(b) the person in charge of the vessel is, during the period

- i. of four weeks preceding the estimated time of arrival of the vessel, or
- ii. since he last submitted a declaration of health as required by section 16, whichever is the lesser, aware of any instance of illness among the crew or passengers that he suspects is of a communicable nature and may lead to the spread of disease,

(c) a certificate establishing that the vessel has been de-ratted or exempted from de-ratting procedures has expired or is about to expire.

2. At the same time, the person in charge of a vessel shall, by radio, provide the quarantine officer with the following information:

- (a) the name and nationality of the vessel;
- (b) the ports called at during the voyage of the vessel;
- (c) the nature of the cargo on board the vessel;
- (d) the number of persons comprising the crew of the vessel;
- (e) the number of passengers on board the vessel;
- (f) the port of destination of the vessel and the name of the vessel's owner or, if the owner is not in Canada, the name of the vessel's agent in Canada;
- (g) the condition of all persons on board the vessel and details of any death or illness occurring during the voyage;
- (h) whether the body of any person is being carried on the vessel;
- (i) the estimated time of arrival of the vessel at the port of destination; and
- (j) the date and place of issuance of any de-ratting certificate or de-ratting exemption certificate applicable to the vessel.

3. For the purposes of paragraph (1), the quarantine station for vessels bound for a port in the Province of British Columbia or a port in the Yukon Territories is the Vancouver Quarantine Station at 604-317-1720 (24 hour phone line).

4. The person in charge of a vessel who wishes to change his port of destination after receiving instructions from the quarantine officer shall notify him of such change and request new instructions.

Pilotage Messages

For detailed information on Notices to Obtain Pilot, Notices of Departure, Notices of Movage, Optional Notices and Required Information, please refer to Section 23 of the latest Annual Edition of Notices to Mariners, published by the Canadian Coast Guard, Marine Navigation Services.

Official Naval Messages

For detailed information on Naval Messages to Canadian and Commonwealth ships in Canadian areas, please refer to Section 39 of the latest Annual Edition of Notices to Mariners, published by the Canadian Coast Guard, Marine Navigation Services.

ICE ADVISORY SERVICE

Arctic and Hudson Strait and Bay

The Canadian Coast Guard operates a service for the support of ships navigating in the ice congested Canadian Arctic, and other ice free northern waters, during the summer navigation season. Access to this service can be obtained by calling NORDREG CANADA. This support includes the promulgation of up-to-date information on ice conditions; advice on routes; aids to navigation; icebreaker support when available and considered necessary; and organization of convoys when conditions dictate.

Throughout the navigation season, ice advisories, forecasts and synoptic ice charts are issued by Canadian Ice Service in Ottawa, and broadcast daily by radio and radio facsimile. Particulars of the time of transmissions and radio frequencies used, etc., will be found in Part 2 of this publication.

The Canadian Coast Guard has established an MCTS centre at Iqaluit, Nunavut. The centre opens in mid June and is staffed until late November

Contact information for NORDREG Canada is as follows:

Address:	Fisheries and Oceans Canadian Coast Guard NORDREG Canada P.O. Box 189 IQALUIT, NU X0A 0H0	Telephone:	867-979-5724 or 979-5269
		Facsimile:	867-979-4264
		Telex (Telefax):	063-15529
		Telegraphic Identifier:	NORDREG CDA
		Email:	IQANORDREG@INNAV.GC.CA

The Canadian Coast Guard has a limited number of icebreakers available for the support of shipping. Because of heavy commitments, it is emphasized therefore, that icebreaker support cannot always be provided at short notice. In order to make the best possible use of available resources, it is most important that the Arctic Canada Traffic System (NORDREG CANADA) is as well informed as possible about the position and movements of ships in the Canadian Arctic. Ships bound for or leaving Hudson Bay or the High Arctic are required to contact NORDREG CANADA in accordance with procedures specified in Part 3, Vessel Traffic Services, of this publication.

CANADIAN HYDROGRAPHIC SERVICE - Conversion of charts to North American Datum 1983 (NAD 83)

The Canadian Hydrographic Service is converting navigational charts to the North American Datum 1983 (NAD 83).

NAD 83 is considered equivalent to the World Geodetic System 1984 (WGS 84) recently adopted as the horizontal datum for world-wide use. The advantage of the new datum is its compatibility with the NAVSTAR (GPS) satellite positioning system.

The difference in the position of the same point when quoted on the former NAD 27 and the new NAD 83 is up to 60 metres on the Atlantic coast, about 110 metres on the Pacific coast and almost zero near Chicago although there can be local discrepancies from these approximations.

Horizontal positions obtained from satellite receivers are based on NAD 83 (WGS 84) and must be converted to the horizontal chart datum (if not NAD 83) before being used. In some cases, the horizontal position obtained by LORAN-C coordinate converters, after due correction for Additional Secondary Factor (see Part 6), is based on NAD 83 and must also be converted to horizontal chart datum (if not NAD 83).

A note has been added to nearly all existing charts indicating the datum on which the chart is based, and providing the increase or decrease required to convert the latitude and longitude from NAD 83 to the chart datum.

New Charts and New Editions being produced are now almost always based on NAD 83.

Note: Latitude and longitude positions given in this publication are in NAD 83 unless otherwise indicated.

INSPECTION OF RADIO APPARATUS

The Canadian Coast Guard, on behalf of Transport Canada, is responsible for the conduct of ship radio inspections pursuant to the Canada Shipping Act, 2001. Queries concerning the standards governing inspections of radio apparatus fitted in ships for safety purposes may be sent to:

Project Manager, Ship Radio Inspection
Fisheries and Oceans Canada
Canadian Coast Guard
200 Kent Street, 7th Floor, Station S019
Ottawa, ON K1A 0E6
Telephone: 613-998-1520
Facsimile: 613-998-9258
E-mail: doug.pittman@dfo-mpo.gc.ca

Owners and masters of Canadian ships, that are required to be fitted with a radio installation under the provisions of the *Canada Shipping Act, 2001* are reminded that:

The master of a ship, other than a Safety Convention ship, shall ensure that the ship station is inspected by a radio inspector

(a) within the 30 days before the ship puts to sea for the first time, if the ship is

(i) 20 m or more in length,

(ii) a tow-boat, or

(iii) carrying more than 12 passengers on a voyage any part of which is in a VHF coverage area or more than five miles from shore;

(b) at least once every 48 months, in the case of a ship referred to in paragraph (a) that is certified for home-trade voyages, Class IV, or minor waters voyages, Class II; and

(c) at least once every 12 months, in the case of a ship referred to in paragraph (a) that is certified for voyages other than a home-trade voyage, Class IV, or a minor waters voyage, Class II.

The master of a ship that is required to be inspected under the *Agreement between Canada and the United States of America for Promotion of Safety on the Great Lakes by Means of Radio, 1973* need not comply with paragraphs (1)(b) or (c), but shall ensure that the ship station is inspected by a radio inspector before the ship enters the Great Lakes Basin for the first time and at least once every 13 months thereafter while continuing to navigate in the Great Lakes Basin.

A non-Canadian ship which does not have a valid Radio Safety Certificate on board may be detained by a port Customs Officer until a valid certificate has been obtained.

A fee for the conduct of ship radio inspections is levied in accordance with the *Ship Radio Inspection Fees Regulations*. The fee is payable upon completion of the inspection.

Applications for radio inspections of Canadian ships should be filed with the Canadian Coast Guard (CCG). The form entitled: Application for Radio Inspection, Compulsory Fitted Ships (82-0643) should be used for this purpose. Such request by owners, agents or masters should be received by the CCG at least three working days in advance of the date requested for inspection.

The owners, agents or masters of Canadian ships requiring radio inspection while outside of Canada should make application by fax or letter to:

Transport Canada
Director General
Marine Safety Directorate
Tower C, Place de Ville
330 Sparks Street
Ottawa, ON K1A 0N8
Telephone: 613-998-0610
Facsimile: 613-954-1032

Non-Canadian ships (except Liberian ships) may obtain a cargo Ship Safety Radio Certificate (GMDSS) in Canada. Applications should originate with the owners, ship agents or masters of the ships concerned and be supported by confirmation from the Consul or other official representative of the country in which the ship is registered. Confirmation shall be in writing. It is the responsibility of the owner, agent or master to contact the Consul or official representative and arrange to submit the necessary confirmation to the local CCG inspection office. Where time is limited, a verbal request for an inspection may be accepted from the Consul or official representative (a person who has a document from an Administration giving him the official power to act on their behalf), provided that the confirmation is submitted later.

Applications for radio inspections of Canadian ships wintering in US Great Lakes ports should be made by the owners, agents or masters on FCC form 809 and filed directly with the FCC Field Engineering office nearest to the port of which the inspections are desired. Copies of form 809 are available from any of the FCC offices serving the Great Lakes.

Ship Radio Inspection Contacts:

Hay River, **Northwest Territories** X0E 0R9
Supervisor of Technical Maintenance
Fisheries and Oceans Canada
Canadian Coast Guard Ships Electronics Workshop
42037 MacKenzie Highway
Telephone: 867-874-5530
Facsimile: 867-874-5532

Lazo, **British Columbia** V0R 2K0
Supervisor of Technical Maintenance
Fisheries and Oceans Canada
Canadian Coast Guard Ships Electronic Workshop
299 Wireless Road
P.O. Box 220
Telephone: 250-339-5211
Facsimile: 250-339-7922

Richmond, **British Columbia** V7B 1L7
Supervisor of Technical Maintenance
Fisheries and Oceans Canada
Canadian Coast Guard Ships Electronic Workshop
4270 Inglis Drive
Telephone: 604-666-2311
Facsimile: 604-666-1786

Ucluelet, **British Columbia** V0R 3A0
Supervisor of Technical Maintenance
Fisheries and Oceans Canada
Canadian Coast Guard Ships Electronic Workshop
P.O. Box 190
Telephone: 250-726-4335
Facsimile: 250-726-7234

Victoria, **British Columbia** V8V 4V9
Supervisor of Technical Maintenance
Fisheries and Oceans Canada
Canadian Coast Guard Ships Electronic Workshop
25 Huron Street
Telephone: 250-480-2644
Facsimile: 250-480-2666

Prince Rupert, **British Columbia** V8J 4B7
Supervisor of Technical Maintenance
Fisheries and Oceans Canada
Canadian Coast Guard Ships Electronic Workshop
Senior Technician
P.O. Box 906
Telephone: 250-627-3072
Facsimile: 250-624-6518

North Island, **British Columbia** V0N 2R0
Supervisor of Technical Maintenance
Fisheries and Oceans Canada
Canadian Coast Guard Ships Electronic Workshop
#3 1488 Beach Drive
P.O. Box 1180
Port McNeill
Telephone: 250-956-3244
Facsimile: 250-956-4021

RADIO STATION LICENSING AND MMSI NUMBERS

To obtain further information on radio station licensing and Maritime Mobile Service Identity (MMSI) numbers contact Industry Canada at: <http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/vwGeneratedInterE/sf01742e.html> or locate the nearest Industry Canada office through the local telephone directory.

		Fisheries and Oceans Canada Coast Guard		Pêches et Océans Canada Garde côtière		INSPECTION of a COMPULSORILY FITTED VESSEL		
Name of Vessel		Port of Registry		MMSI		Call Sign		
Gross Tonnage		Length		Official Number		IMO Number		
Agent: Name, Address, Telephone Number				Check if appropriate to this inspection New vessel or first inspection? <input type="checkbox"/> Change of Voyage? <input type="checkbox"/> Change of Certificate Type? <input type="checkbox"/>				
				Radio Services Representative: Name & Telephone Number				
Check appropriate Vessel type <input type="checkbox"/> Cargo <input type="checkbox"/> Fishing <input type="checkbox"/> Tanker <input type="checkbox"/> Fish Processing <input type="checkbox"/> Government Search & Rescue <input type="checkbox"/> Passenger <input type="checkbox"/> Drilling Unit <input type="checkbox"/> Tow-Boat <input type="checkbox"/> Oil and Gas Standby Vessel				Inspection Requested - Date: _____ Time: _____ Port, dock or quay, at which survey is to be conducted				
Application is hereby made for a radio inspection for the ship indicated above in accordance with Canadian Law and International Convention or Treaty as applicable. If after inspection the radio apparatus is found to comply with the requirements, it is requested that the following document(s) be issued. Please check all appropriate boxes.								
<input type="checkbox"/> RADIO INSPECTION CERTIFICATE (Sea Coast of Canada)								
<input type="checkbox"/> RADIO INSPECTION CERTIFICATE (Great Lakes Basin)								
<input type="checkbox"/> CARGO SHIP RADIO SAFETY CERTIFICATE (SOLAS) <input type="checkbox"/> Renewal Survey <input type="checkbox"/> Periodical Survey								
<input type="checkbox"/> REPORT OF INSPECTION concerning a radio installation on board a passenger ship engaged in international voyages								
<input type="checkbox"/> LETTER OF CERTIFICATION concerning a radio installation on board a Non-Convention cargo ship to allow Customs Clearance for an international voyage.								
VOYAGE TYPE	Home Trade <input type="checkbox"/> I, <input type="checkbox"/> II, <input type="checkbox"/> III or <input type="checkbox"/> IV		Minor Waters <input type="checkbox"/> I or <input type="checkbox"/> II		Inland Waters <input type="checkbox"/> I or <input type="checkbox"/> II		Foreign <input type="checkbox"/> International <input type="checkbox"/>	
	Sea Area: <input type="checkbox"/> A1 <input type="checkbox"/> A2 <input type="checkbox"/> A3 <input type="checkbox"/> A4							
CONDITIONS OF INSPECTION: a) Transport Canada is responsible for the conduct of ship radio inspections pursuant to the <i>Canada Shipping Act</i> . The Minister of Transport has appointed Canadian Coast Guard Radio Inspectors to carry out radio inspections. b) An application for inspection shall be submitted to the Canadian Coast Guard office nearest to the desired port of inspection at least 3 working days in advance of inspection date . c) When an inspection is requested of a ship registered elsewhere than in Canada, the application must be accompanied by a letter from the Consul or another official representative of the Administration concerned in accordance with Regulation 13, Chapter 1, SOLAS 1974, or Protocol 1988. d) The ship's electrical power shall be available and a person with authority to operate the radio station shall be on board at the date and time determined for the inspection. e) Fees are payable as outlined in the <i>Ship Radio Inspection Fees Regulations</i> (SRIFR)								
_____ Date				_____ Signature of Agent or Master				
76-000-000-PF-JP-001 (12-2004)						82-0643		

MARINE TELEPHONE SERVICE

General

This service enables a person aboard a ship to speak directly to any person ashore, or vice versa, as in ordinary long distance telephone calls. The service is an extension of the public telephone system to ships at sea through MCTS centres. For procedures in establishing contact with MCTS centres refer to “Radiotelephone Procedures”. No distinction is made in regard to day, night or Sunday calls. Collect calls are admissible in either direction, ship to shore or shore to ship at Inuvik MCTS centre only as this service has been discontinued entirely at the Comox, Prince Rupert, Tofino, Vancouver and Victoria MCTS Centres.

Radiomedical Calls

Mariners may obtain medical advice by calling a Marine Communications and Traffic Services (MCTS) centre and requesting to be connected to a medical professional. The Canadian Coast Guard will connect the vessel to an appropriate medical professional via the Marine Telephone System.

For mariners who wish to make their own arrangements for medical advice, radiomedical services are available in numerous languages to vessels flying any flag at any location through the International Radio-medical Centre (CIRM) in Rome, Italy. This centre is staffed 24/7/365 by specially trained physicians and radio operators who also have access to specialists in all medical branches. The CIRM can be contacted via the following means:

Telephone:	39 6 54223045
Mobile:	GSM 39 348 3984229
Facsimile:	39 6 5923333
Telex:	043 612068 CIRM I
E-Mail:	telesoccorso@cirm.it
Website:	http://www.cirm.it

Placing a Marine Telephone Call

Ship to Shore

1. Listen to make sure that the MCTS centre is not busy with another ship.
2. Call the MCTS centre and when communication has been established give the following:
 - (a) Name of the city being called.
 - (b) Name and/or telephone number of the person being called, and if the call is to be made “collect”.
 - (c) Name of the caller or the number of the caller’s telephone company credit calling card (if applicable).
3. When the call is completed, sign off, using the name and call sign of the ship.
4. When first placing the call, if a ship radio operator is unable to compute the charges which should be collected, request the MCTS centre to “Report Charges”. The MCTS centre will then relay this information to the ship at the end of the call.

Shore to Ship

1. Dial “0 (zero)” and ask for the “Marine Operator”.
2. Give the “Marine Operator” the following information:
 - (a) Name of the person and ship being called and if the call is to be made “collect”.
 - (b) Name of the city and the telephone number from which the call is being made and number of the caller’s telephone company credit calling card (if applicable).

Receiving a Marine Telephone Call

1. When you hear your ship being called, reply, giving your ship’s name and call sign.
2. At the end of the conversation, sign off by announcing the name and call sign of your vessel.

PART 5

Environment Canada's Marine and Ice Warning and Forecast Programs

Background

Environment Canada's Meteorological Service of Canada (MSC) is the agency responsible for delivering Canada's weather service. The MSC offers a broad range of products and services that are designed to help mariners make informed decisions on how weather will affect them. The Canadian Coast Guard (CCG) plays an important role in disseminating forecasts and warnings and in collecting and relaying weather information from volunteer observers and ships.

The constant stream of data coming from both automated and manned coastal observation stations, as well as ships and weather buoys, is supplemented by satellite imagery, weather radar and a full set of numerical weather products adapted for marine operations.

Marine Warning Program

Warnings of extreme weather events that pose a threat to life and property at sea such as strong winds, freezing spray, high coastal waters, squall lines and other localized phenomena shall be issued for the offshore economic zone including the St. Lawrence Seaway and major inland waters.

Major inland waters are defined as having significant marine activity and where time to reach safe harbour is comparable to the marine weather warning lead time. The criteria for issuing weather warnings is based on national guidelines, but determined regionally to account for regional climatology and the nature of the regional marine community. The following table describes the warning program:

Table 1: Synoptic warnings	
Synoptic warnings *	Warning criteria
Strong wind warning ⁽²⁾	Winds ⁽¹⁾ 20 to 33 knots inclusive occurring or expected to occur in any portion of a marine area including any portion defined by a local effect or an «except» statement.
Gale warning	Winds ⁽¹⁾ 34 to 47 knots inclusive occurring or expected to occur in any portion of a marine area including any portion defined by a local effect or an «except» statement.
Storm warning	Winds ⁽¹⁾ 48 to 63 knots inclusive occurring or expected to occur in any portion of a marine area including any portion defined by a local effect or an «except» statement.
Hurricane force wind warning	Winds ⁽¹⁾ 64 knots or above occurring or expected to occur in any portion of a marine area including any portion defined by a local effect or an «except» statement.
Freezing spray warning	Ice accretion rate of 0.7 cm/hr or more occurring or expected to occur in any portion of a marine area including any portion defined by a local effect or an «except» statement.

Notes:

* These warnings are included in the body of the text forecast.

(1) Gusts are excluded from the definition.

(2) The strong wind warning program is active on a regional basis as required for coastal and inland waters during the recreational boating season. A warning is not required when the wind is described using the range 15-20 knots. This range is normally used for greater accuracy.

Range: With the exception of Note (2) above, when a range is used to describe the wind speed, the upper value of the range determines the warning category.

Table 2: Localized warnings	
Localized warnings/watches *	Warning criteria
Squall watch	Advance notice of conditions that are favourable to the development of squalls.
Squall warning	Wind gust ≥ 34 knots associated with a line or an organized area of thunderstorms.
Tornado watch	Advance notice of conditions that are favourable to the development of Tornadoes.
Tornado warning	Evidence of tornado formation (radar, report from a reliable source, etc.) over a marine area, or an existing tornado moving from land to an adjacent marine area.
Waterspout watch	Advance notice of conditions that are favourable to the development of cold-air waterspouts.
Waterspout warning	Evidence of waterspout formation (radar, report from a reliable source, etc.) over a marine area.
High water level warning	To warn mariners and coastal populations of potentially hazardous impacts due to abnormally high water levels or waves along coastline areas.
Special marine warning/watch	Used to describe conditions other than those defined above that may have potentially hazardous impacts on navigation.

Notes: * These warnings/watches are delivered using separate messages.

Ice warnings: refer to the Canadian Ice Service further down in this chapter.

Marine and Ice Forecast Program

Marine forecasts are issued for the offshore economic zone including the St. Lawrence Seaway and major inland waters. For sea ice, ice forecasts are issued for offshore marine areas as well as the Great Lakes. The production schedule is detailed in each regional section of this chapter. The forecast program includes the following bulletins:

Table 3: Marine forecast program	
Forecast or bulletin name	Details
Technical marine synopsis	Provides the positions and trends of the main weather systems for the forecast period covering Days 1 and 2.
Marine forecast (or Regular marine forecast)	Provides information on: synoptic warnings, wind, visibility, precipitation, and freezing spray. It may include air temperature as appropriate. Valid for Days 1 and 2.
Recreational boating marine forecast	Tailored to the needs of recreational boaters, it is available on a seasonal basis and only in specific regions.
Marine weather statement	Issued when deemed necessary, it provides additional information on potentially high impact marine conditions.
Wave height forecast	Provides information on significant wave heights valid for Days 1 and 2. It is not available for the Arctic waters or central and western Hudson Bay.
Extended marine forecast	Meant for longer-range planning purposes, it provides an extended marine wind outlook for Days 3, 4, and 5.
Iceberg bulletin	Provides information on distribution of icebergs valid for the time of issue of the bulletin.
Ice forecasts	Provides information on hazardous ice conditions valid for Days 1 and 2.
NAVTEX ⁽¹⁾	International Maritime Organization (IMO)-compliant NAVigational TeLEX bulletin issued with each regular marine forecast or ice forecasts in a standardized abbreviated format - see Table 5 for Abbreviations.
MAFOR ⁽¹⁾	This is a specialized coded marine forecast produced for Quebec and Ontario regions.

⁽¹⁾ More details on NAVTEX and MAFOR are provided after this section.

Monitoring the Forecast

Forecasts are monitored, and amended as necessary, to reflect unexpected or changing weather conditions according to criteria based on the following principles:

1. when safety or security is at risk;
2. when inconvenience to the marine community will be extensive or;
3. when the product could adversely affect the credibility of the marine forecast program.

Marine and Ice Forecast Areas

Marine forecasts and ice forecasts are issued for marine and ice areas as outlined in the regional maps. The sizes and boundaries of these areas are determined regionally based on the following considerations:

1. marine traffic density,
2. the ability to forecast to the proposed resolution,
3. the degree to which, climatologically, marine weather varies, and
4. the ability to distribute the information effectively to the marine community.

Current Conditions

Current weather data is available to Canadians for their local area. The frequency and quality of the data will be consistent with the standards established by the World Meteorological Organization (WMO). The data may include as appropriate:

- wind speed and direction,
- atmospheric pressure,
- sky conditions,
- precipitation type,
- restrictions to visibility,
- wave height,
- current temperature.

General information on current sea-ice will be provided to the marine community once a week to provide an adequate planning tool for those considering entering ice encumbered waters.

Emergency Response

Meteorological support is provided during emergencies and includes the provision of meteorological information and forecasts. In the case of a pollution event, Environment Canada adheres to the “polluter pay” policy for the provision of all services. Where agreements are in place, Environment Canada will make its distribution systems available to transmit vital information during emergency situations.

Delivery of Marine Warning and Forecast Services

Delivery of marine warning and forecast services to Canadians is primarily by mass communication in order to reach the greatest population base through technology available to most Canadians. The following principles apply, regardless of the specific available technologies:

- a. Internet access via the World-Wide WEB. All forecast and warning information will be found at the following address: http://www.weatheroffice.gc.ca/canada_e.html;
- b. Basic services to Canadians shall be delivered primarily by mass distribution in partnership with media, relying on current and developing technologies in radio, television, newspaper, and the Internet. These distribution mechanisms represent the primary methods by which most Canadians receive their weather information, now and in the future;

- c. Marine and Environmental Advisories, Watches and Warnings are distributed through various mechanisms including partnerships with national and regional media distributors and local emergency measures organizations.

Voluntary Observing Ship (VOS) Program

The VOS program is organized for the purpose of obtaining weather and ice, and oceanographic observations from moving ships. An international program under the auspices of the WMO, the VOS has nearly 8,000 vessels participating from 60 nations. It is part of the WMO Global Observing System of the World Weather Watch. Canada has near 235 vessels participating. It closely follows WMO guidelines for VOS programs.

The Canadian program is supported by full-time Port Meteorological Officers (PMO). The national program office in Toronto manages the program and oversees PMO activities. The office also maintains a VOS Program Computerized Data Management System to record PMO ship visits, vessel mailing addresses, vessel equipment inventories and other information about vessel reports. Any vessel willing to take and transmit observations in marine areas where Environment Canada prepares weather forecasts (see the regional annexes) can join the program. The importance of ship reports cannot be overstated. Without your participation in VOS, there would be vast marine areas without data, making marine forecasting nearly impossible for these areas. We thank ships' officers and crew for their fine work, dedication, and commitment.

Mariners are also encouraged to inquire about the SEAS (Shipboard Environmental data Acquisition System) program with their regional PMO. Under the SEAS program, observations are sent via INMARSAT C and the cost of transmission is absorbed by a consortium of countries interested in timely marine observations on a global scale.

The WMO establishes the ships synoptic code, and procedures and standards for the collection and dissemination of information worldwide. The WMO also maintains information about countries and vessels participating in the program.

Buoys Program

In order to complement the observational network, Environment Canada operates a network of buoys across the country. This data becomes part of the collection of weather reports sent to the distribution network and is used to improve marine forecasting. The location, WMO identifiers and names of the Environment Canada buoys are given in the regional annexes.

Mariners are requested to use caution when approaching buoys as mooring chains are normally not detectable from a ship and can be damaged or even severed if there is contact. Such a mishap could possibly result in the buoy becoming adrift thus requiring a costly effort to recover the platform. Please keep the Regional PMO's informed of any incidents involving buoys.

Buoy Locations: buoy positions are described in each specific regional annex.

Port Meteorological Officers (PMOs)

In addition to a variety of other duties, PMOs also act as a liaison between Environment Canada and ships involved in the VOS program. This is to encourage vessels to report weather and ice conditions, to instruct observers about procedures and the use of code; to supply observing forms, handbooks (free of charge!); to calibrate equipment; and, in some cases, to install, on loan, meteorological or oceanographic instrumentation. The PMO is also responsible for recruiting new vessels wishing to participate in the VOS program.

If a PMO visits your ship, feel free to ask questions about observing and coding, and reporting weather and ice conditions. Inform the PMO of any concerns you may have with forecasts, warnings, or facsimile products, especially if you have specific problems. The PMO will contact the appropriate party for investigation. Keep the PMO informed of your contact information.

Table 4: Port meteorological officers (PMOs)

Great Lakes	Atlantic - Maritimes	Atlantic - Newfoundland
<p>Tony Hilton, Superintendant Roland Kleer, PMO Shawn Livingstone, PMO Environment Canada, MSC 100 East Port Boulevard HAMILTON, ON L8H 7S4 Telephone: 905-312-0900 Facsimile: 905-312-0730 E-Mail: roland.kleer@ec.gc.ca</p>	<p>Randy Sheppard, Supervisor Derek Cain, PMO Environment Canada, MSC 45 Alderney Drive, 16th floor DARTMOUTH, NS B2Y 2N6 Telephone: 902-426-6616 Cellular: 902-456-6927 Facsimile: 902-426-6404 E-Mail: randy.sheppard@ec.gc.ca</p>	<p>Andre Dwyer, PMO Environment Canada, MSC 6 Bruce Street. MOUNT PEARL, NL A1N 4T3 Telephone: 709-772-4798 Cellular: 709-689-5787 Facsimile: 709-772-5097 E-Mail: andre.dwyer@ec.gc.ca</p>
St-Lawrence - Québec	Pacific	Great Slave Lake / Lake Athabaska / Western Arctic
<p>Erich Gola, PMO Environment Canada, SMC Canada Place Bonaventure, Portail Nord-Est 800 de la Gauchetière ouest, Suite 810 MONTREAL, QC H5A 1L9 Telephone: 514-283-1644 Facsimile: 514-496-1867 E-Mail: erich.gola@ec.gc.ca</p>	<p>Bruce Lohnes, Supervisor Vaughn Williams, Supervisor Bijan Rasti, PMO Alan Webster, PMO Environment Canada, MSC 140 13160 Vanier Place RICHMOND, BC V6V 2J2 Telephone: 604-664-9188 Facsimile: 604-664-4094 E-Mail: bruce.lohnes@ec.gc.ca E-Mail: vaughn.williams@ec.gc.ca</p>	<p>Ben Lemon, PMO Environment Canada, MSC M.J. Greenwood Centre 9345 - 49 Street EDMONTON, AB T6B 2L8 Telephone: 780-495-6442 E-Mail: ben.lemon@ec.gc.ca</p>
Manitoba Lakes		
<p>Barry Funk, PMO Monitoring and Systems Environment Canada, MSC Suite 150 123 Main Street WINNIPEG, MB R3C 4W2 Telephone: 204-984-2018 E-Mail: barry.funk@ec.gc.ca</p>		

NAVTEX

MSC will provide CCG with marine forecast information in NAVTEX format for coastal and offshore areas of responsibility based on IMO standards. Marine forecast information provided will include:

MSC will provide CCG with:

- I. **Warnings** (Winds & ice accretion);
- II. **Synopsis** (major features);
- III. **Forecasts** (wind, visibility, ice accretion, wave height).

Each bulletin will contain a WMO telecommunication header, a valid period, notes on parameters used within the bulletin, a synopsis section, a weather forecast section and a wave forecast section. Below is a sample of a partial NAVTEX produced for CCG MCTS Sydney. Note that NAVTEX will make use of abbreviations: this is necessary in order to comply with the physical limitations of the NAVTEX system. In the example, text in superscript indicates how abbreviations are used.

NAVTEX service sample (518 kHz)	
Header	FQCN ³⁴ CWHX 171400
Title(part one)	▶ NAVTEX/I FOR SYDNEY VCO AT 10:00 AM AST FRI ^{Friday} 17 NOV ^{November} 2006.
Weather forecast	
Parameters	▶ VLD ^{valid period} 17/14Z-19/03Z, WND(KT) ^{wind in knots} , VIS(NM) ^{visibility in nautical miles} ABV ^{above} 1 NM UNL IND ^{unless indicated} , FOG IMPLIES VIS 1 NM OR LESS.
Synopsis	▶ SYNOPSIS: 17/14Z STRM ^{storm} 980 MB OVR SRN NFLD ^{over southern Newfoundland} 18/14Z STRM ^{storm} 985 MB OVR NRN NFLD ^{over northern Newfoundland} 17/14Z RIDG OVR WRN QUE. ^{ridge over western Quebec} 18/14Z RIDG OVR WRN GU ST LAW. ^{ridge over western Gulf of St Lawrence}
Area name	▶ EASTERN SHORE, FOURCHU:
Warning	▶ WNG ^{warning} : NIL.
Wind forecast	▶ WND: SW ^{southwest} 10-15. 17/18Z SE ^{southeast} 15-20. 18/06Z V15. 18/12Z SW ^{southwest} 15-20. 18/18Z SW20-25. 19/00Z SW15-20.
Visibility forecast	▶ VIS: 17/13Z-19/03Z PTH-FG ^{fog banks} {... other marine areas }
End of weather	▶ END/
Wave height forecast	
Parameters	▶ WAVES(M) ^{meter} VLD 17/09Z-18/10Z.
Area name	▶ EASTERN SHORE, SABLE, EAST SCOTIAN SLOPE-N ^{- northern half} , FOURCHU, BANQUEREAU:
Height in meters	▶ 1-2. {.... Other marine areas }
End of waves and part one	▶ END/

NAVTEX service sample (518 kHz)

Header ►	FQCN <u>34 CYQX</u> 171330
Title (VCO part two) ►	NAVTEX/2 FOR SYDNEY VCO.
Weather forecast	
Parameters ►	VLD 17/13Z-19/03Z.
Marine areas ►	GULF-PORT AU PORT, SOUTHWEST COAST:
Warning ►	WNG: NIL.
Wind ►	WND: S10-15G20. 17/23Z S10-15. 18/11Z S15-20. 18/18Z SW20.
Visibility ►	VIS: 17/12Z-19/02Z FG-PTH.
	<i>{... other marine areas}</i>
End of weather ►	END/
Wave height forecast	
Parameters ►	WAVES(M) VLD 17/09Z-18/09Z.
Marine areas ►	GULF PORT AU PORT:
Waves ►	1-2. 18/06Z 0-1.
	<i>{... other marine areas}</i>
End of waves and part two ►	END/

Table 5: Abbreviations used by MSC within NAVTEX

Date/Time standards					
April	APR	June	JUN	September	SEP
August	AUG	March	MAR	Sunday	SUN
December	DEC	May	MAY	Thursday	THU
February	FEB	Monday	MON	today	TDY
Friday	FRI	November	NOV	tonight	TNGHT
January	JAN	October	OCT	Tuesday	TUE
July	JUL	Saturday	SAT	Wednesday	WED
Marine Forecast Area dividing standards					
- eastern half	-E	- northwestern half	-NW	- southwestern half	-SW
- northeastern half	-NE	- southeastern half	-SE	- western half	-W
- northern half	-N	- southern half	-S		
Forecast parameters					
valid	VLD	unless	UNL	millibar	MB
indicated	IND	knots	KT	nautical mile	NM
implies	IMPL	meters	M		
Wind elements					
east	E	south	S	west	W
north	N	southeast	SE	light	LGT
northeast	NE	southwest	SW	with gust to	G
northwest	NW	variable	VRB	warning	WNG

Table 5: Abbreviations used by MSC within NAVTEX					
Freezing spray qualifier					
freezing spray	FRZ-SPR	risk	RSK	outside the ice edge	OUT-EDGE
moderate	MOD	severe	SEV	over open water	OVR-OW
at times	OCNL				
Wave elements					
ice covered	ICE				
Weather elements					
blizzard	BZ	hail	HL	mist patches	PTH-MIST
blowing snow	BS	heavy rain	HVY-RA	rain	RA
drizzle	DZ	heavy snow	HVY-SN	rain and snow mixed	MIX-RASN
flurries	LGT-SN	heavy thunderstorm	HVY-TSTM	scattered	SCT
fog	FG	ice fog	IFG	showers	SHWRS
fog banks	PTH-FG	ice pellets	IP	snow	SN
freezing drizzle	FRZ-DZ	light snow	LGT-SN	thunderstorm	TSTM
freezing rain	FRZ-RA	mist	MST	waterspout	WTSPT
Weather/visibility elements (qualifier)					
at times	OCNL	as low as 1 mile	NR 1	one mile or less	0-1
heavy	HVY	in precipitation	IN-PRECIP	visibility	VIS
occasional	OCNL	near zero	NR 0		
Trend descriptors (synopsis)					
building	BLDN	intensifying	INTSF	splitting	SPLIT
dissipating	DISS	merging	MERG	weakening	WKN
deepening	DPN	quasi-stationary	QSTNR		
Systems descriptors (synopsis)					
cold front	C-FRONT	hurricane	HURR	ridge	RIDG
col	COL	low	LOW	storm	STRM
disturbance	DISTURB	trough	TROUGH	tropical depression	TD
flat low	FLAT LOW	Post tropical storm	POST-TS	tropical storm	TS
frontal system	FRONT	high	HIGH	warm front	W-FRONT
Position descriptors (synopsis)					
cape	CAP	lake	LK	Pacific	PAC
coastal	CSTL	longitude	LONG	peninsula	PEN
from	FM	near	NR	river	RIV
island	IS	located on a line	ON LINE	strait	STR
latitude	LAT	over	OVR		
Cardinal point descriptors (synopsis)					
central	CENTRAL	northeast-southwest	NE-SW	southeast	SE
east	E	northern	NRN	southeastern	SERN
eastern	ERN	north - south	N-S	southern	SRN
east – west	E-W	northwest	NW	southwest	SW
from	FM	northwestern	NWRN	southwestern	SWRN
north	N	northwest-southeast	NW-SE	west	W
northeast	NE	south	S	western	WRN
northeastern	NERN				
Territorial references (synopsis)					
Alberta	ALTA	New Brunswick	NB	Ontario	ONT
British Columbia	BC	Newfoundland	NFLD	Prince Edward Island	PEI
Great lakes	GRT LKS	Newfoundland and Labrador	NL	Quebec	QUE
Gulf of St Lawrence	GU ST LAW	Nova Scotia	NS	Saskatchewan	SASK
Labrador	LAB	Northwest Territories	NWT	Yukon Territory	YT
Manitoba	MAN				

Ice Elements					
Ice concentration					
1 tenth	1	6 tenths	6	berg water	BW
10 tenths	10	7 tenths	7	consolidated	CONS
2 tenths	2	8 tenths	8	ice free	IF
3 tenths	3	9 plus tenths	9+	open water	OW
4 tenths	4	9 tenths	9	trace of	TR-
5 tenths	5	9 to 10 tenths (lake ice)	9-10		
Ice type					
first year ice	FYI	medium ice	MEDI	thick ice	TKI
grey ice	GI	new ice	NI	thin ice	THI
greywhite ice	GWI	old ice	OI	very thick ice	VTKI
Ice qualifier					
light	LGT	Moderate Pressure	MOD PRESS	strong	STRG
Ice general					
conditions	CDNS	Except	EXC	possible	POSS
edge	EDGE	Ice	ICE	along the coast	ALNG CST
estimated	EST	Including	INCL		
Ice direction					
eastward	EWD	northwestward	NWWD	southwestward	SWWD
northeastward	NEWD	southeastward	SEWD	westward	WWD
northward	NWD	southward	SWD		



Environment Canada
Environnement Canada

SUGGESTIONS / COMMENTS / COMMENTAIRES

Help us to serve you: Make us aware of your comments regarding the Environment Canada Marine and Ice Services	Aidez-nous à mieux vous servir : Faites-nous parvenir vos commentaires concernant le programme de prévisions maritimes d'Environnement Canada
--	--

Officer / Officier :		Return to / Envoyer à : National Service Officer / Bureau national de services - marine P.O. Box 370 Gander, NL A1V 1W7 Facsimile: 709-256-6627 E-Mail / Courriel : Tom.King@ec.gc.ca
Ship / navire :		
Position Latitude :		
Longitude :		
Date :		

Subject / Détails :

.

.

.

.

.

.

.

.

.

.

PACIFIC COAST

Marine Weather Forecast Program

The Pacific Storm Prediction Centre (PSPC) located in Vancouver, BC issues a regular marine forecast and technical synopsis 4 times daily at the same time throughout the year. The forecasts are valid out to midnight of the following day. Additional products include a 3 to 5 day marine wind outlook and a wave height forecast issued twice daily.

Table 6: Production schedule

a) Text format:

Forecast name	Issue Time	Time Zone	Marine region
Technical marine synopsis	04:00, 10:30, 16:00, 21:30	PDT / PST	Pacific waters
Marine forecast.	04:00, 10:30, 16:00, 21:30	PDT / PST	Pacific waters
Marine weather statement	as needed		Pacific waters
Wave height forecast	04:00, 16:00	PDT / PST	Pacific waters
Extended marine forecast	04:00, 16:00	PDT / PST	Pacific waters

b) NAVTEX format on 518 kHz:

MCTS Centres	Name	Header	Availability
Tofino VAE	Navtex	FQCN33 CWVR	04:00, 10:30, 16:00, 21:30 PDT/PST
Prince Rupert VAJ	Navtex	FQCN35 CWVR	04:00, 10:30, 16:00, 21:30 PDT/PST

Marine Weather Warnings: (refer to Table 1, page 5-1).

Note the following regional particularities:

	Warning Types	Comments
1	Strong wind warning	Issued only from Good Friday to Remembrance Day. Applies to the inner waters only: Queen Charlotte Strait, Johnstone Strait, Strait of Georgia, Howe Sound, Haro Strait and Strait of Juan de Fuca.

Marine Weather Observations and Forecast Bulletins

Local weather observations are available for several stations including lighthouses, ocean buoys, automatic weather reporting stations and other stations of the regular weather network. The broadcast listing provides more information on available stations and broadcast times. Marine forecast bulletins are updated at regular intervals or whenever necessary. These bulletins are available on MSC's Automated Telephone Answering Device (ATAD), as well as Weatheradio and Canadian Coast Guard's continuous marine broadcast.

Weatheradio Canada

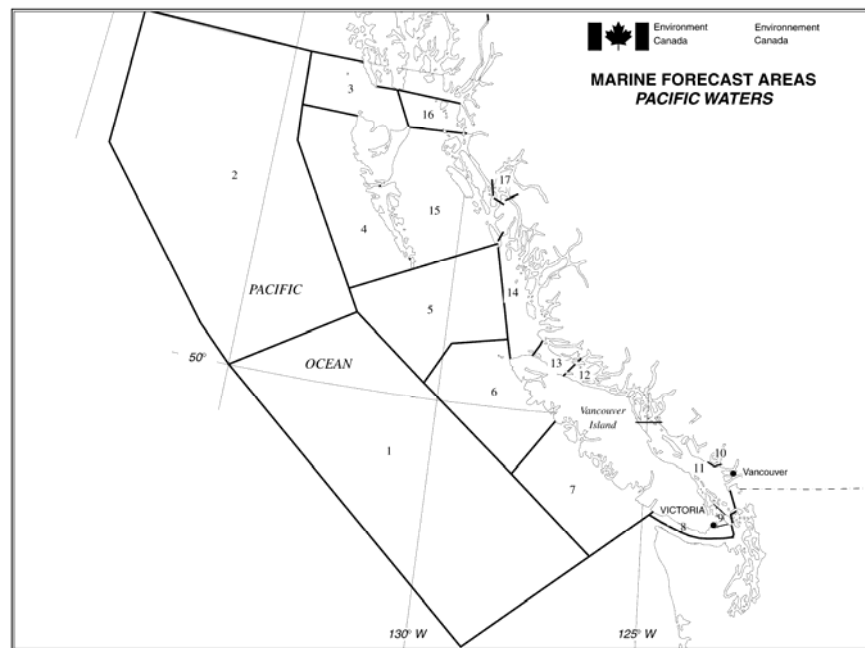
Weatheradio is a public service designed to make weather information available over VHF or FM radio continuously. Weatheradio is dedicated to transmitting up to the minute weather reports and forecasts directly to all users including the marine community.

Environment Canada Weatheradio operates four main stations serving Pacific region. These are:

Stations	Call Sign	Frequency (MHz)	Note
Vancouver – Victoria	XKK506	162.400	Continuous broadcast
Port Hardy (FM)	CBPD-FM	103.700	Continuous broadcast
Ucluelet	CIZ319	162.525	Continuous broadcast
Port Alberni	VFM825	162.525	Continuous broadcast

Further information regarding EC's Weatheradio network can be obtained via the Internet at <http://www.msc.ec.gc.ca/msb/weatheradio>.

Buoy Positions – Northeast Pacific					
WMO#	Name	Lat/ Long	WMO#	Name	Lat/ LongONG
46004	Middle Nomad	50°58.0'N 135°48.0'W	46183	North Hecate Strait	53°37.0'N 131°06.3'W
46036	South Nomad	48°21.2'N 133°55.3'W	46184	North Nomad	53°54.0'N 138°52.0'W
46131	Sentry Shoal	49°54.4'N 124°59.1'W	46185	South Hecate Strait	52°24.4'N 129°47.0'W
46132	South Brooks	49°43.9'N 127°55.4'W	46204	West Sea Otter	51°22.0'N 128°45.1'W
46145	Central Dixon Entrance	54°23.0'N 132°25.6'W	46205	West Dixon Entrance	54°10.0'N 134°20.0'W
46146	Halibut Bank	49°20.4'N 123°43.6'W	46206	La Perouse Bank	48°50.1'N 125°59.9'W
46147	South Moresby	51°49.3'N 131°12.1'W	46207	East Dellwood	50°51.6'N 129°54.6'W
46181	Nanakwa Shoal	53°50.0'N 128°49.9'W	46208	West Moresby	52°30.0'N 132°42.0'W



Marine Forecast Areas Pacific Waters					
Offshore		North coast		South coast	
Area	Area Name	Area	Area Name	Area	Area Name
001	Explorer	003	Dixon Entrance West	006	West Coast Vancouver Island North
002	Bowie	004	West Coast Charlottes	007	West Coast Vancouver Island South
		005	Queen Charlotte Sound	008	Juan de Fuca Strait
		014	Central Coast from McInnes Island to Pine Island	009	Haro Strait
		015	Hecate Strait	010	Howe Sound
		016	Dixon Entrance East	011	Strait of Georgia
		017	Douglas Channel	012	Johnstone Strait
				013	Queen Charlotte Strait

Marine Weather Observations			
Lighthouse reports, (Type L) , Automatic Reporting Stations (Type A) , Ocean Buoys reports (Type B)			
Addenbroke Island - L	East Dellwood - B	Langara Island - L	Sandheads - A
Amphitrite Point - L	EastPoint - A	Lennard Island - L	Sartine Island - A
Ballenas Island - A	Egg Island - L	Lucy Island - A	Saturna Island - A
Bella Bella - A	Entrance Island - A	McInnes Island - L	Scarlett Point - L
Boat Bluff - L	Entrance Island - L	Merry Island - L	Sentry Shoal - B
Bonilla Island - A	Esquimalt Harbour - A	Middle Nomad - B	Sheringham Point - A
Bonilla Island - L	Estevan Point - A	Nanakwa Shoal - B	Sisters Island - A
Cape Beale - L	Estevan Point - L	Nootka - L	Smith Island (USA)* - B
Cape Flattery (USA)* - B	Fanny Island - A	North Hecate Strait - B	Solander Island - A
Cape Lazo - L	Friday Harbour (USA)* - A	North Nomad - B	South Brooks - B
Cape Mudge - L	Green Island - L	Pachena Point - L	South Hecate Strait - B
Cape Scott - L	Grey Islet - A	Pam Rocks - A	South Moresby - B
Cape St James - A	Grief Point - A	Pine Island - L	Tatoosh Island (USA)* - A
Carmanah Point - L	Halibut Bank - B	Point Atkinson - A	Trial Island - L
Cathedral Point - A	Herbert Island - A	Point Wilson (USA)* - L	Triple Island - L
Central Dixon Entrance - B	Holland Rock - A	Port Angeles (USA)* - L	Tsawwassen - L
Chatham Point - L	Ivory Island - L	Prince Rupert - A	Victoria Harbour - A
Chrome Island - L	Kelp Reef - A	Pulteney Point - L	Victoria/Gonzales Pt - A
Cumshewa Island - A	Kindakun Rocks - A	Quatsino - L	West Dixon Entrance - B
Discovery Island - A	La Perouse - B	Race Rocks - A	West Moresby - B
Dryad Point - L	Langara Island - A	Rose Spit - A	West Sea Otter - B

* Note that the following stations are located in Washington USA: **Cape Flattery, Friday Harbour, Point Wilson, Port Angeles, Smith Island, Tatoosh Island.**

NORTHERN CANADA

Includes: Western and Eastern Arctic, Central and Western Hudson Bay & Major Inland Lakes of Manitoba, Northern Saskatchewan and Northwest Territories.

Marine Weather Forecast Program

The **Prairie and Arctic Storm Prediction Centre (PASPC)**, which is jointly located in Edmonton and Winnipeg, provides marine forecasts in support of Arctic marine activity during the open water season from summer into parts of the fall. The forecast area encompasses Lake Athabasca, Great Slave Lake, the Mackenzie River, as well as the waterways of the Western and High Arctic, and Baffin Bay. **Note that wave height forecasts are not produced for the Arctic areas.**

The PASPC provides marine forecasts for Central and Western Hudson Bay, Hudson Strait, Foxe Basin, Ungava Bay, and Davis Strait. Marine forecasts are also provided for Lake Winnipeg (north and south basins), Lake Manitoba and Lake Winnipegosis during the open water season in support of pleasure and commercial activities. **Note that marine forecasts for Eastern Hudson Bay and James Bay are provided by the MSC Quebec Region.**

The forecast program for the Manitoba Lakes continues through the winter months as a public rather than a marine forecast in aid of commercial ice fishing. Minimum and maximum temperatures along with wind chill are included in the forecast.

Table 7: Production schedule

a) Text format:

Forecast Name	Issue Time	Time Zone	Marine Region
Technical marine synopsis	06:30, 18:30	MDT / MST	Western and High Arctic
	04:45, 16:45	EDT / EST	Eastern Arctic
Suite of Marine forecasts	05:00, 17:00	MDT / MST	Inland waters
	07:00, 19:00	MDT / MST	Western Arctic Waterway
	05:30, 17:30	EDT / EST	Arctic
	05:00, 17:00	CDT / CST	Western Hudson Bay
	05:30, 17:30	EDT / EST	Southern Nunavut
	05:00, 17:00	EDT / EST	Eastern Nunavut

b) NAVTEX format on 518 kHz:

MCTS Centre	Name	Header	Availability
Iqaluit VFF	Navtex	FQCN36 CWNT	05:30, 17:30 EDT / EST

Marine Weather Warnings: (refer to Table 1, page 5-1).

Note the following regional particularities:

	Warning Type	Comments
1	Strong wind warning	Applies to Manitoba Lakes, Lake Athabasca, Great Slave Lake and Mackenzie River.

Weather and Ice Messages

Ship weather and ice reports in the international meteorological code, taken at the standard synoptic hours of 0000, 0600, 1200 and 1800 UTC are solicited from ships of all nationalities which have been recruited by their own national weather service, or other weather services. These reports should be transmitted directly to the circuit using Inmarsat. Alternatively, the observation should be passed to the nearest MCTS centre, irrespective of the ship's position. Reports made close to, or even within sight of land, are as important as reports made offshore, due to the greater variability of weather conditions in proximity to a coastline. Such reports contribute to the overall knowledge of Arctic weather from both a real-time operational perspective and from a climate perspective.

The PASPC also welcomes weather, sea, and ice observations from the lakes. Real-time observations, and those up to a few hours after the event, are most valuable. Pass observations to 1-800-66STORM (1-800-667-8676).

Buoys deployed during the open water season			
WMO #	Location / Information	Lat Deg/min	Long Deg/min
45140	Lake Winnipeg South Basin (moored buoy)	50°48' N	096°44' W
45141	Great Slave (moored buoy - 25 nm northeast of Hay River)	61°1' N	115°19' W
45144	Lake Winnipeg North Basin (moored buoy)	53°15' N	098°15' W
45145	Lake Winnipeg between North and South Basins	51°24' N	096°42' W
45150	Great Slave (moored buoy - immediately west of Inner Whaleback Rocks)	61°55' N	113°45' W
45158	Hudson Bay SW	59°00' N	094°00' W

The **Great Slave Lake** buoys are deployed in early July and retrieved in late September or early October. They provide hourly wind, air temperature, surface water temperature and wave data.

The **Lake Winnipeg** South Basin buoys are deployed annually in May or June, and retrieved in October. They provide hourly wind, air temperature, surface water temperature, and wave data.

The **Hudson Bay** buoy is deployed annually mid to late July and retrieved late September or early October. It provides hourly wind, air temperature, surface water temperature, and wave data.

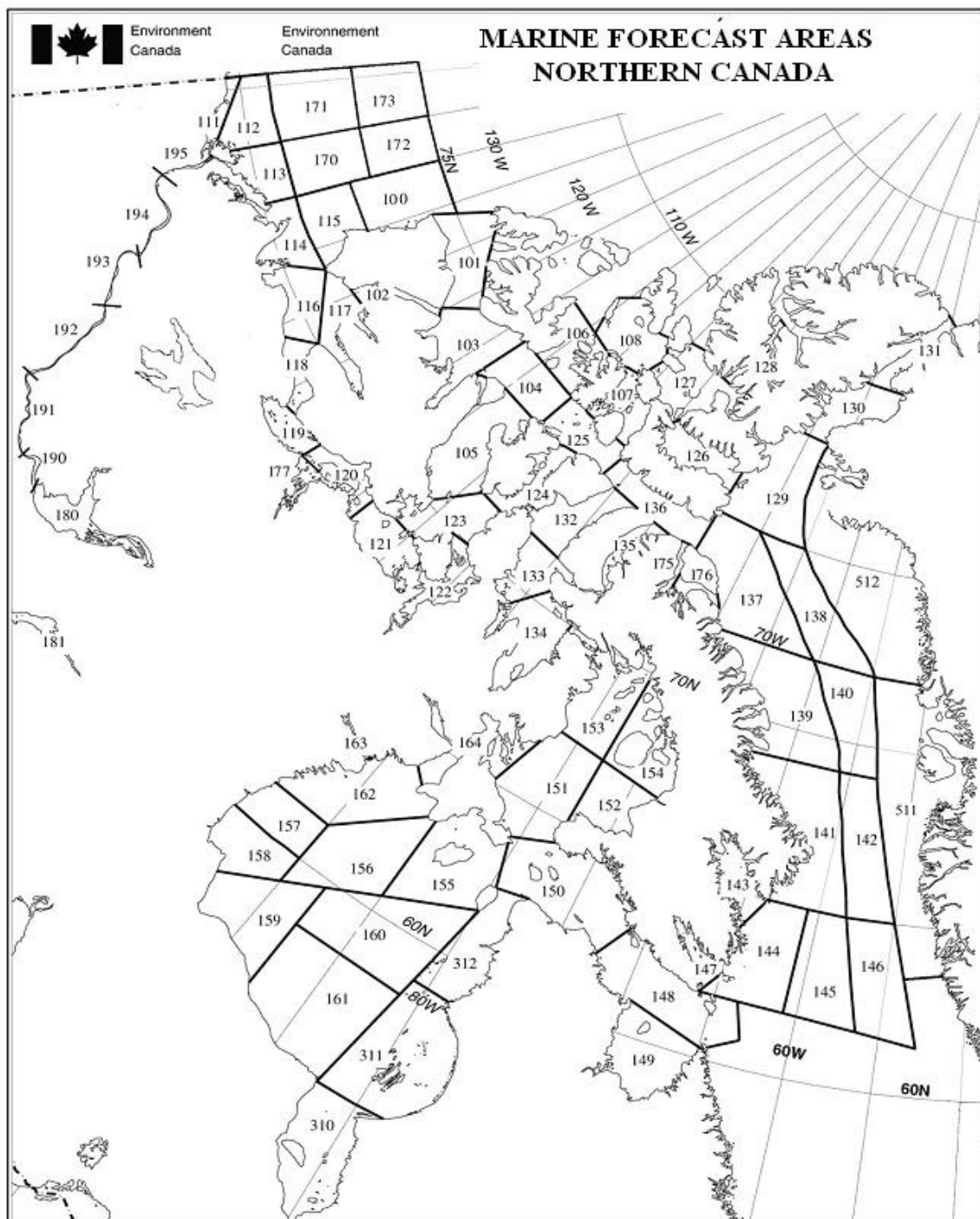
Weatheradio Canada

Weatheradio is a public service designed to make weather information available over VHF or FM radio continuously. Weatheradio is dedicated to transmitting up to the minute weather reports and forecasts directly to all users including the marine community.

Environment Canada Weatheradio operates several stations serving Northern region. These are:

Stations	Call Sign	Frequency (MHz)	Effective Radiated Power (Watts)	Location
Arviat	CKO583	162.400	27	Arviat
CapeDorset (Kingait)	XJS717	162.550	25	CapeDorset (Kingait)
Iqaluit	VEV284	162.550	30	Iqaluit
Iqaluit (FM)	CIQA	93.3	42	Iqaluit Airport
Rankin Inlet (Kangiqliniq)	XJS716	162.400	40	Rankin Inlet (Kangiqliniq)
Hay River	CIE211	162.550	245	Hay River
Inner Whaleback Rocks	XKI403	161.650	8	Inner Whaleback Rocks
Inuvik	VBU996	162.400	54	Hidden Lake
Pine Point	XJS786	162.475	389	Pine Point
Yellowknife	VBC200	162.400	148	Yellowknife Seismic Station
Dauphin	VBA814	162.550	123	Moon Lake
Long Point*	VCI386	162.550	72	Long Point
Riverton*	XL471	162.400	195	Riverton
Winnipeg*	XML538	162.550	126	Trizec Building

* **Winnipeg, Riverton** and **Long Point** provide **continuous** broadcast of marine weather forecasts and warnings for the Manitoba Lakes, and of marine weather observations when available. Further information regarding EC's Weatheradio network can be obtained via the Internet at <http://www.msc.ec.gc.ca/msb/weatheradio>.



→

MARINE FORECAST AREAS
Eastern and Western Arctic Waters

Number	Area Name	Forecast Availability Period	Number	Area Name	Forecast Availability Period
100	Prince Alfred	Shipping season	138	East Baffin	July-August
101	McClure	Shipping season	139	West Clyde	July 01 - Oct. 31
102	Prince of Wales	Shipping season	140	East Clyde	July-August
103	Melville	Shipping season	141	West Davis	July 01 - Oct. 31
104	Rae	Shipping season	142	East Davis	July 01 - Oct. 31
105	McClintock	Shipping season	143	Cumberland	July 01 - Oct. 31
106	Byam	Shipping season	144	West Brevoort	July 01 - Oct. 31
107	Queens	Shipping season	145	Central Brevoort	July 01 - Oct. 31
108	Maclean	Shipping season	146	East Brevoort	July 01 - Oct. 31
109	(unused)	-	147	Frobisher Bay	July 01 - Oct. 31
110	(unused)	-	148	Resolution	July 01 - Oct. 31
111	Yukon Coast	July 01 - Sept. 30	149	Ungava	July 01 - Oct. 31
112	Mackenzie	July 01 - Oct 10	150	Nottingham	July 01 - Oct. 31
113	Tuktoyaktuk	July 01 - Oct 10	151	West Foxe	Shipping season
114	Baillie	July 15 - Sept. 30	152	East Foxe	Shipping season
115	Banks	Shipping season	153	Igloolik	Shipping season
116	Amundsen	July 15 - Sept. 30	154	Prince Charles	Shipping season
117	Holman	Shipping season	155	Coats	Shipping season
118	Dolphin	July 15 - Sept. 30	156	Central	Shipping season
119	Coronation	July 15 - Sept. 30	157	Arviat	July 01 - Oct. 15
120	Dease	July 15 - Sept. 30	158	Churchill	July 01 - Oct. 15
121	Maud	Shipping season	159	York	Shipping season
122	St. Roch	Shipping season	160	South-central Hudson	Shipping season
123	Larsen	Shipping season	161	South Hudson	Shipping season
124	Peel	Shipping season	162	Rankin	July 01 - Oct. 15
125	Barrow	July 01 - Oct. 31	163	Baker	July 01 - Sept. 30
126	Jones	Shipping season	164	Roes Welcome	Shipping season
127	Norwegian	Shipping season	170	North Tuktoyaktuk	July 01 - Oct. 31
128	Eureka	Shipping season	171	North Mackenzie	July 01 - Oct. 31
129	Clarence	Shipping season	172	West Prince Alfred	July 01 - Oct. 31
130	Kane	Shipping season	173	Northwest Beaufort	July 01 - Oct. 31
131	Robeson	Shipping season	175	Navy Board	July 01 - Oct. 31
132	Regent	Shipping season	176	Pond	July 01 - Oct. 31
133	Boothia	Shipping season	177	Bathurst	July 01 - Oct. 31
134	Committee	Shipping season	310	James Bay	Navigation season
135	Admiralty	Shipping season	311	Belcher	Navigation season
136	Lancaster	July 01 - Oct. 31	312	Povungnituk	Navigation season
137	West Baffin	July 01 - Oct. 31			

* If required, marine forecasts may also be made available outside the regular availability period upon user request.

Inland waters		
Number	Area Name	Availability Period
180	Great Slave Lake	June 15 - October 31
181	Lake Athabasca	Open water season
182	Lake Manitoba	Open water season
183	Lake Winnipeg - south basin	Open water season
184	Lake Winnipeg - north basin	Open water season
185	Lake Winnipegosis	Open water season
190	Wrigley Harbour (mile 0) to Axe Point (mile 91)	June 01 - Oct. 20
191	Axe Point (mile 91) to Camsell Bend (mile 290)	June 01 - Oct. 20
192	Camsell Bend (mile 290) to Tulita (mile 512)	June 01 - Oct. 20
193	Tulita (mile 512) to Fort Good Hope (mile 684)	June 01 - Oct. 20
194	Fort Good Hope (mile 684) to Point Separation (mile 913)	June 01 - Oct. 20
195	Point Separation (mile 913) to Kittigazuit Bay (mile 1081)	June 01 - Oct. 20

Danish <u>Marine Forecasts</u> for Baffin Bay Waters available via: Danish Meteorological Institute, Copenhagen Telephone: (45) 39 15 7500					
Number	Area Name	Period	Number	Area Name	Period
907	Nunap Isuata Kitaa	Year round	911	Attu	Year round
908	Nuuarsuit	Year round	912	Uiffaq	Year round
909	Narsalik	Year round	913	Qimusseriarsuaq	Year round
910	Megquitsiq	Year round	914	Kiatak	Year round

Marine Weather Observations – Manned station reports for:		
Aklavik	Lake Winnipeg: Gimli	Norman Wells
Fort MacPherson	Lake Winnipeg: Grand Rapids	Sachs Harbour
Fort Resolution	Lake Winnipeg: George Island	Tuktoyaktuk
Hay River	Lake Winnipeg: Norway House	Yellowknife
Inuvik	Lake Winnipeg: Berens River	
	Lake Winnipeg: Victoria Beach	

Marine Weather Observations – Automatic station reports for:	
Inner Whale Back Island auto-station	
Egg Island auto-station (Lake Athabasca)	

Marine Weather Observations – Buoy reports for:	
Great Slave Lake Buoy 45141	Lake Winnipeg Buoy 45140 (South Basin)
Great Slave Lake Buoy 45150	Lake Winnipeg Buoy 45144 (North Basin)

CANADIAN ICE SERVICE (CIS)

Ice Forecasts

Ice forecasts are produced once a day year round. The intent is to advise users of any ice warning conditions that are in effect or that could develop during the day, the evening and the following day, for the areas where a daily ice chart is produced. The forecasts also provide a point by point description of the ice edge.

The iceberg bulletin is produced once a day except in November and December when it is produced from Monday to Friday only. The purpose is to convey routine, general information on the iceberg distribution off the Canadian East Coast. The bulletin provides the estimated limit of all known icebergs and a general description of the number of icebergs for each marine area.

Table 8: Ice bulletins production schedule

a) Text format:

Forecast name	Issue Time	Time Zone	Marine region
Iceberg bulletin	11:00	EDT/EST	East Coast waters
Ice forecasts	10:00	EDT/EST	Western and Central Arctic
	11:00	EDT/EST	Hudson and Foxe
	11:00	EDT/EST	Eastern and Northern Arctic
	10:00	EDT/EST	Gulf of St. Lawrence
	10:00	EDT/EST	East Newfoundland and Labrador waters
	12:00	EDT/EST	Great Lakes

b) NAVTEX format on 518 kHz:

MCTS Centre	Name	Header	Availability
St John's VON	Ice NAVTEX	FICN33 CWIS	17:50 (W), 21:50 (S) UTC
Sydney VCO	Ice NAVTEX	FICN34 CWIS	22:10 UTC
Labrador VOK	Ice NAVTEX	FICN35 CWIS	23:20 UTC
Prescott VBR	Ice NAVTEX	FICN38 CWIS	00:40, 12:40 UTC
Thunder Bay VBA	Ice NAVTEX	FICN39 CWIS	06:00, 18:00 UTC
Iqaluit VFF	Ice NAVTEX	N/A	N/A

Ice Warning Criteria	
Warning Name	Warning criteria
1. Ice Pressure warning	Reported or forecast strong ice pressure.
2. Rapid Closing of Coastal Leads warning	Rapid closing of coastal leads is expected to occur. Leads are corridors of mainly ice-free water surrounded by pack ice.
3. Special Ice warning	Issued when a shipping lane or port has been open for at least 2 weeks and is now expected to become blocked by first year or older ice, or...
	when one tenth or more of grey-white ice or older is expected to move into areas when that ice is not normally present, or...
	for any unusual or significant ice event that will present a hazard to navigation.

Ice Forecast Program

Time scales for ice forecasts are relatively long. Useful time scales for ice forecasts are daily, monthly and seasonal. At present, the program provides a 30 day text forecast mainly as a planning tool for operators.

Ice Reports or Ice Observations

Ice reports from ships or aircraft are normally relayed through MCTS centres for broadcast. These reports are all assimilated in the daily ice charts produced by CIS.

Ice Charts Available

Current ice conditions charts are produced on a daily basis. The area covered by the chart depends on the time of year and these charts are normally broadcast at times specified in tables below.

Once a week, CIS produces Regional ice charts. These charts are intended to be used as a planning tool rather than a tactical support tool and are available on the CIS Website at <http://ice-glaces.ec.gc.ca> and through commercial communication lines. They are not broadcast through MCTS centres.

Ice Beacons

In order to better track the ice drift or to verify ice models, CIS deploys between 4 to 8 ice beacons yearly. While most beacons are only reporting their positions, a few are equipped with barometric pressure sensor and longer lasting battery pack to provide surface pressure information in data sparse regions. These devices drift with the ice/iceberg and are relatively small, so they are very hard to detect from a ship especially if they have been covered with snow. Beacons are deployed primarily in the Central Arctic, Eastern Arctic and the Labrador Coast regions. Through partnership with the International Arctic Buoy Program, CIS will provide, when possible, beacon(s) to be deployed in the Beaufort Sea.

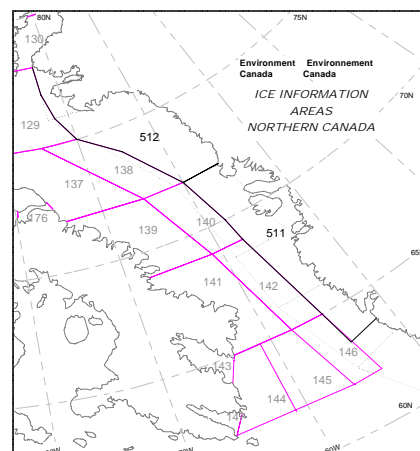
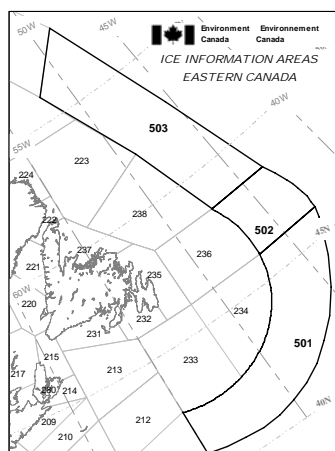
Weatheradio Canada

Detailed ice forecasts and ice warnings are not broadcast via Weatheradio, however, mariners planning operations in waters impacted by hazardous ice conditions may obtain details regarding ice conditions by consulting the CIS website at <http://ice-glaces.ec.gc.ca/> or by contacting their regional MCTS centre. Detailed ice information may also be obtained through consultation with an Environment Canada meteorologist using the “Weather One-on-One” ‘1-900’ service at 1-900-565-5555. For cell phone users and credit card billing call 1-888-292-2222. User fees apply.

Ice Areas

Areas for which ice forecasts apply are identical to the marine forecasts area. In addition to these, ice forecasts will cover Lake Michigan, and may cover 3 areas along the East Coast (501 to 503), and two more off the Greenland Coast (511-512).

- | | |
|-----|-------------------------|
| 501 | Tail of the Grand Banks |
| 502 | Flemish |
| 503 | Southeast Labrador Sea |
| 511 | Greenland Central |
| 512 | Greenland North |
| 541 | Lake Michigan |



Ice charts

The following list describes ice charts produced to support Canadian Coast Guard operations which are available for broadcast. All **available** charts can be transmitted or re-transmitted on request. **MCTS broadcast times** are found in Chapter 2. **METOC Halifax broadcast times** are found immediately following this section.

Ice Chart (when available)	Broadcast site	Season
Iceberg limit	MCTS Sydney	Year round
Gulf of St. Lawrence	METOC Halifax MCTS Sydney	Winter Winter
Northeast or Southeast Newfoundland Waters	METOC Halifax MCTS Sydney	Winter Winter
Labrador Coast	METOC Halifax MCTS Iqaluit	Winter Summer
Hudson Strait	MCTS Iqaluit	Summer
Northern Hudson Bay	MCTS Iqaluit	Summer
Southern Hudson Bay	MCTS Iqaluit	Summer
Foxe Basin	MCTS Iqaluit	Summer
Davis Strait	MCTS Iqaluit	Summer
Baffin Bay	MCTS Iqaluit (Resolute) MCTS Iqaluit	Summer
Approaches to Resolute	MCTS Iqaluit (Resolute)	Summer
Resolute - Byam	MCTS Iqaluit (Resolute)	Summer
Eureka	MCTS Iqaluit (Resolute)	Summer
Parry Channel	MCTS Iqaluit (Resolute)	Summer
McClure Strait	MCTS Iqaluit (Resolute) MCTS Inuvik	Summer
Queen Maud	MCTS Iqaluit (Resolute) MCTS Inuvik	Summer
Amundsen Gulf	MCTS Inuvik	Summer
Alaskan Coast	MCTS Inuvik	Summer
Bering Strait	MCTS Inuvik	Summer

For correct reception of this broadcast on WMO standard facsimile recorders requiring 2300 Hz for White and 1500 Hz for Black, 1800 Hz centre frequency, radio receivers should be tuned in the **UPPER SIDEBAND MODE** or **USB**: add **1.6 to 1.8** to the indicated frequencies.

METOC Halifax (CFH): Broadcasts intended for North Atlantic waters North of 35N and West of 35W. Radiofacsimile transmission commences with a 30 second break followed by a 30 second signal.

Name	Call Sign	Modulation	Index of Cooperation	Power	Frequencies (kHz)	Drum speed
MCTS Iqaluit	VFF	J3C (FM)	576	5 KW	3251.1, 7708.1 (USB)	120 RPM
MCTS Inuvik	VFA	J3C (FM)	576	1 KW	8456.0, 8457.8 (USB)	120 RPM
METOC Halifax	CFH	J3C (FM)	576	6 KW	4271, 6496.4, 10536, 13510	120 RPM
METOC Halifax	CFH	J3C (FM)	576	10 KW	122.5	
MCTS Sydney	VCO	J3C (FM)	576	5 KW	4416, 6915.1	120 RPM

Facsimile Broadcast

Upon authorized request from Canadian Coast Guard, C-GCFR can transmit observed conditions via satellite fax. Vessels must make a request through the Canadian Coast Guard to receive it.

PART 6

LORAN-C NAVIGATION SYSTEM

TABLES

- 1 GULF OF ALASKA LORAN-C CHAIN – GRI 7960
- 2 CANADIAN WEST COAST LORAN-C CHAIN – GRI 5990
- 3 U.S. WEST COAST LORAN-C CHAIN – GRI 9940
- 4 NORTH CENTRAL U.S. LORAN-C CHAIN – GRI 8290

FIGURES

- 1 NORTH AMERICAN COVERAGE OF LORAN-C CHAINS
- 2 LORAN-C COVERAGE DIAGRAM – GRI 5990
- 3 CANADIAN WEST COAST CHAIN COVERAGE DIAGRAM
- 4 INDEX AND CHARTLETS SHOWING ADDITIONAL SECONDARY FACTOR CORRECTIONS

A. Loran-C Chain Coverage

Figure 1 shows the North American coverage of Loran-C while Figure 2 shows further details of the Canadian West Coast and suggested rates and master-secondary pairs to use in particular areas. Figure 3 shows the individual coverage pattern provided by the Canadian West Coast Chain. The following notes pertain to Figure 2:

- Note 1:** The dividing lines between the Loran-C rates do not necessarily mean there are no other suitable Loran-C station pairs which could be used to safely navigate in an area. For example, while it is recommended to use 5990 XZ (i.e., Williams Lake - Shoal Cove - Port Hardy on Rate 5990) in the Hecate Strait area, coverage also exists there for 5990 XY. It is simply estimated that 5990 XZ provides better coverage in this area.
- Note 2:** The position repeatability of the 5990 XZ signals in this area may degrade to 1/3 nm due to geometric considerations. Theoretically 7960 XZ should be used in this area, but this is not recommended due to weak signal strength of the distant master station at Tok, Alaska.

B. Chain Details

Tables 1 through 4 give technical details of chains that provide coverage in waters off Western Canada and proximity.

C. Loran-C Coordinate Converters

Listing of vectors from the Loran-C coordinate converter position to the true position.

D. Loran-C Receiver Latitude/Longitude Corrections

Today's Loran-C receivers are equipped with microprocessors which are designed to internally compute the latitude and longitude coordinates of the receiver, based on the Time Difference (TD) readings, and directly display these values. This reduces the need to possess Loran-C charts, though it is still recommended they be procured.

The latitude/longitude computation may be based upon a pure seawater path. This leads to errors if the Loran-C signals from the various stations involve appreciable overland paths since the speed of the signal will decrease by varying amounts, depending on the nature of the earth's surface over which it is passing. Loran-C operates by measuring the difference in arrival times of the signals from the different stations in the Loran-C chain, and thus any unforeseen variation in the speed of a signal will result in an error in the latitude/longitude reading. Note that when the receiver is being used in the time difference mode (time difference readings being used to manually plot lines of position on a

Loran-C chart), these errors are minimal and the system should be accurate to within 1/4 nautical mile. This is because the Loran-C lattice on a nautical chart has already been adjusted to allow for the signal variation as it travels over land.

It is recommended that mariners' using the latitude/longitude feature of their receiver check the manufacturer's operating manual to determine if corrections are necessary and how they may be applied to compensate for overland paths in order to obtain a greater fix accuracy. The correction can be applied in either of two forms: (i) insertion of a correction when the vessel is at a known location, or (ii) the insertion of a correction factor that is determined from a table or chartlet. The latter is called an Additional Secondary Phase Factor (ASF) correction, and the chartlets in Figure 4 can be used to ascertain the numeric value to apply. These corrections will normally be valid only within 50 to 100 miles of the location at which the correction was inserted because of the changing effects of land mass on the Loran signals in the different areas.

E. Cautionary Note – Fishing Near the British Columbia - Alaska Coastal Boundary

Canadian fishermen using the Loran-C system for navigation must exercise caution when operating the near "A-B" Line, the coastal boundary in the waters separating B.C. and Alaska.

You should be particularly aware of the signal phase problem discussed in Section D. A receiver being used in the latitude/longitude mode can experience errors of up to several miles if ASF corrections have not been applied. In some receivers the corrections are applied automatically within the receiver, while in others the corrections must be applied manually, be it while located at a known spot or by the addition of ASF corrections.

Note that some of the ASF corrections shown in this publication stop short of the A-B line, and caution must be exercised when operating in this area.

F. Waypoint Navigation Cautionary Note

Mariners are cautioned that an error can exist between the waypoint navigation information provided by their Loran-C receiver and the desired straight-line track plotted on a chart. A straight line course plotted between two waypoints on a mercator chart is a rhumb line, defined as a line on the earth's surface cutting the meridians of longitude at the same angle. The course and distances displayed by a microprocessor-based Loran-C receiver, used in the waypoint mode, are normally computed for a great circle track, not a rhumb line. In the northern hemisphere, a great circle track between two waypoints lies to the north of a rhumb line joining those same waypoints.

This offset distance, or error, is a maximum when sailing East-West at a latitude of approximately 45 degrees, decreasing to zero at the equator and at the North and South Poles. It also decreases to zero as your track becomes North-South, regardless of the latitude. As an example of the offset error possible, a journey from St. John's, Newfoundland, to the Lands End area, England, a distance of roughly 1850 nm, would have a maximum offset of approximately 140 nm when comparing a rhumb line and a great circle track between the two places. The rhumb line versus great circle path offset becomes a danger only if the mariner has not laid off a great circle course on a Gnomonic chart, ensuring the vessel will pass clear of all navigational dangers.

G. Loran-C System Status Information

Up-to-date Loran-C status information is available by telephoning:

Loran-C Chain/Rate	Phone Number
West Coast U.S./9940	707-765-7518/98
Canadian West Coast/5990	709-454-3129 Control/Monitor for Canadian Loran-C Operations
Gulf of Alaska/7960	707-765-7426/21
North Central U.S./8290	707-765-7518/98

H. Loran-C NOTSHIPS

Loran-C Notices to Shipping (NOTSHIPS) concerning the status of Loran-C signals in the coastal waters off Western Canada and the immediate proximity are broadcast from the following Marine Communications and Traffic Services (MCTS) Centres:

Vancouver
Victoria

Tofino
Prince Rupert

Comox

Note that these broadcasts may only be made from those MCTS Centres located in the general area where the Loran-C signal normally exists.

TABLE 1
GULF OF ALASKA LORAN-C CHAIN – GRI 7960

STATION	LATITUDE LONGITUDE (2)	FUNCTION	EMISSION DELAY	THEORETICAL BASELINE TRAVEL TIME (3)	RADIATED PEAK POWER
TOK, Alaska (1)	63 19 42.88N 142 48 31.35W	MASTER	—	—	560 kW
KODIAK, Alaska (1)	57 26 20.30N 152 22 10.71W	X SECONDARY	13804.45 m s	2804.45 m s	400 kW
SHOAL COVE, Alaska (1)	55 26 20.94N 131 15 19.09W	Y SECONDARY	29651.14 m s	3651.14 m s	560 kW
PORT CLARENCE, Alaska (1)	65 14 40.37N 166 53 12.00W	Z SECONDARY	47932.52 m s	2932.52 m s	1000 kW

(1) This station operated by United States of America.

(2) Based on WGS 84 Datum (Coordinate system for charting).

(3) Theoretical Baseline Travel Time is based on all-seawater transmission path between master and secondary based on

WGS 84 Datum (Coordinate system for charting).

TABLE 2
CANADIAN WEST COAST LORAN-C CHAIN – GRI 5990

STATION	LATITUDE LONGITUDE (2)	FUNCTION	EMISSION DELAY	THEORETICAL BASELINE TRAVEL TIME (3)	RADIATED PEAK POWER
WILLIAMS LAKE, BC	51 57 58.88N 122 22 01.69W	MASTER	—	—	400 kW
SHOAL COVE, Alaska (1)	55 26 20.94N 131 15 19.09W	X SECONDARY	13343.60 m s	2343.60 m s	560 kW
GEORGE, Washington (1)	47 03 48.10N 119 44 38.98W	Y SECONDARY	28927.36 m s	1927.36 m s	1400 kW
PORT HARDY, BC	50 36 29.83N 127 21 28.49W	Z SECONDARY	42266.63 m s	1266.63 m s	400 kW

(1) This station operated by United States of America.

(2) Based on WGS 84 Datum (Coordinate System for charting).

(3) Theoretical Baseline Travel Time is based on all-seawater transmission path between master and secondary.

TABLE 3
U.S. WEST COAST LORAN-C CHAIN – GRI 9940

STATION	LATITUDE LONGITUDE (2)	FUNCTION	EMISSION DELAY	THEORETICAL BASELINE TRAVEL TIME (3)	RADIATED PEAK POWER
FALLON, Nevada (1)	39 33 06.74N 118 49 55.82W	MASTER	—	—	400 kW
GEORGE, Washington (1)	47 03 48.10N 119 44 38.98W	W SECONDARY	13796.90 m s	2796.90 m s	1400 kW
MIDDLETON, California (1)	38 46 57.11N 112 29 43.98W	X SECONDARY	28094.50 m s	1094.50 m s	400 kW
SEARCHLIGHT, Nevada (1)	35 19 18.31N 114 48 16.88W	Y SECONDARY	41967.30 m s	1967.30 m s	560 kW

- (1) This station operated by United States of America.
- (2) Based on WGS 84 Datum (Coordinate system for charting).
- (3) Theoretical Baseline Travel Time is based on all-seawater transmission path between master and secondary.

TABLE 4
NORTH CENTRAL U.S. LORAN-C CHAIN – GRI 8290

STATION	LATITUDE LONGITUDE (2)	FUNCTION	EMISSION DELAY	THEORETICAL BASELINE TRAVEL TIME (3)	RADIATED PEAK POWER
HAVRE, Montana (1)	48 44 38.59N 109 58 53.613W	MASTER	—	—	400 kW
BAUDETTE, Minnesota (1)	48 36 49.95N 94 33 17.92W	W SECONDARY	14786.56 m s	3786.56 m s	800 kW
GILLETTE, Wyoming (1)	44 00 11.1N 105 37 23.90W	X SECONDARY	29084.44 m s	2084.44 m s	400 kW
WILLIAMS LAKE, BC	51 57 58.88N 122 22 01.69W	Y SECONDARY	45171.62 m s	3171.62 m s	400 kW

- (1) This station operated by the United States of America.
- (2) Based on WGS 84 (coordinate system for charting).
- (3) Theoretical Baseline Travel Time is based on all-seawater transmission path between master and secondary.

Loran-C Coordinate Converters

Many of the Loran-C Coordinate Converters on the market do not compensate for the overland propagation errors caused by radio waves travelling more slowly over land than they do over seawater. These converters assume that the radio waves are travelling over an all seawater path from the transmitters to the ship. Because the amount of the time delay in each pattern varies with location, as does the width for 1 microsecond in each pattern, and the angle of cut between patterns, and which two patterns are being used for the position determination, there can be no over-all simple error statement.

It is important to note that a Loran-C coordinate converter that does not incorporate the overland propagation corrections (Additional Secondary Factor, or ASF) within its computations will produce a systematic geographic position error. This error is often in the dangerous direction; namely, it will compute a position that is farther offshore. If you are transiting along a coast, thinking that you are safely outside the dangerous shoals, you may find yourself closer to shore than you think you are.

The Canadian Hydrographic Service (CHS) has determined the overland propagation (ASF) errors through actual observations. The overland propagation corrections were incorporated into the lattices that were/are on CHS nautical charts. These maps have been published maps showing the corrections to observed Time Differences (TDs) necessary to

make them theoretical TDs that can be used with algorithms using just the seawater velocity to compute the geographic position.

Manufacturers have their own methods to compute geographic positions, which may incorporate some approximations. The receivers may or may not tell the mariner which TDs it is using to compute the position – hopefully the pair with the best repeatable geometry. Some receivers use more than two TDs to compute positions.

Some manufacturers have incorporated the overland propagation corrections into their algorithms and those receivers should perform more accurately than those that do not. The industry self-imposed standard set by the Radio Technical Commission on Marine Services – Special Committee 75 on Minimum Performance Standards for Loran-C Coordinate Converters (1980) is a ¼ mile positioning accuracy.

The following tables give the vectors from the Loran-C coordinate converter position to the true position. These will give some guide as to the possible errors. It is suggested, however, that mariners **NOT** correct their positions by the stated amounts, but to use the listed information as an advisory. Your coordinate converter may behave differently.

5990 – Canadian West Coast Chain

Information in **Bold** is for the TD pair that gives the best repeatability.

Vicinity of:	Latitude	Longitude	5990XY	5990XZ	5990YZ
Gulf of Georgia					
Cape Mudge	49 55N	125 10W			0.0 nm
Cape Lazo	49 45N	124 45W			0.0 nm
Sisters Islets	49 30N	124 30W			0.0 nm
Nanaimo	49 15N	123 55W			0.1 nm @ 055°T
Point Grey	49 15N	123 20W			0.1 nm @ 080°T
Patos Island	48 45N	123 00W			0.1 nm @ 095°T
Juan de Fuca Strait					
Hein Bank	48 20N	123 00W			0.2 nm @ 225°T
Trial Island	48 20N	123 20W			0.2 nm @ 235°T
Race Rocks	48 15N	123 30W			0.1 nm @ 230°T
Port Renfrew	48 30N	124 30W			0.2 nm @ 015°T
Neah Bay, Wash	48 23N	124 35W			0.1 nm @ 035°T
Vancouver Island, West Coast					
Amphitrite Point	48 50N	125 30W	0.1 nm @ 345°T		0.1 nm @ 045°T
Estevan Point	49 15N	126 30W	0.1 nm @ 090°T		0.1 nm @ 085°T
Cape Cook	50 00N	128 00W	0.3 nm @ 155°T	0.7 nm @ 185°T	0.5 nm @ 115°T
Triangle Island	51 00N	129 00W	0.6 nm @ 190°T	0.4 nm @ 060°T	
Queen Charlotte Sound					
Pine Island	51 00N	127 45W	0.2 nm @ 175°T	0.3 nm @ 040°T	
Goose Group	52 00N	129 00W	0.4 nm @ 195°T	0.4 nm @ 055°T	
E of Kunghit I	52 00N	130 30W	0.4 nm @ 175°T	0.5 nm @ 080°T	
Hecate Strait					
Hecate Strait	53 00N	131 00W	0.5 nm @ 195°T	0.7 nm @ 075°T	
Seal Rocks	54 00N	131 00W	0.6 nm @ 190°T	0.9 nm @ 080°T	

Vicinity of:	Latitude	Longitude	5990XY	5990XZ	5990YZ
Dixon Entrance					
Chatham Sound	54 30N	130 35W		0.6 nm @ 075°T	
Zayas Island	54 35N	131 10W		0.8 nm @ 085°T	
Cape Chacun	54 40N	132 00W	0.4 nm @ 120°T	1.1 nm @ 085°T	
Masset	54 10N	132 00W	0.7 nm @ 215°T	1.1 nm @ 080°T	
Forrester Island	54 40N	133 30W	0.6 nm @ 145°T	1.2 nm @ 100°T	
Queen Charlotte Islands, West Coast					
Langara Island	54 20N	133 15W	0.7 nm @ 215°T	1.3 nm @ 095°T	
Buck Point	53 10N	133 00W	0.6 nm @ 200°T	0.7 nm @ 090°T	
W of Kunghit I	52 00N	131 30W	0.4 nm @ 180°T	0.6 nm @ 075°T	
Offshore, near the 200 nm limit					
	46 30N	129 00W	0.7 nm @ 065°T	0.7 nm @ 060°T	0.7 nm @ 065°T
	49 00N	133 00W	0.4 nm @ 130°T		
	51 30N	137 00W	0.5 nm @ 160°T	1.8 nm @ 075°T	
	54 00N	137 00W		2.1 nm @ 095°T	

