

The Arctic Coast Guard Forum
VOLUNTARY GUIDELINES
FOR
COMBINED OPERATIONS



Edition I

VER 1.7 Date: 16 JAN 2019

Table of Contents

I.	SUMMARY OF CHANGES.....	5
II.	VOLUNTARY GUIDELINES FOR COMBINED OPERATIONS MANUAL, EDITION 1 ...	6
III.	PREFACE	6
IV.	LAYOUT OF THIS MANUAL	6
V.	TERMS OF REFERENCE.....	7
VI.	Aim.....	7
VII.	Operating principles	7
VIII.	Membership.....	7
IX.	Meeting logistics	7
X.	3. A. ACTUAL OPERATIONS.....	12
XI.	4. A. COMBINED OPERATIONS PLANNING	14
XII.	4. A. 1. COMMAND AND CONTROL	15
XIII.	4. A. 1. 1 SAR COORDINATION.....	15
XIV.	4. A. 1. 2. INCIDENT MANAGEMENT	16
XV.	4. A. 2. INFORMATION SHARING	16
XVI.	4. A. 2. 1. INFORMATION SHARING OBJECTIVES AND CONSIDERATIONS	16
XVII.	4. A. 1. 2 INFORMATION SHARING ARRANGEMENTS	17
XVIII.	4. A. 1. 3 INFORMATION EXCHANGE	17
XIX.	4. B. 1. SEARCH AND RESCUE	20
XX.	4. B. 2. MARINE POLLUTION RESPONSE.....	22
XXI.	4. B. 3. DISASTER RESPONSE / HUMANITARIAN RELIEF	22
XXII.	4. C. OPERATIONAL LESSONS LEARNED	23
XXIII.	5. A. GENERAL RADIO MONITORING REQUIREMENTS	25

Summary of Changes iv

Preface vi

2015 ACGF Terms of Reference vii

1. Purpose of the Voluntary Guidelines for Combined Operations

2. Cooperating Services and Agencies

- 2. A. Canada / Coast Guard
- 2. B. Denmark / Joint Arctic Command
- 2. C. Finland / Border Guard
- 2. D. Iceland / Coast Guard
- 2. E. Norway / Coast Guard
- 2. F. Russia / Border Service of the Federal Security Service of the Russian Federation
- 2. G. Sweden / Coast Guard
- 2. H. United States / Coast Guard

3. Situations for Conducting Combined Operations

- 3. A. Actual Operations
- 3. B. Exercise and Training Operations

4. Combined Operating Procedures

- 4. A. Combined Operations
 - 4. A. 1. Planning
 - 4. A. 1. Command and Control
 - 4. A. 2. Information Sharing
 - 4. A. 3. Maneuvering
 - 4. A. 4. Flight Operations
 - 4. A. 5. Emergency Assistance
 - 4. A. 6. Breakdown
- 4. B. Operating Procedures
 - 4. B. 1. Combined Maritime Search and Rescue Operations
 - 4. B. 2. Combined Maritime Pollution Response Operations
 - 4. B. 3. Combined Disaster Response/Humanitarian Relief Operations

4. C. OPERATIONAL LESSONS LEARNED.

5. Communications

Procedures

- 5. A. General Radio Monitoring Requirements / Interoperability
- 5. B. Hailing Procedures

Annex I SAR responsibilities and organizations by nation

TAB A.	Canadian Coast Guard
TAB B.	Joint Arctic Command
TAB C.	Finnish Border Guard
TAB D.	Icelandic Coast Guard
TAB E.	Norwegian Coast Guard
TAB F.	Border Service of the Federal Security Service of the Russian Federation
TAB G.	Swedish Coast Guard
TAB H.	United States Coast Guard

Annex II Description of SAR capabilities by nation

TAB A.	Canadian Coast Guard
TAB B.	Joint Arctic Command
TAB C.	Finnish Border Guard
TAB D.	Icelandic Coast Guard
TAB E.	Norwegian Coast Guard
TAB F.	Border Service of the Federal Security Service of the Russian Federation
TAB G.	Swedish Coast Guard
TAB H.	United States Coast Guard

Annex III Counter maritime pollution responsibilities and capabilities by nation

TAB A.	Canadian Coast Guard
TAB B.	Joint Arctic Command
TAB C.	Finnish Border Guard
TAB D.	Icelandic Coast Guard
TAB E.	Norwegian Coast Guard
TAB F.	Border Service of the Federal Security Service of the Russian Federation
TAB G.	Swedish Coast Guard
TAB H.	United States Coast Guard

Annex IV: Maritime law enforcement responsibilities and capabilities by nation

TAB A.	Canadian Coast Guard
TAB B.	Joint Arctic Command
TAB C.	Finnish Border Guard
TAB D.	Icelandic Coast Guard
TAB E.	Norwegian Coast Guard
TAB F.	Border Service of the Federal Security Service of the Russian Federation
TAB G.	Swedish Coast Guard
TAB H.	United States Coast Guard

SUMMARY OF CHANGES

Version	Date
1.0	
1.6	12 APR 2017
1.7	16 JAN 2019
2.0	04 APR 2019

VOLUNTARY GUIDELINES FOR COMBINED OPERATIONS MANUAL, EDITION 1

PREFACE

These Voluntary Guidelines for Combined Operations detail an operational doctrine for the coordination, information sharing, communications, and other supportive procedures to be used by cooperating forces of Arctic Coast Guard Forum (ACGF) Members. This document is not legally binding; rather, it is used on a voluntary basis in accordance with member coast guard agencies' domestic legislative systems, policies, authorities, and capabilities.

In order to achieve an ambitious objective to structure a framework for cooperation among our services on issues of common concern in the Arctic region this manual provides a coordinated system for executing combined operations of vessels, aircraft, and shore-based units under the control of designated authorities of two or more cooperating agencies.

LAYOUT OF THIS MANUAL

This manual is identified by edition and date (e.g. Edition 1, April 2016). Sections of this manual remain to be developed and procedures are likely to be refined. Minor revisions, such as an update to operational procedures, or additional communications information, will be incorporated as a partial update (identified as Edition 1, Update 1, and so on). Major revisions, such as the addition of a participating agency or several sections updated at once, may require reissuing the manual (identified as Edition 2, and so on). It is important that units verify that all participating agencies have the current manual on hand prior to commencing planned and unplanned combined operations.

...

TERMS OF REFERENCE

Aim

The Arctic Coast Guard Forum (ACGF) is an independent, informal operationally driven organization, not bound by treaty to foster safe, secure, and environmentally responsible maritime activity in the Arctic.

Operating principles

Membership

Membership is comprised of Canada, Denmark, Finland, Iceland, Sweden, Norway, the Russian Federation, and the United States, hereafter referred to as ACGF Members. Observation/Participation status for other countries will be considered by ACGF Members when requested.

- XXV. National delegations should include delegates to cover the subjects at the meeting and may include other departments, agencies, and representation (for example indigenous peoples) as required to advance the discussions.

Meeting logistics

- XXVI. The Forum meets semi-annually with one Experts Meeting and one Principals Meeting.
- XXVII. The Forum will respect a two-year rotational Chair process that is aligned with the Arctic Council Chairmanship.
- i. The Forum will leverage the work of other fora to achieve its Aim. Participation will be at senior levels to advance strategic objectives and workplans.

STRATEGIC OBJECTIVES

ACGF Members support the establishment of this independent body of maritime services to:

- vii. Strengthen multilateral cooperation and coordination within the Arctic maritime domain, and existing and future multilateral agreements.
 - i. Seek common solutions to maritime issues related to the agencies fulfilling the functions of coast guards within the region.
 - i. Collaborate with the Arctic Council through the sharing of information.
 - i. Facilitate safe and secure maritime activity in the Arctic region, with sustainable development to be promoted as appropriate.
 - i. Contribute to a stable, predictable, and transparent maritime environment.

- i. Build a common operational picture to ensure proper protocols for emergency response coordination, and safe navigation.
- i. Work collaboratively to advance the protection of the marine environment.
- i. Maximize the potential for Arctic maritime activities to positively impact the communities, lives, and culture of Arctic communities including indigenous peoples.
- i. Integrate scientific research in support of Coast Guard operations as appropriate.
- i. Support high standards of operations and sustainable activities in the Arctic through the sharing of information, including best practices and technological solutions to address threats and risks.

RULES OF GOVERNANCE

- xvii. The ACGF will respect national and international frameworks and legislation, as well as the mandates of other organizations (i.e. IMO, IALA) and will focus on Coast Guard functions and activities.
 - i. The Forum will be practical, action-oriented, and operationally driven.
 - i. Forum decisions will be consensus based.
 - i. The Forum will determine its own agenda and workplan and will leverage the work of other fora (e.g., Arctic Council) to advance its objectives and minimize duplication.
 - i. It will serve as a mechanism to reinforce national alignment and provide support to other forums.
 - i. The Forum will support agreements between Arctic States, such as those made under the auspices of the Arctic Council, related to coast guard functions.
 - i. The Forum will consider linkages with other organizations as appropriate.

WORKING GROUPS

- xxiv. The Forum has two permanent working groups to fulfill ACGF objectives:
 - Secretariat
 - Combined Operations
- xxv. The two permanent working groups are allowed to create additional working groups as appropriate.

1. PURPOSE OF THE VOLUNTARY GUIDELINES FOR COMBINED OPERATIONS

These *Voluntary Guidelines for Combined Operations* provide a framework for a coordinated system for executing combined operations of vessels, aircraft, and shore-based units under the control of designated authorities of two or more of the cooperating agencies. Our agencies have had the occasion to work together in response to emerging crises. These ad hoc operations are often difficult to coordinate, fragmented and inefficient. This manual is intended to help coordinate efforts of mutual interest, to conduct combined operations at sea, to preserve the safety of life at sea, to protect marine resources, and to prevent illegal activities throughout the Arctic. The maritime operations covered by this manual generally coincide with subject matter falling under the purview of the currently standing ACGF Working Groups and include:

- Maritime Search and Rescue Operations;
- Disaster Response/Humanitarian Relief Operations; and,
- Maritime Pollution Response Operations.

This manual describes procedures to coordinate activities between and among the various elements employed during operational interactions among two or more parties; these elements include activities:

- Between surface units;
- Between aircraft;
- Between surface units and aircraft; and,
- Between shore-based units and surface units/aircraft.

Additionally, Combined Operations will build mutual confidence in every participant, from junior sailors to senior officers, by:

- Developing *reports* - through personal and direct relationships among the leaders, operations staffs, and field unit commanders;
- *respect* – by consideration of each partners culture, values, religion, customs, and history;
- and *knowledge* of partners – through understanding of the doctrine, capabilities and goals; and,
- with *patience* – effective partnerships take time and attention to develop.

The maritime operations described in these Guidelines should also be conducted in a manner consistent with international law, and existing treaties and agreements. However, nations may have interpretations of international law that differ either subtly or materially from other partners. Remaining cognizant of these national differences and assessing the impact that they have on operations is important during both the planning and execution stages. Since the domestic institutions and policies of each nation; and the authorities of each agency differ, bear in mind that not every agency will conduct all of the operations described in this manual. The applicable operations, when conducted, will be in accordance with that agency's policies. This manual will

be used on a voluntary basis. It is therefore of upmost importance that, in order to best maintain positive, cooperative relationships as ACGF Members, each member agency take actions that both comply with that agency's own policies and the provisions of this manual to the fullest extent possible.

In certain nations, the responsibilities for many of the maritime operations described in this manual are assigned to the national or regional service component (naval - air - land), in accordance with its domestic law. If such is the case, the parties are recommended to consider the opportunity to involve appropriate naval forces in combined operations, and further consider the incorporation of these voluntary guidelines to their operations planning.

While this manual contains guidelines promoting safe, effective and efficient operations, it is not intended to replace the sound judgment of commanding officers based on their on-scene observations. Therefore, Commanding Officers may deviate from this guidance whenever warranted by safety considerations.

Personnel safety shall always be a paramount concern. While a reasonable amount of risk is inherent in maritime operations, steps to minimize risk are essential, and any contemplated actions entailing unusual and/or excessive risk must be carefully reviewed. The safety of personnel on rescue and assistance teams, boarding and inspection teams, and other response teams, when dispatched, must be maintained. Safe seamanship and airmanship is essential to collision avoidance and airspace de-confliction when forces are operating in combination. Ships and aircraft should take all measures to avoid endangering cooperating forces with their maneuvering, weapons, and electronic systems. In addition to reinforcing international flight and navigation rules, such as the International Regulations for Preventing Collisions at Sea (COLREGS), operational planning efforts should identify any additional safety and security measures needed prior to commencing combined operations.

...

2. COOPERATING SERVICES AND AGENCIES

The purpose of this section is to provide a listing of designated authorities having maritime safety and security responsibilities so that they may be contacted by other States in order to share information, cooperate and coordinate responses to maritime incidents and security threats. A point of contact should be designated for communications regarding: Maritime Search and Rescue Operations, Disaster Response/Humanitarian Relief Operations and Maritime Pollution Response Operations.

- 2. A. Canada / Coast Guard
- 2. B. Denmark / Joint Arctic Command
- 2. C. Finland / Border Guard
- 2. D. Iceland / Coast Guard
- 2. E. Norway / Coast Guard
- 2. F. Russia / Border Service of the Federal Security Service of the Russian Federation
- 2. G. Sweden / Coast Guard
- 2. H. United States / Coast Guard

...

3. SITUATIONS FOR CONDUCTING COMBINED OPERATIONS

3. A. ACTUAL OPERATIONS

To the extent allowed by each agency's national legislation(s) and subject to the situation at hand, the participating agencies performing coast guard functions may develop and exchange ship and aircraft patrol schedules to support combined operations. If allowed, the general operating area assigned (ship) and staging/deployment location (aircraft), along with the patrol period will be provided. Additional details such as unit type and name/number, capability/communications limitations, and availability for personnel exchange is useful information.

There may be situations where combined operations occur as the result of an unexpected incident or event. In order to maximize safety, protocols for interactions between vessels and aircraft of different nation's agencies should not differ between these ad-hoc encounters at sea and deliberately planned operations. Therefore, specific procedures documented in the remainder of this manual do not delineate between "planned" and "unplanned" operations.

Examples of unexpected incidents involving combined operations:

- Multi-unit search and rescue operations that involve vessels in distress in a participating state's search and rescue area of responsibility. Large-scale events (e.g. cruise ship or airliner) or wide-area searches often require a combined effort. The search and rescue guidance in this manual will remain consistent with established international procedures.
- Similarly, a natural or man-made disaster often requires the assistance of all available resources that can be brought to the scene to respond. In many cases, these responses will follow agreed-upon international procedures. Where such procedures are not established, practiced interoperability can assure the best possible response.
- A large marine environmental response may tax a single agency's resources. Participating agencies may bring expertise or capability to a combined response effort.

In these events, if a ship or aircraft of the agency of a participating nation is in the area of concern, appropriate means of contact should be made in order to obtain additional information and seek assistance if necessary.

Ships from participating nations, when encountering each other at sea and not able to communicate otherwise, should refer to the International Code of Signals (IMO IA994E).

In addition to training evolutions and exercises, actual operations should be planned to combine units from participating agencies to accomplish mutual goals. Whenever possible, member agencies should exchange officers, rated specialists, and observers for mutual understanding of

procedures and practices.

3. B. EXERCISE AND TRAINING OPERATIONS

Exercises should be conducted to validate contingency plans, test, and improve interoperability of the units from participating agencies. Exercises could be a simple ship passing exercise or work up to a multi-task, realistic exercise with several participating agencies. Equally important are command post (or table-top) exercises that involve commanders and their staffs and provide an economic method of testing command structures and gauge interoperability. Where possible, agencies should be invited to observe relevant exercises of a single agency. Formal training on-site and at host country training centers should be offered in accordance with applicable national guidelines and other existing processes, as appropriate.

The following factors may have an impact on exercise and training operations:

- Differences in national interests, objectives and policies;
- Availability and ability to deploy forces;
- Access to ports and airfields near exercise area; and,
- Status of forces agreements, if applicable.

Proposed exercises and training should be discussed during annual meetings among participating agencies.

Measures of effectiveness (MOE) are used to estimate the success of exercises and training. Exercise planning should identify MOE for tasks to be done. The primary MOE in maritime exercises is the probability of success in actual operations. Typical MOE are:

- SAR Exercise – time to accomplish proper search planning, correct search assets assigned, time to detect search object, time to accomplish recovery, proper reporting.
- Disaster Relief/Humanitarian Assistance Exercise – establishment of Command and Control (C2)/liaison, local needs properly determined, correct forces assigned, persons assisted/fed, infrastructure restored.
- Oil Response – establishment of Command and Control (C2)/liaison, local needs properly determined, correct resources assigned, spill quantity and oil tracking and environment restored.

...

4. COMBINED OPERATING PROCEDURES

4. A. COMBINED OPERATIONS PLANNING

Combined Operations Plans should include expected outcomes, areas of operation, deployment plans, risks and mitigations measures, bathymetric information, expected actions and manoeuvres, and ice and weather forecast.

The following factors may have significant impact on the tempo and effectiveness of planning and operations:

- Differences in national interests, objectives and policies
- The availability of forces influenced by concurrent operational commitments
- The ability of forces to deploy to the area of combined operations
- Access to airfields and seaports adjacent to area of combined operations
- Logistical support and sustainability issues
- Command, Control, Communications, [Computers, and Information Technology (C4IT)] systems interoperability and connectivity to allow for effective command and control
- Hydrometeorological conditions
- The availability of reliable bathymetric information

All planned operations (actual and training) should be initiated during annual meetings of participating agencies, subject to each nation's operational priorities (i.e., significant incident or emergency where planning may have to be conducted on-site). These operations should focus on improving interoperability between units as well as accomplishing mutual goals. General Concepts of Operation (CONOPS) should be prepared, fully understood and agreed to as early as possible. Combined Operations Plans (OPLAN) should be mutually developed prior to unit deployments. The appropriate operational commander(s) should issue detailed Combined Operations Orders (OPORD) to participating units prior to commencing combined operations.

Combined Operations Plans should be kept simple and focused on clearly defined objectives. Differences in language, equipment, capabilities, doctrine and procedures are some of the interoperability challenges that must be overcome. Operational task rehearsals/interoperability exercises should be conducted immediately upon commencing combined operations. Any unit that needs to depart or withdraw from the Plan should notify the others parties in order to avoid a dangerous situation.

Combined Operations Plans will include, at a minimum:

- Mission description and operating area;
- Mission priorities and limitations;
- Participating units (name, type, callsigns);
- Intelligence estimate/Information regarding the operating area;

- Command and control (C2) structure;
- Communications plans and reporting requirements;
- Personnel exchange and interpreter information; and,
- Ship, aircraft, weapons, and personnel safety and security measures.

4. A. 1. COMMAND AND CONTROL

Command and Control (C2) is the exercise of authority and direction by a properly designated commander over assigned and attached resources in the accomplishment of a mission. C2 functions are performed through an arrangement of personnel, equipment communications and procedures employed by a commander in planning and directing operations. C2 is both the process and the system used to decide what must be done and how these decisions are carried out. “Command” and “control,” while related, are not always synonymous.

All planned operations must have an agreed upon form of C2 at the outset in order to achieve a unity of effort from the outset. Shore commanders and subordinates must understand the extent of their authority granted in their command relationship. Normally operational command of participating agency units will remain with that agency. The administrative and logistics responsibilities usually will not change. Units from participating agencies will not be accustomed to working together. Establishing and testing these command relationships and operating procedures will be challenging. Complex issues remain to be resolved, and if necessary, integration of shore staff liaisons should be considered. Liaison officers, whether during exercises or actual operations, improve the flow of information and act as bridges between national authorities. All units from participating agencies involved in unplanned events shall follow the parallel command structure for these combined operations until planning is done to determine and direct a different structure to follow.

4. A. 1. 1 SAR COORDINATION

The SAR system has three general levels of coordination:

1. SAR coordinators (SCs) (National level):
 - SCs are the top level SAR managers. Each State normally will have one or more persons or agencies for whom this designation may be appropriate.
2. SAR Mission coordinators (SMCs) (Rescue coordination Centers)
 - Each SAR operation is carried out under the guidance of a SMC. This function exists only for the duration of a specific SAR incident and is normally performed by the RCC chief or a designee. The SMC may have assisting staff.
 - The SMC guides a SAR operation until a rescue has been effected or it becomes apparent that further efforts would be of no avail.
3. On-Scene Coordinator (OSC)
 - When two or more SAR resources are working together on the same mission, one person on scene may be needed to coordinate the activities of all participating resources.

- The SMC designates an OSC.

4. A. 1. 2. INCIDENT MANAGEMENT

Unified Command: Incident management is performed by representatives of several agencies when there is more than one agency with incident jurisdiction or when incidents cross political jurisdictions. Agencies work together through the designated members of the Unified Command, often the senior person from agencies and/or disciplines participating in the Unified Command, to establish a common set of objectives and strategies, a single Incident Action Plan, assuring a consistent response plan is developed and deployed and all actions are performed in a safe, well-coordinated manner.

4. A. 2. INFORMATION SHARING

Information sharing is intended for identifying and initiating timely response measures to threats. Information sharing is important to successfully leading a combined operation. Participants in such operations must be empowered to share appropriate and relevant information to efficiently carry out the tasks. Empowering information exchange should occur at national, regional and tactical levels. Agencies are responsible to provide points of contact to manage situation at-hand and establish clear communication channels during combined operations.

4. A. 2. 1. INFORMATION SHARING OBJECTIVES AND CONSIDERATIONS

ACGF Members:

- Acknowledge the unique nature of the maritime environment and limits of national authorities and response capabilities;
- Take into account the often short-notice and ambiguous information associated with:
 - maritime reporting and the deliberative decision-making process required when planning for and responding to significant maritime threats, risks, or events; and,
 - the possible strategic intersection of national-level response efforts.
- Intend to enhance the exchange of information among the ACGF members complementary to the existing whole-of-government national-level coordination mechanisms that exist in their countries;
- Intend to promote their respective domestic communications and information exchange networks to support timely maritime response efforts;
- Seek to complement, rather than supplant, established coordination and information-sharing mechanisms or national command authorities; and,
- Do not intend to impede the carrying out of activities or authority of the ACGF members.

The ACGF members understand that emergent risks or event information sharing as articulated in this document seeks to facilitate information exchange among national-level coordination mechanisms in responding to maritime threats or events. This is intended to leverage information and expertise among the ACGF members and those involved in the response spectrum. No member is required or compelled to the dissemination of information. This process guide is intended to

serve as an enabler to bring together the right people at the right time to exchange event response information when:

- A significant maritime threat, risk, or event exists that could affect more than one ACGF member;
- A maritime threat, risk, or event response is anticipated that could involve more than one ACGF member;
- Action by one ACGF member in the response to a maritime event could affect the national-level public affairs or strategic communications of more than one ACGF member; or,
- There is ambiguity regarding the scope and extent of a maritime threat, risk, or event that could have significant national-level implications for more than one ACGF member.

4. A. 1. 2 INFORMATION SHARING ARRANGEMENTS

Each ACGF member intends to maintain national-level coordination mechanisms that seek to ensure collective and unified (whole-of-government) response efforts across its departments and agencies. ACGF members' national-level coordination mechanisms are listed in Section 2 of this process guide.

4. A. 1. 3 INFORMATION EXCHANGE

Information exchange and communication under this process guide may occur in person, via e-mail, via telephone, or in a videoconference. ACGF members intend to develop, as appropriate, Standard Operating Procedures (SOPs) to support the administration and activities under this process guide. Information concerning an event to be shared may include, but is not limited to, the following: discussion of facts, existing cross-border coordination mechanisms, identified lead agencies, desired operational or other outcomes, and anticipated timelines.

This process guide contemplates the exchange of the following information:

- An overview, including a brief statement of the threat, risk, or event;
- Amplifying facts or assessments of the reliability of information presented;
- The lead agency and other agencies involved from the ACGF members' government;
- The scope of the ACGF members mandates and authorities; desired national outcomes and authorities to achieve desired operational and other (including national) outcomes (e.g., desired outcomes could include, among others, nullifying a threat, conducting an interdiction, seizing cargo, conducting a right of visit, administrative action, denying access, protecting freedom of navigation and overflight, coordinated tracking, or a criminal prosecution);
- Precedents and prior experiences; issues related to disposition of crew, cargo, and

vessel;

- Issues related to public affairs, strategic communications, or public outreach;
- Follow-up actions, if any, that have occurred; and
- A summary of the threat/ event/incident/interdiction, as appropriate.

4. A. 3. MANEUVERING

Safe navigation and good seamanship within the combined maritime operation requires vigilance on the part of Commanding Officers and bridge watch crews, especially when operating in company, whether for exercises or for actual operations. The International Regulations for Preventing Collisions At Sea (COLREGS) should prevail. Commanding Officers, Masters, and Aircraft Commanders need to consider the potential ramifications before engaging in any actions which could be misinterpreted.

In Arctic waters, the presence of sea ice or glacial ice can be expected at any time. Commanding Officers should use every means available to forecast and detect ice including satellite imagery, ice charts and predictions, physical phenomena, ice patrol and lookouts. Commanding Officers should keep in mind that a vessel in company may not be able to follow its intended route or act according to COLREGS due to the presence of ice. In addition, sea ice often brings poor visibility. Extreme caution should then be used and ultimately could result in the Combined Operation being suspended.

Furthermore, in Arctic waters good information on bathymetry is often lacking or totally absent. The Combined Operations may require entering into such waters. In establishing the Plan, nautical charts and pilot books should be consulted and studied carefully. The vessel designated for such a task should be chosen due to its characteristics (draft, maneuvering capability, type of hull etc.) and for the expertise and local knowledge of its Commanding Officer and bridge crew.

The unit of distance for the application of the Combined Operations Manual is the nautical mile (one nautical mile is 2,000 yards, or 1,852 meters). Speed and distance between ships will be decided by on-scene Commanding Officers according to the conditions encountered. A good lookout must always be kept, including astern. Awareness of the actions of the other vessels is paramount. All vessels in company should be monitored by all means available, including visual bearings, and considered pertinent by the Commanding Officer. Actions to avoid collision must be positive, made with ample time and in observance of good seamanship.

Situations should be resolved quickly to avoid any confusion when uncertainty develops among ships in company. Special procedures for maritime operations such as towing and replenishment at sea will normally be pre-briefed and agreed upon by involved participants. Personnel transfer and boarding operations are typically accomplished by small boat or helicopter.

4. A. 4. FLIGHT OPERATIONS

Aircraft control units will be responsible for establishing flight separation parameters. All participating units prior to flight operations must agree to these parameters. During combined

operations, units will normally have different areas of responsibility, so a minimum horizontal separation will suffice. However, procedures must account for detection ranges, contact identification, target pursuit, and search and rescue situations that may draw an aircraft away from its assigned patrol area.

Aircraft Commanders need to consider the potential ramifications before engaging in any actions which could be misinterpreted.

For search and rescue operations, particularly those involving fixed wing and rotary aircraft, the most effective searches may involve overlapping areas of responsibility. Minimum vertical separation parameters must be established. If more than one unit has aircraft control capability, the on-scene commander will assume aircraft control for all aircraft, unless there is a specific and acknowledged agreement made between unit Commanding Officers to the contrary. It is not anticipated that helicopters will land on flight deck equipped ships of participating agencies, except in extreme emergency situations.

Many factors must be taken into account before dispatching an aerial unit to a scene call. Weather is critical; Arctic areas have limited accuracy aviation weather forecasting. Icing conditions such as ice fog, freezing rain and ice crystals are prevalent and can limit the ability to maintain safe flight and/or search or detection.

In the Arctic region, survival equipment such as cold water immersion suits, survival rafts, firearms (wildlife encounter) and personal locator beacons must be clearly defined in an agency's policy.

The time of year is also critical. Areas of higher latitude areas might benefit from almost 24 hours of sunlight during the summer but will be in almost total darkness in the winter. Aircraft certified for night search may have to be used.

Fuel planning is critical. Very few fuel resources exist in the Arctic, therefore long transit times lowers the time available to loiter over a scene or search area.

International standard (ICAO) VHF aviation frequencies should be used to communicate between aircraft, to pass information and avoid mishaps by resolving air traffic issues. Not every aerial unit is equipped with marine / Coast Guard frequencies.

Airplane units will be more effective at long range day/night/instruments missions and long search patterns. Helicopter units will have lower range and be most useful in smaller search pattern with local aerial work capacity (hoist, sling, torching, ice landing).

If an aircraft is equipped with a fixed code transponder code or AIS it should be communicated to other surrounding unit for easier identification.

4. B. COMBINED OPERATING PROCEDURES

4. B. 1. SEARCH AND RESCUE

The International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) jointly developed the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual to foster co-operation between themselves, between neighboring States, and between aeronautical and maritime authorities. The goal of the IAMSAR Manual is to assist State authorities to economically establish effective SAR services, to promote harmonization of aeronautical and maritime SAR services, and to ensure that persons in distress will be assisted without regard to their locations, nationality, or circumstances. This comprehensive, three volume manual provides guidelines for a common aviation and maritime approach to organizing and providing SAR services through the use of standardized terminology and SAR coordination.

The purpose of the Voluntary Guidelines for Combined Operations is to advance that effort to an even greater degree within the Arctic.

The participating ACGF Members will operate their Civil SAR systems in accordance with the IAMSAR Manual, and will strive to set a standard of excellence within the Global SAR system for State to State co-operation. The ACGF reaffirms the longstanding commitment that SAR resources available to one nation will be shared with all nations. Ideally, this co-operation would take the form of:

- Shared Ship Reporting System information for SAR purposes
- Shared computer resources such as Computer Assisted Search Planning, upon request
- Shared database information for SAR
- Facilitate communications
- SAR aircraft and ships of one nation assisting a SAR effort in a neighboring Search & Rescue Region

In addition, the participating agencies will seek opportunities to provide SAR training course quotas to Coordinators from other members, visits to SAR facilities, as well as on-the-job Coordinator professional exchanges, and bi-lateral or multi-lateral SAR exercises. When a Rescue Coordination Center (RCC) receives information indicating a distress outside of its SRR, it should immediately notify the appropriate RCC and then take all necessary action to coordinate the response until the appropriate RCC has assumed responsibility. Participating agencies will undertake to advise neighbor RCCs on SAR incidents of common interest, especially those cases that could potentially involve another agency. When SAR operations occur along boundary lines separating SRRs, affected RCCs, through mutual consultation, shall decide which RCC will have responsibility. If the distressed craft drifts from one SSR to another SRR, the coordination shall remain with the original RCC. Both RCCs shall identify potential SAR units, including locations and capabilities; provide a description of available air fields and fueling facilities, and any medical facilities within their SRR.

An On-Scene Coordinator (OSC) will be appointed by the SAR Mission Coordinator (SMC). If this is impractical, then the OSC should be assigned by mutual agreement among the participants considering using the following factors:

- First unit on-scene

If the first unit on-scene can be replaced by another more capable unit, the following factors will be considered in transferring the OSC role:

- Capability and expertise to carry out the OSC role for an extended duration
- Capability to carry out the OSC role in ice-infested waters (icebreaking capability), in the prevailing ice conditions
- As agreed to by units on-scene (normally because of unit limitations such as communication capabilities)
- Unit requesting emergency assistance (unless the nature of the emergency prohibits)

When an appropriate RCC is involved, the OSC shall be responsible for:

- Assist in the development of the search plan while providing the RCC with enhanced situational awareness
- Execution the search plan at the direction of the RCC
- Deviating from the plan based on actual on-scene conditions and informing the RCC of all deviations
- Periodic reporting to the RCC (SITREPs)
 - Progression of search
 - Weather and ice conditions
 - Submission all relevant information on survivors and missing persons
 - Number of survivors, names, and medical assistance required
 - Repatriation of survivors on participating vessels
 - Logistical assistance required

If for some reason the operation is not being conducted by a RCC, the OSC will assume responsibility for the fulfilling the following:

- Determining the probable location of the object of the search (datum) and the possible limits of error in its position and the search area
- Organization of the search participants in a safe manner and assigning search patterns for the search units or their group
- Designating appropriate units to affect the rescue when the object of the search is located
- Releasing search units when they are no longer needed
- Coordinating on-scene communications
- Making arrangements for the separation for safety purposes of units engaged in the

search

- Maintaining records of the operation
- Reporting number and names of survivors to the operational commander.

Standard search pattern diagrams for ships and aircraft are contained in Chapter 5 of Volume II of the IAMSAR Manual. Participating unit Commanding Officers should make every attempt to comply with the On-Scene Coordinator's recommendations. However, Commanding Officers must maintain the safety of their crew as the highest priority.

See Annex I for SAR contact information by nation.

4. B. 2. MARINE POLLUTION RESPONSE

The responsibility for responding to a marine pollution event is generally placed on the polluter, under the appropriate coastal state. However, cooperation on marine pollution preparedness and response can ensure the effective employment of available personnel and facilities in the event of an incident where the polluter is not known, or in large spills beyond the response capability of one country or have the potential to impact on more than one country. The national and regional stockpiles of response equipment as well as persons with expertise in mitigation and countermeasures of pollution incidents in the regional oil industry and marine spill response organizations can be called upon on an as-available, not-to-interfere, and cost-reimbursable basis. In addition, providing marine pollution response assistance may be in a participating agency's interest as a training opportunity to maintain or enhance experience levels and response posture for major pollution incidents.

The 1990 International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC) was adopted to facilitate mutual assistance in preparing for and responding to a major oil pollution incident. The OPRC Oil Pollution Manual was also developed to provide a guide for government actions. The manual includes sections on combating oil spills and the administration of oil pollution response. The participating agencies should be familiar with the OPRC Oil Pollution Manual. Although detailed operational guidance is not provided, familiarity with this manual will improve the coordination of operations. Marine pollution operations often require unique capabilities, such as oil skimming and aerial dispersants; however, they rely on forces operating under command and control responsibilities similar to most maritime operations.

4. B. 3. DISASTER RESPONSE / HUMANITARIAN RELIEF

Natural and/or man-made marine disasters have recently inflicted enormous damage on human society across the globe. Although the Arctic has been mostly spared, the increase in human activity in the region could result in severe consequences if a major event occurs.

By the nature of our Services and our presence in the Arctic, we are bound to participate in disaster response and humanitarian assistance operations. For the purposes of these Guidelines, the scenarios envisioned in this section are limited to assistance to a shore community.

Responding to maritime related emergencies in any capacity (i.e., assets, manpower, relief supplies and aid) involves preparation and a shared cooperation amongst the Forum nations to provide this assistance with as minimal additional workload imposed on the affected nation as possible. Therefore, it is incumbent upon the parties to develop and implement efficient and effective ways of preparing, exercising, and responding to those disasters before they happen.

Often the presence of a self-contained ship, manned by disciplined and technically trained personnel can have a very significant impact on the response to a natural disaster. Maritime forces are well suited to support humanitarian aid to efforts that relieve or reduce suffering, loss of life, and damage to property caused by man-made or natural disasters. In particular, they can provide short-notice readiness, flexibility, and mobility to respond to a disaster. In the Arctic, assistance can be provided in the following areas:

- Evaluation of the severity of the situation;
- Shelter and/or evacuation;
- Food and medical assistance and supplies;
- Provision for a limited amount of water and power;
- Communications capability;
- Labor and technical assistance to restore infrastructure; and,
- Transportation of relief supplies/stores.

A natural disaster may affect the approaches or harbor conditions. Navigational aids may be off-station or missing. Shipwrecks or damaged vessels may encumber the channels and wharfs. Proceed into a disaster-affected area with caution. Consider sending a ship's small boat or launch ahead to sound and sight obstacles. A helicopter may also be used to obtain a more general situational awareness.

ARRIVAL PHASE: Depending on foreknowledge of the situation, it may be necessary for the unit that is designated as On-Scene Coordinator to go ashore to collect information. Always include medical personnel on initial shore parties to provide emergency assistance. Locate the person in charge and through that person, assess priorities for support. Assess the level and duration of assistance required. Evaluate available resources and capabilities (marine and land), and provide an initial assessment to the operational commander and request additional support, as needed.

ASSISTANCE PHASE: Assign tasks with participating units based on priorities. Manage workload to ensure crews remain effective and safe. Be alert for the development of dangerous situations, with the most common being exposure to the harsh environment. Continue reports to the operational commander, including relaying requests for follow-up support.

4. C. OPERATIONAL LESSONS LEARNED

To maintain and improve the effectiveness of combined maritime operations, lessons learned from each operation should be recorded as they occur, and incorporated in future operations. Immediately following any planned or unplanned operation, including exercises,

involving the participating agencies, a debriefing will take place aboard one of the participating units, if possible. Participants should include:

- Ships' command representative;
- Exchange officers;
- Liaison officers/interpreters; and,
- Aircraft commanders (when participating).

Commanding Officers should evaluate these lessons learned, and provide any recommendation for changes to this manual to their operational commander. The ACGF Chair will remain the coordinating agency for the Combined Operations Manual and if changes are agreed upon, procedures for revision will be implemented.

...

5. COMMUNICATIONS PROCEDURES

5. A. GENERAL RADIO MONITORING REQUIREMENTS

Communications will be a key to the success of any combined maritime operation. Language differences present the most immediate challenge. Information lost during translations can be significant and misunderstanding and miscommunications can have serious effects. For planned operations, every effort will be made to specify a language to be used, or otherwise ensure interpreters are deployed on participating units. In the absence of interpreters (most likely to occur during unplanned operations), the International Code of Signals, supplemented by the combined operations brevity codes listed in Annex II will be used for communications between units. Voice and visual communications will normally be used. All vessels and aircraft participating in planned operations, and those listed on patrol schedules shall monitor, at minimum, the radiotelephone hailing frequencies listed in this chapter. For unplanned events, vessels and aircraft will monitor these frequencies when combining for operations.

5. B. HAILING PROCEDURES.

A vessel's International Radio Call Sign (IRCS) will be used when establishing and maintaining radio communications. An aircraft's tail number will be used similarly. When the identity is not yet known, a hail using simply the nationality and "ship" or "aircraft" will be used. Other previously agreed upon call signs may be used during combined operations and exercises.

...