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**ADOPTION OF AMENDMENTS TO THE INTERNATIONAL
AERONAUTICAL AND MARITIME SEARCH
AND RESCUE (IAMSAR) MANUAL**

1 The Maritime Safety Committee (MSC), at its eightieth session, (11 to 20 May 2005), having been informed that the International Civil Aviation Organization (ICAO) had approved the amendments to the IAMSAR Manual prepared by the Joint ICAO/IMO Working Group on Harmonization of Aeronautical and Maritime Search and Rescue, and that they had been endorsed by the Sub-Committee on Radiocommunications and Search and Rescue (COMSAR) at its ninth session (7 to 11 February 2005), adopted the annexed amendments in accordance with the procedure laid down in resolution A.894(21).

2 The Committee decided that the amendments should enter into force on 1 June 2006.

4 Chapter 6

- Insert new paragraph 6.5 as follows:

“6.5 Mass Rescue Operations

- 6.5.1** A mass rescue operation (MRO) is one that involves a need for immediate assistance to large numbers of persons in distress such that capabilities normally available to SAR authorities are inadequate.
- 6.5.2** MROs are required less frequently than typical rescue efforts, but have high potential consequences. Flooding, earthquakes, terrorism, and large passenger aircraft or ship disasters are examples of scenarios that may involve the need for MROs. Extensive preparations and resources are required to conduct MROs successfully.
- 6.5.3** Such incidents might involve hundreds or thousands of persons in distress in remote and hostile environments. A large passenger ship collision, for example, could call for rescue of thousands of passengers and crew in poor weather and sea conditions, with many of the survivors having little ability to help themselves. Preparedness to mount a large and rapid response would be critical to preventing large-scale loss of lives.
- 6.5.4** MRO plans and exercises are challenging and relatively complex. Effective arrangements for use of national and often international resources beyond those normally used for SAR are essential. Preparations require substantial commitments and partnerships among SAR authorities, regulatory authorities, transportation companies, sources of military and commercial assistance and others.
- 6.5.5** MROs often need to be carried out and co-ordinated within a broader emergency response context that may involve hazards mitigation, damage control and salvage operations, pollution control, complex traffic management, large-scale logistics, medical and coroner functions, accident-incident investigation, and intense public and political attention, etc. Efforts must often start immediately at an intense level and be sustainable for days or weeks.
- 6.5.6** SAR authorities should co-ordinate MRO plans with companies that operate aircraft and ships designed to carry large numbers of persons. Such companies should share in preparations to prevent MROs and to help ensure success if they become necessary.
- 6.5.7** What the media reports may matter more than what SAR services do for shaping of public opinion about MROs. There should be no unwarranted delays in providing information to the media. Information must be readily available, and freely exchanged among emergency service providers and shipping, airline or other primary companies involved.

- 6.5.8** Since opportunities to handle actual incidents involving mass rescues are rare and challenging, exercising MRO plans is particularly important.”

SECTION 2

PROPOSED AMENDMENTS TO THE IAMSAR MANUAL – VOLUME II

1 Abbreviations and Acronyms

- Insert the new lines as follows:
“MRO Mass rescue operation
NATO North Atlantic Treaty Organization
SUBSAR Submarine search and rescue”

2 Glossary

- Replace the present definition of Aircraft co-ordinator (ACO) by “A person or team who co-ordinates the involvement of multiple aircraft SAR operations in support of the SAR mission co-ordinator and on-scene co-ordinator”
- Insert the new line as follows:
“Mass Rescue Operation (MRO) - search and rescue services characterized by the need for immediate response to large numbers of persons in distress, such that the capabilities normally available to search and rescue authorities are inadequate”

3 Chapter 1

- Insert a new paragraph **1.8.11** as follows, and renumber the remaining paragraphs in section **1.8**:
“**1.8.11** Additional information on planning and conducting exercises is provided in Chapter 6 with regard to mass rescue operations.”
- Insert a new sentence following the first sentence of **1.10.5** as follows:
“... many nationalities. Such an incident may result in the need for mass rescue operations (MROs), which are discussed in Chapter 6. In this case, ...”
- Insert an additional paragraph **1.10.8** as follows:
“**1.10.8** Additional information on planning and public and media relations is provided in Chapter 6 with regard to mass rescue operations.”

- Insert an additional paragraph **1.12.2** as follows:

“**1.12.2** Additional information on incident management on ICS is provided in Chapter 6 with regard to mass rescue operations.”

4 Chapter 2

- Insert new paragraph **2.32** as follows:

“2.32 Radio call signs for aircraft involved in a search and rescue operation

2.32.1 A prefix call sign makes the task/function of a specific aircraft easier to be understood by other aircraft and participating units in the same area.

2.32.2 The prefix call sign can also give the aircraft priority in some situations.

2.32.3 State authority responsible for air regulation shall arrange that use of prefix call sign will coincide with other national air regulations.

2.32.4 During search and rescue missions and exercises it is recommended that the following prefix call signs be used before the ordinary radio call sign or as a specific mission call sign.

“RESCUE” for all airborne units involved in a rescue mission

“AIR CO-ORDINATOR” for the aircraft co-ordinator (ACO)

“SAREX” for all airborne units involved in international/national exercises”

5 Chapter 6

- Delete present section 6.14 and insert the following new sections as 6.14 and 6.15 and renumber sections 6.15, 6.16, 6.17 and 6.18.

“6.14 Underwater search and rescue

6.14.1 Many different underwater operations occur within SRRs, such as diving operations or the operation of military or civilian submarines. When accidents occur, survivors may be either on the surface or entrapped in a submarine resting on the seabed. Military submarines trapped under the surface may use international distress signals or specific military pyrotechnics, dye markers or beacons. In addition, submarines may pump out fuel, lubricating oil or release air bubbles to indicate their position.

6.14.2 Submarine SAR, (SUBSAR), is a highly specialized and time-critical activity reliant on specific capabilities and training. Medical care requirements for survivors of a submarine accident may also be specialized.

- 6.14.3** Military submarine-operating States have developed standard SUBSAR procedures, capabilities and training, generally under sponsorship of the North Atlantic Treaty Organization (NATO) for the recovery and care of submarine accidents. RCCs may request support of these resources should the need arise. Relevant information may be obtained from the NATO International Submarine Escape and Rescue Liaison Office.
- 6.14.4** RCCs should be aware if specialized navy or commercial recovery or treatment facilities (such as the ones with decompression chambers) exist within or near their SRRs and arrange in advance for their use at any time on a 24-hour basis. Similarly, RCCs should liaise with the military to determine mutual assistance that could be provided in the event of military submarine accidents.
- 6.14.5** Most SAR personnel are poorly prepared to understand or handle medical problems peculiar to underwater activities, such as decompression sickness, air embolism, and nitrogen narcosis. However, they should be trained to recognize the symptoms and know how to obtain competent medical advice. They should also be trained in handling and transporting victims of such problems without worsening their situations. If possible to aid in the treatment of the victim, SAR personnel should obtain information such as time underwater, depth, time at the surface, time of the onset of symptoms, and the symptoms currently being experienced.
- 6.14.6** Medical advice should be sought before air transport of submarine accident victims.”

“6.15 Mass Rescue Operations

MRO Overview

- 6.15.1** A mass rescue operation (MRO) is one that involves a need for immediate assistance to large numbers of persons in distress such that capabilities normally available to SAR authorities are inadequate.
- 6.15.2** MROs are relatively rare low-probability high-consequence events compared to normal SAR operations, but major incidents leading to the need for MROs have not been infrequent on a world-wide basis, and can occur anywhere at any time. The nature of such operations may be poorly understood due to limited chances to gain experience with major incidents involving MROs.
- 6.15.3** Flooding, earthquakes, terrorism, casualties in the offshore oil industry and accidents involving releases of hazardous materials are examples which, because of their magnitude, may require the application of the same resources as required for mass maritime or aeronautical rescue operations.
- 6.15.4** The sequence of priority in major multi-mission incidents must be lifesaving first, generally followed by environmental protection, and then protection of property. Moral and legal obligations and public and political expectations require preparedness to carry out MROs safely and effectively should they

become necessary. Since the need for MROs is relatively rare, it is difficult to gain practical experience to help deal with them. Types of potential MRO scenarios vary, but there are certain general principles that can be followed based on lessons of history.

6.15.5 Effective response to such major incidents requires immediate, well-planned and closely co-ordinated large-scale actions and use of resources from multiple organizations. The following are typical MRO demands:

- intense and sustained high priority lifesaving efforts may need to be carried out at the same time and place as major efforts to save the environment and property;
- huge amounts of information need to be readily available at the right times and places to support the response efforts and meet the needs of the media, public and families of the persons in distress, which may number in the hundreds or thousands;
- many means of communications need to be available and interlinked amongst organizations at various levels to handle huge amounts of information reliably for the duration of the response;
- a surge in the numbers of competent staffing in all key organizations must be made available immediately and be sustainable for up to weeks at a time;
- equipment and logistics demands jump to unprecedented levels; and
- successful MROs depend on the advance provision of flexible and all-level contingency plans. Intense integrated planning and operational efforts must also be carried out in real time throughout actual rescue efforts.

6.15.6 All involved in the overall multi-agency, multi-jurisdiction, multi-mission and possibly international response to major incidents must clearly understand who is in charge, the respective roles of all involved, and how to interact with each other. SAR authorities may be responsible for all or part of the MRO functions, and must be able to co-ordinate their efforts seamlessly with other responders under the overall direction of another authority within or outside their agency.

6.15.7 The broader response environment may involve activities such as:

- hazards mitigation;
- damage control and salvage operations;
- pollution control;
- complex traffic management;
- large-scale logistics efforts;
- medical and coroner functions;
- accident-incident investigation; and
- intense public and political attention.

6.15.8 MRO plans need to be part of and compatible with overall response plans for major incidents. Plans must typically allow for command, control and communications structures that can accommodate simultaneous air, sea and land operations.

- 6.15.9** The consequences of poor preparations for MROs in terms of loss of life and other adverse results may be disastrous. Major incidents may involve hundreds or thousands of persons in distress in remote and hostile environments. A large passenger ship collision, a downed aircraft, or a terrorist incident could, for example, call for the immediate rescue of large numbers of passengers and crew in poor environmental conditions, with many of the survivors having little ability to help themselves.
- 6.15.10** Preparedness to mount an extraordinarily large and rapid response is critical to preventing large-scale loss of lives. Such preparedness often depends on strong and visionary leadership and unusual levels of co-operation to achieve.
- 6.15.11** There will often be resistance to paying the high price in terms of time, effort and funding that preparedness for major incidents entails, particularly as they are rare events. The required levels of co-operation, co-ordination, planning, resources and exercises required for preparedness are challenging and do not happen without the requisite commitment of SAR authorities, regulatory authorities, transportation companies, sources of military and commercial assistance and others.
- 6.15.12** MRO planning, preparations and exercises are essential since opportunities to handle actual incidents involving mass rescues are rare. Therefore the exercising of MRO plans is particularly important.
- 6.15.13** Appendix C provides guidance on MRO exercise planning.

General guidance for MROs

- 6.15.14** For a situation involving large numbers or persons in distress, on-scene responsibilities for the safety of passengers and crew will be shared by the OSC and the craft's pilot-in-command or master, with the pilot or master assuming as much of this responsibility as possible before or after the aircraft or ship is abandoned.
- 6.15.15** Pilots and masters are responsible for manoeuvring the aircraft or ship as feasible and appropriate and also have overall responsibility for safety, medical care, communications, fire and damage control, maintaining order and providing general direction.
- 6.15.16** Unless a ship appears to be in imminent danger of sinking, it is usually advisable for passengers and crew to remain on board as long as it is safe to do so.
- 6.15.17** In the case of a downed aircraft, whether passengers would be safer on board should be assessed for each situation. Usually they should promptly evacuate the aircraft at sea. On land, this decision must take into account the conditions of the aircraft and the environment, expected time to rescue survivors or repair the aircraft, and whether required passenger care can be best provided inside the aircraft.

- 6.15.18** The OSC will normally be designated by an SMC. An OSC may be able to handle certain communications on scene and with appropriate remote authorities to help free the pilot or master to retain the integrity of his or her craft. However, these persons are themselves in need of assistance, and anything the OSC can do to help them should be considered, bearing in mind that the OSC's main duty is co-ordinating SAR facilities and rescue efforts under the SMC's general direction.
- 6.15.19** Unnecessary communications with the master of a ship or pilot in command of an aircraft in distress must be minimized, and this should be taken into account in advance planning.
- 6.15.20** Exchanges of information during joint planning by use of SAR Plans of Co-operation for passenger ships and other means will reduce the need to ask the pilot or master for this information one or more times during a crisis. Persons or organizations that want this information should be directed to a source ashore or on the ground that is prepared to handle many potential requests.
- 6.15.21** High priority should be given to tracking and accounting for all persons on board and all lifeboats and rafts, and efforts to keep them together will help in this regard. Availability of accurate manifests and accounting is critical.
- 6.15.22** The need to relocate survival craft and check for persons in them can waste valuable resources. One option is to sink survival craft once the persons in them have been rescued; however, the potential that other survivors may find and need the craft should be considered.
- 6.15.23** Navy ships and large passenger ships are often better equipped than other vessels for retrieving people who have abandoned a ship or aircraft; use of any such ships should be considered. Ship reporting systems for SAR may help identify commercial ships available to assist.
- 6.15.24** Helicopter capabilities should be used if available, especially for retrieval of weak or immobile survivors. Lifeboat crews should be trained in helicopter hoist operations. Lowering a rescue person from the helicopter to assist survivors may be viable.
- 6.15.25** Ship companies should be encouraged to equip large passenger ships and possibly other types of vessels with helicopter landing areas, clearly marked hoist-winch areas, and onboard helicopters to facilitate more direct transfers of numerous persons.
- 6.15.26** If a ship with a large freeboard cannot safely retrieve survivors from the water or survival craft, it may be possible to first retrieve them onto small vessels, and then transfer them to progressively larger ones.

6.15.27 Depending on the circumstances, it may be safer to tow survival craft to shore without removing the occupants at sea. Lifeboats could be designed to support passengers for longer periods of time, and to be able to reach shore on their own from longer distances offshore.

6.15.28 To the extent practicable, MROs should be co-ordinated by an SMC in an RCC. However, depending on the magnitude, nature and complexity of an incident, the rescue efforts may be better co-ordinated by an appropriate operations centre higher within the SAR agency or another government agency. Considerations in this decision might include, among others:

- extensive rescue support by organizations other than those commonly used for SAR;
- need for heavy international diplomatic support; and
- serious problems in addition to potential loss of lives, such as environmental threats, terrorist actions, or national security issues.

6.15.29 The following factors should be considered in MRO planning:

- use of the Incident Command System (ICS) discussed below, or other effective means of handling multiagency, multi-jurisdiction, multi-mission scenarios;
- identification of situations within the SRR that could potentially lead to the need for MROs, including scenarios that might involve cascading casualties or outages;
- mobilization and co-ordination of necessary SAR facilities, including those not normally available for SAR services;
- ability to activate plans immediately;
- call up procedures for needed personnel;
- need for supplemental communications capabilities, possibly including the need for interpreters;
- dispatching of liaison officers;
- activation of additional staff to augment, replace or sustain needed staffing levels;
- recovery and transport of large numbers of survivors (including those unfit, injured or incapable, recovery of bodies, if necessary), accounting for survivors with suspected injuries, guarding against and caring for person with hypothermia, etc.;
- a means of reliably accounting for everyone involved, including responders, survivors, crew, etc.;
- care, assistance and further transfer of survivors once delivered to a place of safety and further transfer of bodies beyond their initial delivery point;
- activation of plans for notifying, managing and assisting the media and families in large numbers;
- control of access to the RCC and other sensitive facilities and locations;
- RCC backup and relocation plans, as appropriate; and
- ready availability to all potential users of plans, checklists and flowcharts.

- 6.15.30** The ability of an RCC to continue to effectively co-ordinate the MRO and still handle its other SAR responsibilities may become overwhelmed, and another RCC or a higher authority may need to assume responsibility for their other responsibilities.
- 6.15.31** With these possibilities in mind, MRO plans should provide for various degrees of response, along with criteria for determining which degree of response will be implemented. For example, as local SAR resources are exhausted (or from the outset), SAR resources may need to be obtained from distant national or international sources.
- 6.15.32** Experiences in responding to major incidents have resulted in the following practical guidance. Authorities should:
- plan how any agency receiving notification of an actual or potential mass rescue event can immediately alert and conference call other authorities that will potentially be involved, brief them, and enable immediate actions to be taken by all concerned (this will require identification of entities in each agency that can be contacted on a 24-hour basis, and that have authority to immediately initiate actions and commit resources);
 - exercise the above plans;
 - co-ordinate all rescue operations effectively from the very beginning;
 - begin quickly with a high level of effort stand down as appropriate rather than begin too late with too little effort;
 - use capable resources like cruise ships for taking large numbers of survivors on board;
 - ensure that MRO emergency plans address communications interoperability or interlinking;
 - retrieve and protect debris as evidence for follow on investigation;
 - put security plans in place to limit access to the RCC;
 - arrange in advance to involve the Red-Cross, chaplains, critical incident stress experts and other such support for human needs;
 - identify senior agency spokespersons to protect the time of workers directly involved in the response and designate a senior official to provide information to families;
 - clearly identify the point at which the SAR response (lifesaving) has ended and the focus shifts to investigation and recovery;
 - be prepared to use an Incident Command System (ICS) when appropriate;
 - ensure that air traffic and air space can be and is controlled on scene;
 - assign additional liaison personnel on-scene, as required;
 - anticipate development and needs and act early;
 - ensure that the scope of SAR plans and other emergency or disaster response plans are co-ordinated to reduce gaps, overlaps and confusion about the person in charge and the procedures to be followed at various times and places;
 - control access to the scene, including access by the media;
 - determine in advance how private resources can be appropriately used to supplement other SAR resources;

- ensure that SAR plans provide for logistics support for large numbers of rescuers and survivors including pre-arranged accommodations, if possible, and availability of food, medical care and transportation;
- consider requesting assistance from airlines and shipping companies other than the one whose aircraft or ship is involved in the incident, and know the types of assistance that such organizations might provide;
- consider use of bar coded bracelets as an effective means of identifying children before, during and after the emergency;
- attempt to reduce the burden on a pilot or master and crews; if safe and appropriate to do so, place a marine casualty officer on board to assist the master and SAR personnel; and
- share capabilities, expertise and assets among government and industry to take maximum advantage of the strengths of each.

Communications for mass rescue operations

- 6.15.33** Communication plans must provide for a heavy volume of communication use as a major incident will normally involve many responding organizations that need to communicate effectively with each other from the beginning.
- 6.15.34** As necessary, advance arrangements should be made to link means of interagency communications that are not inherently interoperable.
- 6.15.35** Interagency communications must be based on terminology understood by all involved.

Major incident co-ordination

- 6.15.36** Regardless of the magnitude and priority of the lifesaving efforts involved in responding to a major incident, if any other functions are being carried out concurrently on scene by other than SAR personnel, the overall response involving SAR and the other functions, e.g., firefighting, should be well co-ordinated.
- 6.15.37** If certain basic concepts and terms are recognized and understood by all emergency responders, they will be much better prepared to co-ordinate joint efforts.
- 6.15.38** Standard SAR procedures should typically be followed for the SAR part of the response, but these procedures will be largely independent of other efforts. Companies or authorities handling other aspects of the response will follow command, control and communication procedures developed for their respective organizations and duties.
- 6.15.39** The SAR system can function in its normal manner or use modified SAR procedures established to account for special demands of mass rescues, but it should be appropriately linked and subjected to a scheme for management of the overall incident response.

6.15.40 For major incidents, crisis management for the overall response may also be needed. The Incident Command System (ICS) is one simple and effective means of meeting this need. ICS can be used where no equivalent means of overall incident management is in place. SAR and transportation authorities are likely to encounter use of the ICS within emergency response communities.

6.15.41 The ICS works best with some advance familiarization and exercising.

6.15.42 Appendix C provides general information about ICS.

Industry planning and response

6.15.43 SAR authorities should co-ordinate MRO plans with companies that operate ships and aircraft designed to carry large numbers of persons. Such companies should share in preparations to minimize the chances that MROs will be needed, and to ensure success if they become necessary.

6.15.44 Appendix C provides guidance on industry roles and discusses how companies could arrange for use of field teams and emergency response centres as possible means of carrying out their MRO responsibilities.

6.15.45 For passenger ships, SAR Plans of Co-operation required by the *Safety of Life at Sea Convention* and developed by SAR authorities and shipping companies are part of MRO plans.

Public and media relations for MROs

6.15.46 Good public and media relations become very demanding and quite important during MROs.

6.15.47 What the media reports may matter more than what SAR services do for shaping of public opinion about MROs. The role of the media may be critical in shaping the actions of the public and of those directly involved in the distress situation in a way that contributes to safety, success and panic control. There should be no unwarranted delays in providing information to the media.

6.15.48 Information should be readily available, clear, accurate, consistent and freely exchanged among emergency responders and others concerned, such as the public and families of persons on board.

6.15.49 Designate the person who will speak to the public and the media and develop press releases, and outline what they will say, staying factual. If SAR services do not provide a public spokesperson and information for a major incident, the media likely will, thus denying the Authorities the opportunity to manage the information and emphasize the appropriate points.

6.15.50 A single spokesperson not directly involved in the incident can be valuable in relieving the Incident Commander and SMC of this duty.

- 6.15.51** Spokespersons should be cautious about speculating on causes of accidents and ensure that the media understands that the main focus of current operations is on saving lives.
- 6.15.52** Ensure that the media knows who is in charge of co-ordinating rescue operations.
- 6.15.53** Interviews should be live if possible.
- 6.15.54** Many entities are involved in a response to a major incident, including ships, aircraft, companies and SAR services. Co-ordination is required to ensure that there is one message with many messengers.
- 6.15.55** Prompt establishment of a joint information centre at a location distant from the SMC will help to achieve this goal. (A joint information centre is a component of an ICS and is discussed in Appendix C). The centre can establish proper procedures for establishing what messages will be released to the public and how those messages will be released. Since the messages may be sensitive, it is critical that everyone communicates the same information. The centre can be responsible for co-ordinating information made available via the internet and perhaps establishing and maintaining a public website.
- 6.15.56** The media is a 24-hour global market, and its news is broadcast worldwide. The media will find a way to get to the scene for first hand information, pictures and video. By providing transportation to the scene and controlling media access, safety and the information the media reports can be better managed.
- 6.15.57** Media outlets often have more resources to mobilize on scene than do SAR authorities, and RCC operating plans should account for how to deal with such situations.
- 6.15.58** Information should be provided to the public on the SAR facilities are being used and, if possible, a web address or list of contact phone numbers should be provided for families, media and others to contact for more information.
- 6.15.59** Preparations should be made so that large numbers of callers can be accommodated without saturating the phone system or crashing the computer server.
- 6.15.60** Advance preparation of standby web pages by transportation companies and SAR authorities can help in responding to floods of requests for information. These pages can be quickly posted to provide general information for media use. Web information should be timely and accurate.
- 6.15.61** Once posted, these pages can be easily updated with the status of the incident and could also include:
- contact information;
 - basic government or industry facts;

- industry and SAR definitions;
- photographs and statistics of aircraft, ships and SAR facilities;
- answers to frequently asked questions;
- links to other key sites;
- information on passenger capacity, crew size, vessel plans and firefighting capabilities; and
- library footage of a vessel inspection or of the crew performing lifesaving drills.

6.15.62 Besides the media, families and other organizations will also want this information.

MRO follow-up actions

6.15.63 It is very important to develop and share lessons learned from actual MRO operations and exercises. However, concerns about legal liability (often excessive), may discourage staff from highlighting matters that could have been improved.

6.15.64 Since lessons learned can help prevent recurring serious mistakes, agreement should be reached among principal participants on how lessons learned can be depersonalized and made widely available. Lessons learned from MROs should be shared not just locally, but internationally.

6.15.65 Careful accounting for survivors after they have been delivered to a place of safety remains important. They need to be kept informed about plans for them and about the ongoing response operations. With large numbers of persons often staying in different places, keeping track of and working with them can be difficult.

6.15.66 Transportation companies are often best suited to handle and assist survivors during this time.

6.15.67 Crewmembers may be placed at various locations to record passenger names and locations. Another possibility is for airlines or passenger ships to attach plastic cards to life vests to give passengers phone numbers for contacting the company. Some companies use bar coded bracelets to track children who are passengers.

6.15.68 Communicating with passengers is more difficult in remote areas where phone service may be inadequate or lacking. If phones do exist, calling the airline or shipping company may be the best way to check in and find out information. In more populated areas, local agencies may have an emergency evacuation plan or other useful plan that can be implemented.

6.15.69 To protect passengers from harassment by interviewers and cameras, survivors may be placed in hotels or other places of refuge. However, triage and landing locations must be established and publicized to all rescue personnel and good Samaritans.”

6 Appendix C

- Delete present Appendix C and insert the following as new Appendix C:

“Appendix C

MASS RESCUE OPERATIONS: EXERCISES; INDUSTRY ROLES AND INCIDENT MANAGEMENT

MRO exercises

Since opportunities to handle actual incidents involving mass rescues are rare and challenging, exercising MRO plans are particularly important. Mass evacuation and rescue operations are difficult and costly, leading to a tendency to use simulation excessively during exercises rather than physically exercising on-scene efforts.

MRO exercise objectives need not be addressed in a single large exercise, but may be satisfied in part by routine incorporation into multiple drills, some intended mainly to test other systems. However, realistic drills are necessary and costly, and over 1,000 volunteer ship passengers or hundreds of volunteer aircraft passengers will likely be needed to conduct a realistic exercise. Separate rooms can be used to simulate command posts that would normally be in separate locations.

MRO exercises should ideally achieve the following objectives:

- Account for:
 - Crew and passenger lists,
 - Rescued passengers and crew until they can return to their homes. All persons associated with the rescue and aftermath operations,
 - Lifeboats, including empty boats or rafts, and
 - Exercises should take account of high freeboard issues for likely rescue facilities;
- Identify and task available resources:
 - Amver or other ship reporting systems,
 - Potential resources ashore and afloat,
 - Resources from local agencies (medical personnel, hospital facilities, fire department, general community, transportation resources), and
 - National and regional military and other resources;
- Evaluate notification processes, resource availability, timeliness of initial response, real-time elements, conference capabilities and overall co-ordination;
- Ensure all agency roles are specified, understood and properly followed;
- Test capabilities of potential OSCs and ability to transfer OSC duties;
- Evaluate span of control;

- Evacuate a ship or aircraft;
- Co-ordinate activities and achieve information exchanges:
 - Communications (RCC-RCC, government-industry, RCC-OSC, on scene, shore-ship, ground-air, ship-air, SAR facility-survival craft, etc.),
 - Information for all concerned (identify, merge, purge, retrieve and transfer to the right place in the right form at the right time),
 - New communication and information management technologies, and
 - Media and next-of-kin;
- Safely transfer and care for passengers (evacuation, in survival craft, rescue, medical, protection from environment, post-rescue transfers, etc.);
- Test all communication links that may be needed for notification, co-ordination and support;
- Conduct medical triage and provide first aid;
- Assess ship's safety management system effectiveness;
- Exercise co-ordination with local response agencies;
- Provide food, water, lifejackets and other protective clothing to survivors;
- Test mass rescue plans of:
 - SAR services,
 - Operating company (including aircraft and ship plans),
 - Any relevant emergency response organizations, e.g., disaster response, military, firefighting and medical, and
 - Transportation and accommodation companies;
- Assess how effectively earlier lessons learned have been accounted for in updated plans and how well these lessons were disseminated;
- Exercise salvage and pollution abatement capabilities;
- Carry out emergency relocation of the disabled craft; and
- Exercise external affairs, such as international and public relations taking into account:
 - Necessary participants involved,
 - Joint information centres established quickly and properly staffed,
 - Press briefings handled effectively, e.g., consistent information from different sources,
 - Notification of the next of kin and family briefings,
 - Staff and equipment capacity to handle incoming requests for information, and
 - Rescued persons tracked, kept informed and needs monitored, and reunited with belongings.

The following steps are normally carried out during exercise planning:

- Agree on the exercise scenario, goals and extent;
- Assemble a multi-disciplinary planning team and agree on objectives for each aspect of the exercise;
- Develop the main events and associated timetables;

- Confirm availability of agencies to be involved, including any media representatives or volunteers;
- Confirm availability of transportation, buildings, equipment, aircraft, ships or other needed resources;
- Test all communications that will be used, including tests of radio and mobile phones at or near the locations where they will be used;
- Identify and brief all participants and people who will facilitate the exercise, and ensure that facilitators have good independent communications with person who will be controlling the exercise;
- Ensure that everyone involved knows what to do if an actual emergency should arise during the exercise;
- If observers are invited, arrange for their safety, and to keep them informed about the exercise progress;
- For longer exercises, arrange for food and toilet facilities;
- Use “exercise in progress”, signs, advance notifications and other means to help ensure that person not involved in the exercise do not become alarmed;
- Schedule times and places for debriefs;
- Agree and prepare conclusions and recommendations with the entity responsible for handling each recommendation along with the due date for any actions;
- Prepare a clear and concise report and distribute it as appropriate to the participating organizations; and
- Consider the outcome of this exercise in planning future exercises.

MRO industry roles

SAR authorities should co-ordinate MRO plans with companies that operate aircraft and ships designed to carry large numbers of persons. Such companies should share in preparations to minimize the chances that MROs will be needed, and to ensure success if they are. This section provides guidance on industry role, and discusses how companies could arrange for use of company field teams and emergency response centres as possible means of carrying out their MRO responsibilities.

Early notification of potential or developing MROs is critical, due to the level of effort required to mount a very large-scale response. It is much better to begin the response process and abort it should it become unnecessary, than to begin it later than necessary should the actual need exist. Pilots and masters should be advised and trained to notify SAR services at the earliest indication of a potential distress situation.

Company response organizations should be able to help SAR services by organizing support, equipment, advice and liaison any of their ships or aircraft.

Companies should be prepared to provide information to preclude the need for multiple sources attempting communications with the aircraft pilot-in-command or ship captain for information that is unavailable or available from another source. Receiving and handling requests for information aboard the distressed craft can interfere with the pilot's or master's ability to handle the emergency and manage critical on-scene leadership needs.

Companies operating large aircraft or ships should be advised to prepare a co-ordinated team that can handle emergency response functions around the clock should the need arise. Such a team might include staff as indicated in the following Table.

Typical company field team

Team Leader	Maintains overview, directs operations and keeps management informed
Communicator	Maintains open (and possibly sole) line of communications to craft in distress
Co-ordinating Representative	Usually a pilot or master mariner, who co-ordinates with SAR and other emergency response authorities, organizes tugs, looks at itineraries, arranges to position ships or ground facilities that may be able to assist and organizes security and suitable delivery points for passengers crew when they are delivered to safety
Technical Representative	Maintains contact with regulatory authorities, classification societies, insurers and investigators and provides liaison and advice for firefighting, damage control, repairs and other specialized or technical matters
Environmental Representative	Involved with environmental impact and spill response
Medical Representative	Gives medical advice, tracks casualties and arranges medical and identification services for survivors
Passenger and Crew Representatives	Provides information and support to whoever is designated to care for next-of-kin and keep them informed, identifies transportation needs, and may need to deal with various countries, languages and cultures
Media Representative	Gathers information, co-ordinates public affairs matters with counterparts in other organizations, prepares press releases, briefs spokespersons and arranges availability of information by phone and web sites
Specialists	From within or outside the company who may facilitate some special aspect of the response or follow up

The company may operate an **Emergency Response Centre (ERC)** to maintain communications with the craft in distress, remotely monitor onboard sensors if feasible, and keep emergency information readily available. Such information might include passenger and crew data, aircraft or ship details, incident details, number of survival craft and status of the current situation. Transportation companies should have readily available contacts with tour companies, shore excursion companies, airlines and cruise lines, hotels, etc., since such resources can be used to address many problems experienced with landing large numbers of survivors into a community. Contingency plans for co-operation should be developed between SAR authorities and transportation companies, and these plans should be sufficiently exercised to ensure they would be effective should an actual mass rescue situation arise. Such plans should identify contacts, co-ordination procedures, responsibilities, and information sources that will be applicable for MROs. These plans should be kept up to date and readily available to all concerned.

Respective functions of the ERC and RCC should be covered in co-ordinated pre-established plans, and refined as appropriate for an actual incident. These centres must maintain close contact throughout the SAR event, co-ordinating and keeping each other apprised of significant plans and developments.

There are other steps the transportation industry could be urged to undertake to improve preparedness for MROs. The following are some examples:

- Carry SAR plans on board aircraft or ships;
- Provide water and thermal protection for evacuees appropriate for the operating area;
- Provide a means of rescue to bring people from the water to the deck of ships;
- Use preparation checklists provided by SAR authorities;
- Conduct an actual physical exercise in addition to simulations;
- Provide the capability to retrieve fully loaded lifeboats and rafts;
- Enhance lifeboat lifesaving capabilities;
- Provide ways to assist persons in lifeboats who are seasick, injured or weak;
- Provide on-board helicopter landing areas and helicopters;
- Prepare to assist survivors once they have been delivered to a place of safety;
- Have aircraft or ship status and specifications readily available, such as inspection records, design plans, communication capabilities, stability calculations, lifesaving appliances, classification society contacts, passenger and cargo manifests, etc., so that such information will not need to be obtained directly from a pilot or master; and
- Work with SAR authorities to develop and be able to rapidly deploy air droppable equipment or supplies for survivors, maintain strategically located caches for this purpose.

Acceptance of certain responsibilities by industry demonstrates commitment to passenger safety and can free SAR services to handle critical arrangements relating to SAR resources, co-ordination and communication.

MRO incident management

For major incidents, crisis management for the overall response may also be needed. The **Incident Command System (ICS)**, one widely used means of meeting this need, works best with some advance familiarization and exercising within and among the transportation and emergency response communities. Since SAR and transportation authorities are likely to encounter use of the ICS within emergency response communities, this Appendix provides general information for familiarization with ICS.

The following terms are relevant to the ICS:

Incident Commander (IC): the primary person functioning as a part of the incident command system, usually at or near the scene, responsible for decisions, objectives, strategies and priorities relating to emergency response;

Incident Command Post (ICP): the location at which primary functions are carried out for the Incident Command System;

Incident Command System (ICS): and on-scene emergency management concept that provides an integrated organizational structure adaptable to the complexity and demands of an major incident involving multiple missions, response organizations or jurisdiction;

Unified Command (UC): the incident commander role of the incident command system expanded to include a team of representatives that manages a major incident by establishing common objectives and strategies and co-operatively directing their implementation.

The ICS is designed for use when multiple organizations and jurisdictions need to be jointly involved in a co-ordinated emergency response activity.

While organizations have their respective systems of command and control or co-ordination, these should be compatible with systems in use by others so that organizations can function jointly and effectively when necessary. Commonality and similarities among crisis management systems locally, regionally and internationally foster effective joint efforts.

The ICS does not take control, responsibility or authority away from SAR services; SAR services remain focused on lifesaving, while the ICS focuses on promoting an effective overall incident response.

The ICS training, advance co-ordination and liaison will be rewarded by better performance and success when a crisis situation arises.

As a tool for managing major incidents, the ICS:

- Accommodates all risks and hazards;
- Is simple, powerful and flexible;
- Can easily expand or contract as the incident warrants;
- Relieves the SAR system of co-ordinating non-SAR missions;
- Enables SMCs to use the ICS contacts to draw on additional resources; and
- Ensures better communication and co-operation between agencies.

The ICS organization can grow or shrink as the situation dictates, and provides a logical process and progression to achieve results. Its organization should be allowed to grow with increased demand and shrink when operations decline, both of which require anticipation.

Advantages of the ICS can be lost when organizations develop their own unique and relatively complex versions of the ICS; it works best when it remains simple, flexible and standardized so everyone on scene from all organizations understands it.

In its basic form a person is designated as the IC to handle overall co-ordination, including setting objectives and priorities.

Support functions (sections supported by one or more persons) can be established *as needed* and on the scale needed to keep the IC informed and assist in certain areas.

The four support sections in the ICS organization are as follows:

Operations Section - helps manage resources to carry out the operations;

Planning Section - helps develop action plans, collect and evaluate information, maintain resource status and arrange to scale up or scale down activities;

Logistics Section - helps provide resources and services needed to support the incident response, including personnel, transportation, supplies, facilities and equipment; and

Finance-Administration Section - assists with monitoring costs, providing accounting and procurements, keeping time records, doing cost analysis and other administrative matters.

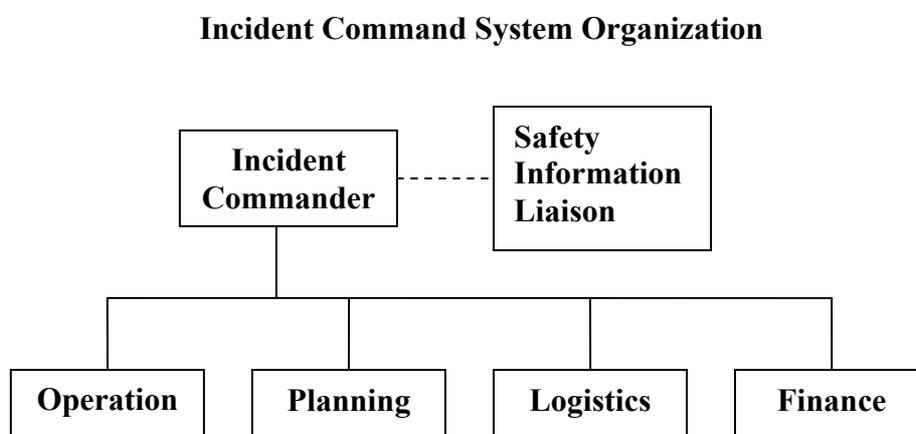
Other additions to directly assist the IC might include:

An **Information Officer** - assists the media and others seeking incident information, ensures the IC has appropriate information available, and helps to provide information to the public and families of persons in distress;

A **Safety Officer** - monitors safety conditions and develops measures to ensure safety and reduce risks; and

Liaison Officers - serve as primary contacts for on-scene representatives of their respective organizations.

The following Figure illustrates the basic ICS organization:



The IC usually establishes an **Incident Command Post (ICP)** as a base for ICS activities. For particularly demanding incidents, the ICS organization can be expanded. For example, for operations that are particularly large-scale, sustained or complex, the IC can be augmented by establishment of an actual or virtual (i.e. without everyone co-located) **Unified Command (UC)** populated by operational managers representing the primary response organizations involved. If the UC is made up of linked independent command posts, a government post and an industry post for example, ideally there should still be a person from each command post assigned to work at the other post(s) involved.

For a situation like a major passenger aircraft or ship disaster, a **Joint Information Centre (JIC)** should be established, perhaps in association with the Information Officer position, to facilitate and co-ordinate the vast amount of information that will need to be managed internally and shared with the public.

Whether the ICS should be used depends on the duration and complexity of the incident. If it is used, co-ordination of SAR functions with other functions is usually achieved by assigning a representative of the SAR agency or of the SMC to the Operations Section of the ICS organization.

This allows SAR services to be plugged into the ICS and overall operations while still being able to function with relative independence in accordance with normal SAR procedures. The ICS has an overall incident focus, while SAR services must remain focused on lifesaving.

A determination should be made as early as possible regarding the person responsible for overall co-ordination, and how the overall response will be organized and managed. Procedures should be understood by all and overall response managed to ensure mutual support, effort prioritization, and optimal use of available resources, and to enhance on-scene safety and effectiveness.

Inter-agency contingency planning should identify who the IC should be for various scenarios. Typically, the IC will be assigned from the government organization with primary responsibility for the type of function most prominent in the response to the particular incident. However, with appropriate access to experts and information from all agencies concerned, a key consideration in selecting the IC should be familiarity and experience with the IC function, *i.e.*, the IC should be a person who can best handle the responsibility.

The IC should be someone skilled at managing on-scene operations and should usually be located at or near the scene. Everyone involved, regardless of rank or status, will normally be in a support role for the IC, similar to the SMC support structure within an RCC.

The IC function can be transferred as the situation warrants, although such transfers should be minimized as is the case for transfers of SMC functions during a mission. It is important to designate an IC early, in contingency plans if possible, and to make a transfer later, as appropriate, as delay in designating an IC can be quite detrimental.

Except when functions other than SAR are relatively insignificant to the incident response, the IC should normally be someone other than the SMC. The priority mission will always be lifesaving, and the SMC should normally remain unencumbered by additional non-SAR duties.

Similarly, the IC's command post should normally be at a location other than in the RCC, because the RCC needs to remain focused on, and be vigilant and responsive to, its normal SAR responsibilities in addition to handling SAR aspects of the major incident.”

7 Appendix O

- In Appendix O page O-4, corrections should be made as follows:

- In the entry “Grønland GREENPOS”

The fourth column should read only “Mandatory”. In the fifth column the existing text should be replaced by the following “All ships, on voyages to or from Greenland ports and places of call”.

- In the entry “Grønland KYSTKONTROL”

The fourth column should read only “Mandatory”. In the fifth column the existing text should be replaced by the following “All ships of 20 gross tonnage and more, and fishing vessels, on voyages between Greenland ports and places of call”.

SECTION 3

PROPOSED AMENDMENTS TO THE IAMSAR MANUAL – VOLUME III

1 Abbreviations and Acronyms

- Insert the new line as follows:
“MRO Mass rescue operation”

2 Glossary

- Replace the present definition of Aircraft co-ordinator (ACO) by “A person or team who co-ordinates the involvement of multiple aircraft SAR operations in support of the SAR mission co-ordinator and on-scene co-ordinator”.
- Insert the new line as follows:
“Mass Rescue Operation (MRO) - search and rescue services characterized by the need for immediate response to large numbers of persons in distress, such that the capabilities normally available to search and rescue authorities are inadequate”.

3 Section 1

- Replace present section on Ship Reporting Systems (pages 1-4), as follows:

“Ship Reporting Systems

- Ship reporting systems have been established by several States.
- Ships at sea may be the only craft near the scene of a distressed aircraft or vessel.
- A ship reporting system enables the SMC to quickly:
 - identify vessels in the vicinity of a distress situation, along with their positions, courses, and speeds,
 - be aware of other information about the vessels which may be valuable (whether a doctor is aboard, etc.),
 - know how to contact the vessels,
 - improve the likelihood of rapid aid during emergencies,
 - reduce the number of calls for assistance to vessels unfavourably located to respond,
 - reduce the response time to provide assistance.

- Masters of vessels are urged or *mandated* to send regular reports to the authority operating a ship reporting system for SAR *and other safety related services*.
- Additional information on operators of ship reporting systems may be obtained from RCCs.”
- Replace present section on The Automated Mutual-Assistance Vessel Rescue (pages 1-4), as follows:

“Amver

Amver is one of *many* ship reporting systems. It is a world-wide system operated exclusively to support SAR and make information available to all RCCs.

- There is no charge for vessels to participate in, nor for RCCs to use, Amver.
- Many land-based providers of communications services worldwide relay ship reports to AMVER free of charge.
- Any merchant vessel of 1,000 gross tons or more on any voyage of greater than 24 hours is welcome to participate.
- Information voluntarily provided by vessels to AMVER is protected by the US Coastguard as commercial proprietary data and made available only to SAR authorities or others specifically authorized by the ship involved.”
- Insert the following text after the section on Aircraft Reporting System (pages 1-5):

“Underwater search and rescue

- In the event a mobile facility has reason to suspect that an underwater accident has occurred, every effort should be made to contact the nearest Rescue Co-ordination Centre. When accidents occur, survivors may be either on the surface or entrapped in a submarine resting on the seabed. Generally, medical care requirements for survivors of an underwater or submarine accident is specialized and competent medical advice is required.
- Vessels believing they have collided with a submarine, as with a collision with any vessel, should anticipate a requirement to provide SAR assistance. Further information on Submarine SAR and its parallel activity, Submarine Escape and Rescue may be found at the website maintained by the International Submarine Escape and Rescue Liaison Office.”

4 Section 2

- Insert following text after the section on Visual (pages 2-51):

“Prefix call sign

- During search and rescue missions and exercises it is recommended that the following prefix call signs be used before the ordinary radio call sign or as a specific mission call sign:

“RESCUE” for all airborne units involved in a rescue mission

“AIR CO-ORDINATOR” for the aircraft co-ordinator (ACO)

“SAREX” for all airborne units involved in international/national exercises.”

- Delete present section on Rescue by Aircraft (pages 2-36) replaced by the text, as follows:

“Rescue by Maritime Facilities

■ Recovery of survivors by assisting vessels

- Seafarers should consider how to recover survivors into their own vessels under various environmental conditions. Recovery methods include:
 - Using throwing rockets or heaving lines to pass lifebuoys and/or lines to survivors;
 - Streaming a rope, with lifebuoys or other flotation attached;
 - Rigging pilot ladders, jacob’s ladders or nets, preferably clear of the ship’s side, with safety lines. If survivors are unable to climb, ladders or nets may have to be recovered with the survivors secured to them. Where practicable:
 - rig ladders or nets from pilot doors or other low openings,
 - deploy safety lines with rescue strops or loops,
 - use suitably equipped crew members to assist survivors directly,
 - deploy a liferaft with the ladder or net to act as a transfer platform;
 - Pulling survivors up suitable marine evacuation systems;
 - Deploying liferafts or lifeboats for survivors to hold onto, or climb into;
 - Using rafts or boats as lifts, leaving them on the falls if conditions permit;
 - Lifting survivors using gantries, cranes, davits or derricks, with lines rigged to minimize swinging against the ship’s side;

- Deploying purpose-built or improvised recovery baskets;
- Rigging a boat rope for boats and survival craft to secure alongside;
- Lowering embarkation ladders.
- Any lights in use must not be directed towards helicopters operating in the area.
- Survivors in the water should be lifted in a horizontal or near-horizontal position if possible (for example, in two strops; one under the arms, the other under the knees) to minimize the risk of shock induced by sudden transfer from the water and possible hypothermia.
- Assisting vessels should also be prepared to receive survivors from helicopters: see pages 2-23.
- When the risks involved in recovery operations outweigh the risks of leaving the survivors in life saving appliances, consider the following actions:
 - Using the ship to provide a lee for the survivors;
 - Deploying life saving appliances from the assisting vessel;
 - Maintaining visual and communications contact with the survivors;
 - Updating the co-ordinating authority;
 - Transferring essential survival and medical supplies.”
- Insert following after ■ **Immediate Care of Survivors** (pages 2-38):
 - “• Once on board, medical care and welfare of the survivors should be attended to. Additional assistance should be sought from the SAR authorities as required;
 - Medical advice should be sought from the Telemedical Maritime Advice Service, via the RCC.”
- Insert new heading before fourth paragraph (pages 2-39), as follows:
 - “■ **Recording Information on Survivors**
 - Survivor information ”