



IMO

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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 eighty-first session (10 to 19 May 2006), 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 tenth session (6 to 10 March 2006), 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 2007.

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## ANNEX

## SECTION 1

## PROPOSED AMENDMENTS TO THE IAMSAR MANUAL – VOLUME I

## 1 Chapter 1

- Delete present paragraphs **1.3.1** and **1.3.2** and add the following text:
  - “**1.3.1** As Party to the International Convention for the Safety of Life at Sea (SOLAS), the International Convention on Maritime Search and Rescue, or the Convention on International Civil Aviation, a Party undertakes to provide certain aeronautical and/or maritime SAR co-ordination and services. The international community expects these commitments to be fulfilled.
  - 1.3.2** These services can be provided by States individually establishing effective national SAR organizations, or by establishing a SAR organization jointly with one or more other States. The role of agreements and plans in establishing SAR services will be discussed throughout this Manual.
  - 1.3.3** Every State should have in place statutes and related provisions that establish a legal foundation for establishing a SAR organization and its resources, policies, and procedures.
  - 1.3.4** SAR managers should seek legal advice on how domestic and international laws pertain to SAR policies and procedures.
  - 1.3.5** State legislative provisions should be aligned with accepted principles of international law, and may serve purposes such as:
    - recognizing the SAR function as a State responsibility;
    - implementing IMO and ICAO requirements and standards;
    - designating SAR agencies and their general responsibilities; and
    - defining the jurisdiction and legal authority of the RCC in accordance with relevant standards of ICAO and IMO.”
- Move the legal advice found in sections **5.4.18** to **5.4.20** to section 1.3 and renumber the three sections as **1.3.6**, **1.3.7** and **1.3.8** respectively.
- Add following at the end of section **1.5.6**:
  - “Legislation could provide for use of military and other public resources to support SAR.”

## 2 Chapter 2

- Delete the word “particular” in the fifth sentence of section **2.2.8** and substitute with the word “pre-planned”.
- In section **2.2.4**, add the following new sentence after the first sentence:  
  
“If alerting posts are used, the RCC or RSC should ensure that the alerting post is well-qualified to carry out its responsibilities.”.
- In section **2.2.10**,  
  
the first sentence should start:  
  
“SAR personnel should have national legislative authority for ...”  
  
and the second sentence should start:  
  
“Except in rare cases, related communications ...”.
- Replace first paragraph in section **2.3.11** with following:  
  
“RCCs perform administrative and operational duties. Administrative duties, including planning, co-operation with providers of facilities, exercises and case studies, are concerned with maintaining the RCC in a continuous state of preparedness. In areas of low SAR activity the administrative duties are of high importance since they are the best way to keep the staff in readiness for SAR cases. The administrative duties should be shared so that more than one person is capable of performing these duties. Effective administrative actions help to ensure proficient SAR operations. SAR operations are the responsibility of the SMC and this responsibility may be met by the RCC chief or by other properly trained staff of the RCC. Personnel from services or organizations providing facilities can be used as part of the RCC team if they are duly trained and qualified. They will normally serve in support of expert functions such as firefighting, or air or marine safety. The RCC must be prepared to undertake and continue operational duties 24 hours per day. This level of readiness requires that multiple persons be trained and qualified to assume SMC duties.”.
- In section **2.3.11(a)**, edit the last sentence to read:  
  
“... oversee, if not delegated, the daily operations ...”.
- In section **2.3.11(b)**,  
  
edit the first sentence to read:  
  
“... who are trained and capable of planning ...”

and edit the last sentence to read:

“... continuous staffing, or only has one trained and capable RCC person on duty, provision ...”.

- In section **2.3.11(c)**, edit the first sentence to read:

“An SMC should be designated for each specific SAR operation, and adequate numbers of personnel qualified to perform the SMC function must be readily available on a 24 hour basis.”.

### **3 Chapter 5**

- Delete present paragraph **5.2.13** and replace it with the following:

“**5.2.13** A SAR plan may be supported by legislation or regulations if necessary, or may be a self-supporting memorandum of understanding (MOU) between appropriate agencies. Ratification of an MOU at the Ministry level recognizes the importance of SAR, while allowing for an easier revision process than higher-level agreements would allow.”.

- Add to the end of paragraph **5.2.14**:

“Appendix I contains sample text and guidance for a national SAR plan.”.

- Add new paragraph **5.2.15**:

“**5.2.15** Appendix [M] [K] contains sample text to describe arrangements for the division of responsibilities between the Rescue Co-ordination Centre (RCC) and the Air Traffic Services (ATS) provider as component organizations contributing to the national emergency response system for aircraft.”.

- Renumber old paragraphs **5.2.15** to **5.2.18** as **5.2.16** to **5.2.19**.

- Delete first paragraph of present paragraph **5.3.6** and replace with the following:

“SAR operations are normally carried out under the direction and supervision of an SMC who is usually the supervisor of the RCC or RSC watch team. In multiple incident situations this officer could be SMC for all incidents, or for some of those incidents, the SMC role could be delegated to another suitably qualified member of the watch team. The SMC should in all cases be supported by RCC watch team members to undertake functions in the co-ordinating process such as communications, plotting, logging and search planning. For complex cases or those of long duration the assisting team must be replaced at regular intervals as well as the SMC. The SMC must be able to competently gather information about emergencies, transform emergency incident information into accurate and workable plans and dispatch and co-ordinate the facilities, which will carry out the SAR missions.”.

- Delete present paragraphs **5.4.17** to **5.4.20** and the subtitle “Legislative Support”.

#### **4 Chapter 6**

- Renumber sections **6.3** to **6.6** as **6.4** to **6.7**.
- Insert following new section **6.3**:

#### **“6.3 Applying Risk Management**

- 6.3.1** A similar process to reducing system problems could be used to examine how risk management methodology can be applied to improve SAR response and SAR system performance. This process can be applied to any State regardless of its political system or organization structure.
- 6.3.2** Search and rescue (SAR) organizations have a lot to learn from the emergency management community where risk management principles are used so that the uncertainties that exist in potentially hazardous situations can be minimized and public safety maximized. Emergency managers commonly use three phases to describe their response to natural or technical disasters. They are preparedness (i.e., the pre-disaster phase), response (i.e., the immediate post-disaster phase), and recovery (i.e., return to a normal state). From a SAR perspective, we could call these phases pre-incident, incident response and post-incident with each phase requiring attention from SAR practitioners as they have a need to understand their particular role at that time, whether lead or support, and the interaction that is occurring within a broader government context.
- 6.3.3** The application of risk management can bring order to the uncertain environment in which SAR organizations exist. It is a very valuable tool to determine future work priorities and to improve the ability to meet the organizational objective of finding persons in distress and removing them to a place of safety.
- 6.3.4** Risk analysis is a valuable tool for managers of SAR organizations as it can set the resource priorities for an organization and its output can be used externally to promote SAR issues. SAR organizations are encouraged to undertake a risk analysis process and to use the information gained to advance the objective of saving lives.
- 6.3.5** An example of a Risk Management Process is at Appendix [N] [L].”.

## 5 Appendix [M] [K]

- Insert new Appendix as follows:

### **“MODEL AGREEMENT FOR THE DIVISION OF RESPONSIBILITY BETWEEN THE SAR AUTHORITY AND THE AIR TRAFFIC SERVICES PROVIDER IN PROVIDING EMERGENCY RESPONSE SERVICES FOR AIRCRAFT**

#### **1. Purpose**

- 1.1 The purpose of this document is to outline the division of responsibilities between the SAR Authority and Air Traffic Services (ATS) provider as component organizations contributing to the national emergency response system for aircraft, and to propose a model arrangement for co-operation between the parties.

#### **2. Background**

- 2.1 The responsibility for the various aspects of the national emergency response system required under the Convention on International Civil Aviation may fall within two or more agencies of the national government. The SAR Authority has broad responsibilities under annex 12 for SAR response, (and ancillary functions are described in annexes 10 and 15) and the ATS provider has broad responsibilities under Annex 11 for aviation SAR alerting. ATS also provides in-flight emergency response services for aircraft and assists Rescue Co-ordination Centres (RCCs) with their SAR response task by providing access to its aeronautical expertise and resources.

#### **3. Duration and amendment**

- 3.1 A Memorandum of Understanding (MoU) may be in force for a period of five years from the date of commencement and be extended for a further period or periods as agreed by the parties in accordance with the following principles:
  - 1) No variation is to be made to either the MoU or the agreed operational procedures dealing with in-flight emergencies or SAR alerting procedures without the consent of both parties.
  - 2) Where the parties agree to an alteration to this MoU, the alteration must be expressed in writing and be ratified by the signatories of both parties to this MoU, with sufficient notice to allow adoption of any agreed amended practice.

#### **4. Scope**

- 4.1 This MoU and associated operational information contained in the associated procedures is designed to facilitate a system for effective operational interface, and to positively manage the transfer of operational responsibility, between the ATS provider and the RCC during aircraft emergency phases.

- 4.2 This MoU does not alter the respective statutory, administrative or other obligations of the parties and any specific requirement under this MoU shall not involve any alteration to those obligations.

## **5. Management arrangements**

- 5.1 There should be regular consultation between the agency managers to review the operational procedures to which this document applies.
- 5.2 Such consultation should occur whenever either of the parties considers changes to the procedures to be appropriate to meet operational commitments, and at least, once every 12 months from the commencement of this MoU.

## **6. Operational principles**

- 6.1 The overriding principle governing the relationship of the agencies and the performance of activities covered by this MoU is that the safety of life is paramount.
- 6.2 All services related to the MoU are to be provided in accordance with the agreed practices laid down in this MoU and the agreed operational procedures. Such services may include the provision of assistance to aircraft in distress in the states Search and Rescue Region (SRR).
- 6.3 When handling an aircraft emergency or responding to a SAR incident, there is a need for the RCC and the ATS provider to work co-operatively and effectively together. It is important that there be no ambiguity with respect to the agency taking the lead and the agency providing support as an incident progresses. The lead agency role is determined by mutual agreement according to the division of responsibilities at paragraph 9.

## **7. Recorded operational information**

- 7.1 RCCs may access information held by ATS units. For SAR purposes, ATS will provide the RCC, as soon as practicable, all information relevant to a state of emergency of an aircraft, including copies of journals, flight plans, audio tape records, recorded radar data plots and all other relevant documentation.
- 7.2 Both parties acknowledge that telephone conversations regarding operations or exercises between the two agencies may be recorded with or without prior warning.

## **8. Provision of information**

- 8.1 Subject to their legal obligations relating to privacy and protection of commercial in confidence information, each party agrees that the agencies will exchange information as necessary to successfully execute emergency response actions. Each agency shall use such information only for the purpose of properly meeting its legal obligations.
- 8.2 Each party agrees that, except as required to properly perform its statutory obligations, it will not release information received by it from the other party without the prior agreement.

**9. Division of responsibilities**

(Note: Paragraphs 9.1 and 9.2 serve as an outline of ATS and RCC responsibilities that may be expanded upon by States to suit their individual circumstances.)

9.1 In relation to the emergency response system, ATS will provide the following types of services:

- a) In-flight emergency response to provide assistance to a pilot to operate in safe airspace and land the aircraft safely.
- b) SAR alerting and in the case of aerodrome emergency procedures, alerting the appropriate emergency agencies.
- c) Assistance to the RCC with ATS expertise, information and resources.

9.2 In relation to the state aviation SAR and emergency response system, the RCC will provide the following types of services:

- a) Co-ordination of appropriate SAR response.
- b) Assistance to ATS with reference to relevant data.
- c) Co-ordination with ATS, when ATS is managing an in-flight emergency and RCC is managing a parallel SAR response to the incident.

**10. Costs**

10.1 Each party will be responsible for all costs associated with its responsibilities under this MoU, unless otherwise agreed by the parties.

**11. Signature**

11.1 In signing this MoU, both parties agree to abide by its provisions.

*Signature*

*Signature*

**Agency A**

**Agency B”**

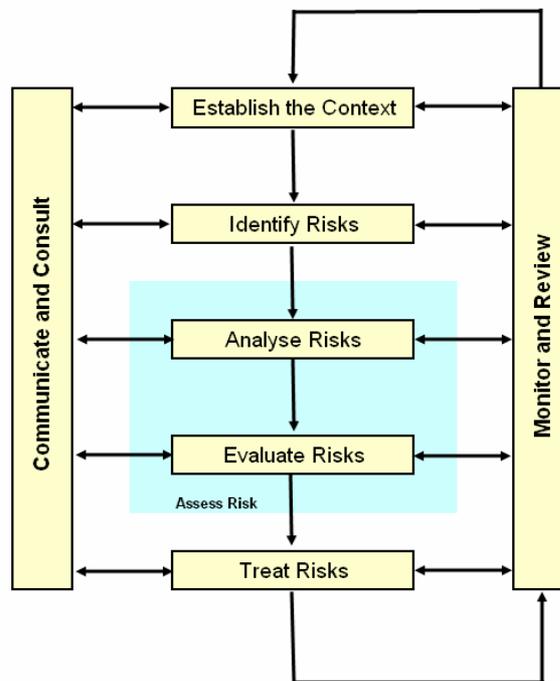
## 6 Appendix [N] [L]

- Insert new Appendix as follows:

### “APPLYING RISK MANAGEMENT PRINCIPLES TO ASSESS SAR RESPONSE AND SAR SYSTEM PERFORMANCE

#### *Risk Management Process*

For the risk analysis to be effective it needs to take a broad view of the SAR system or response and, ideally, all stakeholders and interest groups should be involved. The process should be documented, noting that the value of the risk analysis is that it is an iterative process that when repeated provides valuable feedback on risk mitigation effectiveness. The steps in the risk management process are shown at Figure 1, and provide a logical and systematic methodology for identifying, analysing, assessing, treating and monitoring risks.



**Figure 1 – The Risk Management Process**

The determining of risk requires a well-structured approach with all risk factors being subjected to an iterative process. Although from a SAR perspective it should be used to assess the overall SAR system, the technique can equally be applied to the SAR response phase.

#### **Establishing the Context**

The first step in the process is **establishing the context** in which the SAR risks will be determined. Will the analysis include the parts that other organizations, their resources and response plans play in assisting the SAR function? Will it make judgements on the complex national arrangements and their effectiveness if a major SAR incident occurs? If this is the

context that is being examined, there is a need to gain wide support for the analysis by promoting stakeholder involvement from appropriate decision makers outside the SAR organization.

If the context is internally focused, there may still be a need to make judgements about the external environment and the analysis may be able to determine priorities and the order in which they should be addressed. There is also a need to understand the government policy framework in which the SAR organization exists and its funding basis. However, the risk process should put the question of limited funds being available aside until after the analysis is complete so that the outcomes are not distorted by self imposed constraints before it has begun.

### **Identifying the Risks**

The second step in the process is **identifying the risks**, which is ‘the process of determining what can happen, why and how’ as the basis for further analysis. People have different risk perceptions and this step requires taking an objective view of current or potential situations where the objective of finding persons in distress and removing them to a place of safety may be compromised.

Some approaches used to identify risk include whether the risk is easily managed, if exposure is voluntary, whether the risk is familiar, making an assessment that the situation may become catastrophic, the innate fear of the worst occurring, and personal or organizational win/loss assessments. The process can be based on formal analysis tools (e.g., quantitative analysis, Pareto analysis, systems engineering, etc), where appropriate. However, in most circumstances for SAR it can be more simply accomplished by people that work in the activity sitting down and coming to a collective view of the exposures facing the organization (e.g., experience, brainstorming, scenario analysis, lessons learned, etc.).

The subject matter could be discussed by using the divisions used in IAMSAR to break down the analysis. These are Organization and Management (Volume I), Mission Co-ordination (Volume II), and Mobile Facilities (Volume III).

### **Analyse the Risks**

The third step in the process is to **analyse the risks**. This is done by establishing the cause of the risk, which is important when it comes to treating it, and determining its likelihood and consequences. Likelihood is a qualitative description of probability or frequency; and consequences is the outcome of an event, expressed qualitatively or quantitatively, expressed in terms of loss, injury, disadvantage or gain.

A common approach to document this interaction is to set values for likelihood and consequences of each risk. An example that may be useful in terms of determining likelihood for SAR is shown in Table 1.

<b><i>Level</i></b>	<b><i>Descriptor</i></b>	<b><i>General Description</i></b>
<i>A</i>	<i>Almost Certain</i>	<i>daily occurrence</i>
<i>B</i>	<i>Likely</i>	<i>weekly occurrence</i>
<i>C</i>	<i>Occasional</i>	<i>monthly occurrence</i>
<i>D</i>	<i>Possible</i>	<i>yearly occurrence</i>
<i>E</i>	<i>Unlikely</i>	<i>1 year &gt; occurrence &lt; 10 years</i>
<i>F</i>	<i>Rare</i>	<i>&gt; 10 years</i>

***Table 1 – Qualitative Measures of Likelihood***

The assignment of consequences is also done using general descriptions and an example is shown in Table 3. Caution needs to be exercised in assigning consequences, as every incident is not necessarily a potential major catastrophe. The history of SAR incidents and their outcomes over the last ten years is a good starting point when approaching consequences.

<b>Level</b>	<b>Descriptor</b>	<b>General Description</b>
1	<i>Very Low</i>	<ul style="list-style-type: none"> <li>• routine or business management task with no life saving consequence</li> <li>• non-critical support role to other agency leading incident response</li> <li>• staff have good SAR support tools available</li> <li>• robust communications systems available</li> <li>• excellent level of response assets available</li> </ul>
2	<i>Low</i>	<ul style="list-style-type: none"> <li>• routine or business management task with potential life saving consequence</li> <li>• lead role in non-SAR/safety of life activity</li> <li>• staff have adequate SAR support tools</li> <li>• fair communications systems available</li> <li>• adequate level of first response assets available</li> </ul>
3	<i>Medium</i>	<ul style="list-style-type: none"> <li>• routine or business management task with demonstrated life saving consequence</li> <li>• staff have inadequate SAR support tools</li> <li>• poor communications systems available</li> <li>• inadequate first response assets available</li> <li>• a situation that may lead to an internal decision to make a major change to procedures, structure or staffing</li> <li>• fatality (1-5 people )</li> <li>• hull loss</li> </ul>
4	<i>High</i>	<ul style="list-style-type: none"> <li>• a situation that may lead to an external decision to make major changes to structure or staffing at the management level</li> <li>• fatality (6-14 people)</li> <li>• hull loss</li> </ul>
5	<i>Extreme</i>	<ul style="list-style-type: none"> <li>• a political review of the SAR organization and its effectiveness</li> <li>• fatality (&gt;14 people)</li> <li>• hull loss</li> </ul>

**Table 2 – Qualitative Measures of Consequences or Impact**

Once the likelihood and consequence elements are determined, a risk analysis matrix is developed and tested using sample scenarios. This is a most important step as it allows the risk analysis team to develop a common understanding of likelihood and consequence and their interrelationship. Also, there may be situations where there are multiple likelihood and consequence relationships, and each of these should be scored and the highest resultant value recorded in the next step of the risk analysis.

### Evaluate the Risks

The fourth step in the process is to **evaluate the risks**. This is done by comparing likelihood against consequence as shown at Table 3 and comparing the results with any previous risk analysis. The Table 3 comparison matrix will result in an ordering of risks and assist to develop an effective risk mitigation plan. An extreme risk requires immediate remediation, a high risk requires urgent attention, a medium risk should be addressed as a priority, and a low level risk can be addressed through routine processes.

		<i>Consequences</i>				
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>Likelihood</i>	<i>A</i>	<i>H</i>	<i>H</i>	<i>E</i>	<i>E</i>	<i>E</i>
	<i>B</i>	<i>M</i>	<i>H</i>	<i>H</i>	<i>E</i>	<i>E</i>
	<i>C</i>	<i>L</i>	<i>M</i>	<i>H</i>	<i>H</i>	<i>E</i>
	<i>D</i>	<i>L</i>	<i>L</i>	<i>M</i>	<i>H</i>	<i>H</i>
	<i>E</i>	<i>L</i>	<i>L</i>	<i>L</i>	<i>M</i>	<i>H</i>
	<i>F</i>	<i>L</i>	<i>L</i>	<i>L</i>	<i>L</i>	<i>M</i>

**Table 3 – Qualitative Risk Analysis Matrix**  
 (Level of Risk *E* = Extreme, *H* = High, *M* = Medium, and *L* = Low)

### Treat the Risks

The fifth step in the process is to **treat the risks**. In the terms of SAR, it is important to minimize risk where it can be practically reduced on a cost benefit basis. It may be possible to reduce low level risk by introducing simple reduction measures such as additional staff training or SAR customer education. At the other end of the scale it may not be possible to treat extreme risks due to inadequate resources or government policy decisions. However, the risk analysis process will prioritize these factors for the SAR Manager and it may be a powerful ally to assist in change management.

### Monitor and Review

The sixth step in the process is to **monitor and review** the performance of the risk management system and the changes that may affect it. Regular reviews (e.g., six monthly) of the analysis should be conducted and the effectiveness of risk mitigation strategies re-examined. Some risks may be transitory (e.g., contract renewals, changes to procedures, etc) and others may be inherent in operating a SAR system. The iterative approach of the analysis means that SAR organizations will have a good understanding of the challenges facing them and will have considered approaches to remediate them. It may only be possible to alleviate some risks rather than removing them entirely.

## Communicate and Consult

The seventh and last step in the process is the most important being **communicate and consult**. It is important to have a communications plan for stakeholders and involve them in the process. Industry peak representative bodies, if they exist, can be important stakeholders as they have a vested interest in the outcomes and may have the ability to influence higher level government decision making processes.”

## SECTION 2

### PROPOSED AMENDMENTS TO THE IAMSAR MANUAL – VOLUME II

#### 1 Chapter 1

- Delete present paragraph **1.2.3** and replace with the following:

“**1.2.3** SAR operations are normally carried out under the direction and supervision of an SMC who is usually the supervisor of the RCC or RSC watch team. In multiple incident situations this officer could be SMC for all incidents, or for some of those incidents, the SMC role could be delegated to another suitably qualified member of the watch team. The SMC should in all cases be supported by RCC watch team members to undertake functions in the co-ordinating process such as communications, plotting, logging and search planning. For complex cases or those of long duration the assisting team must be replaced at regular intervals as well as the SMC. The SMC must be able to competently gather information about emergencies, transform emergency incident information into accurate and workable plans and dispatch and co-ordinate the facilities, which will carry out the SAR missions.”

#### 2 Chapter 2

- In paragraph **2.10.4**, replace the second paragraph to read following (new text is underlined):

“However, these popular, inexpensive, and multi-purpose devices have limitations in emergencies involving SAR in the maritime environment, and, therefore, the advantages dedicated marine communications systems should continue to be stressed by national administrations.”

- add the following, at the end of paragraph **2.10.4** (new text is underlined):

“in disaster areas, cellular systems quickly become saturated with callers, making calls to others in the same area nearly impossible; and

where installed, cellular phone coverage in the maritime environment can be limited, intermittent, or non-existent, based on several factors to include cellular tower accessibility and orientation in relationship to a cellular telephone call initiated from an offshore or coastal area.”

- make changes to paragraph 2.10.4 as follows (new text is underlined; text recommended for deletion has a line through it):

“Cellular service providers may be able to provide some of the following help in finding the position of callers in an emergency; ~~lost or disoriented callers, but the help may not be easy to provide and will involve time delays:~~

- call trace to the receiving cell while the call is connected, and an estimate of maximum range from the tower;
- approximate position based on the assessment of signal strength or time difference of arrival to several tower sites or from the cell phone’s GNSS-derived positioning obtained either through direct means in which a call is placed by the cellular user or by dialling the cellular number of the individual in distress (if known) or through indirect means via the phone’s standby connectivity to the cellular network (provided the phone is powered on) which can be of particular use in instances where an individual may not be able to place or answer a call;
- cell tower location(s) of the last series of call placed by the caller (useful for proximity searches), it associated traffic data, if available; and
- notification when a call is made from the user’s number (useful in overdue cases).”

- Insert the following as paragraph **2.10.5**:

“**2.10.5** SAR authorities should make all appropriate arrangements (i.e., legal, logistic, etc.) with cellular service providers in their SRR to obtain the critical information in 2.10.4 in as quick a manner as possible and to establish regulations that require wireless providers to provide this information either through network-based or handset-based (e.g., built-in GNSS receiver) capabilities. Similar arrangements and protocols should also be made with emergency or public safety service agencies so that SAR-related emergencies may be directed to the appropriate SAR authority along with the caller’s name, location, and other pertinent information when and where available.”

- Insert the following as paragraph 2.10.6:

“**2.10.6** National administrations should consider establishing free of charge, abbreviated telephone numbers to connect callers with emergency or public safety service agencies (e.g., “1-1-2”, “9-1-1”, “9-9-9”) or direct cellular call connection numbers to SAR authorities (e.g. “1-6-1-6” in France and “1-5-3-0” in Italy) in order to provide emergency services and SAR authorities with an expedient means of notification from cell phones users in an emergency, and to publicize this information widely.”

## SECTION 3

### PROPOSED AMENDMENTS TO THE IAMSAR MANUAL – VOLUME III

#### 1 Section 1-3

- Under “SMC duties include”, replace the fifth from last bullet with following:  
“ determine when to suspend or terminate the search”.

#### 2 Section 3-1

- In the opening paragraph of “Requirement for Co-ordination”, delete the first sentence and amend the next three sentence to read as follows:  
  
“When a SAR incident occurs, an SMC will normally be designated, within an RCC or RSC. The SMC will obtain SAR facilities, plan SAR operations, and provide overall co-ordination. The SMC may also designate ...”.
- The final sub-bullet of the second bullet should be amended to read:  
  
“ any communication facility (e.g., alerting post)”.

#### 3 Section 3-2

- Delete four bullets under “Co-ordination by Land-Based Authorities” and replace with the following:
  - SAR operations are normally co-ordinated from specially equipped operational centres or RCCs, staffed 24 hours a day with trained personnel. The working language for these centres should be English.
  - Each RCC has an associated SRR. The SRR might be divided into sub-regions with associated RSCs.
  - Land-based communication facilities include:
    - land earth stations (LESs)
    - COSPAS-SARSAT Mission Control Centres with Local User Terminals (LUTs)
    - Independent CRSs or CRSs associated the RCCs
    - ATS units
    - mobile phone networks
    - Internet
    - public telephone alerting systems.
  - LESs may also be referred to as aeronautical ground earth stations (GESs) or maritime coast earth stations (CESs).”

**4 Appendix D**

- Format SAR SITREP report at Appendix D in the same way as the SAR briefing and debriefing form in appendix E.

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