



**WORKING PAPER**

**ICAO/IMO JOINT WORKING GROUP  
ON HARMONIZATION OF AERONAUTICAL  
AND MARITIME SEARCH AND RESCUE (ICAO/IMO JWG-SAR)**

**FOURTEENTH MEETING**

**Saint Gilles, La Réunion, 10 to 14 September 2007**

**Agenda Item 5: SAR system administration, organization and implementation methods:  
5.3: quality/improvement, needs assessment, risk management, (including subregional  
organizations) and resource allocation**

**NATIONAL SELF-ASSESSMENT ON SEARCH AND RESCUE**

(Presented by Australia)

**1. INTRODUCTION**

1.1 The International Civil Aviation Organisation (ICAO) regularly conducts safety audits of all Contracting States, with the objective of enhancing safety by promoting the implementation by States of International Standards and Recommended Practices (SARPs).

1.2 In reaffirming aviation safety as the primary objective of the Organisation, the ICAO Universal Safety Oversight Audit Programme (USOAP) is recognised as having raised the level of safety oversight around the world since its creation in January 1999.

1.3 Subsequently, in January 2002 a Memorandum of Understanding was signed between ICAO, African Civil Aviation Commission (AFCAC) and France to develop a SAR evaluation manual. The evaluation protocols used in this manual were based on the principles of the ICAO USOAP

1.4 The manual was used to conduct SAR evaluation missions to nineteen African States in the course of the ICAO/AFCAC SAR project.

## 2. GENERAL

### 2.1 Referral to JWG

2.1.1 At ICAO/IMO JWG 12 and JWG 13, ICAO presented:

- a) the evaluation guidance questions established for the USOA Program;
- b) a comparative list of protocols in support of the ICAO/AFCAC SAR development being conducted in Africa;
- c) the current list of National Self-Assessment protocols published in the IAMSAR Manual at Appendix H, and
- d) concluded with an aggregated list for possible inclusion in the IAMSAR Manual.

### 2.2 Referral to COMSAR

2.2.1 In considering the recommendation of JWG12 to incorporate the revised Self-Assessment Questions into the IAMSAR Manual at Attachment H, COMSAR noted that the ICAO SAR protocol questions were only applicable to the aeronautical SAR services and instructed the JWG group to revisit the questions and provide a list of questions appropriate to the aeronautical and maritime environments.

2.2.2 Australia agreed to submit a revised list.

### 2.3 *International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual and Volume I — Organization and Management (Doc 9731)*

2.3.1 IAMSAR Manual, Volume 1, Appendix H – National Self-Assessment on Search and Rescue, contains a national self-assessment questionnaire, which may be used to evaluate international and national SAR systems, to identify areas for improvement, and to assist SAR managers in assessing needs.

### 2.4 Appendix H — new proposal

2.4.1 The proposed new aggregated list of questions, suited to aviation and maritime SAR services, is at Attachment A. The proposed list sets the questions against the Chapters to Volume 1 of the IAMSAR Manual.

2.4.2 For ease of establishing this revised placement of questions against the historic data, the term:

- *Att H nn* is used to indicate the original Attachment H number;
- *ICAO*, is used to indicate the questions are drawn from the ICAO USOAP; and
- *JWG* is used to indicate new questions as recommended by members of the Joint Working Group.

3. **ACTION BY THE ICAO/IMO JWG-SAR**

3.1 The ICAO/IMO JWG-SAR is invited to:

- a) note the information provided; and
- b) review and endorse the proposed Attachment H – National Self-Assessment on Search and Rescue, with a view to its incorporation in the IAMSAR Manual, Volume 1.

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## ATTACHMENT A

### IAMSAR VOLUME ONE – APPENDIX H

#### NATIONAL SELF-ASSESSMENT on SEARCH and RESCUE (SAR)

#### *International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual and Volume I — Organization and Management (Doc 9731)*

#### Chapter 1 – GENERAL SYSTEM CONCEPT

1.     *Att H 1*           Is the Government party to the following Conventions:
  - i.       Convention on International Civil Aviation, 1944?
  - ii.      International Convention on Maritime Search and Rescue, 1979?
  - iii.     Safety of Life at Sea (SOLAS) Convention, 1974?
  - iv.      Convention on the High Seas, 1958?
  - v.       Law of the Sea Convention, 1982?
2.     *ICAO*            Has the State established an entity, which provides on a 24-hour basis, search and rescue (SAR) services within its territories to ensure that assistance is rendered to persons in distress?
  - a.       If no, has the State arranged with another State or group of States to provide SAR services?
3.     *Att H 2*           Which government agencies have authority and responsibility for co-ordination of aeronautical SAR?
4.     *Att H 2*           Where is this authority and responsibility described (law, regulation, agreement, etc.)?
5.     *Att H 3*           Is the same agency responsible for co-ordinating aeronautical SAR over both land and sea?
6.     *Att H 4*           Which government agencies have authority and responsibility for co-ordination of maritime SAR?
7.     *Att H 4*           Where is this authority and responsibility described? (law, regulation, agreement, etc.)?
8.     *ICAO*            Has the State established a joint RCC to coordinate aeronautical and maritime SAR operations?
9.     *ICAO*            Does the State ensure the closest practicable coordination between the centres where separate aeronautical and maritime rescue coordination centers (RCCs) serve the same area?

10. *ICAO* Has the State ensured the closest practicable coordination between the relevant aeronautical and maritime authorities to provide for the most effective and efficient SAR services?
11. *Att H 5* Does the State have a national SAR Plan, which describes the roles of all Government and non-government organizations which have resources that can support SAR?
12. *Att H 49* Have there been any problems encountered when working with RCCs outside your region?
  - a. If so, have steps been taken to solve these problems?
13. *Att H 16* Have ICAO and IMO been provided with up-to-date information on your RCCs, RSCs, SAR resources and areas of responsibility?

## Chapter 2 - SYSTEM COMPONENTS

14. *Att H 9* Does your State have both aeronautical and maritime SAR regions (SRRs) or SAR sub-regions (SRSs) established?
15. *Att H 10* Do the geographical limits of your State's aeronautical and maritime SRRs or SRSs coincide?
16. *Att H 11* If your State has an aeronautical Flight Information Region (FIR), does your aeronautical SRR have the same limits?
17. *Att H 12* Have the aeronautical and maritime SRR or SRS limits been formally agreed to by neighbouring countries or jurisdictions?
18. *Att H 13* Are there any gaps, overlaps, or size or shape problems with national SRRs or SRSs?
19. *ICAO* Has the State established a RCC in each search and rescue region (SRR)?
20. *Att H 48* Do your RCCs regularly work with other RCCs outside your region?
21. *ICAO* Has the State ensured that each RCC and RSC employ sufficient workforce skilled in coordination and operational functions?
22. *Att H 6* Do provisions exist to keep maritime SAR authorities informed of aeronautical distress situations, and to hand over SAR responsibility to them when an aircraft has an actual or potential ditching at sea?
23. *ICAO* Has the State made arrangements for the use of SAR units and other available facilities to assist any aircraft or vessel or their occupants who are, or appear to be, in a state of emergency?
24. *Att H 15* Are RCC(s) or RSC(s) assigned to perform other tasks, which might detract from their ability to handle SAR responsibilities?

25. *Att H 7* Are emergency plans in place and recovery resources in place at all airports located near water for rescue of survivors in the water?
26. *Att H 8* Do facilities that serve as alerting posts for receiving aeronautical and maritime distress information operate on a 24-hour basis?
27. *Att H 17* Does each RCC and RSC have full information about the capabilities (range, number of persons they could rescue, alert status, launch authority point of contact, etc.) for all the primary rescue units in their area of responsibility?
28. *Att H 25* Does each RCC or RSC have a Plan of Operation manual, which provides guidance in handling all foreseeable SAR situations?
29. *Att H 45* Do your RCC(s) and RSC(s) use international systems that assist SAR, e.g., AMVER, Cospas-Sarsat, Computer Assisted Search Planning (CASP)?
30. *Att H 46* Can your RCC(s) monitor progress of a SAR response and adjust search planning if necessary?
31. *Att H 47* Can the RCC(s) or RSC(s) order the deployment of all primary SAR units?
- a. If not, does the co-ordination for use of SAR resources take place in a timely manner?
32. *Att H 50* Volunteer SAR resources include privately-owned aircraft and boats, fishing vessels, industry-owned helicopters and boats, professional organizations, etc. to what extent have these resources been organized?
33. *Att H 50* Do the RCCs and RSCs Plans of Operation manuals include guidance on use of volunteer SAR resources?
34. *Att H 53* Do SAR units in your State have special equipment for medical evacuations?

### Chapter 3 - TRAINING, QUALIFICATION, CERTIFICATION and EXERCISES

35. *ICAO* Have written terms of reference been developed for all staff?
36. *ICAO* Has the State ensured that each RCC and, if appropriate, RSC established a training policy and programme for its staff?
37. *Att H 22* Is each RCC or RSC staff fully trained to do the following:
- i. Recognize the stages and phases of a SAR mission?
  - ii. Determine search datum, search areas, and probability of success?
  - iii. Account for aerospace and ocean drift?
  - iv. Develop search action plans and rescue action plans?
  - v. Allocate resources?
  - vi. Arrange air escorts, ships and other assistance for aircraft situations involving potential ditching?
  - vii. Carry out international SAR obligations?

38. *ICAO* Does the State provide for regular training of its SAR personnel and arrange appropriate SAR exercises?
39. *Att H 28* Do crews of primary rescue units participate in regular SAR-related training or exercises?
40. *Att H 28* Is there a formal planning and evaluation process for these exercises?
41. *Att H 29* Do your RCCs or RSCs carry out exercises involving other RCCs and RSCs and rescue units on a regular basis?
42. *Att H 24* Does each element in the SAR organization regularly evaluate its staff training status and take steps to correct all identified training needs?
43. *ICAO* Are training records or files maintained for the RCC staff?
44. *Att H 26* Are complete records (sufficient to reconstruct the incident) maintained of all SAR events?
45. *Att H 26* Are SAR case records used to analyse and improve the SAR system?
46. *Att H 26* Do SAR case records satisfy legal requirements?

#### **Chapter 4 - COMMUNICATIONS**

47. *Att H 34* Are there rapid, reliable means for communications between RCCs or between RCCs and RSCs?
48. *Att H 35* Does your national landline communications system provide full coverage of your State and rapid, reliable service?
49. *Att H 36* Do your RCC(s) and RSC(s) have reliable radio communications capabilities covering their entire area(s) of responsibility for working with ships, aircraft and SAR units?
50. *Att H 40* Do your RCC(s) or RSC(s) use satellite communications?
51. *Att H 55* Do the RCC(s) have continuous and capable English language capabilities?
52. *ICAO* Are RCC personnel involved in the conduct of radiotelephony communications proficient in the use of the English language?
53. *Att H 31* Which categories of aircraft and ships registered in your State are required to carry 121.5 MHz radio distress beacons, 406 MHz beacons, or EPIRBs?
54. *Att H 32* Are 406 MHz beacon registrations maintained in a database?
55. *JWG* Is the database maintained for ELT, EPIRB and PLB 406 Mhz distress beacons?
56. *Att H 32* Is that database available on a 24-hour basis to SAR authorities?



57. *ICAO* Has the State designated a SAR point of contact (SPOC) for the receipt of Cospas-Sarsat distress data?
58. *JWG* Has the State made arrangements for further distribution from the SPOC to the proper authorities of the ELT, EPIRB and personal locator beacon (PLB) distress beacon alerts?
59. *Att H 33* Is the Aeronautical Fixed Telecommunication Network (AFTN) or Aeronautical Fixed Network (AFN) co-located or readily accessible to your RCC(s) and RSC(s)?
60. *Att H 20* Is your State implementing the provisions of the IMO Global Maritime Distress and Safety System (GMDSS)?
61. *Att H 37* Do the RCC and RSC Plans of Operation manuals include procedures for establishing communications with civil ships and aircraft?
62. *Att H 38* Do ships and aircraft that are used for SAR have communications and electronic direction-finding capabilities covering all frequencies likely to be used?
63. *Att H 39* Do ships and aircraft that are used for SAR have accurate navigation systems?
64. *Att H 41* What means are most often used to notify your RCC(s) or RSC(s) of a distress?
65. *Att H 42* What means are used to alert and inform rescue units of a distress, and to direct them?
66. *Att H 43* Do all SAR units have mutually compatible communications?
67. *Att H 44* Is your State planning to change communications or direction-finding capabilities in any of the following areas?
- i. Medium frequency (MF)
  - ii. High frequency (HF)
  - iii. VHF-FM
  - iv. VHF-AM
  - v. UHF
  - vi. Telephone
  - vii. Telex
  - viii. Satellite communications
68. *Att H 51* Do your RCC(s) and RSC(s) have procedures for providing timely and competent medical assistance and advice to ships?

## Chapter 5 - SYSTEM MANAGEMENT

69. *Att H 18* Which national agencies or organizations are responsible for:
- i. Aircraft registration and safety?
  - ii. Air traffic safety?
  - iii. Investigation of aviation casualties?
  - iv. Maritime vessel registration and safety?

- v. Investigation of maritime casualties?
- vi. Regulation and enforcement of radio frequency usage?
- vii. Serving as the national SAR point of contact for receipt of Cospas–Sarsat alert data?
- viii. JWG Personal Locator Beacon usage,
- ix. SAR on the ground?
- x. Managing national civil emergencies?
- xi. National defence?
- xii. Providing paid SAR resources?
- xiii. Providing volunteer SAR resources?
- xiv. State law enforcement?
- xv. Emergency medical advice and care?
- xvi. Medical evacuations?
- xvii. Supporting participation by ships in reporting systems, such as the Automated Mutual-assistance Vessel Rescue (AMVER) system?

70. *Att H 19* Is there a formal national SAR co-ordinating committee to co-ordinate the actions of the organizations indicated in answers to question 68?

71. *ICAO* Has the State designated as SAR units elements of public or private services suitably located and equipped for SAR operations?

72. *ICAO* Does the State coordinate its SAR organization with those of neighbouring States?

73. *ICAO* Has each RCC in the State prepared detailed plans of operation for the conduct of SAR operations within its SRR?

74. *Att H 30* Does your State have formal SAR agreements for inter-agency co-ordination and for co-operation with neighbouring countries?

75. *Att H 54* Do the RCC(s) and RSC(s) co-ordinate with hospitals to receive all personnel evacuated due to medical emergencies?

76. *Att H 52* Have formal procedures been developed for providing medical assistance and advice and for making medical evacuation decisions?

77. *Att H 27* Does your State maintain a statistical database on SAR events?

## **Chapter 6 - IMPROVING SERVICES**

78. *ICAO* Does the State permit, subject to such conditions as may be prescribed by its own authorities, entry into its territory of SAR units of other States for the purpose of searching for, and the rescue of, survivors of aviation and maritime incidents and accidents?

79. *ICAO* Does the State authorize its RCCs to provide, when requested, assistance to other RCCs, including assistance in the form of aircraft, vessels, or equipment?

80. *ICAO* Has the State arranged for all aircraft, vessels and local services and facilities which do not form part of the SAR organization to cooperate fully with the latter in SAR and to extend any possible assistance to the survivors of aviation and maritime accidents?

81. *Att H 21* Does your State send delegates to participate directly in meetings of IMO and ICAO that deal with SAR issues?

82. *Att H 21* How do your SAR managers stay informed on decisions, and outcomes of meetings conducted by ICAO and IMO?

**Questions not included**

*ICAO* Is each RCC and, as appropriate, rescue subcentre (RSC) staffed 24 hours a day by trained and qualified personnel proficient in the use of the language used for radiotelephony communications?

*Rationale: Duplicated question*

*ICAO* Does the SAR services system include a legal framework, a responsible authority, organized available resources, communication facilities and a workforce skilled in coordination and operational functions?

*Rationale: Duplicated question*

*Att H 14* Are maritime and aeronautical Rescue Co-ordination Centres (RCCs) or Rescue Subcentres (RSCs) staffed on a 24-hour basis?

*Rationale: Duplicated question*

*Att H 31* Question 53: Inmarsat E-EPIRB deleted

*Rationale: Beacon no longer in use.*

— END —