



*International Civil Aviation Organization*

**The Twentieth Meeting of APANPIRG ATM/AIS/SAR Sub-Group  
(ATM/AIS/SAR/SG/20)**

Singapore, 05 – 09 July 2010

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**Agenda Item 4: Review and Progress the Tasks Assigned to the ATM/AIS/SAR/SG by APANPIRG**

**SEARCH AND RESCUE MATTERS**

(Presented by the Secretariat)

**SUMMARY**

This paper presents the outcomes of APANPIRG/20 in respect to search and rescue (SAR) in Asia/Pacific Region, and requests States to update the SAR Capability Matrix Table and register of SAR Agreements.

This paper relates to

**Strategic Objectives:**

*A: Safety – Enhance global civil aviation safety*

*D: Efficiency – Enhance the efficiency of aviation operations*

**Global Plan Initiatives:**

*None applicable*

**1. INTRODUCTION**

1.1 The outcomes of APANPIRG/20 (September 2009, Bangkok) in relation to SAR matters are presented in this paper for review and consideration by the meeting.

**2. DISCUSSION**

SAR Agreements and SAR Matrix

2.1 APANPIRG/20 reviewed the APANPIRG List of SAR Agreements and the SAR Capability Matrix Table, which are presented in **Attachments A and B**, respectively, for review and update by the meeting.

2.2 APANPIRG/20 reviewed and updated the APANPIRG list of SAR Agreements and the SAR Capability Matrix Table. Details of the June 2009 Arrangement for Coordination of SAR services between New Zealand and Chile were included in the List of SAR Agreements. Viet Nam also provided information about their agreements with Cambodia and Lao PDR which took effect from March 2009. It was noted that the SAR Matrix had been updated as required by APANPIRG Conclusion 19/11 and now included detailed guidance on completion of the Matrix.

Lessons Learned Regarding Termination of Satellite Detection of 121.5 Hz Signals from Distress Beacons

2.3 In relation to the termination from 1 February 2009 of the COSPAS SARSAT satellite capability to detect 121.5 MHz signals from distress beacons, meaning that SAR authorities no longer have satellites providing the approximate location of 121.5 MHz distress beacons, the United States presented information describing how their SAR services had to adjust to this change. In re-training and educating people in the United States, many facts and lessons learned had to be brought to their attention, including:

- a) 121.5 MHz VHF AM is still the international aeronautical voice distress frequency.
- b) 121.5 MHz is still a low-power homing signal on the 406 MHz ELT and EPIRB.
- c) International carriage requirements under ICAO and the International Maritime Organization (IMO) are for the 406 MHz distress beacon, and no longer the 121.5 MHz version but, national regulations may allow domestic use of 121.5 MHz distress beacons.
- d) There are many 121.5 MHz ELTs and EPIRBs still in use.
- e) Aircraft, and many without direction finding equipment, will hear the audible 121.5 MHz alert from these distress beacons and report them to air traffic control centres.
- f) The higher the altitude of the aircraft hearing the 121.5 MHz signal, the larger the search area becomes in which the distress beacon may be located.
- g) Personal Locator Beacon (PLB) 406 MHz distress alert signal may cause confusion for national authorities as to which agency has responsibility to register the beacon, or to receive the alert, or to respond to the alert.
- h) There is a need to determine the location of audible 121.5 MHz distress beacon alerts.

2.4 United States made available recently developed guidance on *Search Planning for Audible 121.5 MHz Distress Beacon Alerts* for review by APANPIRG/20. The following Conclusions were adopted in this respect:

***Conclusion 20/17 – SAR Guidance on 121.5 MHz Search Planning***

*Recognizing that large populations of aircraft would continue to use 121.5MHz distress beacons after the February 2009 cessation of COSPAS SARSAT Satellite tracking capability, States consider the guidance material “Search Planning for Audible 121.5 Distress Beacon Alerts” contained in Appendix G to the APANPIRG/20 Report on Agenda Item 3.2 when developing SAR procedures and training documentation.*

***Conclusion 20/18 – Provide SAR 121.5 MHz Guidance to ICAO/IMO JWG***

*That the Regional Office seek the assistance of the United States in providing a copy of the guidance material “Search Planning for Audible 121.5 Distress Beacon Alerts” contained in Appendix G to the APANPIRG/20 Report on Agenda Item 3.2 to the ICAO/IMO Joint Working group on SAR for consideration as an amendment to the International Aeronautical and Maritime SAR (IAMSAR) Manual.*

**3. ACTION BY THE MEETING**

3.1 The Meeting is invited to:

- a) review the outcomes of APANPIRG/20 in relation to SAR matters;
- b) review and update the List of SAR Agreements in Attachment A;
- c) review and update the SAR Capability Matrix in Attachment B; and
- d) consider ways to enhance and improve SAR capability in the Region.

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## STATE SAR AGREEMENTS

*(last updated 11 September 2009)*

<b>ID NO.</b>	<b>DATE</b>	<b>STATES</b>	<b>REMARKS</b>
1	14 April 1972	ASEAN States - Indonesia, Malaysia, Philippines, Singapore and Thailand	Multilateral agreement for the facilitation of search for aircraft in distress and rescue of survivors of aircraft accidents
2	March 1997	Viet Nam - ASEAN	Viet Nam signed instrument of accession to 1972 ASEAN Agreement (as above)
3	June 1982	Indonesia / Singapore	
4	11 August 1984	Malaysia / Singapore	
5	29 August 1985	Malaysia / Indonesia	
6	September 1985	Singapore / Thailand	Updated July 1996
7	9 September 1985	Malaysia / Thailand	
8	9 December 1985	Malaysia / Philippines	
9	August 1986	Indonesia / Philippines	
10	1986	United States / Japan	
11	1988	United States / Indonesia	
12	1990	Indonesia / Papua New Guinea	JBC MOU signed
13	November 1990	Australia / Indonesia	Updated 5 April 2004
14	July 1996	Philippines / Singapore	
15	July 1996	Viet Nam / Singapore	
16	September 1996	Viet Nam / Philippines	
17	16 December 1998	Malaysia / Brunei Darussalam	
18	1998	Lao PDR / Vietnam	LOA for provision of assistance
19	February 1999	Cambodia / Viet Nam	
20	February 2001	Australia / Papua New Guinea	
21	September 2002	New Caledonia / New Zealand	
22	November 2002	United States / Republic of	

<b>ID NO.</b>	<b>DATE</b>	<b>STATES</b>	<b>REMARKS</b>
		Palau	
23	2003	United States / New Zealand	
24	notified 2003	United States / Marshall Islands	
25	notified 2003	United States / Micronesia	
26	notified 2003	United States / China	
27	June 2005	Tonga / New Zealand	
28	notified 2005	New Zealand / Australia	
29	notified 2005	New Zealand / Samoa	
30	April 2006	Australia / Maldives	Letter of Arrangement
31	notified July 2006	Indonesia / United States	Agreement on the Coordination of SAR Services
32	notified July 2007	New Zealand / Cook Islands,	
33	notified July 2007	New Zealand/Chile	Final draft agreement being considered by authorities in Chile
34	notified July 2007	New Zealand/Niue	No requirement for separate SAR agreement, covered under Government to Government aid agreement
35	notified July 2007	New Zealand/Tahiti French Polynesia	Final draft agreement being considered by authorities in Tahiti
36	notified July 2007	New Zealand/Tokelau	No requirement for separate SAR agreement, covered under Government to Government aid agreement
37	16 May 2007	Republic of Korea/China	
38	30 April 2008	Republic of Korea/Japan	
<b>39</b>	<b>March 2009</b>	<b>Viet Nam/Lao PDR</b>	<b>SAR Agreement</b>
<b>40</b>	<b>March 2009</b>	<b>Viet Nam/Cambodia</b>	<b>SAR Agreement</b>
<b>41</b>	<b>1 June 2009</b>	<b>New Zealand/Chile</b>	<b>Arrangement for coordination of SAR services</b>

*Note: ATM/AIS/SAR/SG/18 re-ordered the List by date, any additional updated entries by APANPIRG/20 in bold type.*

Analysis of SAR Capability of ICAO States in the ASIA/PAC Region

	Training	Alerting	SAR committee	Legislative	Agreements	Relationships	Communications	Quality Control	Civil/Military	Resources	SAREX	Library	Computerisation	SAR programme	Supply dropping	Special equipment	SAR aircraft	Navigation	Cospas-Sarsat	Distr	ELTs
Afghanistan																					
Australia	E	E	E	E	E	E	C	E	E	E	E	E	E	E	E	E	E	E	E	C	E
Bangladesh	B	C	D	A	A	C	C	A	D	A	A	C	A	A	C	C	D	A	D	C	
Bhutan																					
Brunei	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	D	D	E	E	E	A
Cambodia	D	D	C	D	C	D	C	A	D	C	C	C	B	C	A	A	B	B	A	D	
China	E	E	E	E	E	E	D	D	E	D	D	C	B	A	E	E	E	E	E	A	
Cook Islands	A	B	B	A	A	C	C	C	B	A	B	A	A	A	A	B	B	A	E	A	
DPR Korea	B	D	B	D	A	B	D	D	D	C	B	A	A	A	B	A	C	C	A	A	
Fiji	B	C	C	C	C	C	C	B	D	C	D	C	A	C	B	A	C	C	C	A	
French Polynesia	C	D	D	D	C	D	E	A	E	C	C	B	A	A	E	D	E	E	E	A	
Hong Kong, China	E	E	E	E	D	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	
India	D	C	C	B	B	C	C	A	C	C	C	C	C	D	D	D	C	A	E	E	
Indonesia	E	D	E	E	E	D	D	D	E	D	E	D	D	D	C	D	D	D	D	E	
Japan	E	E	E	E	D	E	E	E	E	E	E	E	D	E	E	E	E	E	E	E	
Kiribati																					
Lao PDR	B	A	B	B	B	A	B	A	B	B	A	C	A	A	A	A	A	A	A	A	
Macau, China	E						E	E				E						E			
Malaysia	E	E	C	E	D	E	E	E	E	E	E	D	E	E	E	D	E	E	E	B	
Maldives	B	A	A	A	A	A	A	A	D	A	C	A	A	A	A	A	A	A	A	A	
Marshall Islands																					
Micronesia	C	B		A	A	B	C					A		B	B						
Mongolia	A	C	C	A	B	B	B	A	B	B	B	C	B	B	A	A	A	A	B	A	
Myanmar	B	A	B	C	A	D	C	C	D	A	A	A	A	A	C	A	D	C	A	A	
Nauru																					
Nepal	D	D	C	B	A	C	C	B	D	B	A	B	A	D	D	C	D	D	D	B	
New Caledonia	C	D	D	D	C	D	E	A	E	C	C	B	A	A	E	D	E	E	E	E	
New Zealand	E	E	E	E	A	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	
Pakistan	C	C	D	D	A	D	D	C	D	C	A	A	A	A	D	A	D	D	C	E	
Palau																					
Papua New Guinea	D	E	D	C	D	D	C	C	D	C	C	D	C	C	C	A	A	A	E	A	
Philippines	D	C	E	D	D	C	D	D	E	C	C	C	C	C	C	B	C	E	C	A	
Rep. of Korea	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	
Samoa																					
Solomon Islands																					
Singapore	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	
Sri Lanka	D	A	C	D	B	C	C	D	E	D	B	C	A	A	D	D	C	A	C	A	
Thailand	E	E	E	E	D	E	E	E	E	E	E	D	D	D	E	E	E	E	E	E	
Timor Leste																					
Tonga	C	B	A	A	B	C	C	A	D	A	A	A	A	A	A	A	C	A	E	A	
United States	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	
Vanuatu																					
Viet Nam	D	D	D	E	D	D	D	C	E	D	C	C	B	C	C	D	D	C	D	D	

(Last updated 11 September 2009)

Categorisations:	
A = Not implemented	D = Meets Annex 12 requirements in most areas
B = Initial implementation	E = Fully meets Annex 12 requirements
C = Meets Annex 12 requirements in some areas	Blank = No response