

ASDAR STATUS REPORT

(Submitted by WMO)

Summary and purpose of document

The purpose of this document is to inform CGMS Members of the current status of the ASDAR Programme

ACTION PROPOSED

CGMS Members are invited to note the report.

STATUS OF THE OPERATIONAL ASDAR PROGRAMME

1. Introduction

The operational Aircraft to Satellite Data Relay (ASDAR) programme continues to operate and provide valuable data as a component of the WMO AMDAR Programme, but its decline continues following the decommissioning of one more aircraft in November 2001 and two more aircraft will be decommissioned by the end of November 2002 leaving 8 from the original 21 installed units. Three other aircraft are not reporting for various reasons associated with airline operating constraints but one is expected to return to operational status by the end of 2002. The level of technical support has been reduced further and a major section of support will cease completely in March 2003. Increasing data quality problems whose cause has not been determined are also a cause of concern.

2. Coverage

The ASDAR programme has continued to provide valuable observations over data sparse regions of South America, the central and southern Atlantic Ocean, Africa, the Indian Ocean, Asia and Eastern Europe. Much of this area is otherwise not covered by any in-situ upper air observations. However, this situation has already begun to change as some of the existing ASDAR equipped aircraft have either been converted or replaced by other aircraft fitted with conventional AMDAR systems.

3. Aircraft Status

The programme peaked early in 1998 with 21 operational systems. However, since then there has been a substantial reduction in the size of the ASDAR program. This was accomplished in 2 phases with the first 5 BA 747 aircraft decommissioned between October 1998 and August 1999 and the second and final 5 aircraft between January and June 2000. These same aircraft have been fitted with AMDAR software along with 45 other aircraft in the B747-400 fleet. KLM decommissioned the first and second of its 3 operational units in April and November 2001 respectively. South Africa has advised that its 2 units will be decommissioned in October and November 2002 respectively. The decommissioned units were checked and made available as spares to support the remaining equipped aircraft belonging to other carriers. Argentina grounded its 2 ASDAR aircraft for several months but one unit is reporting again and the second aircraft is expected to commence operating later in 2002. Saudi Arabia continues to operate its 2 ASDAR equipped aircraft but the units have been switched off indefinitely for technical reasons. It is noted that South Africa is operating a small AMDAR programme with plans to substantially extend it in the next few years. Saudi Arabia is currently developing its own AMDAR programme.

The attached table summarises the operational status of the 10 remaining ASDAR aircraft and the associated IDCS ID, address and reporting time slot. With the imminent decommissioning of the 2 South African systems, only 8 channels will be required for the immediate future. The IDCS channels to be freed by the end of 2002 will be ASDAR/SA016 using address A020D134 and ASDAR/SA015 using address A020C242. It is most unlikely that any of the systems held in reserve will be installed as new operational units.

4. Technical Support

In order to ensure that these units continue to operate, a routine maintenance contract with ASTRUM was renewed until December 2002 with the possibility of further extension of the contract beyond that date. This contract is intended to continue to provide ongoing routine liaison and maintenance services with participating airlines to support the remaining operational ASDAR units. All non-essential repairs and maintenance has been suspended because of the availability

of sufficient numbers of operational spare parts. Thus maintenance expenditure has been reduced to an absolute minimum.

The ASDAR Centre operated by the UK Met Office has announced its intention to cease operations by 31 March 2003. This centre closed its engineering support section in 2001 but maintained its very valuable data monitoring services and continued to publish quarterly ASDAR reports on data quality and system performance. Arrangements are to be made with the E-AMDAR monitoring centre operated by KNMI to conduct a basic level of monitoring including the critical transmission slots.

5. Data Quality

A number of ASDAR units are causing concern with high temperature biases. Although detailed examination and testing of some units and sensors has been completed, the cause remains a mystery.

During the second quarter of 2002, data availability indicates 92.8% of observations were received within 60 minutes and 99.7% within 115 minutes. An average of 710 reports per day were received which is down from last year's number of 994. As previously stated, concerns regarding data quality of some aircraft, particularly in temperature, are being addressed.

6. The Future

With 8 installed units remaining after November 2002 and noting that there is considerable uncertainty whether the Saudi Arabian units will return to service, only 6 units will remain operational for the immediate future. It is also noted that the ASDAR Centre will close in March next year. The AMDAR Panel, which carries responsibility for the ASDAR operational programme, decided at its recent annual meeting that the programme will continue to function in its present form for the next 12 months. Satellite operators will be informed should there be any significant changes in the programme.

Table 1: STATUS OF ASDAR UNITS AS AT AUGUST 2002

Inst. No.	Tail No.	IDCS Ident	IDCS Address	Time Slot	GTS Address	First Operat'nl	End Owner	Operator	Airline	Airraft Type	Remarks
	G-MULL		A020142A	02-03	BA001LLZ	29 Nov. 1990	UK	UK	BA	DC10 - 30	Decommissioned 23 Oct.1998
	G-BEBM		A02071CC	18-19	BA009BMZ	11 Feb. 1992	UK	UK	BA	DC10 - 30	Decommissioned 28 Mar.1999
	G-BHDJ		A02062BA	16-17	BA008DJZ	19 Dec. 1991	Switzerland	UK	BA	DC10 - 30	Decommissioned 28 Mar.1999
24	G-BBPU		A0208148	20-21	BA010PUZ	15 June 1991	UK	UK	BA	B747-136	Decommissioned 4 Sept. 1999
30	G-AWNE		A020075C	00-01	BA000NEZ	12 June 1992	Australia	UK	BA	B747-136	Decommissioned 14 Aug.1999
33	G-BNLF		A02116D0	50-51	BA025LFZ	11 Mar. 1994	UK	UK	BA	B747-436	Decommissioned 21 Apr. 2000
34	G-BNLG		A021234A	52-53	BA026LGZ	10 Mar. 1994	UK	UK	BA	B747-436	Decommissioned 15 May 2000
35	G-BNLJ		A021303C	54-55	BA027LJZ	24 Mar. 1994	UK	UK	BA	B747-436	Decommissioned 29 Apr. 2000
36	G-BNLL		A02146AC	56-57	BA028LLZ	10 Apr. 1994	Switzerland	UK	BA	B747-436	Decommissioned 24 May 2000
37	G-BNLY		A02155DA	58-59	BA029LYZ	7 July 1994	Switzerland	UK	BA	B747-436	Decommissioned 7 June 2000
27	HZ-AIM	ASDAR/SV003	A02021BO	06-07	SV003IMZ	12 Oct. 1995	Saudi Arabia	Saudi Arabia	Saudia	B747-368	Not Operational – under repair
45	HZ-AIK	ASDAR/SV023	A02105A6	46-47	SV023IKZ	18 Mar. 1999	OCAP	Saudi Arabia	Saudia	B747-368	Not Operational – under repair
31	D-ABVN	ASDAR/LH005	A02032C6	10-11	LH005VNZ	23 Jun. 1993	Germany	Germany	Lufthansa	B747-430	Operational - good quality obs.
32	PH-BUM	ASDAR/KL012	A020923E	24-25	KL012UMZ	23 Apr. 1992	Netherlands	Netherlands	KLM	B747-206B	Operational - good quality obs.
40	PH-BUP		A0223732	26-27	KL013UPZ	19 Dec. 1994	USA	Netherlands	KLM	B747-206B	Decommissioned 5 April 2001
41	PH-BUR		A02241A2	28-29	KL014URZ	2 Mar. 1995	OCAP	Netherlands	KLM	B747-206B	Decommissioned 23 Nov 2001
38	ZS-SAT ¹	ASDAR/SA016	A020D134	32-33	SA016ATZ	23 Oct. 1995	UK	UK	S. African	B747-344	Operational - large temp. bias
39	ZS-SAU ¹	ASDAR/SA015	A020C242	30-31	SA015AUZ	14 Dec. 1995	Netherlands	Netherlands	S. African	B747-344	Operational - large temp. bias
42	3B-NAK	ASDAR/MK021	A020E4AE	42-43	MK021AKZ	16 Jul. 1996	Mauritius	UK	Air Mauritius	B767-200ER	Operational - good quality obs.
43	3B-NAL	ASDAR/MK022	A020F7D8	44-45	MK022ALZ	17 Jul. 1996	Mauritius	UK	Air Mauritius	B767-200ER	Operational - good quality obs.
44	LV-MLO	ASDAR/AR006	A0204456	12-13	AR006LOZ	19 Dec. 1997	Spain	Spain	Aerolineas	B747-287B	Operational - large temp. bias
46	LV-OEP	ASDAR/AR007	A0205720	14-15	AR007EPZ	27 Mar. 1999	UK	UK	Aerolineas	B747	Not operational - on hold

Note 1: The 2 South African units will be decommissioned by the end of 2002.