CGMS-XXVII
WMO WP-9
Prepared by WMO
Agenda item: F.3

COORDINATION OF INTERNATIONAL DATA COLLECTION AND DISTRIBUTION - ASDAR/AMDAR

(Submitted by WMO)

Summary and purpose of document

ASDAR (Aircraft to Satellite Data Relay) DCPs use IDCS Channel 18. This document details the current status of the ASDAR equipment and the ASDAR programme and draws attention to the future of ASDAR and other Aircraft Meteorological Data Relay (AMDAR) systems under the umbrella of the recently established AMDAR Panel.

ACTION PROPOSED

This document is submitted for information.

DISCUSSION

Aircraft to satellite Data Relay (ASDAR)

Status

1. ASDAR DCPs transmit on IDCS International Channel 18 using 2 minute timeslots. Twenty-two of 23 units purchased by WMO Members of the Consortium for ASDAR Development (CAD) and the Operating Consortium of ASDAR Participants (OCAP) have been installed on commercial wide-bodied aircraft over the period 1991 - 1999. Of these 18 are expected to be in operational service at the end of 1999. A table giving detailed information on the current operational ASDARs is attached as Annex 1 to this report. ASDAR reports, containing observations of temperature, wind speed , wind direction and turbulence, number around 1800 per day, the majority within the Meteosat footprint as can be seen in the map attached as Annex 2. This shows ASDAR global coverage over the period 26 -31 March 1999.

Operational matters of interest

2. ASDAR data are uplinked in binary format and distributed on the GTS in FM-42-XI Ext. AMDAR code. A code change was introduced in 1997 to identify the 'unsteady' phase of flight (during aircraft manoeuvres). These observations were initially suppressed on the aircraft but problems arose in identifying missed observations from other causes. Problems of date/time stamping have arisen in GTS distribution whereby observations have been assigned to the wrong day as a consequence of the bulletin code specifications. A change to FM-42-XI Ext has been agreed by CBS to include day of month in every AMDAR observation. This code change has not been implemented as of June 1999.

3. Difficulties have arisen with some airlines in responding to requests to adjust ASDAR real-time clocks. Almost all incidents of this nature occur through incorrect clock setting after equipment maintenance. Clock drift in ASDAR DCPs has been insignificant.

Future changes, operational and administrative

4. The OCAP will wind up as a Consortium of WMO Members by the end of 1999. The ASDAR operational programme will continue, under the umbrella of the recently established Aircraft Meteorological Data Relay (AMDAR) Panel, as long as the individual owners are able to maintain the equipment in service. The AMDAR Panel will assume responsibility for international liaison aspects of ASDAR operations, including IDCS matters.

5. ASDAR is the only AMDAR system that makes use of the IDCS. There are many other AMDARs now in operational service and new AMDAR programmes are under development. These systems employ the aircraft avionics computers with dedicated on board software and use standard air-ground data links, including commercial satellite services. It is expected that any future requirements for meteorological satellite services relating to AMDAR will be considered by the AMDAR Panel.

Annex 1

ASDAR INSTALLATION DATA and CURRENT STATUS as at 15 June 1999

IDCS Ident	IDCS address	Timeslot	GTS address	Tail no	Airline and Aircraft Type	End Owner	Remarks
ASDAR/BA000	A020075C	00-01	BA000NEZ	G-AWNE	BA/B747-136	Australia	OOS Aug 99
	A020142A	02-03					BA001 de-commissioned
ASDAR/SV003	A02021B0	06-07	SV003IMZ	HZ-AIM	SV/B747-368	Saudi Arabia	
ASDAR/LH005	A02032C6	10-11	LH005VNZ	D-ABVN	LHB/747-430	Germany	
ASDAR/AR006	A0204456	12-13	AR006LOZ	LV-MLO	AR/B747-287B	Spain	
ASDAR/AR007	A0205720	14-15	AR007EPZ	LV-OEP	AR/B747-200	UK	
	A02062BA	16-17					BA008 de-commissioned
	A02071CC	18-19					BA009 de-commissioned
ASDAR/BA010	A0208148	20-21	BA010PUZ	G-BBPU	BA/B747-136	UK	OOS Nov 99
ASDAR/KL012	AO20923E	24-25	KL012UMZ	PH-BUM	KL/B747-206B	Netherlands	
ASDAR/KL013	A0223732	26-27	KL013UPZ	PH-BUP	KL/B747-206B	USA	
ASDAR/KL014	A02241A2	28-29	KL014URZ	PH-BUR	KL/B747-206B	OCAP/USA	
ASDAR/SA015	A020C242	30-31	SA015AUZ	ZS-SAU	SA/B747-344	Netherlands	
ASDAR/SA016	A020D134	32-33	SA016ATZ	ZS-SAT	SA/B747-344	UK	
ASDAR/MK021	A020E4AE	42-43	MK021AKZ	3B-NAK	MK/B767-200ER	Mauritius	
ASDAR/MK022	A020F7D8	44-45	MK022ALZ	3B-NAL	MK/B767-200ER	Mauritius	
ASDAR/SV023	A02105A6	46-47	SV023IKZ	HZ-AIK	SV/B747-368	OCAP/Saudi Arabia	Large temperature errors (N)
ASDAR/BA025	A02116D0	50-51	BA025LFZ	G-BNLF	BA/B747-436	UK	
ASDAR/BA026	A021334A	53-53	BA026LGZ	G-BNLG	BA/B747-436	UK	
ASDASR/BA027	A021303C	54-55	BA027LJZ	G-BNLJ	BA/B747-436	UK	
ASDAR/BA028	A02146AC	56-57	BA028LLZ	G-BNLL	BA/B747-436	Switzerland	
ASDAR/BA029	A02155DA	58-59	BA029LYZ	G-BNLY	BA/B747-436	Switzerland	

Notes: OOS indicates date unit expected to be de-commissioned.
N denotes data not distributed on GTS at current date

Annex II

ASDAR Coverage 26-31 March 1999