WORLD METEOROLOGICAL ORGANIZATION

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COMMISSION FOR BASIC SYSTEMS
OPEN PROGRAMME AREA GROUP
ON INTEGRATED OBSERVING SYSTEMS

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EXPERT TEAM ON AIRCRAFT-BASED OBSERVING SYSTEMS

ITEM: 5.2

FIRST SESSION

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STATUS AND PROGRESS ON ET-ABO WORK PLAN TASKS 2013-14

ABO Quality Management System

AMDAR Metadata Development
(*Submitted by Stewart Taylor, E-AMDAR Technical Co-ordinator)*

SUMMARY AND PURPOSE OF DOCUMENT

The Report provides a progress and activity report of Metadata for AMDAR.

ACTION PROPOSED

The Session is invited to review and discuss the content of the document and consider the recommendations made.

References:

1. AMDAR Metadata Practice (WIGOS-PP-5-AMDAR-MG/Doc 2.2). http://www.wmo.int/pages/prog/www/OSY/Meetings/WIGOS-PP-5-AMDAR-MG/DocPlan.html
2. Definition of Metadata searches applicable to a wide variety of WMO Datasets. http://www.wmo.int/pages/prog/www/WIS/metadata_en.html
3. Data and metadata representation. http://www.wmo.int/pages/prog/www/WDM/wdm_representation.html
4. Development of the WMO Core Profile of the ISO Metadata standard. http://www.wmo.int/pages/prog/www/WDM/Metadata/documents.html
5. Final Report from AO Data Management Workshop. http://www.wmo.int/amdar/Reports/Aircraft_Observations_Data_Management_Workshop_June_2012_Final_Report.pdf

Appendices:

1. E-AMDAR subset of Metadata

1. BACKGROUND

a. The WIGOS Pilot project for AMDAR (WIGOS-PP-AMDAR) includes a task to provide AO Metadata.
    i. The WIGOS PP has agreed on components of metadata and identified parameters required for the operational monitoring of the AMDAR observing system (WIGOS Metadata) as well as requirements for data discovery, access and retrieval (WIS DAR) Both these metadata types are essential to WIGOS.
    ii. The E-AMDAR Programme approached participating airlines with an example dataset. The information was populated into the metadata dataset and then presented to AO DM and APMG Meetings for discussion.

2. STATUS OF METADATA IMPLEMENTATION

a. The E-AMDAR Technical Co-ordinator (as Metadata Manager (MM) for E-AMDAR Programme) populated – where information was available or provided by the airlines – the metadata dataset agreed during the AO DM Meeting (reference 5).
b. The metadata dataset continues to be maintained by the E-AMDAR MM.
c. A small subset of this dataset is included in Appendix I to this document. The dataset is based on “top level” information at this time, looking at Mandatory information. Optional and long term parameter information will be dependent on airlines providing this information (e.g. engine type, navigation systems and sensor types etc).
d. The current E-AMDAR metadata has been used in operational monitoring e.g. temperature bias studies (E-AMDAR Quality Evaluation Team) by aircraft type and airline.
e. The E-AMDAR Technical Co-ordinator is a Member of the Task Team on WIGOS Metadata (TT-WMD) established by ICG-WIGOS to address standardisation, regulatory issues and improvement of WIGOS observing components. The 1st TT-WMD Meeting was held March 2013 with subsequent webex sessions developing the WIGOS TT-WMD Metadata Standard Document.

3. DEFINITION OF FRAMEWORK

a. For AMDAR metadata a list of several stakeholders was established for contributions.
b. The responsibilities of the stakeholders were defined.
c. Requirements for defined processes and procedures for the population and maintenance of the metadata have been discussed
d. These processes and procedures will need to conform to WIGOS documentation.

4. TECHNICAL REQUIREMENTS

a. Technical requirements have been discussed.
b. Agreement of data format (e.g. MSExcel, csv file, xml, SQLServer (database file) etc). The data format would be accessible by all users.

5. IMPLEMENTATION

a. As agreed at the AO DM Meeting, the E-AMDAR Programme has a metadata dataset in place.
b. This dataset should be provided to WIGOS for integration into WIS DAR.
c. If successful, then the AMDAR Metadata Template should be made available to other Regional Programmes for population and further integration to WIS DAR.
d. This meeting should discuss and agree timescales for these stages of implementation.

6. RISKS

a. There are fairly obvious risks to this Project.
    i. Appropriate level of resources for a MM to populate and maintain dataset. These would need to be factored into Programmes costs.
    ii. Stakeholder buy in and willingness to provide required information regarding fleet and software/hardware equipage.

7. CONCLUSION

a. The E-AMDAR metadata dataset although not fully completed (with all airlines) can be provided to WIGOS for integration.
b. The dataset continues to be maintained.
c. Agreement on data format needed to allow Metadata Template to be forwarded to other Regional Programmes.

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Appendix 1.
E-AMDAR Example of Metadata.

Below is a **subset** of the current metadata spreadsheet that has been compiled by E-AMDAR MM. Some airlines have provided further information on hardware but not included here.
As indicated by the shaded columns, this information is currently not supplied by all airlines.
The Aircraft Model column has been added.
These are Mandatory fields.

AMDAR ID	Aircraft Reg.	Airline	Airline Contact	AMDAR Activated	Aircraft Manufacturer	Aircraft Type	Aircraft Series	Aircraft Model	Aircraft MSN	Airline Avionics Vendor	Airline Onboard Hardware	AMDAR Software	AMDAR Software Version	AMDAR Software configurable
EU0250	XXXX	SAS	Available in full dataset	17/05/2006	Airbus	321	200	232	XXXX	Honeywell	ACARS AOC on ATSU	A620	2	Y
EU0217	LN-TUA	SAS		01/08/2010	Boeing	737	700	705	28211	Teledyne	DMU (ACMS)	A620	4	Y
EU4110	OH-LVA	FIN		01/09/2010	Airbus	319	100	112	1073	Honeywell	ACARS AOC on ATSU	A620	2	Y