International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)
Tenth Meeting of the GREPECAS Aeronautical Meteorology Subgroup (AERMETSG/10)
Buenos Aires, Argentina, 19 to 23 October 2009

Agenda Item 2: Implementation of the World Area Forecast System (WAFS)

b) Review the status of implementation of ISCS

CHANGES TO USER METHODS OF ACCESSING WAFS PRODUCTS VIA THE WASHINGTON WORLD AREA FORECAST CENTER (WAFC)

(Presented by the United States of America)

SUMMARY

The United States (U.S.) Government's current contract for leasing the satellite broadcast capability for the distribution of World Area Forecast System (WAFS) products is set to expire on 30 June 2010. The U.S. is currently researching options for continuing to provide WAFS products to user States following the expiration of its current contract. The U.S. government is soliciting user States to support its proposal and/or respond regarding any impact and concern. Once the U.S. government replaces its current service, States and other interested users will be responsible for arranging their own access to the WAFS products provided by the Washington World Area Forecast Center (WAFC).

1. Introduction

1.1 At the International Civil Aviation Organization (ICAO) Communications/Meteorology (COM/MET) Divisional Meeting in April 1982, it was unanimously agreed that two States/Members would accept responsibility for operation of a World Area Forecast System (WAFS) that provides global products in support of flight planning. The United States (U.S.) and the United Kingdom established World Area Forecast Centres (WAFC) to provide this capability and agreed to provide a satellite broadcast to disseminate these products. Establishment of two centres allowed for the needed redundancy to ensure continuity of service in the event of a failure or disruption of service at one of the centres.

1.2 The report of the 1982 COM/MET Divisional meeting outlined a clear division of responsibility between the provider State and user State for the broadcast and reception of WAFS products via satellite. Paragraphs 1.3 and 1.4 below (in italics) are excerpts from the 1982 meeting report.

1.3 The provider State be responsible for the generation of area forecast products, and making them available in a uniform manner to user States, with no products being uniquely generated on behalf of a particular State or region. The demarcation point at which these products were thus made available was effectively the satellite concerned.

1.4. It is incumbent on the user State to arrange for access to that satellite for the reception of these products, and to arrange nationally for selecting, processing, distributing and making available products in keeping with national requirements and international commitments unique to that State.

1.5 As also indicated in the 1982 meeting report, the Aeronautical Fixed Telecommunication Network (AFTN) that was in place could not effectively process the required WAFS data volumes. Even today, distribution of the large data volume of WAFS products in gridded format requires a telecommunications network with more robust capability than the current AFTN network.

1.6 The U.S., in accepting the responsibility of being a WAFS provider State, currently operates a satellite broadcast for the distribution of WAFS products. The U.S. Federal Aviation Administration (FAA) funds the communication costs for the satellite broadcast. The U.S. National Weather Service (NWS) collects and makes available WAFS data, in addition to managing the contract for leasing the satellite broadcast service from a telecommunications vendor. The NWS contract for leasing the satellite broadcast capability for the distribution of WAFS products is called the International Satellite Communications System (ISCS) 2nd Generation (G2) contract. The ISCS-G2 contract is set to expire on 30 June 2010. Once the contract expires, in accordance with U.S. procurement law, the U.S. government needs to identify and select an alternative method for providing the WAFS service.

1.7 The two primary purposes of this paper are as follows:

1) Advise States on the status of the U.S. effort to replace the expiring ISCS-G2 service.

2) Inform States that once the U.S. replaces its current ISCS-G2 service, States and other interested users will have the responsibility to arrange for their own access to the WAFS products provided by the WAFC.

2. Discussion

2.1 Current ISCS-G2: Changes are required

2.1.1 The U.S., via the WAFC, generates aviation meteorological forecast data products (hereafter referred to as WAFS data products) and makes them available to user States in the Atlantic (AOR) and Pacific Ocean Regions (POR). The primary way users receive these WAFS data products is via a satellite broadcast network. Users require Very Small Aperture Terminal (VSAT) Satellite Ground Station (SGS) equipment to receive the WAFS data products. The VSAT SGS equipment consists of a satellite receiver modem and a receiving antenna.

2.1.2 At its election, the U.S. government has gone beyond its original commitment to ICAO, as detailed in paragraphs 1.3 and 1.4 of this paper, by procuring and gifting to user States the VSAT SGS equipment required to receive WAFS products via the satellite broadcast. The U.S. Government gifted the VSAT SGS, at no cost, to the user States. User States are responsible for the maintenance of this VSAT SGS equipment, and have the option of entering into a service agreement with the service provider of the satellite broadcast. The majority of States elected not to enter into a maintenance service agreement. Fortunately, the equipment has proven very durable and reliable, as reported at this sub-group meeting. Additionally, user States are responsible for procuring a WAFS workstation to ingest the WAFS products received from the satellite broadcast.

2.1.3 The U.S. Government has determined that such equipment can no longer simply be given or donated to a foreign government when it has been purchased with U.S. government appropriated funds. Therefore, once the current ISCS-G2 contract is replaced, States and other interested users will be responsible for arranging their own access to the WAFS products. This arrangement will be consistent with the U.S. Government's original commitment to ICAO, as detailed in paragraphs 1.3 and 1.4 of this paper.

2.1.4 The U.S. government is currently negotiating with the existing ISCS-G2 service provider to extend the existing satellite broadcast service past its current 30 June 2010 expiration through to 30 June 2012. Extending the current ISCS-G2 service insures the least possible short-term impact to users. This option also offers the additional benefit of providing users more time to prepare for the responsibility of arranging for their own access to the WAFS products.

2.2 WAFS Products available via the Public Internet

2.2.1 Following the end of the existing ISCS-G2 contract, or potential ISCS-G2 service extension, the U.S., in consultation with ICAO, is proposing to make WAFS products available for download via a WAFS Internet File Server (WIFS) accessible via the public internet. Under this proposal, the WIFS file server would be the primary means for users to obtain WAFS data products from the Washington WAFC. WIFS is expected to be available for operational use by March 2010. Users would be responsible for arranging their own access to the public internet, and also for any required modifications to WAFS workstation software necessary to download WAFS products off of the WIFS. Users would be provided with a WIFS users guide covering details such as user access, customer login process, file formats, and directory structures. For further details on this proposal, see related U.S. Working Paper titled "Use of the Public Internet".

2.2.2 In support of the U.S. proposal, per the recently completed CNS/MET SG/13 of APANPIRG held 20-24 July in Bangkok, Thailand, the meeting developed the following decision based on the discussion above:

Draft Decision 13/30 – Use of the public Internet to access OPMET data and WAFS forecasts

> *That, OPMET data and WAFS forecasts currently distributed through the ISCS, if only used for flight planning, can be considered non-time critical and therefore, can be accessed through the public internet. Note: Relevant ICAO guidance will be updated accordingly, subject to consideration of a similar decision by the WAFSOPSG/5 Meeting and subsequent endorsement by ANC.*

3. Recommendation

3.1 Taking into consideration the above discussion, the following proposed decision has been formulated:

DRAFT
DECISION 10/XX WASHINGTON WAFC TO ADVISE STATES ON THE EXTENSION OF THE G2 AND THE IMPLEMENTATION OF THE WAFS FILE SERVER

That,

1. That Washington WAFC will continue to work on extending the current ISCS-G2 service through 30 June 2012 to allow users sufficient time to transition to replacement services.

2. That Washington WAFC will provide an operational WAFS Internet File Server (WIFS) by March 2010.

3.2 Taking into consideration the above discussion, the following proposed conclusion has been formulated:

DRAFT
DECISION 10/XX - REPLACING EXPIRING ISCS-G2

1. WAFS user States are responsible for access to the WAFS products provided by the Washington WAFC.

   Note: User States are asked to respond regarding potential operational and technical impacts of a transition to making WIFS the primary means of obtaining WAFS data products from the Washington WAFC.

2. The USA, in consultation with ICAO, will advise user States to make WIFS the primary means for obtaining WAFS data products from the Washington WAFC.

4. **Action required**

4.1 The meeting is invited to note the information in this paper.

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