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

**b) Review of the status of implementation of the ISCS**

**REPORT ON THE EFFICACY OF THE INTERNATIONAL SATELLITE BROADCAST  
SYSTEM FOR CAR/SAM**

(Presented by United States of America)

**Summary**

Information on the 24-hour ISCS Help Desk, ISCS broadcast performance statistics, and the results of the 2005 – 2006 ISCS Efficacy Survey in CAR/SAM States/Territories are presented.

**1. Introduction**

1.1 The Meeting will recall from AERMETS/8 that several States described problems that had occurred with the reception of the WAFS products using the ISCS. They also expressed a desire to improve the coordination with WAFC Washington.

**2. ISCS Help Desk**

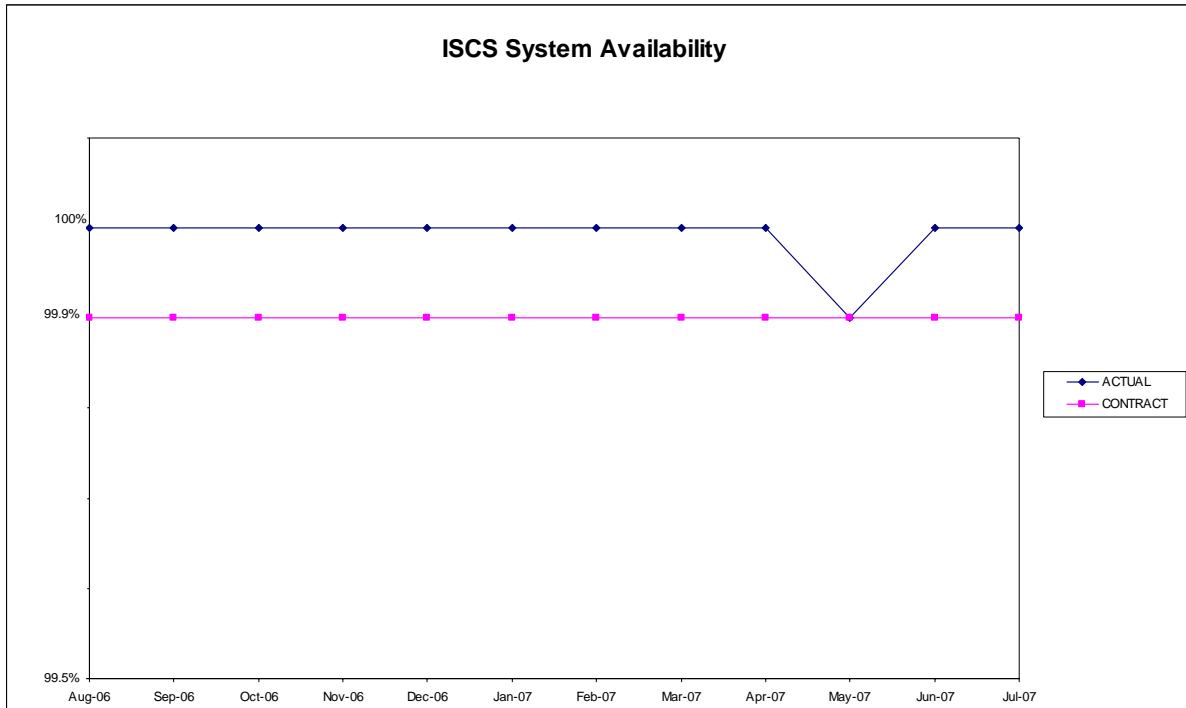
2.1 The U.S. National Weather Service (NWS) Telecommunications Operations Center (TOC) operates the ISCS Help Desk 24 hours a day and 7 days a week. Fifteen (15) requests for help from eight (8) Member States were processed and resolved during the 12 months between September 2006 and August 2007.

2.2 ISCS users can find information on how to report problems related to the reception of WAFS data at: <http://www.weather.gov/iscs/trouble.htm>. This site also contains an installation and troubleshooting guide for the VSAT receiver, satellite modem and antenna.

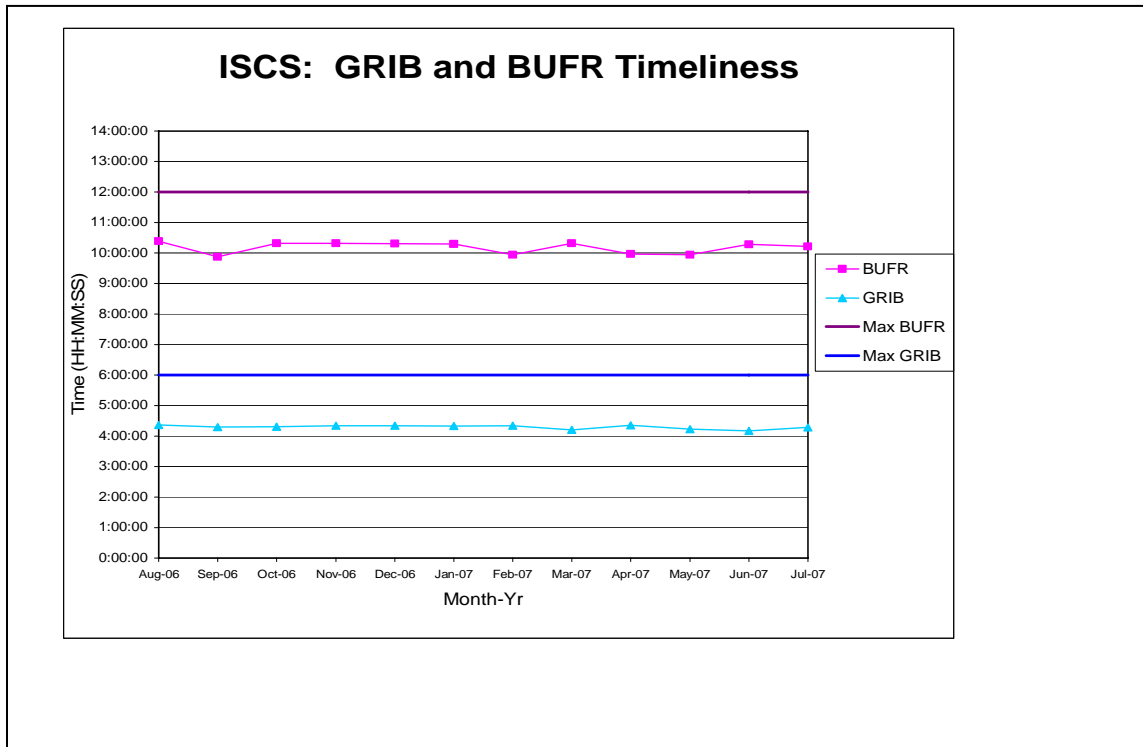
2.3 ISCS users without access to the Internet may report problems by calling the ISCS Help Desk at 1-303-713-0902 or by sending a FAX to 1-301-587-1773.

### 3. ISCS Operation Statistics

3.1 During the 12 months from August 2006 through July 2007 the ISCS was available over 99.99% of the time (Figure 1). The 99.9% availability requirement was exceeded in every month except May 2007.



3.2 During the 12 months from August 2006 through July 2007 the ISCS fully met the ICAO Annex 3 requirement for timely broadcast of GRIB-1 products within 6 hours of the initial synoptic time, and BUFR SIGWX products no later than 12 hours before its validity time.



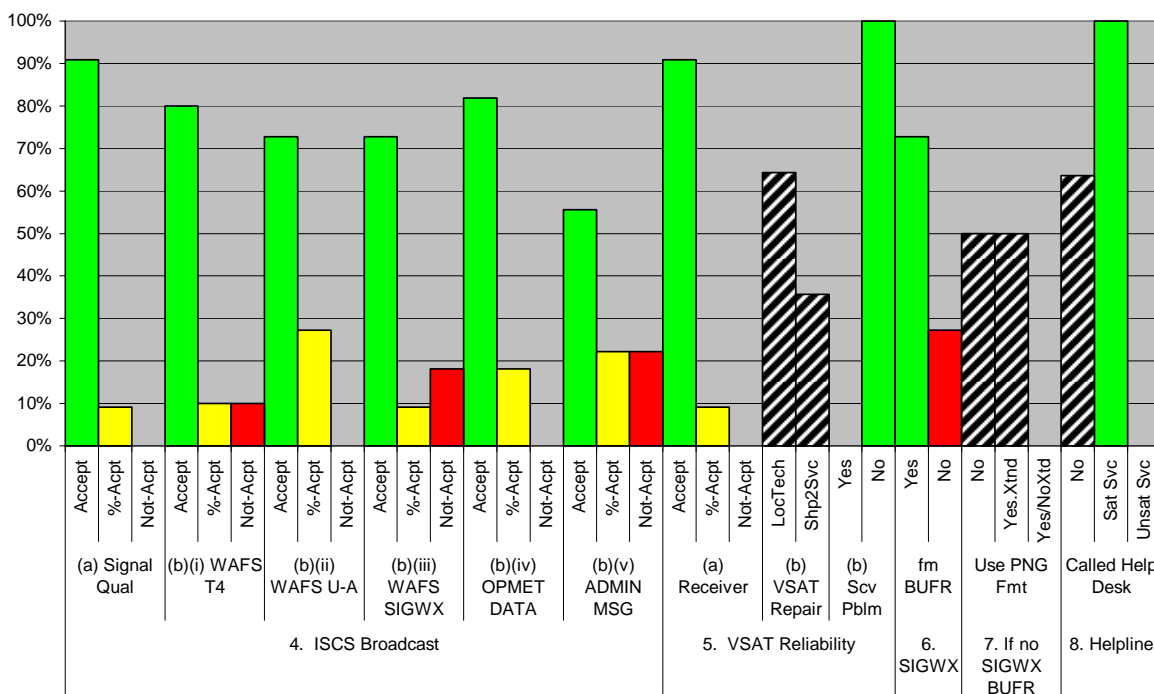
#### 4. Discussion

4.1 It should be noted that the majority of the CARSAM States (13/16) responded to the questionnaire (See example of blank questionnaire in 4.3). The ISCS Provider State has reviewed the completed questionnaires. The analyses of the completed questionnaires indicate the following top level results; scored from best to worst as “Acceptable”, “Percentage Acceptable”, and “Not Acceptable”: Percentages have been rounded to the nearest 5%

- 55% of States considered that the service administrative messages were acceptable;
- 70% of States reported acceptable availability of upper-air data in the GRIB code form;
- 70% of States reported acceptable availability of SIGWX data in the BUFR code form;
- 80% of States reported acceptable availability of OPMET messages;
- 70% of States reported that they are able to produce WAFS SIGWX charts from the BUFR code form;
- 90% of States reported acceptable VSAT signal quality;

- 90% of States reported an acceptable overall assessment of the VSAT;
- 100% of States reported no difficulties when VSAT receiving equipment was shipped back to the service provider for repairs;
- 100% of States contacting the Provider State Help Desk reported satisfactory technical support was provided.

### 2005-2006 ISCS-WAFS Survey Summary



4.2 One issue that stands out from the questionnaire which may require further discussion and evaluation is the ability of the State’s to ingest and provide SIGWX charts from the BUFR code form. Some States have noted they have experienced problems in using the BUFR code form to provide the SIGWX charts. This same issue was also discussed at AERMETS/8.

4.3 The questionnaire used to gather information for this paper is provided in **Appendix A** and is modeled after the questionnaire used by the Satellite Distribution System Operations Group (SADISOPSG). The intent of using the same survey is to harmonize the questions being asked to ISCS user States and SADIS user States to determine if there are any commonalities in issues or problems that have been identified by States under the ISCS and SADIS footprint. If the group has suggestion on how to improve the survey they are most welcomed. The WAFS Provider States for CAR/SAM can take suggested changes back to SADISOPSG for consideration for the purpose of improving the quality of survey.

4.4 The responses to the survey for each State are summarized in **Appendix B**. Note that a positive response or yes to the question is designated as a '1' in the matrix table in Appendix B.

5. **Action by the meeting**

5.1 The meeting is invited to:

- a) note the information provided in this paper; and
- b) adopt any appropriate conclusions.

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## APPENDIX A

### ASSESSMENT OF THE OPERATIONAL EFFICIENCY OF THE ISCS1 BROADCAST DURING 2005-2006 IN CAR/SAM STATES/TERRITORIES

1. State/Territory:
2. Number of ISCS1 VSATs installed and operational in your State/Territory?
3. Location of ISCS1 VSAT in your State/Territory assessed in this survey? \_\_\_\_\_

*Note.- If you indicate "not acceptable," it would be appreciated if a brief explanation of the problem could be provided. Please include additional remarks in No. 10. **APPENDIX** – Additional Remarks.*

4. Overall assessment of the ISCS1 broadcast during the period January 2006 through December 2006 (tick appropriate bracket)

a) Signal quality (reception)

acceptable	[ ]
not acceptable	[ ]
percentage acceptable	[ ]

*Remarks: Not able to assess since it is not being used*

b) Data/product availability at the VSAT receiver (i.e., excluding the performance of user processing/display equipment and associated software)

i) WAFS products in T4 facsimile format

acceptable	[ ]
not acceptable	[ ]
percentage acceptable	[ ]

*Remarks: Not able to assess since it is not being used*

ii) WAFS global upper-air wind/temperature/humidity bulletins in the GRIB code

acceptable	[ ]
not acceptable	[ ]
percentage acceptable	[ ]

*Remarks: Not able to assess since it is not being used*

iii) WAFS SIGWX bulletins in the BUFR code form

acceptable	[ ]
not acceptable	[ ]
percentage acceptable	[ ]

*Remarks: Not able to assess since it is not being used*

iv) OPMET message information (METAR, TAF, SIGMET, etc.)

- acceptable [ ]
- not acceptable [ ]
- percent acceptable [ ]

*Remarks: Not able to assess since it is not being used*

c) a) Administration (service) messages

Do you consider that the administrative messages broadcast on ISCS1 were sufficient to keep you advised of the broadcast status?

- acceptable [ ]
- not acceptable [ ]
- percent acceptable [ ]

*Remarks: Not able to assess since it is not being used*

5. a) Overall assessment of the reliability of VSAT receiving equipment (i.e., excluding user processing and display equipment and associated software)

- acceptable [ ]
- not acceptable [ ]
- percentage acceptable [ ]

*Remarks: Not able to assess since it is not being used*

b) If faults developed in the VSAT receiving equipment, were these faults repaired by:

- i) local technicians<sup>1</sup> or [ ]
- ii) shipping the unit back to the service provider [ ]

If you ticked i) above, indicate the nature of the repairs below.

If you ticked ii) above, were any difficulties encountered regarding the response of the service provider and/or shipping of the faulty units for repair?

- yes [ ]
- no [ ]

*Remarks:* \_\_\_\_\_

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<sup>1</sup> Users should ensure that repair by local technicians does not infringe warranty of the equipment.

6. Are you able to produce WAFS SIGWX charts from the BUFR code form which are compliant with software criteria available from [www.metoffice.gov.uk/ISCS1/software/index.html](http://www.metoffice.gov.uk/ISCS1/software/index.html) or from <http://aviationweather.gov/products/swh>?

yes

no

If you ticked “yes” above, indicate the name of the software supplier and software package being used

Supplier:  
Package:

7. If you ticked “no” in Question 6 above, are you currently using WAFS SIGWX charts in the PNG format, provided on a trial basis, through the WAFS FTP service?

yes

no

If you ticked “yes” above, indicate whether you would require these charts beyond the trial period?

yes

no

8. Assessment of ISCS1 24-hour Helpline/Faults Desk

During the period under review, did you have occasion to contact the ISCS1 24-hour Helpline/Faults Desk?

yes

no

If “yes”, was the technical support provided satisfactory?

yes

no

Remarks: \_\_\_\_\_

9. Additional comments related to the operational efficacy of the ISCS1 broadcast during 2006.

Remarks.

10. **APPENDIX** – Additional Remarks



**APPENDIX B**

**ISCS 2005-2006 SURVEY RESPONSE SUMMARY  
IN CAR/SAM STATES/TERRITORIES**

State	No. VSAT	Loc	Type	4. ISCS Broadcast																	
				(a) Signal Qual			(b)(i) WAFS T4			(b)(ii) WAFS U-A			(b)(iii) WAFS SIGWX			(b)(iv) OPMET DATA			(b)(v) ADMIN MSG		
				Accept	%-Acpt	Not-Acpt	Accept	%-Acpt	Not-Acpt	Accept	%-Acpt	Not-Acpt	Accept	%-Acpt	Not-Acpt	Accept	%-Acpt	Not-Acpt	Accept	%-Acpt	Not-Acpt
Argentina	1	Serv Met NAC	Corbor	1																	
Chile	1	Santiago	Morcom		1				1					1					1		
Columbia	2	Aero. El Dorado Bogota	Meteostar	1			1			1				1					1		
Cuba	2	Aero. Intl. Jose Marti La Habana	InfoSystem	1			1			1				1							
Ecuador	1	Sucre	NETSYS	1			1			1				1							
French Guiana	1	Rochambeau Airport	Synergie	1			1			1				1					1		
Guyana	1	Airport	Corbor	1			1			1				1					1		
Mexico	1	Aero. Intl. de la Ciudad de Mexico	Morcom	1			1			1				1					1		
Trinidad and Tobago	1	PIARCO	Corbor	1			1			1				1					1		
Puerto Rico and US Virgin Is.	1	WFO San Juan	GST Metlab	1			1			1				1					1		
Venezuela	1	Aero. Intl. Simon Bolivar	UNKNOWN	1			1			1				1					1		
			Avg	0.9091	0.0909	0	0.8	0.1	0.1	0.7273	0.2727	0	0.7273	0.0909	0.18182	0.8182	0.1818	0	0.5556	0.2222	0.22222
			Green	0.9091			0.8			0.7273			0.7273			0.8182			0.5556		
			Yellow		0.0909		0.1			0.2727			0.0909			0.1818				0.2222	
			Red			0			0.1			0			0.18182			0			0.22222
			Neutral																		

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State	No. VSAT	Loc	Type	5. VSAT Reliability						6. SIGWX		7. If no SIGWX BUFR			8. Helpline			
				(a) Receiver			(b) VSAT Repair		Scv Pbl		fm BUFR		Use PNG Fmt			Called Help Desk		
				Accept	%-Acpt	Not-Acpt	LocTech	Shp2Svc	Yes	No	Yes	No	No	Yes.Xtnd	Yes/NoXtd	No	Sat Svc	Unsat Svc
Argentina	1	Serv Met NAC	Corbor	1							1					1		
Chile	1	Santiago	Morcom		1							1	1			1		
Columbia	2	Aero. El Dorado Bogota	Meteostar	1			1				1		1		1	1		
Cuba	2	Aero. Intl. Jose Marti La Habana	InfoSystem	1								1		1			1	
Ecuador	1	MET APTO. Mariscal Sucre	NETSYS	1			1				1					1		
French Guiana	1	Rochambeau Airport	Synergie	1			1				1		1				1	
Guyana	1	CIAL Airport	Corbor	1			1	1	1	1			1				1	
Mexico	1	Aero. Intl. de la Ciudad de Mexico	Morcom	1				1	1	1						1		
Trinidad and Tobago	1	PIARCO	Corbor	1						1							1	
Puerto Rico and US Virgin Is.	1	WFO San Juan	GST Metlab	1			1			1						1		
Venezuela	1	Aero. Intl. Simon Bolivar	UNKNOWN	1								1	1			1		
			Avg	0.9091	0.0909	0	0.64286	0.35714	0	1	0.7273	0.2727	0.5	0.5	0	1	1	0
			Green	0.9091						1	0.7273						1	
			Yellow		0.0909													
			Red			0			0		0.2727	0.5						0
			Neutral				0.64286	0.35714					0.5	0.5	0	1		