



**WORKING PAPER**

**SATELLITE DISTRIBUTION SYSTEM OPERATIONS GROUP (SADISOPSG)**

**THIRTEENTH MEETING**

**Dakar, Senegal, 27 to 29 May 2008**

**Agenda Item 6: Development of the SADIS**

**6.7: Long-term planning of SADIS**

**LONG-TERM PLANNING OF SADIS FOR YEARS 2009 TO 2013**

(Presented by the Secretary based on advice by the SADIS Provider State)

**SUMMARY**

This paper presents a long-term plan of the SADIS for the next five years related to expected major changes to the system for endorsement by the group.

**1. INTRODUCTION**

1.1 The group will recall that it formulated Conclusion 11/22 calling for the SADIS Provider State to elaborate and keep up-to-date a concise long-term plan for the major development of the SADIS system covering a period of five years for review and endorsement by the SADISOPSG.

1.2 Furthermore, the group will also recall that it formulated Conclusion 12/22 calling for the SADIS Provider State to include an estimate of the scope (i.e. major versus minor) and nature (i.e. hardware and/or software impacted) of the changes on SADIS users as part of the long-term plan, in time for the SADISOPSG/13 Meeting.

**2. DISCUSSION**

2.1 In order to facilitate the long-term planning by SADIS user States for maintaining and upgrading their SADIS receiving equipment (including workstations), the SADIS Provider has drafted a 5-year plan. This plan was submitted to the Secretary for inclusion in this working paper on 15 March 2008.

2.2 In drafting the plan, the SADIS Provider State has paid due consideration to the life expectancy of SADIS related services and systems. The plan has also taken into account the amendment cycle of Annex 3 – *Meteorological Service for International Air Navigation* in order to minimise the

frequency of changes, and the corresponding operational and financial implications to the users. Furthermore, it has been recognised that in the formulation of the SADIS 5-year plan, due consideration has to be paid to the equivalent WAFS 5-year plan that has been developed by the WAFS Provider States and endorsed by the WAFSOPSG.

2.3 The SADIS 5-year plan covering years 2009 to 2013 is available at Appendix A to this working paper, with reference to the proposed SADISOPSG meeting schedule and Annex 3 amendment cycle.

2.4 To assist workstation vendors and users alike to better understand the proposals outlined in this long-term plan, additional background information has been prepared by the SADIS Provider State, and is presented in Appendix B.

2.5 The group is invited to review the plan and formulate the following decision:

**Decision 13/.. — SADIS long-term plan 2009-2013**

That, the concise long-term plan covering a period of five years, given in the appendix.<sup>1</sup> be endorsed.

*Note. — The long-term plan is a planning tool and certain milestones are still subject to formal endorsement by the SADISOPSG or WAFSOPSG.*

**3. ACTION BY THE SADISOPSG**

3.1 The SADISOPSG is invited to:

- a) note the information in this paper; and
- b) decide on the draft decision proposed for the group's consideration.

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<sup>1</sup> The draft long-term plan is in Appendix A of this working paper.

APPENDIX A

SADIS LONG-TERM PLAN FOR THE YEARS 2009-2013

<i>SADIS MILESTONES</i> <i>Note: Service(s) affected in { } brackets</i>	<i>SCOPE</i> <i>(Major versus Minor)</i>	<i>NATURE</i> <i>(Hardware and/or Software)</i>	<i>SADISOPSG</i> <i>Meeting Schedule</i>	<i>ICAO Annex 3</i> <i>amendment cycle</i>
<b>By January 2009:</b> SADIS FTP enhanced service launched (Phase 1), encompassing dual server capability. {SADIS FTP}	Minor	Software		
<b>January 2009:</b> Cessation of SADIS 1G satellite broadcast. {SADIS 1G}	Major	Hardware		
<b>January 2009:</b> Maintain allocation of SADIS 1G bandwidth for intended future utilisation by the SADIS 2G service. {SADIS 2G}	Minor	Hardware		
<b>April to September 2009:</b> Compressed GRIB 2 WAFS data dissemination trial on SADIS 2G involving a limited number of users. {SADIS 2G}	Minor	Hardware and software	<b>May 2009:</b> SADISOPSG/14	
<b>October 2009:</b> Provision of compressed GRIB 2 code form WAFS data in parallel with uncompressed GRIB 1 data on SADIS. {SADIS 2G and SADIS FTP}	Major	Hardware and software		
<b>October 2009 to November 2011:</b> SADIS workstation vendors develop GRIB 2 decoders and software (including decompression algorithms) to enable the visualisation of higher-resolution WAFS upper-air gridded forecasts (including icing, turbulence and cumulonimbus cloud fields). {SADIS 2G and SADIS FTP}	Major	Software		
<b>By March 2010:</b> Determine need to increase SADIS 2G data transfer rate in view of GRIB 2 trial results (when available). {SADIS 2G}	Major	Hardware	<b>May 2010:</b> SADISOPSG/15	
<b>November 2010:</b> SADIS FTP Secure service launched (Phase 2), encompassing dual server capability and security features. Initially, this new service is expected to be provided in parallel with pre-existing enhanced FTP service. {SADIS FTP}	Major	Software		<b>November 2010:</b> Amendment 75

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<b>November 2010 to November 2011:</b> SADIS user workstations upgraded to accept utilisation of SADIS FTP Secure service. {SADIS FTP}	Major	Software		
<b>February 2011:</b> Confirm date for the cessation of WAFS upper-air forecasts in the GRIB 1 code form on the SADIS broadcast <sup>2</sup> . {SADIS 2G and SADIS FTP}	Major	Software		
<b>May 2011:</b> Determine cessation date of SADIS FTP enhanced, given the implementation of the SADIS FTP Secure service. {SADIS FTP}	Major	Software	<b>May 2011:</b> SADISOPSG/16	
<b>November 2011:</b> Cessation of SADIS FTP enhanced, given the implementation of the SADIS FTP Secure service. {SADIS FTP}	Major	Software		
<b>November 2011 to November 2013:</b> SADIS user workstations upgraded to accept compressed GRIB 2 code form WAFS data (including processing and visualisation) {SADIS 2G and SADIS FTP}	Major	Hardware and software		
<b>May 2012:</b> Determine future SADIS bandwidth and/or data transfer rate requirements based on proposed cessation date of GRIB 1 code form WAFS data (and WAFS SIGWX in BUFR-code and PNG-chart form). {SADIS 2G}	Major	Hardware and software	<b>May 2012:</b> SADISOPSG/17	
<b>November 2013:</b> Cessation of WAFS upper-air forecasts in the GRIB 1 code form and WAFS SIGWX forecasts in the BUFR-code and PNG-chart form on SADIS. {SADIS 2G and SADIS FTP}	Major	Software	<b>May 2013:</b> SADISOPSG/18	<b>November 2013:</b> Amendment 76

## APPENDIX B

### BACKGROUND INFORMATION RELATED TO SADIS MILESTONES IN YEARS 2009 TO 2013

To assist workstation vendors and users alike to better understand the proposals outlined in this long-term plan, additional background information has been prepared by the SADIS Provider State:

1. Subject to endorsement by the SADISOPSG/13 meeting, the SADIS Provider State intends to develop an enhanced version of the existing SADIS FTP service. The enhanced capability will be largely transparent to end user (i.e. existing login credentials will remain the same), however the service will benefit from dual server capability.
2. Subject to endorsement by the SADISOPSG/13 meeting and in view of the operational implementation of the SADIS 2G service, the SADIS 1G service is expected to end on, or soon after, 31 December 2008. Users who have not migrated to SADIS 2G by the end of 2008 may consider it necessary to utilise the SADIS FTP service (as an interim measure) until they have procured a SADIS 2G VSAT receiving system.
3. In view of fostering the future provision of compressed GRIB 2 code form WAFS forecasts on the SADIS broadcast, the SADISOPSG may deem it appropriate to maintain the existing bandwidth requirements into 2009 and beyond, and determine future needs. A GRIB 2 data dissemination trial planned for the second or third quarter of 2009, and involving a small select group of users, is expected to review the time taken to encode and compress GRIB 2 WAFS data sets; the time taken to transmit the data; and the time taken to decompress and decode the data at the user end.
4. Initially, the GRIB 2 code form WAFS upper air forecasts (including icing, turbulence and CB) will be disseminated on the SADIS FTP service only. However, subject to endorsement by the WAFSOPSG/5 meeting in late-2009, it may be determined that the GRIB 2 products should be provided in parallel with GRIB 1 forecasts on the SADIS satellite broadcast.
5. SADIS workstation vendors and flight planning systems will be afforded over 4 years of GRIB 2 data availability, in parallel with GRIB 1, to develop systems that are capable of accepting, processing and visualising GRIB 2 WAFS data. End-user systems would be expected to be upgraded to handle GRIB 2 before the GRIB 1 data is withdrawn from service.
6. Subject to endorsement by the SADISOPSG/13 meeting, the SADIS Provider State intends to develop a further enhanced version of the SADIS FTP service. The SADIS FTP Secure service will benefit from dual server capability and security features. This new service *will* necessitate a re-configuration or upgrade of end user workstations, since pre-existing login credentials are not expected to work on the new server. Users will be afforded a parallel running period of the pre-existing and secure SADIS FTP services, to allow them to update their systems. Subject to endorsement by SADISOPSG/16, the pre-existing service may be withdrawn in late-2011 in view of the implementation of the SADIS FTP Secure service.

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