

**SADIS COST RECOVERY ADMINISTRATIVE GROUP  
(SCRAG)**

**THIRTEENTH MEETING**

(Paris, 2 November 2012)

**Agenda Item 2: Consideration of issues relevant to the SCRAG's work addressed by the  
SADIS Operations Group (SADISOPSG)**

**REPORTS ON CONCLUSIONS OF THE SADISOPSG/17 MEETING**

(Presented by the Chairperson of the SADIS Operations Group)

**1. Introduction**

1.1 This paper includes the following Attachments received from the Chairperson of the SADISOPSG:

- **Attachment 1:** Executive Summary of the seventeenth meeting of the SADIS Operations Group (SADISOPSG/17, Cairo, 29-31 May 2012);
- **Attachment 2:** Annual statement of operational efficacy of SADIS 2011/2012;
- **Attachment 3:** SADIS inventory 2012/2013;
- **Attachment 4:** Procurement of a replacement SMS-301 Modem Protection Switch for SADIS 2G satellite uplink; and
- **Attachment 5:** Initiation of tests of the ISDN backup capability for the SADIS 2G satellite broadcast and associated recovery of costs.
- **Attachment 6:** Annual support to SADIS provided by the ICAO Secretariat.

**2. Action by the Group**

2.1 The Group is invited to review the information presented in this paper.

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**SEVENTEENTH MEETING**

**SADIS OPERATIONS GROUP  
(Cairo, Egypt, 29 to 31 May 2012)**

**EXECUTIVE SUMMARY<sup>1</sup>**

**1. INTRODUCTION**

1.1 The seventeenth meeting of the SADIS Operations Group (SADISOPSG/17) was held at the Middle East (MID) Regional Office, Cairo, 29 to 31 May 2012. Fifteen (15) participants from nine (9) States, including the focal point representative of the European OPMET Data Management Group (EUR OPMET DMG), and one international organization (the International Air Transport Association (IATA)) attended the meeting.

1.2 The group elected Ms. Gaborekwe Khambule (South Africa) as the Chair of the group, and Ms. Zou Juan (China) as the Vice-Chair. Ms. Khambule presided over the meeting throughout its duration.

**2. FOLLOW-UP OF SADISOPSG/16 CONCLUSIONS**

2.1 With regard to the follow-up of the SADISOPSG/16 conclusions, the group noted that action had been completed on all the conclusions except for Conclusions 16/12 and 16/23 a). In respect of Conclusion 16/12, the group noted that the prioritization of WAFS forecasts in the GRIB code form on SADIS would be implemented on 5 July 2012 in accordance with the previously agreed schedule. In respect of Conclusion 16/23 a) concerning the restoration of a comparator functionality for the SADIS second-generation (SADIS 2G) satellite broadcast, the group agreed to implement alternative monitoring capability under Conclusion 17/28 (Decision 17/1).

**3. OPERATION OF THE SADIS**

3.1 With regards to the SADIS management report, prepared annually by the SADIS Provider State, the group agreed to conduct a review of its future content to ensure that it remained a point of reference for the reporting of important SADIS-related events during the period under review, and a repository for information relating to the provision and availability of the service (Conclusion 17/2).

3.2 With regards to the list of SADIS operational focal points, the group concurred that it provided useful contacts for the SADIS Provider State and the ICAO Regional Offices concerned to resolve operational issues, and agreed that ICAO should update the list in time for the dispatch of the SADIS efficacy questionnaire in December 2012 (Conclusion 17/3).

3.3 The group reviewed the operation of SADIS during 2011/2012 based on the annual management report from the SADIS Provider State and on responses from fifty-three States to the annual questionnaire on the operational efficacy of the SADIS. Concerning the annual questionnaire, the group was particularly pleased to note the consistently high percentage of users reporting good availability of the world area forecast system (WAFS) forecasts (in GRIB and BUFR code forms) and OPMET information on both the SADIS 2G satellite broadcast and the SADIS Internet-based file transfer protocol

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<sup>1</sup>The full report is available at the following website: [www.icao.int/safety/meteorology/sadisopsg/](http://www.icao.int/safety/meteorology/sadisopsg/)

(FTP) services. Recognizing that the SADIS FTP service would be withdrawn from service on 30 November 2012 (in accordance with Conclusion 16/15), and given the availability (on SADIS) of WAFS forecasts in the GRIB 2 code form in addition to GRIB 1 code form, the group agreed to a revision to the format of the annual questionnaire in this regard (Decision 17/4). The group, including IATA, also agreed that the SADIS satellite broadcast and SADIS Internet-based FTP services had continued to meet the operational requirements during the period under review and that the SADIS Cost Recovery Administrative Group (SCRAG) be informed through its Chair accordingly (Conclusion 17/5).

3.4 The group reviewed the SADIS inventory for 2012/2013, and, in order to ensure that SADIS continued to meet the approved operational requirements, proposed amendments to the inventory that would be forwarded to the SCRAG through its Chair accordingly (Conclusion 17/6). The group agreed that a recently identified faulty switch on the SADIS 2G uplink infrastructure should be replaced by the SADIS Provider State to maintain the expected level of service resilience, acknowledging the associated costs and timescale to implement a replacement unit, and that the SCRAG be informed through its Chair accordingly (Conclusion 17/7).

3.5 The group reviewed and consequently endorsed a policy that describes the process for determining from which Internet-based service (SADIS FTP/Secure SADIS FTP and/or the WAFS Internet File Service (WIFS)) a State/user should obtain authorized access to the OPMET information and WAFS forecasts (Decision 17/8), and noted that this was included in a new (fifth) edition of the SADIS User Guide accordingly.

## **4. CONTENT OF THE SADIS BROADCAST**

### **4.1 OPMET information**

4.1.1 With regards to recurrent requests for the modification of TAF requirements from AOP aerodromes, it was recalled that such requests should be addressed to the ICAO regional office(s) concerned, since the provision of TAF was subject to formal regional air navigation (RAN) agreement. Meanwhile, the group reviewed a proposal made by IATA concerning OPMET information from non-AOP aerodromes. The group noted that the proposal also included a request by the Netherlands, through IATA, that included OPMET information from offshore structures (non-AOP) located in the North Sea to align with the facilities and services implementation document (FASID) Table MET 1C of the ICAO European Air Navigation Plan (Doc 7754). Having reviewed and endorsed the aforementioned proposals, the group tasked the Secretariat to modify the requirements, subject to States' concurrence, accordingly (Conclusion 17/9).

4.1.2 With regards to the harmonization of OPMET information on SADIS and the ISCS/WIFS, the group agreed to readdress the issue in the form of an alignment activity of SADIS and WIFS with Annex 1 of the SADIS User Guide (noting that ISCS would be withdrawn on 1 July 2012) (Conclusion 17/10). In view of a need to maintain the currency of OPMET information requirements and provision on SADIS and ISCS/WIFS, the group agreed to the establishment of a notification process for the SADIS and ISCS/WIFS Gateway Providers and the regional OPMET data banks when updates to Annex 1 of the SADIS User Guide have taken place (Conclusion 17/11).

4.1.3 The group, including IATA, reaffirmed a requirement recorded at SADISOPSG/1 for the dissemination of special air-reports on SADIS (Decision 17/12) and agreed that SADIS Gateway implement necessary routing of such reports received to the SADIS broadcast accordingly (Conclusion 17/13). In addition, the group requested the development, by an appropriate ICAO group, of a draft amendment proposal to Annex 3 – *Meteorological Service for International Air Navigation* that provides for the dissemination of special air-report to the centres designated by regional air navigation agreement for the operation of aeronautical fixed service satellite distributions systems (Conclusion 17/14).

Recognizing that the incorrect allocation, by States, of WMO abbreviated header lines (AHL) for special air-reports could hamper availability at the SADIS Gateway and thus on the SADIS broadcast, the group agreed to the establishment of an inventory of WMO AHLs used by States to promulgate special air-reports (Conclusion 17/15).

## 4.2 **WAFS forecasts**

4.2.1 With regards to Annex 4 to the SADIS User Guide, which lists the WAFS forecasts disseminated on SADIS, the group noted that no substantive changes to WAFS service provision had occurred since the last meeting. However, as part of the annual review of the SADIS User Guide, Annex 4 had been realigned concerning the WAFS GRIB and significant weather (SIGWX) forecast content and the examples of WAFS SIGWX forecast charts. Additionally, there had been a transfer of non-WAFS related material from Annex 4 of the SADIS User Guide to a new Annex (namely Annex 5).

## 5. **DEVELOPMENT OF THE SADIS**

### 5.1 **Report of the SADISOPSG Technical Developments Team**

5.1.1 The group recalled that the SADISOPSG Technical Developments Team was expected to monitor, report, and propose action on, technological developments having an impact on SADIS. The group noted that the issues dealt with by the SADISOPSG Technical Developments Team since the last meeting were related to:

- a) Establishment of an integrated services digital network (ISDN) backup capability for SADIS 2G;
- b) Establishment of a threshold for an operational data volume concerning the SADIS FTP/Secure SADIS FTP services; and
- c) Procurement of an additional VadEdge 4200 unit at the SADIS Provider for improved SADIS 2G reception capability.

5.1.2 In respect of the establishment of an ISDN backup capability for SADIS 2G between the ISCS/WIFS Gateway Provider and the SADIS Gateway Provider; and between the SADIS Gateway Provider and the SADIS satellite uplink facility, the group was pleased to note that a test programme instigated since the last meeting had demonstrated the operational capability of the link, and that the link had proven very effective during an operational contingency mode in July 2011. The group agreed that the ISDN backup capability for SADIS 2G could therefore be considered operational (Decision 17/16). In addition, the group invited to SADIS Provider State to initiate routine tests and optional stress tests of the ISDN link, with the costs associated with such tests and any operational activation of the backup arrangement being recoverable under the SADIS cost recovery arrangement. In this regard, the group requested that the SCRAG being informed through its Chair accordingly (Conclusion 17/17).

5.1.3 In respect of the establishment of a threshold of data volume to be used to determine if a user of the SADIS Internet-based FTP services (SADIS FTP/Secure SADIS FTP) was making use of the service(s) operationally, and in view of the availability of the WIFS as a backup for authorized SADIS users, the group reviewed and endorsed access criteria (Decision 17/18), and concurred that they be considered for inclusion in the SADIS User Guide accordingly (Conclusion 17/19).

5.1.4 In respect of the procurement of an additional VadEdge 4200 unit to align the SADIS Provider State's SADIS 2G reception capability with that of the users, the group was pleased to learn that an additional VadEdge 4200 unit had been procured in August 2011.

## 5.2 **SADIS satellite broadcast**

5.2.1 The group reviewed a comprehensive report by an ad-hoc group concerning the future of the SADIS satellite broadcast beyond 2015. The report provided a technical overview of satellite and alternative technologies, future data content, and costs estimates for a range of possible solutions. The group noted that the ad-hoc group had concluded that if any significant change to the current SADIS 2G satellite broadcast were considered necessary, then guidance should be sought from the planned ICAO Meteorology Divisional Meeting in 2014 due to the potentially far-reaching consequences for SADIS user States. In addition, the group recognized that there was a need to consider future (SADIS) service provision in the context of the aviation system block upgrades (ASBU) concept that was forming a principle component of the ICAO's Twelfth Air Navigation Conference (AN-Conf/12) in November 2012 in view of fostering the implementation of the global air traffic management system. In this regard, the group agreed to develop recommendations concerning future (SADIS) service provision in time for the next meeting (Conclusion 17/20).

## 5.3 **SADIS Internet-based FTP Service**

5.3.1 Recalling that the SADIS FTP service would be withdrawn on 30 November 2012, and taking into account a comprehensive progress report prepared by the SADIS Provider State on the SADIS FTP and Secure SADIS FTP services, the group agreed that States/users should be reminded of the importance of registering for, migrating to and making operational use of the Secure SADIS FTP service (Conclusion 17/21). In addition, the group agreed that progress reports on the SADIS Internet-based FTP services be ceased forthwith, noting that usage and availability statistics would instead be included in the annual SADIS management report (Decision 17/22).

5.3.2 Taking into account an investigation conducted by the WAFS Implementation Task Force of the CNS/MET Sub-Group of the APANPIRG concerning the operational use of services and products from service providers of the WAFS in the Asia/Pacific Region, including the Secure SADIS FTP Service, the group concluded that it would be beneficial to conduct a feasibility study into increasing the allocated bandwidth of the Secure SADIS FTP service in time for the next meeting (Conclusion 17/23).

## 6. **LONG-TERM PLANNING OF SADIS**

6.1 Based on an update by the SADIS Provider State, the group endorsed a concise long-term plan for SADIS for the years 2013 to 2017 (Decision 17/24).

## 7. **THE SADIS USER GUIDE**

7.1 The group noted that amendments to the SADIS User Guide had been necessary to take into account, *inter alia*, the cessation (on 30 November 2012) of the SADIS FTP service, the cessation of the ISCS G2 satellite broadcast (on 1 July 2012), the distribution of GRIB 2 code form WAFS forecasts on SADIS, enhancement of Annex 4 of the SADIS User Guide and the development of a (new) Annex 5 of the SADIS User Guide, and the transfer of the terms of reference of the SADISOPSG from the SADIS User Guide to the SADISOPSG website<sup>2</sup>. In view of the scope of these changes, and others of a largely editorial nature, the group endorsed a new (fifth) edition of the SADIS User Guide accordingly (Decision 17/25).

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<sup>2</sup> [www.icao.int/safety/meteorology/sadisopsg/](http://www.icao.int/safety/meteorology/sadisopsg/)

## **8. FUTURE WORK PROGRAMME**

8.1 The group reviewed and endorsed (as editorial and factual changes) a revision to the terms of reference of the SADISOPSG that took into account an update to the roles of the SADISOPSG and the European OPMET Data Management Group, realignment of regional aeronautical information services (AIS) groups, and alphabetical re-ordering of concerned ICAO planning and implementation regional groups (PIRGs) (Decision 17/26). In addition, the group reviewed and updated the deliverables in its work programme for the years 2012 to 2016 (Decision 17/27).

## **9. ANY OTHER BUSINESS**

### **9.1 SADIS 2G comparator functionality**

9.1.1 Concerning the restoration of the SADIS 2G comparator functionality that would enable SADIS 2G uplink/downlink monitoring at the SADIS Provider State, the group concurred that in view of continued problems in implementing an originally proposed topology, and due to newly installed infrastructure that could be used to more effectively to monitor data on the SADIS Provider's premises, an alternative approach be taken. In this regard, the group agreed to the implementation of an alternative SADIS 2G uplink/downlink monitoring topology (Conclusion 17/28).

### **9.2 SADIS 2G data losses**

9.2.1 The group considered a comprehensive report into user-reported data error types on the SADIS 2G satellite broadcast. The investigation had proven that the SADIS 2G transmission was reliable, and fully meets ICAO Annex 10 – *Aeronautical Telecommunications*, Volume III (Communications Systems), 10.2.1 provisions concerning service via satellite for the dissemination of WAFS products. Accordingly, the group agreed that the investigation into data losses on the SADIS 2G satellite broadcast be considered closed (Decision 17/29).

### **9.3 Impending cessation of the ISCS satellite broadcast**

9.3.1 The group was informed that in lieu of the operational availability of WIFS, the ISCS/WIFS Provider State would be terminating the ISCS G2 satellite broadcast on 1 July 2012. In this regard, and noting that a number of existing SADIS-related documents make reference to ISCS and/or WIFS, the group agreed that all references to ISCS should be replaced by WIFS accordingly unless they were to be maintained for historical context (Conclusion 17/30).

### **9.4 Annual support to SADIS provided by the ICAO Secretariat**

9.4.1 Noting discussions that had taken place during the tenth, eleventh and twelfth meetings of the SADIS Cost Recovery Administrative Group (SCRAG) concerning a review of the costs attributable for the annual support to SADIS provided by the ICAO Secretariat, the group reviewed and endorsed an inventory of tasks undertaken before, during and after each SADISOPSG meeting and recurrent tasks (such as the maintenance of Annex 1 of the SADIS User Guide), and requested that the SCRAG be informed through its Chair accordingly (Conclusion 17/31).



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Organization

Organisation  
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Organización  
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Международная  
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гражданской  
авиации

منظمة الطيران  
المدني الدولي

国际民用  
航空组织

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**Ref.: SWG 5/1.4.1**

**5 June 2012**

**To: Chair, SCRAG**

**From: Chair, SADISOPSG**

**Subject: Annual statement of operational efficacy of SADIS 2011/2012**

I wish to inform you that the seventeenth meeting of the Satellite Distribution System Operations Group (SADISOPSG/17 held 29 to 31 May 2012 in Cairo), in Conclusion 17/5, instructed me to advise you that the operational efficacy of the SADIS had continued to be satisfactory, meeting all operational requirements since the SADISOPSG/16 Meeting (23 to 25 May 2011).

Gaborekwe Khambule (Mrs.)



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Ref.: SWG 5/1.4.1

5 June 2012

To: Chair, SCRAG  
From: Chair, SADISOPSG  
Subject: **SADIS inventory 2012/2013**

I wish to inform you that the seventeenth meeting of the Satellite Distribution System Operations Group (SADISOPSG/17 held 29 to 31 May 2012 in Cairo), in Conclusion 17/6, instructed me to forward to you the attached updated SADIS inventory for the period 2012/2013.

  
Gaborekwe Khambule (Mrs.)

**Enclosure:**  
Updated SADIS inventory

## SADIS INVENTORY

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*Editorial note. — Changes proposed by SADISOPSG/17 are highlighted in tracked-change mode as deletions or additions*

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~~(2011)~~2012-2013)

The inventory items identified below cover the equipment and staffing required to provide, operate and maintain the SADIS. The inventory includes: hub infrastructure (including all additions following the implementation of Secure SADIS FTP) and communications circuits, ISCS data back-up system, procured services, and staff. It should be noted that some equipment items are under lease and form part of a wider infrastructure. Costs of individual items cannot be separated from the required infrastructure that includes a significant part of the development of the software and technical configuration. The inventory is in accordance with the SADIS User Guide.

### 1. EQUIPMENT

#### A. Key components of Hub infrastructure and communications circuits

1. The SADIS 2G hub infrastructure connection to the Met Office message switch (~~Frost~~MetSwitch) consists of a number of units developed in conjunction with AEP Networks and other suppliers. These are installed either at Exeter or at the uplink site at Whitehill, Oxfordshire, UK.

2. The SADIS FTP and Secure SADIS FTP hub infrastructure connection to the Met Office message switch (~~Frost~~MetSwitch) consists of a number of units installed at Exeter.

i) **Solely procured for SADIS (major components)**

SADIS gateway function software (developed specifically for the gateway as part of the NATS CoreMet system; see items under “Not procured principally for SADIS”).

Dell Poweredge R900 servers to provide SADIS FTP service and Secure SADIS FTP service (see Section 1 C).

ii) **Principally procured for SADIS**

a) At the Met Office;

See Section 1 C for itemized components

b) Communications between Met Office Exeter and Whitehill uplink facility;

2 Fibre Optic 64 Kbps circuits in support of SADIS 2G service

c) At the uplink site (Whitehill);

1) Units and services leased from Cable and Wireless Communications Ltd. to support SADIS 2G services:

- 1 (70 to 140 MHz) converter;
- Use of 1 (140 to C band) converter;
- Use of satellite hub (lease represents only a very small part of this large aperture) for SADIS 2G services; and

2) Units forming part of a totally integrated rack structure to provide SADIS 2G service, with back-up (see the list under Section 1 C).

d) Dual contingent communication links (utilising WMO TCP/IP sockets protocol) between SADIS Gateway and Met Office in support of SADIS 2G service.

iii) **Not procured principally for SADIS**

a) Met Office Message switch (~~FROST~~MetSwitch): Total investment £1.02M<sup>1</sup> of which 1.48% per cent is attributable to SADIS FTP service usage: switching data to operational FTP service;

b) Met Office Message switch (~~FROST~~MetSwitch): Total investment £1.02M<sup>2</sup> of which 0.74% per cent is attributable to SADIS usage: switching data to operational (2G) broadcast service (~~excluding GRIB2~~) and to 2G monitoring system (Corobor Comparator);

*Note. — ~~WAFS GRIB2 data began to be transmitted operationally over SADIS 2G with effect from 18 November 2010.~~*

c) Allocated bandwidth 4 Mbps bursting to 8 Mbps between server and Internet Service Provider (ISP) in support of the SADIS FTP service.

*Note. — To be taken over by Secure SADIS FTP Service when SADIS FTP is withdrawn 30 November 2012 in accordance with SADISOPSG/16 Conclusion 16/15.*

d) At the moment Secure SADIS FTP bandwidth is sufficient to deal with foreseen data traffic, ~~and will be monitored. It is expected that as take-up of Secure SADIS FTP increases, a “guaranteed” 4 Mbps bursting to 8 Mbps between server and Internet Service Provider (ISP) arrangement, similar to that used for existing SADIS FTP, may be needed; and will be assigned the bandwidth allocated to SADIS FTP when SADIS FTP is withdrawn as noted at c) above;~~

e) NATS Message switch (CoreMet System);

*Note. — Some elements of the CoreMet System are exclusively for the support of the SADIS gateway function.*

f) SADIS FTP equipment running costs;

<sup>1</sup> budgeted cost for providing ~~FROST~~MetSwitch service during the fiscal year ~~2011/2012~~2012/2013.

<sup>2</sup> budgeted cost for providing ~~FROST~~MetSwitch service during the fiscal year ~~2011/2012~~2012/2013.

~~Note. — These costs are applied to all MET Office internet facing services and primarily relate to costs associated with ensuring high levels of IT security.~~

~~Note. — This comprises support and maintenance of the servers underpinning the SADIS FTP services, a share of the cost for the underlying storage capacity on which the SADIS FTP services are reliant, and operational monitoring of the SADIS FTP services by Tivoli ensuring problems can be identified and resolved in a timely manner.~~

- g) Met Office Service Desk equipment; and

~~Note. — Equates to 3.5 per cent of the total share of Met Office IT Operations equipment.~~

- h) Met Office Serial Communications.

~~Note. — Equates to 20 per cent of total share of Met Office Serial Communications. Includes cost of switching serial data from ~~FROST~~MetSwitch Message Switch to SADIS 2G, comprising staff and equipment costs of supporting serial WAN, TTL Routers, Serial Modems and TTL matrix switches.~~

## B. SADIS data back-up system

~~1. The SADIS Gateway (UK NATS) has procured a dedicated SADIS data backup arrangement with the WIFS Provider State. The backup infrastructure includes an ISDN connection between the National Weather Service Telecommunications Gateway (NWSTG) and the SADIS Gateway, and an ISDN connection between the SADIS Gateway and Whitehill uplink facility, to provide SADIS data backup.~~

~~2. ISCS VSAT receiving system, including TCP/IP receiver and cables, on SADIS Provider (UK Met Office) premises.~~

~~Note 1.— This hardware is not currently used in an operational environment.~~

~~Note 2.— The SADIS Gateway (UK NATS) has procured a dedicated SADIS data backup arrangement with the ISCS Provider State. The backup infrastructure includes an ISDN connection between the NWS Telecommunications Gateway and the SADIS Gateway, and an ISDN connection between the SADIS Gateway and Whitehill uplink facility, to provide SADIS data backup. This hardware is currently undergoing final testing of functionality and process before becoming operationally acceptable.~~

## C. Hub equipment and services located at Exeter and Whitehill

<i>Item</i>	<i>Description</i>	<i>Quantity</i>
<b>1.</b>	<b>Whitehill services (leased from Cable &amp; Wireless)</b>	
1.1	70 MHz to 140 MHz converter	1
1.2	140 MHz to C band converter	1
1.3	Satellite Hub leased bandwidth	1 slot

## 2. ISDN back-up service to Washington (NWSTRG)

2.1	VadEDGE 42024200	3*
2.2	ISDN 2e circuit	1
2.3	Interface cables	2

*Note.* — Hardware listed under Section 2 is located at Whitehill.

## 3. SADIS FTP service

3.1	Dell Powerededge R900 servers with 1 Gb RAM	2
3.2	26.8 Gb internal disk drives	2
3.3	VMWave Virtual Platform with Red Hat Linux 5.3 OS	2
3.4	Intel Xeon X7350, 2.93 GHz Processors	2
3.5	Licenses, misc. support and maintenance costs	1

*Note.* — Hardware listed under Section 3 is located at Exeter.

## 4. Secure SADIS FTP service

4.1	Dell Powerededge R900 servers with 1 Gb RAM	2
4.2	Dell Powerededge R900 (4 core) servers with 32 Gb RAM *	2
4.3	Shared Storage Arrays (analogous to hard disk storage, but with dynamic upper limit)	2
4.4	VMWave Virtual Platform with Red Hat Linux 5.3 OS	2
4.5	Intel Xeon X7350, 2.93 GHz Processors	2
4.6	Licenses, misc. support and maintenance costs	1

*Note.* — Item 4.2 relates to Digital Signing servers.

## 5. SADIS 2G Infrastructure

5.1	FrostMetSwitch port	1
5.2	MegaPAC V-IX Base System Dual PSU including Chassis, 1 CP6000, and 1 switch	2*
5.3	CP6000 for use with MegaPAC V-IX	1*
5.4	VadEDGE 42024200	34*
5.5	Uplink modem (Comtech EF Data SDM-300a)	3*
5.6	Communications cabinet and lease	1
5.7	MegaWatch including Enterprise Reports, and PC	1
5.8	Comtech SDM300L demodulator (NER5 downlink)	1
5.9	Corobor comparator software and PC	1
5.10	Communications rack floor space at Exeter in IT Hall 1 and IT Hall 2, and at Whitehill	3
5.11	Space in stores at Exeter to locate spare hardware	1
5.12	WAN Module	2
5.13	Comtech EF Data SMS 301 – redundancy switch	2*
5.14	BRI Module for VadEDGE 42024200	2
5.15	Interface cabling	8

\* Includes one unit/module stored as a cold spare and one unit as part of downlink that may also be used as a spare for the uplink circuit if necessary.

*Note.* — Hardware listed under Section 5 is located at Exeter and Whitehill.

## 2. PROCURED SERVICES

- A. Space segment annual lease: ~~1.3 MHz wide~~Allocated frequency band ~~of which 46 per cent is utilised to support to~~ SADIS 2G, ~~with providing a~~ 64 Kbps data rate (less communications overhead);

~~Note.— SADIS 1G was terminated on 5 January 2009. The allocation of satellite space segment reserved for SADIS 1G was finally relinquished on 31 December 2010.~~

- B. Annual maintenance of Met Office Exeter and Whitehill uplink site equipment (SADIS 2G and SADIS FTP server); and
- C. Gateway function:
- i) Communication circuits between Met Office and NATS infrastructure site; and
  - ii) System maintenance.

## 3. ANNUAL STAFF REQUIREMENTS

### A. United Kingdom Met Office

#### i) Service Desk

*Note.— The Service Desk acts as a first point of contact for all inquiries, including those concerning the OPMET Gateway function. Complex inquiries will be passed to a relevant expert. Experts are available either on a 24-hour rota basis, or as a daytime support with limited on-call capability.*

#### *24-hour Weather Desk support*

#### *Skill*

1. Service desk (first point of contact)
2. Additional Service Desk operator

Incident Management  
Customer Enquiries

*Note. — Total support for SADIS provided by the Met Office Service Desk team equates to 0.3 per cent of the total Weather Desk budget.*

#### *24-hour IT Operations support*

#### *Skill*

1. Technical Team Leader (TTL)
2. Networks and Systems Supervisor (NSS)

Technical Supervisor  
Service Continuity

*Note. — Total support for SADIS provided by the Met Office IT Operations team equates to 3.5 per cent of the total IT Operations budget.*

#### *Normal working hours support*

#### *Skill*

1. Change and problem manager (CPM)

Process Specialist

**ii) Additional support**

<i>Day support</i>	<i>Resource</i>
1. Systems integration team	14 staff-days of network computer engineer
2. Message Switching Manager	15 staff-days of MSS manager
3. Administrator	160 staff-days of executive officer
4. International aviation management	30 staff-days of manager
5. Data traffic	5 staff-days of communications engineer
6. Contract procurement and management	4 staff-days of senior procurement officer
7. Message switching Team	15 staff-days of technical officer
8. Invoice Administration	20 staff-days of invoicing officer and 15 staff-days of business accountant

**B. NATS infrastructure site – CACC (OPMET Gateway function)**

*Note 1. — The CACC provides the OPMET Gateway function, which is provided from a single operational site, but with a full capability at an alternative site. Staff are available either on a 24-hour basis, or as a daytime support with on-call capability.*

*Note 2. — The resource demand of 610 days required to provide the SADIS Gateway service comprises 6 watches of 1 ATSA4 and 1 ATSA3 each (Operations), 1 ATCE4 (Engineering Watchkeeping) and 3 ATCE4 (Engineering Day Support).*

<i>24-hour support</i>	<i>Resource</i>
1. Operational staff support	523 staff-days per annum
2. Engineering staff support	22 staff-days per annum

  

<i>Day Support</i>	<i>Resource</i>
3. SADIS administration support	50 staff-days per annum
4. Engineering (including on-call)	15 staff-days per annum

**C. Bought-in services**

Additional support and maintenance agreements with third parties are in place to provide third line support of the SADIS 2G service.



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المدني الدولي

国际民用  
航空组织

Ref.: SWG 5/1.4.1

5 June 2012

To: Chair, SCRAG

From: Chair, SADISOPSG

Subject: **Procurement of a replacement SMS-301 Modem Protection Switch for SADIS 2G satellite uplink**

I wish to inform you that the seventeenth meeting of the Satellite Distribution System Operations Group (SADISOPSG/17 held 29 to 31 May 2012 in Cairo), in Conclusion 17/7, instructed me to notify you that following the detection of a fault in an operational SMS-301 modem protection switch at the SADIS 2G satellite uplink facility at Whitehill, there is a need to replace the unit in order to restore the SADIS 2G broadcast to the expected level of resilience. It was noted that the estimated cost of a replacement unit would be £3,804 plus delivery costs of £25 (at 2012 prices), and that the installation of the replacement unit should be completed by 31 August 2012.

Gaborekwe Khambule (Mrs.)



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Ref.: SWG 5/1.4.1

5 June 2012

To: Chair, SCRAG

From: Chair, SADISOPSG

Subject: **Initiation of tests of the ISDN backup capability for the SADIS 2G satellite broadcast and associated recovery of costs**

I wish to inform you that the seventeenth meeting of the Satellite Distribution System Operations Group (SADISOPSG/17 held 29 to 31 May 2012 in Cairo), in Conclusion 17/17, instructed me to notify you that in view of the operational status of the Integrated Services Digital Network (ISDN) backup capability for the SADIS 2G satellite broadcast (Decision 17/16 refers), there is a need to initiate routine tests (monthly and quarterly) and optional stress tests (at least once per year) of the ISDN backup capability to ensure resilience. It was noted that the costs associated with these tests amounted to £12.00 per annum for 1.5 hour monthly tests, £140.00 per annum for 1.5 hour quarterly tests, and £120.00 per test for 5.5 hours optional stress tests.

The group instructed me to notify you of these costs, and that they be fully recoverable under the SADIS cost recovery arrangement together with the costs associated with any operational contingency mode that result in the utilization of the ISDN link.

  
Gaborekwe Khambule (Mrs.)



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Ref.: SWG 5/1.4.1

5 June 2012

To: Chair, SCRAG  
From: Chair, SADISOPSG  
Subject: **Annual support to SADIS provided by the ICAO Secretariat**

I wish to inform you that the seventeenth meeting of the Satellite Distribution System Operations Group (SADISOPSG/17 held 29 to 31 May 2012 in Cairo), in Conclusion 17/31, instructed me to forward to you the attached assessment of the administrative tasks undertaken by the ICAO Secretariat of the Air Navigation Bureau and the Regional Offices, as reviewed and endorsed by the group, for inclusion in the annual assessment of costs of SADIS.

  
Gaborekwe Khambule (Mrs.)

**Enclosure:**

**Annual ICAO Air Navigation Bureau and Regional Office Secretariat Support for the SADISOPSG**

**ANNUAL ICAO AIR NAVIGATION BUREAU AND REGIONAL OFFICE  
SECRETARIAT SUPPORT FOR THE SADISOPSG**

**(as at 31 May 2012)**

*Note. — Where an assessment of the time allocated for a particular task differs from the information presented to SCRAG/11, the new time allocated is shown with an explanatory end-note (i and ii).*

**1. Tasks DURING the annual SADISOPSG Meeting**

1.1 The following table lists the effort required during the SADISOPSG Meeting:

<i>Task description</i>	<i>Staff-days</i>	
	<i>Secretary</i>	<i>Technical Assistant</i>
Annual SADIS Meeting (including travel by the Secretary)	5	3

**2. Tasks BETWEEN the annual SADISOPSG meetings**

2.1 The following tables list all the tasks related to the support of the SADISOPSG and the corresponding person-days required:

2.2 After the meeting, the following tasks are carried out:

<i>Title</i>	<i>Task description</i>	<i>Staff-days</i>	
		<i>Secretary/ translator</i>	<i>Technical assistant</i>
Final report of the SADISOPSG Meeting	Finalize and make available on the OPSG website 1. final report (after a complete editorial check) 2. updated master lists from the report 3. updated deliverables from the report 4. English version of executive summary 5. the preliminary follow-up table	2	4
Translation of the Executive Summary of the SADISOPSG Meeting	Translate (done by the language sections concerned) the Executive Summary into French and Russian	2	0.25 <sup>i</sup>
Follow-up of the	Prepare a SADISOPSG Memo drawing attention of	0.25 <sup>i</sup>	0.25

<i>Title</i>	<i>Task description</i>	<i>Staff-days</i>	
		<i>Secretary/ translator</i>	<i>Technical assistant</i>
SADISOPSG	the SADISOPSG to the: 1.final report; 2.updated deliverables; 3.English Executive Summary; and 4.follow-up table		
Follow-up of the SADISOPSG Conclusions by ROs	Prepare Memos to Regional Offices (ICAORDs) drawing their attention to the follow-up required on conclusions addressed to: 1. PIRGs and MET sub-groups (always include any draft conclusions); 2. States (always include the conclusion related to the update of the focal points)	0.5	0.5
Follow-up of the SADISOPSG Conclusions by SCRAG	Prepare Memos signed by the Chair of the SADISOPSG to the Chair of the SCRAG containing the: 1. updated SADIS Inventory; and 2. statement related to the operational efficacy	0.25 <sup>i</sup>	0.25
News Item on the SADISOPSG Meeting	Prepare a news item to the ICAO Journal (with a photo) related to the SADISOPSG Meeting	0.25 <sup>i</sup>	0.25
Appreciation memo to the RO concerned	Prepare a memo to the ICAORD concerned expressing appreciation for having hosted the SADISOPSG/ Meeting	0.25	0.25
Suitability of dates and venue of the SADISOPSG/...	Prepare a Memo to the ICAORD concerned checking the suitability of dates and venue of the next meeting		
Language versions of the Executive Summary	Make available French and Russian language versions of the Executive Summary on the SADISOPSG website	0	0.25
Attention to the language versions of the Executive Summary	Send an e-mail to ROs/MET drawing attention of ROs to the French and Russian language versions of the Executive Summary	0.25	0
First update of the follow-up table	Update the follow-up table on the SADISOPSG website	0.25 <sup>i</sup>	0.25
SADISOPSG Memo on follow-up and the next meeting	Issue a SADISOPSG Memo 1. drawing the attention of the SADISOPSG to the updated follow-up table; and 2. confirming the dates/venue of the next meeting		
Copy of the OPMET data-base to the EUR BMG	Create an EXCEL file of the OPMET database (Annex 1) to the EUR BMG	0.25 <sup>i</sup>	0 <sup>i</sup>
Second update of the follow-up table	Update the follow-up table on the OPSG website	0.25 <sup>i</sup>	0.25
<b>Total</b>		<b>6.5</b>	<b>6.5</b>

## 2.3

Before the meeting, the following tasks are carried out:

<i>Title</i>	<i>Description</i>	<i>Staff-days</i>	
		<i>Secretary</i>	<i>Technical assistant</i>
Templates for the SADISOPSG Meeting	Prepare the templates for the meeting based on the provisional agenda	0.25 <sup>i</sup>	0.5 <sup>ii</sup>
Plan for working papers for the SADISOPSG	Prepare a draft plan covering all the working papers to be submitted by the Secretariat and Provider State	0.25 <sup>i</sup>	0 <sup>i</sup>
Third update of the follow-up table	Update the follow-up table on the OPSG website	0.25 <sup>i</sup>	0.25
Provisional agenda and admin arrangements for the SADISOPSG Meeting	<ol style="list-style-type: none"> <li>1. Develop WP/1 (provisional agenda, explanatory notes) and IP/1 (admin arrangements); and</li> <li>2. place them on the SADISOPSG website</li> </ol>	0.5 <sup>i</sup>	0.25 <sup>i</sup>
SADISOPSG Memo regarding the SADISOPSG Meeting	Prepare and issue a SADISOPSG Memo: <ol style="list-style-type: none"> <li>1. drawing the attention of the group to the               <ul style="list-style-type: none"> <li>• WP/1; call for comments</li> <li>• IP/1; and</li> </ul> </li> <li>2. setting the deadline for the               <ul style="list-style-type: none"> <li>• submission of WP's</li> <li>• indication of participation</li> </ul> </li> </ol>	0.25 <sup>i</sup>	0.25
Invitation letters to the SADISOPSG Meeting	Send invitation letters inviting the members and permanent advisors	0	1.0 <sup>i</sup>
Draft State letter on operational efficacy questionnaire	Prepare a memo to regional offices concerned making reference to the interactive questionnaire on the SADIS operational efficacy available on the SADISOPSG website	0.75 <sup>i</sup>	0.25 <sup>i</sup>
Copy of the OPMET data-base to the EUR BMG	Create an EXCEL file of the OPMET database (Annex 1) to the EUR BMG	0.25 <sup>i</sup>	0 <sup>i</sup>
Analysis of the SADIS operational efficacy	<ol style="list-style-type: none"> <li>1. Prepare an analysis of a summary of the replies to the SADIS operational efficacy questionnaire received from SADIS users; and</li> <li>2. send the summary to the SADIS Provider State.</li> </ol>	4	4
Reports called for by the SADISOPSG Conclusions	Review reports by the SADISOPSG Provider States and Teams; resolve any outstanding issues	2	0.5 <sup>i</sup>
WP's by the Provider State(s) and Members	Edit and make available the WP's from the Provider States and Members on the SADISOPSG website	5	4

<i>Title</i>	<i>Description</i>	<i>Staff-days</i>	
		<i>Secretary</i>	<i>Technical assistant</i>
for the SADISOPSG Meeting			
Final update of the follow-up table	Update the follow-up table on the SADISOPSG website	0.25 <sup>i</sup>	0.25
Completion of the Secretariat WP's for the SADISOPSG Meeting	<ol style="list-style-type: none"> <li>1. Deal with the Conclusions addressed to the SADISOPSG by the PIRGs; and</li> <li>2. Prepare and make available the Secretariat WP's on the SADISOPSG website</li> </ol>	7	3.5
SADISOPSG Memo related to the completion of WP's and participation	Issue a SADISOPSG Memo: <ol style="list-style-type: none"> <li>1. announcing the completion of WP's; and</li> <li>2. reminding about the deadline for the indication of participation</li> </ol>	0.25 <sup>i</sup>	0.25
List of participants at the SADISOPSG Meeting	Prepare the list of participants as Appendix A to the report	0	1
Meeting allotment related to the SADISOPSG Meeting	Prepare a meeting allotment Form 253 to COS related to the OPSG Meeting	0	
<b>Total</b>		<b>21</b>	<b>16</b>

### 3. RECURRENT tasks in support of the SADISOPSG

3.1 The following table lists the recurrent tasks:

<i>Description</i>	<i>Staff-days</i>	
	<i>Secretary</i>	<i>Technical assistant</i>
Maintenance of the SADIS User Guide (SUG) excluding Annex 1	2.5 <sup>i</sup>	2.5 <sup>i</sup>
Maintenance of Annex 1 (OPMET database) of the SUG	12	6
Correspondence concerning SADIS (including regional offices)	8	4
Maintenance of Master Lists (SADIS Focal Points; SADIS Implementation)	3 <sup>i</sup>	1 <sup>i</sup>
<b>Total</b>	<b>25.5</b>	<b>13.5</b>

#### 4. SUMMARY

4.1 The following table summarizes the annual Secretariat efforts in equivalent staff-days:

<i>Efforts</i>	<i>Staff-days</i>	
	<i>Secretary</i>	<i>Technical assistant</i>
During the SADISOPSG Meeting	5	3
After the SADISOPSG Meeting	6.5	6.5
Before the SADISOPSG Meeting	21	16
Recurrent Tasks	25.5	13.5
<b>Total</b>	<b>58</b>	<b>39</b>

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<sup>i</sup> Air Navigation Bureau and/or Regional Office production efficiency

<sup>ii</sup> Information technology production efficiency