

SADIS COST RECOVERY ADMINISTRATIVE GROUP (SCRAG)

FOURTEENTH MEETING

(Paris, 25 October 2013)

**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/18 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 eighteenth meeting of the SADIS Operations Group (SADISOPSG/18, Dakar, 29-31 May 2013);
- **Attachment 2:** Annual statement of operational efficacy of SADIS 2012/2013;
- **Attachment 3:** Costs savings associated with the cessation of WAFS forecasts in GRIB 1 code form on SADIS;
- **Attachment 4:** Costs associated with the provision of WAFS forecasts in GRIB 2 code form for FL410 on SADIS;
- **Attachment 5:** Costs associated with the provision of WAFS forecasts for icing, turbulence and Cb cloud on SADIS 2G;
- **Attachment 6:** Costs associated with the implementation of a mid-life upgrade to the SADIS Gateway Coremet system;
- **Attachment 7:** Costs associated with an investigation into SADIS 2G VSAT satellite reception signal investigations at the SADIS Provider;
- **Attachment 8:** Costs associated with an increase of the bandwidth allocated to the Secure SADIS FTP service; and
- **Attachment 9:** SADIS inventory 2013/2014.

2. **Action by the Group**

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

EIGHTEENTH MEETING

**SADIS OPERATIONS GROUP
(Dakar, Senegal, 29 to 31 May 2013)**

EXECUTIVE SUMMARY¹

1. INTRODUCTION

1.1 The eighteenth meeting of the SADIS Operations Group (SADISOPSG/18) was held at the Western and Central African (WACAF) Regional Office, Dakar, 29 to 31 May 2013. Twenty-eight (28) participants from eight (8) States, including the focal point representative of the European OPMET Data Management Group (EUR OPMET DMG), and three (3) international organizations (the Agency for Aerial Navigation Safety in Africa and Madagascar (ASECNA), the International Air Transport Association (IATA) and the World Meteorological Organization (WMO)) attended the meeting.

1.2 As Chair, Ms. Gaborekwe Khambule (South Africa) presided over the meeting throughout its duration, assisted by Ms. Juan Zou (China) as Vice-Chair.

2. FOLLOW-UP OF SADISOPSG/17 CONCLUSIONS

2.1 With regard to the follow-up of the SADISOPSG/17 conclusions, the group agreed that action had been completed on all of the conclusions (Decision 18/1).

3. OPERATION OF THE SADIS

3.1 With regards to the SADIS strategic assessment tables, included in the annual SADIS management report, the group agreed that taking into account the maturity of SADIS, whereby changes had not been significant over the last 10 years and that future changes to service delivery would be explicitly considered by the group on a case-by-case basis, the group agreed that the SADIS strategic assessment tables no longer added value and should therefore henceforth be eliminated from the annual SADIS management reports (Decision 18/2). Concerning the annual SADIS management report, which provides a point of reference for the reporting of important SADIS-related events during the period under review (previous 12-months) and a repository for information relating to the provision and availability of the service, the group reviewed and endorsed a revised content of the annual SADIS management report to be henceforth used as the basis of the annual reports (Decision 18/3).

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 2013 (Conclusion 18/4).

3.3 The group reviewed the operation of SADIS during 2012/2013 based on the annual management report from the SADIS Provider State and on responses from forty-five States to the annual questionnaire on the operational efficacy of the SADIS. Concerning the annual questionnaire, the group was pleased to note the consistently high percentage of users reporting good availability of the OPMET information and the WAFS forecasts on both the SADIS 2G satellite broadcast and the Secure SADIS

¹The full report is available at the following website: www.icao.int/safety/meteorology/sadisopsg/

FTP service. Taking into account forthcoming changes to SADIS service, specifically the cessation of the WAFS upper-air gridded global forecasts in WMO GRIB 1 code form in view of the availability of superior WAFS products in WMO GRIB 2 code form, as well as other changes of a mainly editorial nature, the group agreed to a revised content of the annual questionnaire to be used for the dispatch of the 2013/2014 SADIS operational efficacy questionnaire in December 2013 (Decision 18/5).

3.4 The group, including IATA, agreed that the SADIS 2G satellite broadcast and the Secure SADIS FTP service had continued to meet the operational requirements during the period under review (namely 2012/2013) and that the SADIS Cost Recovery Administrative Group (SCRAG) be informed accordingly (Conclusion 18/6).

3.5 The group reviewed the SADIS inventory for 2013/2014, 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 accordingly (Conclusion 18/7).

4. CONTENT OF THE SADIS BROADCAST

4.1 OPMET information

4.1.1 The group considered matters related to the non-implementation of the requirements for OPMET information on SADIS – more specifically, the lack of availability of METAR/SPECI and TAF from certain aerodromes within States. In this regard, recognizing the importance of the OPMET information for users, and that States are required to provide or have agreed to provide the OPMET information from the AOP aerodromes or non-AOP aerodromes respectively listed in Annex 1 of the SADIS User Guide (SUG), the group concurred that regional OPMET bulletin exchange schemes that exist in all ICAO Regions should be aligned with the OPMET information requirements contained in Annex 1 of the SUG and that States whose OPMET information had been identified as “not available” on SADIS should ensure that the OPMET information is produced as a matter of urgency and disseminated through the regional OPMET bulletin exchange schemes (Conclusion 18/8).

4.1.2 With regards to the requirements for OPMET information (METAR/SPECI and TAF) from non-AOP aerodromes, the group reviewed a revision of the requirements based on a proposal made by IATA. In this regard, the group agreed that States should be consulted accordingly on the new or amended requirements and that States that have notified of their concurrence to provide the OPMET information from non-AOP aerodromes should, as part of the consultation, be requested to provide an indication of the availability of the OPMET information concerned (Conclusion 18/9).

4.1.3 The group noted that the level of alignment of the scheduled OPMET information on SADIS and the WAFS Internet File Service (WIFS) with Annex 1 of the SUG continued to show improvement. For example, the SADIS Provider State has attained a level of alignment of at least 95 per cent for METAR/SPECI and TAF. In respect of the level of alignment of the OPMET information available on the SADIS with the WIFS, the group agreed that the provider States concerned, in coordination with the European OPMET Data Management Group, should continue efforts to align the scheduled and, to the extent possible, the non-scheduled OPMET information (Conclusion 18/10).

4.1.4 Appreciating that quality controlled OPMET information was made available on the SADIS 2G satellite broadcast and the Secure SADIS FTP service as routine, and that the quality control of the information was undertaken by the SADIS Gateway in accordance with the SADIS Gateway Operations Handbook, the group gave due consideration to the provision of non-quality controlled OPMET information on SADIS during periods of service disruption. The group agreed that non-quality controlled OPMET data should be made available on SADIS, by the SADIS Provider State, during such contingency circumstances until normal service resumed (Decision 18/11).

4.2 **WAFS forecasts**

4.2.1 The group noted forthcoming changes to the provision of WAFS forecasts from the world area forecast centres (WAFCs) in line with the applicability of Amendment 76 to Annex 3 on 14 November 2013. Specifically, the cessation of WAFS upper-air gridded global forecasts in WMO GRIB 1 code form (in view of the operational availability of superior forecasts in GRIB 2 code form), the availability of WAFS forecasts in GRIB 2 code form for flight level (FL) 410, and the availability of WAFS forecasts in GRIB2 code form for icing, turbulence, cumulonimbus cloud which can be used operationally with effect Amendment 76. In view of these developments, the group determined the associated implications of the provision of the WAFS forecasts on SADIS 2G satellite broadcast and the Secure SADIS FTP service, including necessary modifications to the Secure SADIS FTP service folder structure (Conclusions 18/12, 18/13, 18/14 and 18/15).

5. **DEVELOPMENT OF THE SADIS**

5.1 **Report of the SADISOPSG Technological Developments Team**

5.1.1 The group recalled that the SADISOPSG Technological Developments Team (TDT) 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 TDT since the last meeting were related to:

- a) recommendations concerning the provision of a satellite-based distribution system beyond 2015;
- b) initiation of integrated services digital network (ISDN) backup tests on SADIS 2G;
- c) maintenance of the SADIS 2G ground segment infrastructure; and
- d) implementation of a mid-life upgrade to the SADIS Gateway Coremet system (NATS Message switch).

5.1.2 In respect of recommendations concerning the provision of a satellite-based distribution system, having considered a detailed report of the options available and the associated costs and impacts on States/users and taking into account other associated developments including the imminent introduction (as part of Amendment 76 to Annex 3) of the exchange of OPMET information in a digital format, the group agreed to recommend to the Meteorology Divisional Meeting to be held in Montreal in July 2014 that the existing SADIS 2G satellite broadcast should be extended beyond 2015 but only until November 2019 (Conclusion 18/16).

5.1.3 In respect of the initiation of ISDN backup tests on SADIS 2G, which had been requested at the last meeting, the group was pleased to learn that such backup tests had been successfully initiated by the SADIS Provider State and used operationally several times to prevent interruption of SADIS 2G during periods of essential work. In respect of the maintenance of the SADIS 2G ground segment infrastructure, the group was pleased to learn that the SADIS Provider State had procured a replacement SMS-301 modem protection switch as requested at the last meeting.

5.1.4 In respect of the implementation of a mid-life upgrade to the SADIS Gateway Coremet system (Message switch), noting that the SADIS Gateway provides 24/7 functionality to ingest, collate, quality control and distribute OPMET information to States/users around the world via the SADIS infrastructure, and recognizing the main expected benefits associated with the mid-life upgrade included extendible ATS message handling system (AMHS) capability, ingestion, conversion and delivery of

OPMET information in XML/GML digital data formats, ingestion and re-distribution of WAFS forecasts in GRIB 2 code form, various capacity improvements, and enhanced monitoring and data comparison capability, the group agreed that the SADIS Provider State should proceed with the implementation of the SADIS requirements and capability within the mid-life upgrade to the Coremet message switch system at the SADIS Gateway (Conclusion 18/17).

5.2 **SADIS satellite broadcast**

5.2.1 Having been provided with a necessary progress report on the implementation of alternative SADIS 2G uplink/downlink monitoring at the SADIS Provider (United Kingdom Met Office) and SADIS Gateway (United Kingdom NATS), the group was apprised that a weaker-than-expected SADIS 2G satellite reception signal at the SADIS Provider premises was resulting in too many “false alarms” of missing data. In this regard, the group agreed that the SADIS Provider should continue its investigations to determine the root cause so that it could fulfil its uplink/downlink monitoring commitments (Conclusion 18/18).

5.3 **SADIS Internet-based FTP Service**

5.3.1 Having considered a detailed report into increasing the allocated bandwidth of the Secure SADIS FTP service (i.e. the bandwidth between the SADIS Provider and the SADIS Provider’s Internet service provider) and taking into account the day-to-day utilization of Secure SADIS FTP – which demonstrated identifiable “peaks” in utilization around the time of the availability of the WAFS forecasts in GRIB code form – the group agreed that the SADIS Provider State should implement an increased bandwidth allocation for Secure SADIS FTP together with ‘Dynamic Partitioning’ which enforce a fairer allocation of available bandwidth between users (Conclusion 18/19).

5.4 **SADIS workstation software evaluations**

5.4.1 The group reviewed and endorsed an update to the fourth-round SADIS workstation software evaluation criteria and agreed to further encourage the SADIS workstation software providers to have their software packages evaluated against the (updated) fourth round criteria (Decision 18/20 and Conclusion 18/21).

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 2014 to 2018 inclusive (Decision 18/22).

7. **THE SADIS USER GUIDE**

7.1 The group reviewed and endorsed an amendment to the fifth edition of the SADIS User Guide, available on the SADISOPSG website, which addressed, *inter alia*, improved specificity of the WAFS forecasts available on SADIS, the elimination of references to the (now decommissioned) Classic SADIS FTP service, clarification on the use of Secure SADIS FTP by authorized users, and Secure SADIS FTP and WIFS operational use criteria (Decision 18/23).

8. **FUTURE WORK PROGRAMME**

8.1 The group reviewed and updated the deliverables in its work programme for the years 2013 to 2013 inclusive (Decision 18/24).

9. **ANY OTHER BUSINESS**

9.1 **SADIS administrative messages**

9.1.1 In being apprised of Conclusion 7/8 of the World Area Forecast System Operations Group (WAFSOPSG), the group agreed that there was a need to refine the definitions used for the administrative messages used on SADIS to notify users of, *inter-alia*, new or updated guidance, system documentation or changes to WAFS/SADIS-related services (Conclusion 18/25). In addition, the group agreed that the SADIS Provider should enhance the complement of SADIS administrative messages available on the SADIS Operational Administrative Messages webpage, as a supplement to their continued availability on the SADIS 2G satellite broadcast and Secure SADIS FTP service (Conclusion 18/26).

9.2 **SADIS user registration form**

9.2.1 Taking into account the recent success of a SADIS user registration form used for the migration of users to the Secure SADIS FTP service, the group agreed that the SADIS Provider should implement a suitably modified form to augment the standing SADIS authorized access process which would ensure that, once approved by the meteorological authority of the State concerned, all users would supply the same, structured information in a formal manner to the SADIS Provider to facilitate record keeping (Conclusion 18/27).

9.3 **ICAO provisions regarding WAFS satellite distribution systems and Internet-based services**

9.3.1 In considering whether amendment to or clarification of references to the WAFS satellite distribution systems and Internet-based services was required in ICAO provisions – taking into account recent developments such as the cessation of the ISCS G2 satellite broadcasts by the WAFS Washington Provider State in July 2012 – and recognizing their intended use in time-critical or non-time critical aeronautical applications, the group agreed that ICAO provisions (specifically Annex 3 – *Meteorological Service for International Air Navigation*) warranted review and update by the WAFSOPSG in this regard (Conclusion 18/28).



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Ref.: SWG 5/1.4.1

12 June 2013

To: Chair, SCRAG

From: Chair, SADISOPSG

Subject: **Annual statement of operational efficacy of SADIS 2012/2013**

I wish to inform you that the eighteenth meeting of the Satellite Distribution System Operations Group (SADISOPSG/18 held 29 to 31 May 2013 in Dakar), in Conclusion 18/6, invited me to inform you that the operational efficacy of the SADIS had continued to be satisfactory, meeting all operational requirements since the SADISOPSG/17 Meeting (29 to 31 May 2012 in Cairo).

Gaborekwe Khambule (Mrs.)



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Ref.: SWG 5/1.4.1

12 June 2013

To: Chair, SCRAG

From: Chair, SADISOPSG

Subject: **Cost savings associated with the cessation of WAFS forecasts in GRIB 1 code form on SADIS**

I wish to inform you that the eighteenth meeting of the Satellite Distribution System Operations Group (SADISOPSG/18 held 29 to 31 May 2013 in Dakar), in Conclusion 18/12, invited me to inform you of the reduction in switching costs associated with the cessation of the distribution WAFS upper-air gridded global forecasts in the WMO GRIB Edition 1 (GRIB 1) code form on SADIS effective 14 November 2013. It is to be therefore noted that the SADIS Provider State switching costs associated with this development will reduce by an estimated £1,500.00 per annum.

Gaborekwe Khambule (Mrs.)



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Ref.: SWG 5/1.4.1

12 June 2013

To: Chair, SCRAG

From: Chair, SADISOPSG

Subject: **Costs associated with the provision of WAFS forecasts in GRIB 2 code form for FL410 on SADIS**

I wish to inform you that the eighteenth meeting of the Satellite Distribution System Operations Group (SADISOPSG/18 held 29 to 31 May 2013 in Dakar), in Conclusion 18/13, invited me to inform you of the additional switching costs associated with the provision of WAFS upper-air gridded global forecasts in WMO GRIB Edition 2 (GRIB 2) code form for flight level (FL) 410 on SADIS effective 14 November 2013. It is to be therefore noted that the SADIS Provider State additional switching costs associated with this development are estimated at less than £50.00 per annum.

Gaborekwe Khambule (Mrs.)



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Ref.: SWG 5/1.4.1

12 June 2013

To: Chair, SCRAG

From: Chair, SADISOPSG

Subject: **Costs associated with the provision of WAFS forecasts for icing, turbulence and Cb cloud on SADIS 2G**

I wish to inform you that the eighteenth meeting of the Satellite Distribution System Operations Group (SADISOPSG/18 held 29 to 31 May 2013 in Dakar), in Conclusion 18/14, invited me to inform you of the additional switching costs associated with the provision of WAFS upper-air gridded global forecasts for icing, turbulence and Cb cloud on the SADIS 2G satellite broadcast effective 14 November 2013. It is to be therefore noted that the SADIS Provider State additional switching costs associated with this development are estimated at £89.00 per annum.

Gaborekwe Khambule (Mrs.)



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Ref.: SWG 5/1.4.1

12 June 2013

To: Chair, SCRAG

From: Chair, SADISOPSG

Subject: **Costs associated with the implementation of a mid-life upgrade to the SADIS Gateway Coremet system**

I wish to inform you that the eighteenth meeting of the Satellite Distribution System Operations Group (SADISOPSG/18 held 29 to 31 May 2013 in Dakar), in Conclusion 18/17, invited me to inform you of the estimated project costs, attributable to SADIS, associated with a mid-life upgrade to the SADIS Gateway Coremet system (NATS Message Switch). Such an upgrade has been deemed necessary in view of assuring the ingestion, collation, quality-control, distribution, monitoring and comparison of aeronautical meteorological information on SADIS into the future. It is to be therefore noted that the estimated project costs attributable to the SADIS programme are currently £120,000 to £180,000 plus cost of capital, and that the SADIS Provider State intends to provide a more detailed assessment of the project costs to the SCRAG/14 Meeting to be held in late-2013.

Gaborekwe Khambule (Mrs.)



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Ref.: SWG 5/1.4.1

12 June 2013

To: Chair, SCRAG

From: Chair, SADISOPSG

Subject: **Costs associated with an investigation into SADIS 2G VSAT satellite reception signal investigations at the SADIS Provider**

I wish to inform you that the eighteenth meeting of the Satellite Distribution System Operations Group (SADISOPSG/18 held 29 to 31 May 2013 in Dakar), in Conclusion 18/18, invited me to inform you that the SADIS Provider State is expected to require £6,000.00 of capital expenditure for additional equipment in pursuit of solutions to a weaker-than-expected SADIS 2G VSAT satellite reception signal at the premises of the SADIS Provider (United Kingdom Met Office).

Gaborekwe Khambule (Mrs.)

ATTACHMENT 8



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Ref.: SWG 5/1.4.1

7 June 2013

To: Chair, SCRAG

From: Chair, SADISOPSG

Subject: **Costs associated with an increase of the bandwidth allocated to the Secure SADIS FTP service**

I wish to inform you that the eighteenth meeting of the Satellite Distribution System Operations Group (SADISOPSG/18 held 29 to 31 May 2013 in Dakar), in Conclusion 18/19, invited me to inform you of the costs associated with increasing the bandwidth allocated to the Secure SADIS FTP service (between the SADIS Provider and the SADIS Provider's internet service provider). It is to be therefore noted that the SADIS Provider State additional costs associated with this development are estimated at £3,720.00 per annum at 2013 prices.

Gaborekwe Khambule (Mrs.)



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Ref.: SWG 5/1.4.1

12 June 2013

To: Chair, SCRAG
From: Chair, SADISOPSG
Subject: **SADIS inventory 2013/2014**

I wish to inform you that the eighteenth meeting of the Satellite Distribution System Operations Group (SADISOPSG/18 held 29 to 31 May 2013 in Dakar), in Conclusion 18/7, invited me to forward to you the attached updated SADIS inventory for the period 2013/2014.

Gaborekwe Khambule (Mrs.)

Enclosure:

Updated SADIS inventory

ATTACHMENT
SADIS INVENTORY

Editorial note. — Changes proposed by SADISOPSG/18 are highlighted in tracked-change mode as deletions or additions

~~(2012-2013)~~**(2013-2014)**

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, HCS ~~ISDN~~ 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 (~~METS~~MetSwitch) consists of a number of units developed in conjunction with AEP Networks and other suppliers. These are installed either at Exeter, ~~Devon~~ 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 (~~METS~~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 the~~ 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 (METSwitch/MetSwitch): Total investment £738K¹ of which 1.00 per cent is attributable to the Secure SADIS FTP service usage: switching data to operational FTP service;

b) Met Office Message switch (METSwitch/MetSwitch): Total investment £738K² of which 0.74 per cent is attributable to SADIS 2G usage: switching data to operational (2G) broadcast service and to 2G monitoring system (Corobor Comparator/MetSwitch Dev);

c) Allocated bandwidth 4 Mbps bursting to 8 Mbps between server and Internet Service Provider (ISP) in support of the Secure 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 assigned the bandwidth allocated to SADIS FTP when SADIS FTP is withdrawn as noted at e) above;~~

ed) NATS Message switch (CoreMet System);

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

fe) Secure SADIS FTP equipment running costs;

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

gf) Met Office Service Desk equipment; and

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

hg) 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 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

4.—The SADIS Gateway (UK NATS) has procured a dedicated SADIS data backup arrangement with

¹ budgeted cost for providing METSwitch service during the fiscal year 2012/2013 2013/2014.

² budgeted cost for providing METSwitch service during the fiscal year 2012/2013 2013/2014.

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

C. Hub equipment and services located at Exeter and Whitehill

<i>Item</i>	<i>Description</i>	<i>Quantity</i>
1.	Whitehill services (leased from Cable & Wireless)	
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 (NWSTG)	
2.1	VadEDGE 4200	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 Poweredge 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.*~~

~~4.3. Secure SADIS FTP service~~

4.3.1	Dell Poweredge R900 servers with 1 Gb RAM	2
4.3.2	Dell Poweredge R900 (4 core) servers with 32 Gb RAM *	2
4.3.3	Shared Storage Arrays (analogous to hard disk storage, but with dynamic upper limit)	2
4.3.4	VMWave Virtual Platform with Red Hat Linux 5.3 OS	2
4.3.5	Intel Xeon X7350, 2.93 GHz Processors	2
4.3.6	Licenses, misc. support and maintenance costs	1

~~*Note 1. — Item 4.3.2 relates to Digital Signing servers.*~~

~~*Note 2. — Items listed under Section 3 are located at Exeter.*~~

~~5.4. SADIS 2G Infrastructure~~

5.4.1	METSwitch/MetSwitch port	1
5.4.2	MegaPAC V-IX Base System Dual PSU including Chassis, 1 CP6000, and 1 switch	2*
5.4.3	CP6000 for use with MegaPAC V-IX	1*
5.4.4	VadEDGE 4200	4*

5.54.5	Uplink modem (Comtech EF Data SDM-300a)		3*
5.64.6	Communications cabinet and lease		1
5.74.7	MegaWatch including Enterprise Reports, and PC		1
5.84.8	Comtech SDM300L demodulator (NER5 downlink)		1
5.94.9	Corobor comparator software and PC		1
5.104.10	Communications rack floor space at Exeter in IT Hall 1 and IT Hall 2, and at Whitehill	3	
5.114.11	Space in stores at Exeter to locate spare hardware	1	
5.124.12	WAN Module		2
5.134.13	Comtech EF Data SMS 301 – redundancy switch	2*	
5.144.14	BRI Module for VadEDGE 4200	2	
5.154.15	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 54 is located at Exeter and Whitehill.

2. PROCURED SERVICES

- A. Space segment annual lease: Allocated frequency band to SADIS 2G, providing a 64 Kbps data rate (less communications overhead);
- B. Annual maintenance of Met Office Exeter and Whitehill uplink site equipment (SADIS 2G and Secure SADIS FTP servers); 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) | Incident Management |
| 2. Additional Service Desk operator | 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) | Technical Supervisor |
| 2. Networks and Systems Supervisor (NSS) | 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

Day support

Resource

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Systems integration team 2. Message Switching Manager 3. Administrator 4. International aviation management 5. Data traffic 6. Contract procurement and management 7. Message switching Team 8. Invoice Administration | <p>14 staff-days of network computer engineer
 15 staff-days of MSS manager
 160 staff-days of executive officer
 30 staff-days of manager
 5 staff-days of communications engineer
 4 staff-days of senior procurement officer
 15 staff-days of technical officer
 20 staff-days of invoicing officer and
 15 staff-days of business accountant</p> |
|--|---|

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

a) *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.*

b) *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).*

24-hour support

Resource

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Operational staff support 2. Engineering staff support | <p>523 staff-days per annum
 22 staff-days per annum</p> |
|--|--|

Day Support

Resource

- | | |
|---|---|
| <ol style="list-style-type: none"> 3. SADIS administration support 4. Engineering (including on-call) | <p>50 staff-days per annum
 15 staff-days per annum</p> |
|---|---|

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.