

**SADIS COST RECOVERY ADMINISTRATIVE GROUP**

**SIXTEENTH MEETING**

(London, United Kingdom, 6<sup>th</sup> November 2015)

**ESTIMATED SADIS COSTS : 2 to 5 YEARS**

(Presented by the United Kingdom)

**REFERENCES**

SADIS Agreement  
SCRAG Reports 1-15  
METP WG-MOG/1 Report

**1. INTRODUCTION**

1.1 The medium term (two to five years) forecast of the expected costs of operating the SADIS Services are provided in this Working Paper. Resource requirements will vary due to changing demand and these have been anticipated where possible and identified in the tables presented. Where the METP WG-MOG/1 has identified potential changes to the SADIS inventory, these will be reflected as appropriate.

**2. DISCUSSION**

2.1 The attached Table 1 identifies expected budgets for the years 2016 to 2019 based on expected trends for expenditure by the Met Office and NATS. 2014 actual costs and 2015 forecast costs are provided for comparison, as requested by the SCRAG/12 meeting.

2.2 With regard to Met Office staff costs, the rates have remained static for several years. From 2015 it will be necessary to apply increased day rates to some staff functions. However, it is feasible to reduce the overall time assigned to SADIS for some functions to offset the increase in day rates.

2.3 The following notes should be read in conjunction with Table 1.

- a. Communications costs between Whitehill and the Met Office.**  
Terrestrial communications costs between Exeter and the SADIS. The Vodafone circuit continues to bill at £1569.75 per annum while the BT circuits are billing at £4246 per annum. These costs will cease when the SADIS 2G service is withdrawn on 31 July 2016.

- b. NATS Links**  
Communications costs between the SADIS Gateway, operated by NATS, and the Met Office. This link provides data to Secure SADIS FTP as well as SADIS 2G, and is expected to continue following withdrawal of SADIS 2G on 31 July 2016.
- c. Message Switch**  
It was agreed by the first meeting of the Meteorological Operations Group of the Meteorological Panel (METP WG-MOG/1, 8-11 September 2015, Gatwick, UK) that the bandwidth should be increased (from 16Mbit/sec bursting 24 Mbit/sec to 24Mbit/sec bursting 42Mbit/sec) in October 2015. This will result in annual bandwidth costs of GBP10,250.
- d. Service Desk equipment and Serial Communications**  
These charges cover equipment costs for the service desk functions and support of serial communications equipment.
- e. Satellite lease**  
The current contract for satellite bandwidth runs to 31 July 2016. The SADIS 2G service will be withdrawn on 31 July 2016 and no further extensions are expected.
- f. Annual Maintenance**  
The current SADIS 2G maintenance runs to 31/12/2015. The cost to extend support to 31 July 2016 is estimated at £20,411.

2G Facilities management and IT Hall space requirements have also been adjusted in 2016 to reflect cessation of the SADIS 2G service.
- g. Ad-hoc maintenance**  
An annual allowance of £5,000 is being made for ad-hoc maintenance as requested by the SCRAG/6.
- h. Help Desk and Other staff costs**  
The cost rates have been updated using the latest available figures. The percentage attribution rates can be found in the SADIS Inventory.
- i. Additional Support costs**  
Please note detailed explanation regarding changes to day rates to be applied from 2015 in section 2.2 above.
- j. Resource costs**  
This line includes the costs for decommissioning the SADIS 2G service in 2016
- k. Travel Costs**  
Travel and subsistence costs for Met Office staff to attend the annual SADISOPSG and SCRAG meetings are included here. Following disbandment of SADISOPSG, it is expected that associated costs relating to attendance of appropriate Meteorological Panel Working

Groups relating to SADIS – in addition to SCRAG - will be included here.

**l. Cost of depreciated capital**

See WP/8. Depreciation of equipment purchased for the SADIS2G hardware refresh in 2009 became fully depreciated at the end of September 2014.

In 2015 it became necessary to replace essential hardware at the SADIS 2G uplink facility at Whitehill. This was authorised through electronic correspondence with the SADISOPSG Secretary. The capital costs were £28,220, to be depreciated over 2 years - £21,165 in 2015 and £7,055 in 2016.

**m. Cost of Capital**

Cost of capital for future years has been estimated using the revised methodology applied in 2008 and described in SCRAG/10 WP/13.

**n. Administrative costs (bank charges, couriered invoices etc)**

Following SCRAG Conclusion 14/7, this item includes costs relating to the processing of invoices (usually when administration charges reduce the amount actually received by the SADIS Provider by a small amount), or the cost of couriered invoices where normal surface mail is unreliable.

**2.4 Notes on SADIS Gateway costs.**

**o. Staff Costs – Systems Engineers**

The NATS SADIS Gateway Costs are as described in SCRAG10-WP/14. Staff costs and communications costs have been updated in line with the latest available data.

The staff roles are defined as:

Operational Staff  
Engineering Staff  
Administration Staff

These are reflected in Table 1

**p. Systems Maintenance**

During the period in question, the way the systems maintenance is defined was revised. Historically, references were made to:

IP Comms link to UKMO  
X.25 Comms link to UKMO  
Systems Maintenance

These are retained in these tables for comparison with Table 1 in Working Paper 5; but will be removed in future reports.

From SCRAG/15 and subsequently, these items are identified as:

Communications  
Maintenance  
T&RE

**q. SADIS Gateway Upgrade**

A mid-life upgrade to the SADIS Gateway Infrastructure is expected to be implemented during 2015. Total project costs are £1,018,601. The following component costs are attributable to SADIS: Capitalised staff costs of £77,520 and hardware costs of £109,810 will be depreciated over 5 years. Cost of capital has been calculated at a rate of 5.88% on the reducing balance in each year.

Depreciation schedule for SADIS Gateway mid-life upgrade.

	2015	2016	2017	2018	2019
Value at start of year	187,330	149,864	112,398	74,932	37,466
Depreciation	37,466	37,466	37,466	37,466	37,466
Value at end of year	149,864	112,398	74,932	37,466	0
Average value in year	168,597	131,131	93,665	56,199	18,733
Interest at 5.88%	10,983	8,786	6,590	4,393	2,197

### **3. CONCLUSIONS**

3.1 The annual running costs are subject to change. Costs may change as a result of changes in internet bandwidth, maintenance and internal and external communication costs, new requirements and technological developments agreed by the PIRGS and by the working groups under the METP.

3.2 These figures should therefore be treated as an initial estimate of costs for the planning period and are subject to change.

### **4. ACTION**

4.1 The SCRAG/16 is requested to note these provisional figures for the SADIS Costs.

**TABLE 1: UKMO Cost and manpower resource projections until year 2019 (at 2015 prices)**

			Actual	FOO	Est	Est	Est	Est
			2014	2015	2016	2017	2018	2019
INVENTORY REF:	Note	DESCRIPTION						
<b>1</b>		<b>UK MET OFFICE COSTS</b>						
		<b>1. Equipment</b>						
		<b>Principally procured for SADIS</b>						
	a	comms between Whitehill & Met Office	5,816	5,816	3,393	0	0	0
	b	comms link SADIS Gateway & Met Office	3,340	3,340	3,340	3,340	3,340	3,340
		ISDN Back-up	0	0	0	0	0	0
		<b>Not procured principally for SADIS</b>						
	c	message switch (FTP)	7,380	4,190	1,000	1,000	1,000	1,000
		message switch (2G)	5,461	3,131	800	0	0	0
		internet bandwidth (FTP)	6,512	7,135	10,250	10,250	10,250	10,250
		FTP equipment running costs	18,247	19,024	19,024	19,024	19,024	19,024
	d	Service Desk Equipment Costs	12,751	12,750	12,750	12,750	12,750	12,750
		Serial Comms Costs and maintenance	10,601	11,000	11,000	11,000	11,000	11,000
		<b>sub total</b>	<b>70,108</b>	<b>66,386</b>	<b>61,557</b>	<b>57,364</b>	<b>57,364</b>	<b>57,364</b>
		<b>2. Procured Services</b>						
	e	space segment annual lease	54,660	54,660	25,295	0	0	0
	f	annual maintenance	35,172	33,670	20,411	0	0	0
		2G Maintenance	6,300	6,300	3,675	0	0	0
		2G Facilities Management	14,901	14,500	8,458	4,000	4,000	4,000
		IT Hall Space						
	g	ad hoc maintenance	0	5,000	5,000	5,000	5,000	5,000
		<b>sub total</b>	<b>111,033</b>	<b>114,130</b>	<b>62,839</b>	<b>9,000</b>	<b>9,000</b>	<b>9,000</b>
		<b>3. Annual Staff Requirements</b>						
		<b>Help Desk</b>						
	h	Help Desk 0.3%	5,916	6,000	6,000	6,000	6,000	6,000
		Technical Team Leader 3.5%	12,297	12,297	12,297	12,297	12,297	12,297
		Network Systems Supervisor 7%	24,593	24,593	24,593	24,593	24,593	24,593
		<b>Additional Support</b>						
	i	Systems Integration Team	4,866	5,292	5,292	5,292	5,292	5,292
		Message Switching Manager	5,214	5,670	5,670	5,670	5,670	5,670
		Administrator	55,612	62,850	62,850	62,850	62,850	62,850
		International Aviation Management	12,805	7,290	7,290	7,290	7,290	7,290
		Data Traffic	1,738	1,890	1,890	1,890	1,890	1,890
		Contract Procurement and Management	1,390	1,512	1,512	1,512	1,512	1,512
		Message Switching Team	5,214	5,670	5,670	5,670	5,670	5,670
		Invoice Administration	13,354	14,850	14,850	14,850	14,850	14,850
	j	SADIS 2G Satellite decommissioning	0	0	2,000	0	0	0
		<b>Travel Costs</b>						
	k	SADISOPSG, METP meetings & SC	1,990	1,000	1,000	1,000	1,000	1,000
		<b>sub total</b>	<b>144,989</b>	<b>148,914</b>	<b>150,914</b>	<b>148,914</b>	<b>148,914</b>	<b>148,914</b>
		<b>TOTAL</b>	<b>326,130</b>	<b>329,430</b>	<b>275,310</b>	<b>215,278</b>	<b>215,278</b>	<b>215,278</b>
		<b>Cost of Depreciated Capital</b>						
	l	SADIS 2G	8,712	0	0	0	0	0
		FTP enhancements	0	0	0	0	0	0
		SADIS 2G CP6000 replacement (with	0	21,165	7,055	0	0	0
		<b>sub total</b>	<b>334,842</b>	<b>350,595</b>	<b>282,365</b>	<b>215,278</b>	<b>215,278</b>	<b>215,278</b>
	m	Administrative costs	13,630	13,630	13,630	13,630	13,630	13,630
	n	Admin charges	227	200	200	200	200	200
		<b>Total UKMO Costs</b>	<b>348,699</b>	<b>364,425</b>	<b>296,195</b>	<b>229,108</b>	<b>229,108</b>	<b>229,108</b>

TABLE 2: NATS and other SADIS Cost Projections until 2019 (at 2015 prices)

INVENTORY REF:	Note	DESCRIPTION	Actual 2014	FOO 2015	Est 2016	Est 2017	Est 2018	Est 2019
<b>2 NATS Gateway Costs</b>	<b>o</b>							
<b>Staff Costs</b>								
Operational Staff		Air Traffic Services Asst.	273,643	258,907	266,738	276,300	282,672	288,103
Engineering Staff		Maintenance Engineer	9,125	2,349	9,660	10,009	10,242	10,440
Engineering Staff		Asset Management	N/A	N/A	N/A	N/A	N/A	N/A
Administration Staff		Administration Officer	431	274	1,122	1,161	1,188	1,211
		<b>sub total</b>	<b>283,199</b>	<b>261,530</b>	<b>277,520</b>	<b>287,470</b>	<b>294,102</b>	<b>299,754</b>
Systems Maintenance	<b>p</b>	IP Comms link to UKMO	0	N/A	N/A	N/A	N/A	N/A
		X.25 Comms link to UKMO	0	N/A	N/A	N/A	N/A	N/A
		Systems Maintenance	0	N/A	N/A	N/A	N/A	N/A
		Communications	208	822	1,567	1,598	1,630	1,662
		Maintenance	0	8,987	9,169	9,347	9,534	9,723
		T&RE	824	2,815	3,200	4,421	4,509	4,599
Sadis Gateway Upgrade (Capital Project)	<b>q</b>							
Cost of Depreciated Capital		Capital Investments	0	37,466	37,466	37,466	37,466	37,466
		Interest at 5.88%	0	10,983	8,786	6,590	4,393	2,197
Sadis Backup enhancement		procurement & Installation	0	0	0	0	0	0
		annual support costs	0	0	0	0	0	0
<b>Total NATS Gateway Costs</b>			<b>284,231</b>	<b>322,603</b>	<b>337,708</b>	<b>346,892</b>	<b>351,634</b>	<b>355,401</b>
<b>CAA Administration Costs</b>			<b>4,066</b>	<b>4,000</b>	<b>4,000</b>	<b>4,000</b>	<b>4,000</b>	<b>4,000</b>
<b>ICAO Administration Costs</b>			<b>40,338</b>	<b>40,338</b>	<b>39,892</b>	<b>39,892</b>	<b>39,892</b>	<b>39,892</b>
<b>TOTAL SADIS COSTS</b>			<b>677,334</b>	<b>731,366</b>	<b>677,795</b>	<b>619,892</b>	<b>624,634</b>	<b>628,401</b>

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