

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

**TWENTY-FIRST MEETING**

(Virtual Meeting, 1 December 2020)

**2019 ACTUAL SADIS COSTS**

(Presented by the United Kingdom)

**REFERENCES**

SADIS Agreement  
SCRAG Reports 1-20  
METP WG-MOG/3 Report  
METP WG-MOG/4 Report  
METP WG-MOG/6 Report  
METP WG-MOG/10 Report  
METP WG-MOG/13 Report

**1. INTRODUCTION**

- 1.1 Article IX of the SADIS Agreement identifies that the United Kingdom shall furnish on or before 30 June of each year, a statement of the actual costs of the SADIS, expressed in pounds sterling, for the previous calendar year. These costs are identified in TABLE 1.
- 1.2 The format of the table is similar to that provided for previous years and is consistent with information provided in the SADIS Inventory.

## 2. DISCUSSION

### 2.1 Notes relate to the actual costs for 2019 and forecast costs for 2020

#### a. Met Office to NATS Link

Communications costs between the SADIS Gateway, operated by NATS, and the Met Office are provided here. NATS own the links and are billed for the circuits., then NATS invoice the Met Office for the Met Office share of the costs. The cost has increased in 2020 due to a line upgrade.

#### b. Message Switch

These charges relate to the routing of data through into SADIS FTP.

#### c. Internet Bandwidth

SADIS used a portion of the SADIS providers own 3Gbit/sec bandwidth during 2019. At the end of 2019 SADIS was upgraded to cloud technology (AWS) therefore this cost has disappeared.

#### d. FTP equipment running costs

The on-premise FTP servers were retired at the end of 2019.

#### e. AWS server running costs

The cost of operating SADIS FTP using Amazon Web Services (AWS) Cloud computing reflects all the individual elements that make up SADIS, and has been optimised to minimise costs. At SCRAG20 the different operating cost elements were estimated and separated out, however it is only possible to report a single AWS running cost.

Element	Annual Cost
AWS Servers	9,000
AWS data egress	2,400
AWS Contingency	1,710
AWS Cloud Operations Expertise	5,000
2020 Total Estimated at SCRAG20	18,110
<b>2020 FOO</b>	<b>36,000</b>

#### f. Service Desk equipment

These charges cover equipment costs for the service desk functions. In early 2020 the support cost structure was revised, and this cost was removed.

#### g. Ad-hoc maintenance

SCRAG/6 proposed that a charge of £5,000 be budgeted for ad-hoc maintenance activity (for satellite receivers) in future years. There is no longer any equipment requiring any physical maintenance.

#### h. Development costs

It was originally anticipated that in 2019 a SADIS Test server would be set up to host IWXXM OPMET data sets ahead of the November 2020 implementation date. It was subsequently decided that this provision was not necessary.

**i. WAFS 0.25 degree hazard data and IWXXM OPMET data set up**

This includes set up costs for hosting these new data sets on SADIS (with operational implementation in early November 2020).

**j. Next Generation SADIS costs**

The next generation SADIS system will become fully operational in November 2023, and as yet operating costs for the AWS infrastructure it will use are unknown.

**k. Help Desk and Other staff costs**

The cost structure has been revised for 2020, therefore the entries marked with a “k” are being replaced by first/second/third line support. The new cost structure reduces technical support costs from approximately GBP 63,000 to GBP 40,500.

The cost rates have been updated using the latest available figures. The percentage attribution rates can be found in the SADIS Inventory.

**l. First Line Support costs**

This includes 24x7 incident handling functions (call and e-mail) provided by the Met Office Service Desk. For each year the estimate is as follows:

Description	Value 4,800 GBP
Incident Handling (initial call, follow up etc), 62 incidents per year	950
Incident Handling training – 2 hours per FTE year	1,850
Service Management – 8 hours per year	2,000

**m. Second Line Support**

This includes 24x7 system monitoring and incident handling functions to ensure the timely resolution of any SADIS operating problems. For each year the estimate is as follows:

Description	Value GBP 20,500
Incident Handling (investigation, communication, resolution, documentation), 100 incidents per year	5,800
Monitoring costs, 9205 alerts	8,800
Incident Handling training – 4 hours per year per FTE	2,500
Service Management – 15 hours per year	3,400

**n. Third and Fourth Line Support**

This includes incident investigation and resolution provide by the Message Switching department, as well as the administration of SADIS user accounts and data routing. Fourth line support provides technical assistance in the AWS environment that SADIS is operating in. For each year the estimate is as follows:

Description	Value 15,000 GBP
Message Switching Manager	5,000
Message Switching Staff	5,000
AWS technical support	5,000

**o. Additional support**

Administrative and professional support provided by the specified staff functions to the SADIS service.

**p. Travel Costs**

Actual travel and subsistence costs for Met Office staff to attend appropriate Meteorological Panel Working Groups (Meteorological Operations Group, WG-MOG, in relation to SADIS) and SCRAG meetings are included here. It should be noted that in 2020 both the MOG and SCRAG meetings were held virtually due to the COVID-19 pandemic.

**q. Cost of Capital**

Cost of capital for 2019 has been calculated using the revised methodology applied in 2008 and described in SCRAG/10 WP/13.

**r. 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.

2.2 Notes on SADIS Gateway Costs

**s. NATS gateway costs**

The NATS SADIS Gateway Costs are as described in SCRAG19- WP/16 and were simplified for future NATS gateways costs. They are all reflected in Table 1 which is contained in the appendix to this paper. Communication costs have been removed as these are now null.

**t. Cost of Depreciated Capital**

The final payment for the Capital Investments were made in the 2019 payment and are for the future are null and will be removed from all future SCRAG papers.

2.3 Notes on CAA and ICAO Administration Costs

**u. CAA Administration Costs**

This encompasses Met Authority Regulatory oversight and travel costs that relate to the WG-MOG SADIS and SCRAG meetings. It should be noted that in 2020 both the MOG and SCRAG meetings were held virtually due to the COVID-19 pandemic.

**v. ICAO Administration costs are detailed in WP/4.**

**3 ACTION**

3.1 The SCRAG/21 is requested to note the cost information provided by the United Kingdom and approve for these costs to be recovered from States within the Cost Recovery Scheme.

TABLE 1: 2019 and 2020 Met Office SADIS Costs

INVENTORY REF:	Note	DESCRIPTION	2019 Actual (Jan-Dec)	2019 FOO (SCRAG20)	2019 Estimate (SCRAG19)	2020 FOO (SCRAG21)	2020 Estimate (SCRAG20)
<b>UK MET OFFICE COSTS</b>							
<b>1. Equipment</b>							
<b>Principally procured for SADIS</b>							
comms link SADIS Gateway & Met Office	a		3,340	3,340	3,500	7,000	3,500
<b>Not procured principally for SADIS</b>							
message switch	b		4,000	6,220	5,600	4,000	5,500
internet bandwidth (FTP)	c		8,021	8,021	8,050	0	0
FTP equipment running costs	d		24,246	24,000	23,500	0	0
AWS Servers	e	Server running costs	0	-	-	36,000	9,000
AWS data egress	e	Data download costs	0	-	-	-	2,400
AWS Contingency	e		0	-	-	-	1,710
AWS Cloud Operations Expertise	e		0	-	-	-	5,000
Service Desk Equipment Costs	f		10,307	10,308	10,750	0	11,000
Ad-hoc maintenance	g		0	0	500	0	0
		<b>Equipment sub total</b>	<b>49,914</b>	<b>51,889</b>	<b>51,900</b>	<b>47,000</b>	<b>38,110</b>
<b>2. Next Generation SADIS service provision</b>							
SADIS Test Server	h	Test server set up costs	0	0	10,800	-	-
SADIS Test Server	h	Server running cost	0	0	3,200	-	-
WAFS 0.25 degree and IWXXM data set up.	i	Data feed set up costs	0	0	22,000	7,000	-
IWXXM OPMET	j	AWS Server running costs	-	-	-	-	-
	j	AWS Data download costs	-	-	-	0	0
Gridded data API	j	AWS Server running costs	-	-	-	0	0
	j	AWS Data download costs	-	-	-	0	0
SIGWX API	j	AWS Server running costs	-	-	-	0	0
	j	AWS Data download costs	-	-	-	0	0
		<b>Development sub total</b>	<b>0</b>	<b>0</b>	<b>36,000</b>	<b>7,000</b>	<b>0</b>
<b>3. Annual Staff Requirements</b>							
<b>Operating Support</b>							
	k	Help Desk 0.3%	4,845	5,000	6,000	-	-
	k	Technical Team Leader 3.5%	12,998	12,999	12,500	-	-
	k	Network Systems Supervisor 7%	25,996	25,997	25,000	-	-
	l	First Line Support	-	-	-	4,500	4,800
	m	Second Line Support	-	-	-	20,000	20,500
	n	Third and Fourth Line Support	-	-	-	3,500	15,000
<b>Additional Support</b>							
Systems Integration Team	k	Network computer engineer	5,499	5,499	5,400	0	0
Message Switching Manager	k	Message Switching Manager	5,499	5,500	5,400	0	0
Data Traffic	k	Communications Engineer	2,171	2,000	2,000	0	0
Message Switching Team	k	Technical Officer	5,645	5,800	5,800	0	0
Administrator	o	Executive Officer	65,734	64,000	65,000	64,235	65,000
International Aviation Management	o	Aviation Manager	8,073	8,200	8,400	7,665	8,400
Contract Procurement and Management	o	Senior Procurement Officer	1,737	1,500	1,600	1,560	1,600
Invoice Administration	o	Finance Officer & Business Acct	12,852	14,000	14,500	14,465	14,500
<b>Travel Costs</b>							
	p	METP-WG/MOG meetings & SCRA	919	1,200	1,000	75	400
		<b>Staff Requirement and travel sub</b>	<b>151,968</b>	<b>151,695</b>	<b>152,600</b>	<b>116,000</b>	<b>130,200</b>
Administrative costs	q	Cost of Capital	19,754	18,500	21,000	20,000	21,000
	r	Admin charges	311	350	650	250	650
		<b>Total UKMO Costs</b>	<b>221,947</b>	<b>222,434</b>	<b>262,150</b>	<b>190,250</b>	<b>189,960</b>

**TABLE 2: 2019 and 2020 Met Office NATS Costs**

INVENTORY REF:		Note DESCRIPTION	2019 Actual (Jan-Dec)	2019 FOO (SCRAG20)	2019 Estimate (SCRAG19)	2020 FOO (SCRAG21)	2020 Estimate (SCRAG20)
<b>NATS Gateway Costs</b>							
<b>Staff Costs</b>							
	s	Air Traffic Services Asst.	215,000	215,000	221,547	225,000	225,000
		Maintenance Engineer	7,052	7,052	7,052	7,000	7,000
		Administration Officer	26,946	26,946	26,946	27,800	27,800
		<b>Staff Costs sub total</b>	<b>248,998</b>	<b>248,998</b>	<b>255,545</b>	<b>259,800</b>	<b>259,800</b>
		Communications	0	0	345	0	345
		Maintenance	9,600	9,600	9,430	9,700	9,700
		T&RE	1,000	1,000	1,500	0	750
	t	Capital Investments	37,466	37,466	37,466	0	0
		Interest at 5.88%	2,197	2,197	2,197	0	0
		<b>Total NATS Gateway Costs</b>	<b>299,261</b>	<b>299,261</b>	<b>306,483</b>	<b>269,500</b>	<b>270,595</b>
	u	<b>CAA Administration Costs</b>	4,003	4,500	4,000	1,000	4,500
	v	<b>ICAO Administration Costs</b>	39,304	41,500	39,798	41,000	41,500
		<b>TOTAL SADIS COSTS</b>	<b>564,515</b>	<b>567,695</b>	<b>612,431</b>	<b>501,750</b>	<b>506,555</b>