

SADIS COST RECOVERY ADMINISTRATIVE GROUP

TWENTY-SECOND MEETING

(Virtual Meeting, 8th December 2021)

ESTIMATED SADIS COSTS : 2 to 5 YEARS

(Presented by the United Kingdom)

REFERENCES

SADIS Agreement
SCRAG Reports 1-21
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
METP WG-MOG/15 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 has identified potential changes to the SADIS inventory, these will be reflected as appropriate.

2. DISCUSSION

- 2.1 The attached Table 1 and 2 identifies expected budgets for the years 2022 to 2025 based on expected trends for expenditure by the Met Office and NATS. 2020 actual costs and 2021 forecast costs are provided for comparison, as requested by the SCRAG/12 meeting.
- 2.2 An additional increase in staff day-rates is expected in the coming years so increases have been included for years 2022 onwards.
- 2.3 Costs attributable to the development of a next generation SADIS system (expected to come into operation by November 2023) are not included in these projections, but preliminary operating cost projections are included.

2.4 The following notes should be read in conjunction with Table 1 which is contained in the Appendix to this WP, and relates to Met Office costs.

a. Met Office to NATS comms link

Communications costs between the SADIS Gateway, operated by NATS, and the Met Office. Costs are expected to decrease in 2022 as a line upgrade is completed moving it to newer infrastructure.

b. Message Switch

These charges relate to the routing of WAFS gridded data and OPMET data through into SADIS FTP.

c. 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. This cost is expected to decrease in 2024/2025 as users move across to the newer SADIS API.

AWS Server Operating costs – this is proportional to the amount of data held on the servers and the specification of server chosen, and has been optimised to minimise costs
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AWS data egress charges - this cost is directly proportional to the volume of data being downloaded by the SADIS users
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AWS Cloud operations expertise = This cost enables SADIS to benefit from the provision of AWS cloud operations experts who are able to provide oversight and guidance in the operation of SADIS

d. WAFS 0.25 degree and IWXXM set up costs

This was a one off cost that related to the addition of the new 0.25 degree WAFS hazard data sets and IWXXM data sets in November 2020.

e. SADIS API

The new SADIS SWIM compliant API system is expected to become operational in November 2023, and the figures shown in the cost projections are preliminary estimates. User numbers are expected to increase gradually during 2024 and 2025 and are higher than for the existing system. This is because the new WAFS data sets the SADIS API will be handling have a much higher horizontal, vertical and temporal resolution.

f. First Line Support Costs

This includes 24x7 incident handling functions (call and e-mail) provided by the Met Office Service Desk. The basic for 2021 is shown in the table below, and the figure increased slightly in future years to account for increasing staffing costs. The exact cost each year will depend on the actual number of incidents handled.

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

g. 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 initial estimate is as shown in the table below, but the exact figure will relate to the number of incidents handled.

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

h. Third and Fourth Line Support

This includes incident investigation and resolution provide by the development team that supports SADIS. For each year the initial estimate is as shown in the table below, but the exact figure will relate to the number of incidents handled. Support costs are increased in 2024 and 2025 when the SADIS API system begins operating in tandem with the existing SADIS FTP.

i. Cost recovery and administration

Support is primarily provided by the SADIS Manager in the day to day operation of SADIS, management of user accounts, liaison with users, invoicing and planning and development work within the remit of the METP-WG/MOG (SADIS). Procurement and Finance support is required to implement the SADIS Cost Recovery process (SCRAG).

j. Travel Costs

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 is anticipated that the MOG meeting in 2023-2025 could be overseas.

k. 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.

l. 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.

2.5 Notes on SADIS Gateway costs.

m. NATS gateway costs

The NATS SADIS Gateway Costs are as described in SCRAG19-WP/16 and were simplified for future NATS gateways costs.

n. Travel Costs

Travel and subsistence costs for NATS staff to attend appropriate Meteorological Panel Working Groups (Meteorological Operations Group, WG-MOG, in relation to SADIS) and SCRAG meetings are included here.

2.6 Notes on CAA and ICAO costs

o. CAA Administration costs

This encompasses Met Authority Regulatory oversight and travel costs that relate to the WG-MOG SADIS and SCRAG meetings.

p. ICAO Administration costs are detailed in WP/8

3. CONCLUSIONS

3.1 Operating costs from the Met Office are expected to remain fairly static during 2022 and 2023. The introduction of the new SADIS API system in November 2023 will bring increased AWS operating costs but this will modernise the SADIS provision making it SWIM compliant and future proofing it for many years to come. The upgrade is also necessary in order to have a system that can deliver the new much larger WAFS data sets that are being introduced. Further information is available here: <https://www.metoffice.gov.uk/services/transport/aviation/regulated/wafs-2023>.

3.2 There will be a period of dual operation, as the current SADIS FTP will continue to be operated until November 2028 (if sufficient users remain) to enable users to migrate their systems to use the new technology.

4. ACTION

- 4.1 The SCRAG/22 is requested to note these provisional figures for the SADIS Costs.

SCRAG/22 WP/9 Annex 1.									
TABLE 1: UKMO Cost and manpower resource projections until year 2025 (at 2021 prices)									
INVENTORY REF: Note DESCRIPTION			Actual 2020	FOO 2021	Est 2022	Est 2023	Est 2024	Est 2025	
<u>UK MET OFFICE COSTS</u>									
1. Equipment									
Principally procured for SADIS									
comms link SADIS Gateway & Met Office	a		8,405	9,700					
Not procured principally for SADIS									
message switch	b		4,000	4,000					
AWS Server running costs	c		46,541	44,000					
		Equipment sub total	58,946	57,700					
2. Next Generation SADIS service provision									
WAFS 0.25 degree and IWXXM data set up.	d	Data feed set up costs for SADIS FTP	12,256	0					
SADIS API	e	AWS Operating costs for new SADIS API	n/a	n/a					
		Development sub total	12,256	0					
3. Annual Staff Requirements									
Operating Support									
	f	First Line Support	4,488	4,500					
	g	Second Line Support	20,352	20,000					
	h	Third and Fourth Line Support	3,366	4,000					
Additional Support									
Administrator	i	Executive Officer	64,235	65,930					
International Aviation Management	i	Aviation Manager	7,665	8,112					
Contract Procurement and Management	i	Senior Procurement Officer	1,560	1,642					
Invoice Administration	i	Finance Officer & Business Acct	14,465	12,754					
Travel Costs									
	j	METP-WG/MOG meetings & SCRAG	75	0					
		Staff Requirement and travel sub total	116,206	116,938					
Administrative costs									
	k	Cost of Capital	18,571	18,500					
	l	Admin charges	247	200					
		Total UKMO Costs	206,226	193,338					

2	TABLE 2: NATS and other SADIS Cost Projections until 2025 (at 2021 prices)								
				Actual 2020	FOO 2021	Est 2022	Est 2023	Est 2024	Est 2025
	INVENTORY REF:	Note	DESCRIPTION						
	NATS Gateway Costs								
	Staff Costs								
	Operational Staff	m	Air Traffic Services Asst.	225,000	225,000	235,000	241,000	245,000	249,500
	Engineering Staff	m	Maintenance Engineer	7,000	7,000	7,300	7,400	7,500	7,600
	Administration Staff	m	Administration Officer	27,800	27,800	29,300	30,000	30,900	31,500
			Staff Costs sub total	259,800	259,800	271,600	278,400	283,400	288,600
		m	Maintenance	9,700	9,700	9,700	9,700	9,700	9,800
			T&RE	0	0	1,600	1,700	1,800	1,800
			Total NATS Gateway Costs	269,500	269,500	282,900	289,800	294,900	300,200
3	CAA Administration Costs	n		980	980	1,000	1,000	1,000	1,000
4	ICAO Administration Costs	o		33,514	34,000	36,250	37,000	38,000	39,000
			TOTAL SADIS COSTS	510,220	497,818	520,750	529,200	623,300	660,200

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