



SCRAG/24 - REPORT

International Civil Aviation Organization

REPORT OF

**THE TWENTY-FOURTH MEETING OF THE
SECURE AVIATION DATA INFORMATION SERVICE
(SADIS) COST RECOVERY ADMINISTRATIVE GROUP
(SCRAG/24)**

**Virtual, 19 December 2023 and
Virtual, 13 February 2024**

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INTRODUCTION

Place and Duration

1. The Twenty-Fourth Meeting of the Secure Aviation Data Information Service (SADIS) Cost Recovery Administrative Group (SCRAG) was conducted virtually over two meetings: Tuesday, 19 December 2023, and Tuesday, 13 February 2024.

Attendance

2. The 19 December 2023 meeting was attended by the following Member from the Regions: Mr. Matthias Garke from the European Region. The 13 February 2024 meeting was attended by the following Members from the Regions: Mr. Matthias Garke from the European Region and Mr. Kouakou Konan Khan Chrisn from the AFI Region. Also in attendance for both meetings were the Provider State participants and ICAO representatives. The list of attendees is shown in Appendix A and the working papers issued for the meeting are listed in Appendix B.

Officers and Secretariat

3. Mr. Matthias Garke from the European Region served as Chairperson for both meetings. Ms. Joanna Zorbas, Joint Financing Officer, ICAO Headquarters in Montréal, served as Secretary.

Agenda

4. The following agenda was adopted:

Agenda Item 1: Review of SCRAG's Terms of Reference, Composition and Working Arrangements

Agenda Item 2: Consideration of issues relevant to the SCRAG's work addressed by the Meteorology Panel (METP) Working Group on Meteorological Operations Group (WG-MOG)

Agenda Item 3: Review of actual SADIS costs and cost shares for the period 1 January to 31 December 2022

Agenda Item 4: Review of estimated SADIS costs and cost shares for the period 1 January to 31 December 2024 and estimated costs for the next two to five years

Agenda Item 5: Review of the status of SADIS payments for the current year (2023) invoices

Agenda Item 6: Amendments to Annexes of the SADIS Agreement

Agenda Item 7: Future work and arrangements for the SCRAG/25 Meeting

Agenda Item 8: Other business

AGENDA ITEM 1: REVIEW OF SCRAG’S TERMS OF REFERENCE, COMPOSITION AND WORKING ARRANGEMENTS

1.1 Mr. Matthias Garke from the European Region participated in the capacity of Chairperson for the 19 December 2023 and 13 February 2024 SCRAG/24 meetings.

1.2 Article VII, paragraph II of the SADIS Agreement states that the SCRAG shall be composed of one Party from each region and that regions, which in the aggregate, are responsible for more than 50 per cent of the total current assessments, shall nominate an additional Party. Only one Party from each region was required for the SCRAG/24 meeting since all the regions have a percentage of total assessments below the 50 per cent level.

1.3 The Group noted its Terms of Reference assigned by Article VII of the SADIS Agreement, which reads:

“The SADIS Cost Allocation and Recovery (SCAR) arrangement shall be administered by a group, the *SADIS Cost Recovery Administrative Group* (SCRAG) which shall:

- a) assess the annual cost share attributable to each Party, including reassessments arising from new Parties adhering to this Agreement; and
- b) audit the costs of the SADIS provision and any related financial activities, incurred by the Provider State and subject to cost sharing.”

1.4 The Group was informed that ICAO had received a formal notification of accession to the SADIS Agreement from 71 States. Three of these States are not presently receiving the service and 12 of these States are Least Developed Countries (LDCs), which are exempt from payment of SADIS cost share. The Group was also informed that 50 other States receiving the SADIS service had not yet acceded to the SADIS Agreement. Of these States, 23 are LDCs. States that have formally acceded to the SADIS Agreement and States that have not are listed in Appendix C.

1.5 The Group discussed encouraging the Accession of States to the SADIS Agreement. In this regard, the following conclusion was formulated:

SCRAG Conclusion 24/1 —

The SADIS Manager will liaise with the Met Officers in the ICAO Regional Offices and present information to the relevant Planning and Implementation Regional Group (PIRG) meetings to encourage States who have not yet acceded to the SADIS agreement to do so.

AGENDA ITEM 2: CONSIDERATION OF ISSUES RELEVANT TO THE SCRAG'S WORK ADDRESSED BY THE METEOROLOGY PANEL (METP) WORKING GROUP ON METEOROLOGICAL OPERATIONS GROUP (WG-MOG)

2.1 The Group was informed of the main conclusions of the Twenty Second Meeting of the Meteorology Panel (METP) Working Group on Meteorological Operations Group (WG-MOG) for SADIS (METP WG-MOG/22, held in Kansas City on 4 and 5 May 2023) provided by the work stream lead of the METP WG-MOG.

2.2 In accordance with Action 22/03 of METP WG-MOG/23, the Group noted the Statement of SADIS operational efficacy received from the Rapporteur of the METP WG-MOG, relaying the information from the Group at its Twenty Second Meeting to the SCRAG that the operational efficacy of the SADIS had continued to be satisfactory, meeting all operational requirements since the METP WG-MOG/18 Meeting (Virtual, 29 April 2022).

2.3 The following Actions/Decisions relating to the SADIS Service were documented in the report of the METP WG-MOG/22:

MOG Action agreed 22/01 — Terms of Reference

That;

- a) the METP-WG/MOG meeting accepts the proposed updates to the Terms of Reference as shown in Appendix B; and
- b) the ICAO Secretariat publishes the finalised Terms of Reference document onto the ICAO METP Secure Portal website: <https://portal.icao.int/METP/MOG/Pages/default.aspx>, replacing the previous copy.

Status: Complete

MOG Action agreed 22/02: Annual statement of operational efficacy of SADIS 2022/2023

That, the Rapporteur of the METP-WG/MOG be invited to inform the Secretary of the SCRAG that SADIS continued to meet the operational requirements during the period 2022/2023.

Status: Complete

MOG Action agreed 22/03: 2023 SADIS Efficacy Survey

That, the web hosted SADIS Efficacy questionnaire, using the questions shown in Appendix D to this report, be used for the 2023 survey:

- a) the survey will commence on 1 July 2023 and end on 31 December 2023;
- b) users will be notified of the survey via SADIS administrative messages and e-mail; and,
- c) The ICAO Secretariat will inform the ICAO Regional Officers for meteorology and MOG SADIS workstream members of the survey and encourage them to issue a State letter to encourage participation in the survey. The State Letter should include a copy of the questions shown in Appendix D [of the MOG22 report].

Status: Complete

MOG Action agreed 22/04: Status of Implementation of SADIS

That the ICAO Secretariat be invited to make available the updated Status of Implementation of SADIS document, as shown in Appendix E [of the METP/WG-MOG22 report], on the ICAO public website (replacing the previous copy) once it is finalised.

Status: Complete.

Action 22/05 – SADIS User Level Agreement

That, the SADIS Provider circulate a copy of the proposed user agreement with the MOG-SADIS members once a final draft is available for review. MOG-SADIS members should provide feedback on this document by 31 August for consideration by the SADIS Provider, so that it can be presented to the SCRAG meeting in late November 2023.

Status: There was a delay to the preparation of the draft terms and conditions, so it has not been possible to consult the MOG-SADIS members. The new terms and conditions are presented as a WP at this meeting.

Action 22/06: SADIS OPMET Catalogue

That;

a) the April 2023 update to the SADIS OPMET catalogue, once finalised is published on SADIS and <https://www.icao.int/airnavigation/METP/Pages/Public-Documents.aspx> (replacing the previous version).

b) the catalogue is updated at least annually

Status: Complete.

MOG Action agreed 22/07: – SADIS Agreement Annex I and II 2022-2023

That,

a) the WG/MOG members should provide any additional feedback on the proposed changes to the SADIS Agreement Annex I and II, as respectively shown in Appendix F and G, by 31 August 2023;

b) any changes are agreed by the WG/MOG members by correspondence; and,

c) the Rapporteur of the METP-WG/MOG be invited to forward the updated SADIS Agreement Annex I and II, following agreement by the MOG members, to the Secretary of SCRAG.

Status: Update is presented in Appendix A and B of the MOG/22 report.

Action 22/08 — Job Card 8 update

That, the WG-MOG Rapporteur present the proposed updates to the Job Card MEP.008, as shown in Appendix H [of the METP/WG-MOG22], to METP/6 for consideration.

Status: Pending. Papers for the METP/6 meeting will be prepared in February 2024.

MOG Decision 22/01 – SADIS Management Report

That, the operations of the SADIS Provider State continues to meet the specification outlined in the Terms of Reference.

MOG Decision 22/02 - SADIS User Guide

That,

- a) the proposed updates to the SADIS User Guide Part 1 and Part 2 are accepted; and,
- b) once finalised, the new copy of the SADIS User Guide parts 1 and 2 is published on the ICAO website by the ICAO Secretariat.

Status: Complete.

SCRAG Conclusion 24/2 —

The Group recommended that the Chair of the METP-WG/MOG forward the Annual Statement of Operational Efficacy to the Secretary of the SCRAG, who in turn will send the report to the Chairperson of the SCRAG subsequent to their nomination at the start of the annual SCRAG meeting.

AGENDA ITEM 3: REVIEW OF ACTUAL SADIS COSTS AND COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2022

Review of the 2022 Actual SADIS Costs

3.1 The Group reviewed the actual costs of £ 493 813 for providing the SADIS services in the year 2022. These actual costs are detailed in Appendix E, Column “Actual 2022” and the cost share per State is presented in Column 4 of Appendix D. A summary of these costs is presented in Table 1 (A).

TABLE 1 (A)
SUMMARY OF ACTUAL SADIS COSTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2022

Cost Item	Actual Costs (UK £)
UK Met Office	179 564
UK NATS SADIS Gateway	281 300
UK CAA administrative costs	0
Sub-total UK	460 864
ICAO support service costs	32 949
TOTAL	493 813

Review of the 2022 Actual SADIS Cost Shares

3.2 The Group noted that four States did not receive the service throughout the full 2022 year. Jordan was disconnected from the service on 20 January 2022 and rejoined on 12 August 2022 and as a result, their share of actual costs for 2022 was calculated based on four full months of service. Indonesia was disconnected from SADIS services on 23 September 2022 and rejoined on 30 May 2023, therefore only assessed for eight full months of service. Both Belarus and the Russian Federation were disconnected from SADIS services on 11 March 2022, and as a result, their share of actual costs for 2022 was calculated based on two full months of service.

3.3 The Group determined that the actual cost shares for the period 1 January to 31 December 2022 be borne by the States’ party to the SADIS Agreement that are not exempted from payment because they are not categorized as LDCs. On the basis of the number of available tonne-kilometres (ATKs) in scheduled services for 2022, in accordance with Article XI, paragraph 3 of the SADIS Agreement, the cost share in percentage terms and the share in £ sterling to be borne by each State participating in the SCAR Arrangement are shown in Appendix D.

3.4 The Group noted that in determining State assessments, ATKs increased by 9.6 per cent in 2022 compared to 2021 ATKs. The share related to each individual State, however, varied. In accordance with Article XI, paragraph 1 of the SADIS Agreement, the apportionment of costs between States is based on the total number of ATKs in scheduled international and domestic services. As a result, States that maintained a higher level of domestic services throughout 2022, or experienced a more significant increase in international service than other States, may have a higher apportionment of the total cost of the SADIS services for the year in comparison to their proportion of 2021 ATKs.

3.5 Cost estimates for 2022 are compared to actual 2022 costs and the variance is allocated to states using 2022 ATK data. It is noteworthy that the initial estimated costs were allocated based on 2020 ATKs, leading to significant and inconsistent overall adjustments for certain states, as illustrated

in the "Adjustment for 2022" column in Appendix D. Some states exhibit substantial cost allocations or credits within the adjustment amount, a consequence of the impact of COVID on the 2020 ATKs. The apportionment in that year may not align consistently with pre-pandemic results. To illustrate, states with high domestic aviation activity in 2020, when global international activity was relatively low for everyone, received a notably higher portion of the Estimated 2022 costs and the corresponding Assessment for 2022. However, utilizing 2022 data to determine the adjustment amount for 2022 is likely to result in a credit amount for these states. Additionally, states experiencing a slower return of aviation activity in 2022 compared to others may have a lower allocation rate than historical results would have determined.

3.6 The Group noted the adjustment for 2022; an over-recovery of £26 937 represents the difference between the 2022 actual costs and the 2022 estimated costs approved by the SCRAG/22 meeting, as indicated in Table 1 (B).

TABLE 1 (B)

**ADJUSTMENT OF ACTUAL SADIS COSTS TO ESTIMATED SADIS COSTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2022**

	Cost Item	Actual Costs (UK £)	Reference
(1)	2022 Actual Cost	493 813	Table 1 (A)
(2)	2022 Estimated Cost	520 750	SCRAG/22 Report, Table 3
(3)	Over-recovery for 2022 (to be subtracted from the amount billed in 2024)	-26 937	(1) - (2) <i>(see Appendix D, column 6 and Appendix H, column 2)</i>

The Group formulated the following Conclusion:

SCRAG Conclusion 24/3 —

In accordance with Article XI, paragraph 3, of the SADIS Agreement, the SCRAG/24 meeting approves the actual cost shares for 2022, as shown in Appendix D to the SCRAG/24 Report for the States participating in the SCAR Arrangement.

SCRAG Conclusion 24/4 —

Approve Appendix D through correspondence, subsequent to the meeting, in order to reflect updated ATK data to enhance the completeness of the reported ATKs and to fairly distribute cost between all States.

3.7 The Group received information from the Observer from the United Kingdom on the status of payment of the cost shares of 2022 as of 10 December 2023. It was noted that a total amount of £ 528 259.05 was collected for 2022 (see Appendix F, page F-2). A balance of £ 39 265.58, which represents the sum of seven States with balances owed, remains outstanding. Outstanding 2022 credits total £ 1 300.13, resulting in a net balance of £ 37 965.45, as indicated in the final column of Appendix F, page F-2.

3.8 The Group noted that, consistent with Conclusion 14/7, which was reached during the SCRAG/14 meeting, the small additional costs incurred in the process of obtaining payment of SADIS invoices (these include bank charges and courier costs), have been added to the administrative costs for the SADIS Provider State.

3.9 Having noted the information in Table 1 (A) and paragraphs 3.4 to 3.7 above, the Group agreed that the under-recovery of SADIS cost shares for the year 2022 amounts to £ 8 012, as shown in Table 2 below. The under-recovery of 2022 is the amount subject to collection for 2022 (£ 536 305), less the amounts collected for 2022 and prior years £ 528 293 (£ 528 259 and £34).

TABLE 2
OVER-RECOVERY FOR 2022

		UK £	References
(1)	Actual costs for 2022	493 813	Table 1 (A)
(2)	Over-recovery for 2020	42 492	SCRAG/22 Report, Table 2
(3)	Subject to collection for 2022	536 305	(1) + (2)
(4)	Collected from States for 2022 (as of 10 December 2023)	-528 259	Appendix F – page F-2 <i>(column 3 minus column 5)</i>
(5)	Collected from States for years prior to 2022 (as of 10 December 2023)	-34	Appendix F – page F-3 <i>(column 3)</i>
(6)	Under-recovery for 2022 (to be subtracted from the assessments for 2024)	8 012	(3) + (4) + (5) <i>(see Appendix G, column 5)</i>

The Group formulated the following Conclusion:

SCRAG Conclusion 24/5 —

An under-recovery, amounting to £8 012 of the SADIS cost shares for the year 2022, will be taken into account in the calculation of the SADIS cost shares for the year 2024, in accordance with Article XI, paragraph 4, of the SADIS Agreement.

AGENDA ITEM 4: REVIEW OF ESTIMATED SADIS COSTS AND COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2024 AND ESTIMATED COSTS FOR THE NEXT TWO TO FIVE YEARS

Review of the 2024 Estimated SADIS Costs

4.1 The cost estimates for 2024 are detailed in the column “Est 2024”, in Appendix E, and total £ 621 843. A summary of these costs is presented in Table 3.

**TABLE 3
SUMMARY OF ESTIMATED SADIS COSTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2024**

Cost Item	Estimated Costs (UK £)
UK Met Office	271 900
UK NATS SADIS Gateway	319 139
UK CAA administrative costs	1 000
Sub-total UK	592 039
ICAO support services costs	29 804
TOTAL	621 843

4.2 Members noted and discussed the expected increase in SADIS operating costs attributable to the UK Met Office in 2024 which are due to the introduction of much higher resolution World Area Forecast System (WAFS) data sets (which cannot be published via the SADIS FTP) and the requirements set out in the ICAO Global Air Navigation Plan for meteorological data to be provided via the system-wide information management (SWIM) compliant systems (which the SADIS FTP does not currently meet). These changes have been documented and accepted by the MET Panel MOG SADIS and WAFS Work Streams, and the METP/5 Meeting (June 2021). The SADIS manager will make the MOG members aware of the expected operating costs at the next MOG-SADIS meeting in early June 2024.

4.3 The Group considered the under-recovery in Table 2 in the calculation of the amount to be assessed under the SADIS Agreement for 2024. The calculation of the amount to be assessed is presented in Table 4.

**TABLE 4
AMOUNT TO BE ASSESSED UNDER THE SADIS AGREEMENT FOR 2024**

		UK £	References
(1)	Under-recovery for 2022	8 012	Table 2
(2)	Estimated costs for 2024	621 843	Table 3
(3)	Amount to be assessed for 2024	629 855	(1) + (2) <i>(see Appendix G, column 6)</i>

4.4 The Group determined that the cost shares for the period 1 January to 31 December 2024, be borne by the States’ party to the SADIS Agreement that are not exempted from payment because they are on the list of the Least Developed Countries, on the basis of the number of ATKs in scheduled services for 2022, in accordance with Article XI, paragraph 3, of the SADIS Agreement.

4.5 The cost share in percentage terms and the share in £ sterling, plus the share of under-recovery for 2022, attributable to each State, are shown in Appendix G. Appendix H shows the amounts to be billed to each State in 2024, corresponding to the adjustment for 2022 (Appendix D), plus the assessment for 2024 (Appendix G), less any deduction of unused credit balances or other adjustments from previous years.

TABLE 5
AMOUNT TO BE BILLED UNDER THE SADIS AGREEMENT FOR 2024

		UK £	References
(1)	Amount to be Assessed for 2024	629 855.00	Table 4
(2)	Adjustment of Actual SADIS Costs to Estimated Costs for 2022	-26 937.00	Table 1 (B)
(3)	Deduction of Unused Credit Balances from Previous Year or Other Adjustments	-11 842	Appendix H (column 4)
(4)	Amount to be Billed for 2024	591 076.00	(1)+(2)+(3) (see Appendix H, column 5)

The Group formulated the following Conclusion:

SCRAG Conclusion 24/6 —

The estimated cost shares for 2024 as shown in Appendix G to the SCRAG/24 Report for each State participating in the SCAR Arrangement are approved by the SCRAG/24 meeting for collection by the United Kingdom.

SCRAG Conclusion 24/7 —

Approve Appendix G through correspondence subsequent to the meeting in order to reflect updated ATK data to enhance the completeness of the reported ATKs and to fairly distribute cost between all States.

Cost Estimates for the Years 2025 to 2027

4.6 The Group considered the estimates provided by the United Kingdom (Appendix E) and summarized in Table 6 for SADIS services for the years 2025 to 2027, as well as the estimates for the United Kingdom administrative costs and the costs of ICAO support services.

TABLE 6
SUMMARY OF ESTIMATED SADIS COSTS
FOR THE YEARS 2025, 2026 AND 2027

Cost Item	Estimated Costs 2025 (UK £)	Estimated Costs 2026 (UK £)	Estimated Costs 2027 (UK £)
UK Met Office	285 300	284 000	275 000
UK NATS SADIS Gateway	336 470	340 835	345 558
UK CAA administrative costs	1 000	1 000	1 000
Sub-total UK	622 770	625 835	621 558
ICAO support services costs	30 000	30 000	30 000
TOTAL	652 770	655 835	651 558

4.7 Members noted and discussed the expected changes in SADIS operating costs attributable to the UK Met Office from 2025 to 2027. Appendix E shows how during this period both the SADIS FTP and SADIS API will be in operation and users will be migrating over to the API. Therefore, during these years the operating costs of the API are expected to increase whilst the FTP costs decrease.

**AGENDA ITEM 5: REVIEW OF THE STATUS OF SADIS PAYMENTS FOR THE CURRENT YEAR (2023)
INVOICES**

5.1 The Group reviewed WP/12 on the status of payment for the current (2023) year, presented by the United Kingdom.

5.2 The Group formulated the following Conclusion:

SCRAG Conclusion 24/8 —

*With the assistance of ICAO Regional Met Officers, the SADIS Provider will continue to make all efforts to contact and remind the States of their outstanding payments. The Group agreed that the SADIS Provider State be invited to withdraw access to the secure SADIS FTP for those States who, as at 1200 UTC on **17 January 2024**, have cumulative outstanding payments over GBP 100 due for any invoice dated 2023 or earlier.*

AGENDA ITEM 6: AMENDMENTS TO ANNEXES OF THE SADIS AGREEMENT

6.1 The Group viewed the current version of Annex I, SADIS Services, to the SADIS Agreement, which was last reviewed and updated by the METP WG-MOG SADIS in May 2023.

6.2 As a result of its review, the Group adopted the following Conclusion:

SCRAG Conclusion 24/9 —

With the consent of the United Kingdom as the SADIS Provider State, in accordance with Article XVII, paragraph 5, of the SADIS Agreement, Annex I, SADIS Services, of the SADIS Agreement amended as indicated in Appendix I to the SCRAG/24 Report.

6.3 The Group reviewed the current version of Annex II, SADIS Inventory, to the SADIS Agreement, which was last reviewed and updated by the METP WG-MOG SADIS in May 2023 and incorporated into the SADIS agreement after the SCRAG/24 meeting. No additional changes are required at the present time.

6.4 As a result of its review, the Group adopted the following Conclusion:

SCRAG Conclusion 24/10 —

With the consent of the United Kingdom as the SADIS Provider State, in accordance with Article XVII, paragraph 5, of the SADIS Agreement, Annex II, SADIS Inventory, of the SADIS Agreement amended as indicated in Appendix J to the SCRAG/24 Report.

AGENDA ITEM 7: FUTURE WORK AND ARRANGEMENTS FOR THE SCRAG/24 MEETING

7.1 The Group determined the provisional location and date for the Twenty-Fifth SCRAG meeting to be held 3 December 2024 in the UK, and it was noted that if an in-person meeting is held, it will also be hosted virtually to enable remote attendance.

AGENDA ITEM 8: OTHER BUSINESS

8.1 The Group expressed its appreciation for the assistance provided by the UK Met Office in conducting the virtual meeting.

APPENDIX A

LIST OF PARTICIPANTS

Members

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APPENDIX B

LIST OF SCRAG/24 WORKING PAPERS

Working Paper No.	Agenda Item	Subject	Presented by
1	1 to 9	Provisional agenda	Secretariat
2	1, 3 & 4	Status of accession to the SADIS Agreement	Secretariat
3	2, 4 & 6	Reports on Conclusions of the METP WG-MOG/22 meeting	United Kingdom
4	3	2022 ICAO actual SADIS administrative costs	Secretariat
5	3	2022 actual SADIS costs	United Kingdom
6	3	Status of payments for the year 2022	United Kingdom
7	3	Summary of actual costs and cost shares for the year 2022	Secretariat
8	4	2024 ICAO estimated SADIS administrative costs	Secretariat
9	4	Estimated SADIS costs: two to five years	United Kingdom
10	4	Summary of estimated costs and assessments for the year 2024	Secretariat
11	6	Amendment to Annex II, SADIS Inventory, to the SADIS Agreement	Secretariat
12	5	Status of payments for the current (2023) year	United Kingdom
13	6	Amendments to Annex I of the SADIS Agreement	United Kingdom
14	5	Credit balances	Secretariat
15	4	Cost Recovery Methods	United Kingdom

STATES WHICH FORMALLY ACCEDED TO THE SADIS AGREEMENT

STATES	LDC's Exempted
Albania	
Armenia	
Australia	
Austria	
Bahrain	
Bangladesh	X
Belgium	
Botswana	
Cameroon	
China	
Congo	
Côte d'Ivoire	
Croatia	
Cyprus	
Czechia	
Democratic People's Republic of Korea *	
Democratic Republic of the Congo	X
Denmark	
Egypt	
Estonia	
Finland	
France	
Gabon	
Gambia	X
Georgia	
Germany	
Greece	
Hungary	
Israel	
Italy	
Jordan	
Kazakhstan	
Kuwait	
Kyrgyzstan	
Lao People's Democratic Republic	X
Latvia	
Lesotho	X
Lithuania	
Madagascar	X
Malta	
Mauritius	
Mongolia *	
Morocco	
Netherlands	
Norway	
Oman	
Pakistan	
Poland	
Portugal	
Republic of Moldova	
Romania	
Senegal	X
Slovakia	
Slovenia	

* Although they formally acceded to the SADIS Agreement, these States do not presently receive the service.

STATES WHICH FORMALLY ACCEDED TO THE SADIS AGREEMENT

Spain	
Sweden	
Switzerland	
Tajikistan	
Thailand	
Togo	X
Tunisia	
Turkmenistan *	
Uganda	X
Ukraine	
United Arab Emirates	
United Kingdom	
United Republic of Tanzania	X
Uzbekistan	
Viet Nam	
Yemen	X
Zambia	X

* Although they formally acceded to the SADIS Agreement, these States do not presently receive the service.

STATES WHICH HAVE NOT YET ACCEDED TO THE SADIS AGREEMENT

STATES	LDC's Exempted
Algeria	
Angola	X
Azerbaijan	
Benin	X
Bosnia and Herzegovina	
Bulgaria	
Burkina Faso	X
Burundi	X
Cabo Verde	
Cambodia	X
Central African Republic	X
Chad	X
Comoros	X
Djibouti	X
Equatorial Guinea	
Eswatini	
Ethiopia	X
Ghana	
Guinea	X
Guinea-Bissau	X
Iceland	
India	
Indonesia	
Ireland	
Kenya	
Liberia	X
Libya	
Luxembourg	
Malawi	X
Maldives	
Mali	X
Mauritania	X
Montenegro	
Mozambique	X
Namibia	
Niger	X
Nigeria	
North Macedonia	
Qatar	
Rwanda	X
Sao Tome and Principe	X
Saudi Arabia	
Serbia	
Seychelles	
Somalia	X
South Africa	
South Sudan	X
Sudan	X
Turkey	
Zimbabwe	

**ACTUAL COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2022*
AND ADJUSTMENT FOR 2022**

STATES	2022 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 2022 Actual Costs (£ Sterling)	Share of 2022 Estimated Costs (SCRAG/22) (£ Sterling)	Adjustment for 2022 (£ Sterling)
Albania	37 022	0.006%	30.63	15.92	14.71
Algeria	1 178 325	0.197%	974.98	274.83	700.15
Armenia	904 632	0.152%	748.51	11.82	736.69
Australia	15 715 749	2.633%	13 003.60	9 739.12	3 264.48
Austria	6 681 337	1.120%	5 528.30	2 854.91	2 673.39
Azerbaijan	504 448	0.085%	417.39	4 074.16	- 3 656.77
Bahrain	3 656 041	0.613%	3 025.10	1 219.63	1 805.47
Belarus (note 1)	56 199	0.009%	46.50	283.53	- 237.03
Belgium	7 177 749	1.203%	5 939.05	3 582.85	2 356.20
Bosnia and Herzegovina (note 2)	0	0.000%	0.00	0.96	- 0.96
Botswana	19 320	0.003%	15.99	0.00	15.99
Bulgaria	88 701	0.015%	73.39	103.59	- 30.20
Cabo Verde	16 849	0.003%	13.94	132.15	- 118.21
Cameroon	18 567	0.003%	15.36	2.64	12.72
China: - Beijing	83 072 006	13.919%	68 735.83	132 646.98	- 63 911.15
- Hong Kong	11 243 187	1.884%	9 302.89	17 432.15	- 8 129.26
- Macao	149 010	0.025%	123.29	237.27	- 113.98
Congo	18 601	0.003%	15.39	20.59	- 5.20
Côte d'Ivoire	205 746	0.034%	170.24	165.83	4.41
Croatia	174 009	0.029%	143.98	102.72	41.26
Cyprus	270 313	0.045%	223.66	37.49	186.17
Czechia	494 153	0.083%	408.87	335.34	73.53
Denmark	3 188 834	0.534%	2 638.52	1 201.22	1 437.30
Egypt	5 073 684	0.850%	4 198.09	2 971.63	1 226.46
Equatorial Guinea	15 082	0.003%	12.48	22.49	- 10.01
Estonia (note 2)	0	0.000%	0.00	0.00	0.00
Eswatini	676	0.000%	0.56	1.14	- 0.58
Finland	4 530 117	0.759%	3 748.33	2 836.37	911.96
France	32 533 425	5.451%	26 918.96	18 518.53	8 400.43
Gabon	28 211	0.005%	23.34	1.78	21.56
Georgia	60 622	0.010%	50.16	40.09	10.07
Germany	38 936 501	6.524%	32 217.02	19 094.73	13 122.29
Ghana	25 143	0.004%	20.80	22.45	- 1.65
Greece	1 942 507	0.325%	1 607.28	845.90	761.38
Hungary	8 812 993	1.477%	7 292.09	3 996.90	3 295.19
Iceland	30 908	0.005%	25.57	730.62	- 705.05
India	25 167 997	4.217%	20 824.62	15 282.85	5 541.77
Indonesia (note 3)	5 849 413	0.980%	4 839.95	8 852.39	- 4 012.44
Iraq	492 974	0.083%	407.90	0.00	407.90
Ireland	22 381 847	3.750%	18 519.29	10 224.08	8 295.21
Israel	3 387 509	0.568%	2 802.91	2 614.63	188.28
Italy	4 883 854	0.818%	4 041.02	3 879.53	161.49
Jordan (note 4)	486 248	0.081%	402.33	585.82	- 183.49
Kazakhstan	1 714 698	0.287%	1 418.78	1 228.89	189.89
Kenya	2 402 851	0.403%	1 988.18	1 546.22	441.96
Kuwait	2 147 682	0.360%	1 777.05	706.29	1 070.76
Kyrgystan	250 326	0.042%	207.13	63.39	143.74
Latvia	766 366	0.128%	634.11	405.17	228.94
Libya	291 176	0.049%	240.93	176.83	64.10
Lithuania	390	0.000%	0.32	16.92	- 16.60

**ACTUAL COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2022*
AND ADJUSTMENT FOR 2022**

STATES	2022 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 2022 Actual Costs (£ Sterling)	Share of 2022 Estimated Costs (SCRAG/22) (£ Sterling)	Adjustment for 2022 (£ Sterling)
Luxembourg	11 952 280	2.003%	9 889.61	12 520.07	- 2 630.46
Maldives	94 431	0.016%	78.13	120.74	- 42.61
Malta	556 785	0.093%	460.70	189.60	271.10
Mauritius	884 452	0.148%	731.82	394.95	336.87
Montenegro	33 101	0.006%	27.39	0.00	27.39
Morocco	3 265 249	0.547%	2 701.75	1 525.20	1 176.55
Namibia	11 287	0.002%	9.34	20.73	- 11.39
Netherlands	18 570 445	3.112%	15 365.64	17 933.26	- 2 567.62
Nigeria	447 769	0.075%	370.50	463.40	- 92.90
North Macedonia	0	0.000%	0.00	27.96	- 27.96
Norway	3 314 798	0.555%	2 742.75	2 095.76	646.99
Oman	1 037 121	0.174%	858.14	1 121.88	- 263.74
Pakistan	2 148 678	0.360%	1 777.87	1 856.42	- 78.55
Poland	2 770 631	0.464%	2 292.49	1 376.55	915.94
Portugal	4 742 764	0.795%	3 924.28	3 162.97	761.31
Qatar	46 454 034	7.784%	38 437.21	41 733.31	- 3 296.10
Republic of Moldova	198 798	0.033%	164.49	82.49	82.00
Romania	531 122	0.089%	439.46	400.92	38.54
Russian Federation (note 5)	3 883 843	0.651%	3 213.59	30 024.94	- 26 811.35
Saudi Arabia	10 665 434	1.787%	8 824.84	10 045.09	- 1 220.25
Senegal	420 066	0.070%	347.57	78.78	268.79
Serbia	517 004	0.087%	427.78	266.50	161.28
Seychelles	54 189	0.009%	44.84	37.49	7.35
Slovakia	367	0.000%	0.30	0.35	- 0.05
Slovenia	192	0.000%	0.16	9.77	- 9.61
South Africa	1 473 711	0.247%	1 219.38	1 947.21	- 727.83
Spain	17 950 062	3.008%	14 852.32	7 745.68	7 106.64
Sweden	1 331 511	0.223%	1 101.73	831.57	270.16
Switzerland	8 955 590	1.501%	7 410.08	5 519.31	1 890.77
Tajikistan	183 240	0.031%	151.62	159.96	- 8.34
Thailand	8 631 153	1.446%	7 141.63	7 594.73	- 453.10
Tunisia	953 842	0.160%	789.23	405.24	383.99
Turkey	39 492 992	6.617%	32 677.48	25 780.53	6 896.95
Ukraine	400 177	0.067%	331.12	592.02	- 260.90
United Arab Emirates	61 273 593	10.267%	50 699.28	45 955.57	4 743.71
United Kingdom	36 493 618	6.115%	30 195.73	22 977.73	7 218.00
Uzbekistan	1 786 411	0.299%	1 478.12	603.39	874.73
Viet Nam	8 196 523	1.373%	6 782.01	5 949.58	832.43
Zimbabwe	45 935	0.008%	38.01	57.01	- 19.00
TOTAL	596 807 197	100.000%	493 813.00	520 750.00	- 26 937.00

* Least Developed Countries are exempted.

Note 1: In accordance with the months for which services were received, Belarus's share of actual 2022 costs was calculated based on 2 full months of service.

Note 2: Two States, Bosnia and Herzegovina and Estonia did not perform scheduled service during 2022 and therefore had zero ATKs reported.

Note 3: In accordance with the months for which services were received, Indonesia's share of actual 2022 costs was calculated based on 8 full months of service.

Note 4: In accordance with the months for which services were received, Jordan's share of actual 2022 costs was calculated based on 4 full month of service.

Note 5: In accordance with the months for which services were received, Russian Federation's share of actual 2022 costs was calculated based on 2 full month of service.

**SADIS COST ESTIMATES FOR 2024 TO 2027 FOR SADIS SERVICES PROVIDED BY
THE UNITED KINGDOM METEOROLOGICAL OFFICE**

TABLE 1: UKMO Cost and manpower resource projections until year 2027 (at 2023 prices)

INVENTORY REF:	Note	DESCRIPTION	Actual 2022	Revised Estimate 2023	Est 2024	Est 2025	Est 2026	Est 2027
UK MET OFFICE COSTS								
1. Equipment								
Not procured principally for SADIS								
message switch	a		3,000	3,000	3,000	3,200	3,200	3,400
AWS Server running costs for SADIS FTP	b		46,077	52,200	50,000	45,000	40,000	25,000
SADIS API OPMET running costs	c		-	-	15,000	20,000	22,000	24,000
SADIS API WAFS Gridded data running costs	c		-	500	38,000	44,000	46,000	48,000
SADIS API WAFS SIGWX running costs	c		-	-	1,000	4,000	5,000	5,000
		Equipment sub total	49,077	55,700	107,000	116,200	116,200	105,400
3. Annual Staff Requirements								
Operating Support								
	d	First Line Support	5,289	4,950	5,500	5,500	6,000	6,000
	e	Second Line Support	10,726	11,236	15,000	15,000	15,000	15,000
	f	Third and Fourth Line Support	3,394	13,643	25,000	25,000	20,000	20,000
Additional Support								
Administrator	g	Executive Officer	69,200	72,000	73,500	75,000	76,000	77,000
International Aviation Management	g	Aviation Manager	8,400	8,800	9,000	9,500	10,000	10,000
Contract Procurement and Management	g	Senior Procurement Officer	1,695	1,780	2,000	2,000	2,200	2,500
Invoice Administration	g	Finance Officer & Business Acct	12,670	13,500	14,000	14,500	15,000	15,500
Travel Costs								
	h	METP-WG/MOG meetings & SCRAG	0	2,000	500	1,200	1,200	1,200
		Staff Requirement and travel sub total	111,374	127,909	144,500	147,700	145,400	147,200
Administrative costs								
	i	Cost of Capital	19,024	19,800	20,000	21,000	22,000	22,000
	j	Admin charges	89	201	400	400	400	400
		Total UKMO Costs	179,564	203,610	271,900	285,300	284,000	275,000

SCRAG/24-Report
Appendix E

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TABLE 2: NATS and other SADIS Cost Projections until year 2027 (at 2023 prices)

INVENTORY REF:	Note	DESCRIPTION	Actual 2022	Revised Estimate 2023	Est 2024	Est 2025	Est 2026	Est 2027
NATS Gateway Costs								
Staff Costs								
Operational Staff	k	Air Traffic Services Asst.	235,000	256,525	261,699	276,092	279,682	283,597
Engineering Staff	k	Maintenance Engineer	7,300	8,669	8,624	9,098	9,217	9,346
Administration Staff	k	Administration Officer	29,300	35,260	36,387	38,388	38,887	39,432
		Staff Costs sub total	271,600	300,454	306,710	323,578	327,786	332,375
	k	Maintenance	9,700	10,209	10,745	11,145	11,281	11,397
	l	T&RE	0	0	1,684	1,747	1,768	1,786
		Total NATS Gateway Costs	281,300	310,663	319,139	336,470	340,835	345,558
CAA Administration Costs	m		0	0	1,000	1,000	1,000	1,000
ICAO Administration Costs	n		32,949	32,000	29,804	30,000	30,000	30,000
		TOTAL SADIS COSTS	493,813	546,273	621,843	652,770	655,835	651,558

**STATUS OF PAYMENTS OF THE ASSESSMENTS FOR 2022
AS AT 10 DECEMBER 2023**

(£ Sterling)

STATES	Total amount billed for 2022 (SCRAG/22 Report, Appendix H)	Amount Collected as at 10 December 2023	Administrative Charges Applied	Application of credit balance (or part of)	Unpaid amount (excess paid) as at 10 December 2023
Albania	0.00				0.00
Algeria	-41.09				- 41.09
Armenia	0.00				0.00
Australia	5158.09	5158.09			0.00
Austria	3792.40	3792.40			0.00
Azerbaijan	6851.64	6851.64			0.00
Bahrain	625.87	625.87			0.00
Belarus	448.65				448.65
Belgium	4082.87	4082.87			0.00
Bosnia and Herzegovina	0.00				0.00
Botswana	-10.20			-10.20	0.00
Bulgaria	86.45	86.45			0.00
Cabo Verde	200.19	200.19	-0.74		0.00
Cameroon	-21.66			-21.66	0.00
China: - Beijing	176937.29	176937.29			0.00
- Hong Kong	13903.55	13903.55	12.00		0.00
- Macau	34.51	34.51			0.00
Congo	-2.24			-2.24	0.00
Côte d'Ivoire	257.39	257.39			0.00
Croatia	82.04	82.04			0.00
Cyprus	0.00				0.00
Czechia	-7.34			- 7.34	0.00
Denmark	1197.23	1197.23			0.00
Egypt	3159.79	3159.79			0.00
Equatorial Guinea	18.51	18.51			0.00
Estonia	-1.12				- 1.12
Eswatini	0.91				0.91
Finland	2144.98	2144.98			0.00
France	17825.98	17825.98			0.00
Gabon	0.00				0.00
Georgia	-38.54				- 38.54
Germany	14286.10	14286.10			0.00
Ghana	31.99	31.99			0.00
Greece	785.51	785.51			0.00
Hungary	5299.05	5299.05	15.00		0.00
Iceland	-692.11			- 653.36	- 38.75
India	13155.88	13155.88			0.00
Indonesia	7050.83	7050.83			0.00
Iraq	32.23				32.23
Ireland	7113.67	7113.67			0.00
Israel	2757.03	2757.03			0.00
Italy	3687.28	3687.28			0.00
Jordan	182.21	157.35	2.57		24.86
Kazakhstan	1262.17	1262.17			0.00
Kenya	1997.80	1997.80			0.00
Kuwait	-759.24				- 759.24
Kyrgyzstan	73.85	73.85			0.00

**STATUS OF PAYMENTS OF THE ASSESSMENTS FOR 2022
AS AT 10 DECEMBER 2023 cont.**

(£ Sterling)					
STATES	Total amount billed for 2020 (SCRAG/20 Report, Appendix I)	Amount Collected as at 10 December 2023	Administrative Charges Applied	Application of credit balance (or part of)	Unpaid amount (excess paid) as at 10 December 2023
Latvia	420.12	420.12	8.39		0.00
Libya	199.88	199.88			0.00
Lithuania	0.00				0.00
Luxembourg	15631.47	15631.47			0.00
Maldives	178.87	178.87			0.00
Malta	104.34	104.34			0.00
Mauritius	-27.77				- 27.77
Montenegro	-40.29			-40.29	0.00
Morocco	722.48	722.48			0.00
Namibia	-153.19				- 153.19
Netherlands	23204.83	23204.83			0.00
Nigeria	594.78	594.78			0.00
North Macedonia	28.66	28.66			0.00
Norway	174.39	174.39			0.00
Oman	12.64	12.64			0.00
Pakistan	2020.50	2020.50			0.00
Poland	1115.33	1115.33			0.00
Portugal	2645.91	2645.91			0.00
Qatar	58985.20	58985.20			0.00
Republic of Moldova	11.24				11.24
Romania	307.17	307.17			0.00
Russian Federation	38746.96				38 746.96
Saudi Arabia	12480.22	12480.22			0.00
Senegal	162.71	162.71			0.00
Serbia	290.34	290.34			0.00
Seychelles	-1.39				- 1.39
Slovakia	0.73				0.73
Slovenia	-76.52				- 76.52
South Africa	395.50	395.50			0.00
Spain	5177.44	5177.44			0.00
Sweden	415.05	415.05			0.00
Switzerland	4623.73	4623.73	15.00		0.00
Tajikistan	186.36	186.36			0.00
Thailand	2484.80	2484.80			0.00
Tunisia	286.74	286.74	10.01		0.00
Turkey	32462.70	32462.70			0.00
Ukraine	-162.52				- 162.52
United Arab Emirates	46857.41	46857.41			0.00
United Kingdom	14634.16	14634.16			0.00
Uzbekistan	652.63	652.63			0.00
Viet Nam	6785.40	6785.40			0.00
Zimbabwe	0.00				0.00
TOTAL	565 489.41	528 259.05	62.23	- 735.09	37 965.45

**STATUS OF PAYMENT OF BALANCES FOR YEARS PRIOR TO 2022
AS AT 10 DECEMBER 2023**

(£ Sterling)

STATES	Balance due for years prior to 2022	Amount Collected as at 10 December 2023	Administrative Charges Applied	Application of credit balance (or part of)	Unpaid amount (excess paid) as at 10 December 2023
Democratic People's Republic of Korea	140.33				140.33
Eswatini*	9.88				9.88
Ghana	33.57	33.57			0.00
Iran (Islamic Republic of)	14 548.16				14 548.16
Iraq	504.57				504.57
Slovakia*	0.19				0.19
Syrian Arab Republic	2 266.26				2 266.26
Turkmenistan	1 228.35				1 228.35
TOTAL	18 731.31	33.57	0.00	0.00	18 697.74

* As per SCRAG Conclusion 19/6, invoices under GBP 30 are not invoiced.

**ESTIMATED COST SHARES AND ASSESSMENTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2024 ***

STATES	2022 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 2024 Estimated Costs (£ Sterling)	Share of Under-recovery for 2022 (£ Sterling)	Amount to be Assessed for 2024 (£ Sterling)
Albania	37 022	0.007%	44.86	0.58	45.44
Algeria	1 178 325	0.230%	1 427.77	18.40	1 446.17
Armenia	904 632	0.176%	1 096.14	14.12	1 110.26
Australia	15 715 749	3.062%	19 042.75	245.35	19 288.10
Austria	6 681 337	1.302%	8 095.77	104.31	8 200.08
Azerbaijan	504 448	0.098%	611.24	7.88	619.12
Bahrain	3 656 041	0.712%	4 430.02	57.08	4 487.10
Belgium	7 177 749	1.399%	8 697.27	112.06	8 809.33
Bosnia and Herzegovina	0	0.000%	0.00	0.00	0.00
Botswana	19 320	0.004%	23.41	0.30	23.71
Bulgaria	88 701	0.017%	107.48	1.38	108.86
Cabo Verde	16 849	0.003%	20.42	0.26	20.68
Cameroon	18 567	0.004%	22.50	0.29	22.79
China: - Beijing	0	0.000%	0.00	0.00	0.00
- Hong Kong	11 243 187	2.191%	13 623.35	175.53	13 798.88
- Macao	149 010	0.029%	180.56	2.33	182.89
Congo	18 601	0.004%	22.54	0.29	22.83
Côte d'Ivoire	205 746	0.040%	249.30	3.21	252.51
Croatia	174 009	0.034%	210.85	2.72	213.57
Cyprus	270 313	0.053%	327.54	4.22	331.76
Czechia	494 153	0.096%	598.76	7.71	606.47
Denmark	3 188 834	0.621%	3 863.91	49.78	3 913.69
Egypt	5 073 684	0.989%	6 147.78	79.21	6 226.99
Equatorial Guinea	15 082	0.003%	18.27	0.24	18.51
Estonia	0	0.000%	0.00	0.00	0.00
Eswatini	676	0.000%	0.82	0.01	0.83
Finland	4 530 117	0.883%	5 489.14	70.72	5 559.86
France	32 533 425	6.339%	39 420.71	507.91	39 928.62
Gabon	28 211	0.005%	34.18	0.44	34.62
Georgia	60 622	0.012%	73.46	0.95	74.41
Germany	38 936 501	7.587%	47 179.31	607.87	47 787.18
Ghana	25 143	0.005%	30.47	0.39	30.86
Greece	1 942 507	0.379%	2 353.73	30.33	2 384.06
Hungary	8 812 993	1.717%	10 678.69	137.59	10 816.28
Iceland	30 908	0.006%	37.45	0.48	37.93
India	25 167 997	4.904%	30 496.03	392.92	30 888.95
Indonesia	8 774 120	1.710%	10 631.59	136.98	10 768.57
Ireland	22 381 847	4.361%	27 120.05	349.42	27 469.47
Israel	3 387 509	0.660%	4 104.64	52.89	4 157.53
Italy	4 883 854	0.952%	5 917.76	76.25	5 994.01
Jordan	1 458 744	0.284%	1 767.56	22.77	1 790.33
Kazakhstan	1 714 698	0.334%	2 077.70	26.77	2 104.47
Kenya	2 402 851	0.468%	2 911.53	37.51	2 949.04
Kuwait	2 147 682	0.418%	2 602.34	33.53	2 635.87
Kyrgyzstan	250 326	0.049%	303.32	3.91	307.23
Latvia	766 366	0.149%	928.60	11.96	940.56

* Excludes exempted Least Developed Countries, States for which the access to SADIS is not operational and States which do not receive SADIS service.

**ESTIMATED COST SHARES AND ASSESSMENTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2024 ***

STATES	2022 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 2024 Estimated Costs (£ Sterling)	Share of Under-recovery for 2022 (£ Sterling)	Amount to be Assessed for 2024 (£ Sterling)
Libya	291 176	0.057%	352.82	4.55	357.37
Lithuania	390	0.000%	0.47	0.01	0.48
Luxembourg	11 952 280	2.329%	14 482.56	186.60	14 669.16
Maldives	94 431	0.018%	114.42	1.47	115.89
Malta	556 785	0.108%	674.66	8.69	683.35
Mauritius	884 452	0.172%	1 071.69	13.81	1 085.50
Montenegro	33 101	0.006%	40.11	0.52	40.63
Morocco	3 265 249	0.636%	3 956.50	50.98	4 007.48
Namibia	11 287	0.002%	13.68	0.18	13.86
Netherlands	18 570 445	3.619%	22 501.78	289.92	22 791.70
Nigeria	447 769	0.087%	542.56	6.99	549.55
North Macedonia	0	0.000%	0.00	0.00	0.00
Norway	3 314 798	0.646%	4 016.54	51.75	4 068.29
Oman	1 037 121	0.202%	1 256.68	16.19	1 272.87
Pakistan	2 148 678	0.419%	2 603.55	33.54	2 637.09
Poland	2 770 631	0.540%	3 357.17	43.25	3 400.42
Portugal	4 742 764	0.924%	5 746.80	74.04	5 820.84
Qatar	46 454 034	9.052%	56 288.29	725.23	57 013.52
Republic of Moldova	198 798	0.039%	240.88	3.10	243.98
Romania	531 122	0.103%	643.56	8.29	651.85
Saudi Arabia	10 665 434	2.078%	12 923.29	166.51	13 089.80
Senegal	420 066	0.082%	508.99	6.56	515.55
Serbia	517 004	0.101%	626.45	8.07	634.52
Seychelles	54 189	0.011%	65.66	0.85	66.51
Slovakia	367	0.000%	0.44	0.01	0.45
Slovenia	192	0.000%	0.23	0.00	0.23
South Africa	1 473 711	0.287%	1 785.69	23.01	1 808.70
Spain	17 950 062	3.498%	21 750.07	280.23	22 030.30
Sweden	1 331 511	0.259%	1 613.39	20.79	1 634.18
Switzerland	8 955 590	1.745%	10 851.48	139.81	10 991.29
Tajikistan	183 240	0.036%	222.03	2.86	224.89
Thailand	8 631 153	1.682%	10 458.36	134.75	10 593.11
Tunisia	953 842	0.186%	1 155.77	14.89	1 170.66
Turkey	39 492 992	7.695%	47 853.61	616.56	48 470.17
Ukraine	400 177	0.078%	484.89	6.25	491.14
United Arab Emirates	61 273 593	11.940%	74 245.13	956.60	75 201.73
United Kingdom	36 493 618	7.111%	44 219.26	569.72	44 788.98
Uzbekistan	1 786 411	0.348%	2 164.59	27.89	2 192.48
Viet Nam	8 196 523	1.597%	9 931.72	127.96	10 059.68
Zimbabwe	45 935	0.009%	55.66	0.72	56.38
TOTAL	513 199 377	100.000%	621 843.00	8 012.00	629 855.00

* Excludes exempted Least Developed Countries, States for which the access to SADIS is not operational and States which do not receive SADIS service.

**AMOUNTS TO BE BILLED
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2024
(£ Sterling)**

STATES	Adjustment for 2022 (SCRAG/24-WP/7)	Assessment for 2024 (Attachment A)	Deduction of Unused Credit Balance from Previous Years	Total Amount to be Billed for 2024
Albania	14.71	45.44	- 60.15	0.00
Algeria	700.15	1 446.17	- 117.24	2 029.08
Armenia	736.69	1 110.26		1 846.95
Australia	3 264.48	19 288.10	- 318.12	22 234.46
Austria	2 673.39	8 200.08		10 873.47
Azerbaijan	- 3 656.77	619.12		- 3 037.65
Bahrain	1 805.47	4 487.10		6 292.57
Belarus	- 237.03	0.00		- 237.03
Belgium	2 356.20	8 809.33		11 165.53
Bosnia and Herzegovina	- 0.96	0.00		- 0.96
Botswana	15.99	23.71		39.70
Bulgaria	- 30.20	108.86	- 76.07	2.59
Cabo Verde	- 118.21	20.68		- 97.53
Cameroon	12.72	22.79	- 35.51	0.00
China: - Beijing	- 63 911.15	0.00		- 63 911.15
- Hong Kong	- 8 129.26	13 798.88		5 669.62
- Macao	- 113.98	182.89	- 3.04	65.87
Congo	- 5.20	22.83		17.63
Côte d'Ivoire	4.41	252.51		256.92
Croatia	41.26	213.57		254.83
Cyprus	186.17	331.76	- 517.93	0.00
Czechia	73.53	606.47		680.00
Denmark	1 437.30	3 913.69		5 350.99
Egypt	1 226.46	6 226.99		7 453.45
Equatorial Guinea	- 10.01	18.51		8.50
Estonia	0.00	0.00		0.00
Eswatini	- 0.58	0.83		0.25
Finland	911.96	5 559.86		6 471.82
France	8 400.43	39 928.62		48 329.05
Gabon	21.56	34.62	- 56.18	0.00
Georgia	10.07	74.41	- 58.93	25.55
Germany	13 122.29	47 787.18		60 909.47
Ghana	- 1.65	30.86		29.21
Greece	761.38	2 384.06		3 145.44
Hungary	3 295.19	10 816.28		14 111.47
Iceland	- 705.05	37.93		- 667.12
India	5 541.77	30 888.95		36 430.72
Indonesia	- 4 012.44	10 768.57		6 756.13
Iraq	407.90	0.00		407.90
Ireland	8 295.21	27 469.47		35 764.68
Israel	188.28	4 157.53		4 345.81
Italy	161.49	5 994.01	- 4.05	6 151.45
Jordan	- 183.49	1 790.33		1 606.84
Kazakhstan	189.89	2 104.47		2 294.36
Kenya	441.96	2 949.04		3 391.00
Kuwait	1 070.76	2 635.87	- 358.19	3 348.44

**AMOUNTS TO BE BILLED
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2024
(£ Sterling)**

STATES	Adjustment for 2022 (SCRAG/24-WP/7)	Assessment for 2024 (Attachment A)	Deduction of Unused Credit Balance from Previous Years	Total Amount to be Billed for 2024
Kyrgyzstan	143.74	307.23	- 129.78	321.19
Latvia	228.94	940.56		1 169.50
Libya	64.10	357.37		421.47
Lithuania	- 16.60	0.48		- 16.12
Luxembourg	- 2 630.46	14 669.16		12 038.70
Maldives	- 42.61	115.89	- 43.38	29.90
Malta	271.10	683.35		954.45
Mauritius	336.87	1 085.50	- 112.56	1 309.81
Montenegro	27.39	40.63		68.02
Morocco	1 176.55	4 007.48		5 184.03
Namibia	- 11.39	13.86	- 2.47	0.00
Netherlands	- 2 567.62	22 791.70		20 224.08
Nigeria	- 92.90	549.55		456.65
North Macedonia	- 27.96	0.00		- 27.96
Norway	646.99	4 068.29	- 25.42	4 689.86
Oman	- 263.74	1 272.87	- 557.67	451.46
Pakistan	- 78.55	2 637.09		2 558.54
Poland	915.94	3 400.42		4 316.36
Portugal	761.31	5 820.84		6 582.15
Qatar	- 3 296.10	57 013.52		53 717.42
Republic of Moldova	82.00	243.98		325.98
Romania	38.54	651.85		690.39
Russian Federation	- 26 811.35	0.00		- 26 811.35
Saudi Arabia	- 1 220.25	13 089.80		11 869.55
Senegal	268.79	515.55		784.34
Serbia	161.28	634.52		795.80
Seychelles	7.35	66.51	- 73.86	0.00
Slovakia	- 0.05	0.45		0.40
Slovenia	- 9.61	0.23		- 9.38
South Africa	- 727.83	1 808.70	- 935.79	145.08
Spain	7 106.64	22 030.30		29 136.94
Sweden	270.16	1 634.18		1 904.34
Switzerland	1 890.77	10 991.29		12 882.06
Tajikistan	- 8.34	224.89	- 72.52	144.03
Thailand	- 453.10	10 593.11	- 7 474.56	2 665.45
Tunisia	383.99	1 170.66		1 554.65
Turkey	6 896.95	48 470.17		55 367.12
Ukraine	- 260.90	491.14	- 230.24	0.00
United Arab Emirates	4 743.71	75 201.73		79 945.44
United Kingdom	7 218.00	44 788.98		52 006.98
Uzbekistan	874.73	2 192.48		3 067.21
Viet Nam	832.43	10 059.68	- 540.96	10 351.15
Zimbabwe	- 19.00	56.38	- 37.38	0.00
TOTAL	- 26 937.00	629 855.00	- 11 842.00	591 076.00

AMENDMENT TO ANNEX I, SADIS SERVICES, TO THE SADIS AGREEMENT

SADIS SERVICES

SADIS Agreement Annex I.

Additions are shown with grey shading, whilst deletions are as a ~~red strikethrough~~.

ANNEX I

SADIS SERVICES

~~(2021-2022-2023)~~

Note.— A glossary of abbreviations as used in this Annex is provided at the end of the Annex.

1. Internet based (FTP) service

Products available on SADIS:

- a) distribution of WAFS upper-air forecasts in GRIB2 code form;
- b) distribution of WAFS SIGWX forecasts in BUFR code form;
- c) distribution of WAFS SIGWX forecasts in PNG chart form;
- d) distribution of OPMET information in alphanumeric format (METARs, TAFs, SIGMET, special AIREPs, volcanic ash advisories, tropical cyclone advisories and space weather advisories) from those regions whose OPMET information is needed to satisfy approved requirements in the regions served by SADIS;
- e) distribution of OPMET information in IWXXM format (METARs, TAFs, SIGMET, AIRMET, volcanic ash advisories, tropical cyclone advisories and space weather advisories) from those States who are distributing their data internationally via the Regional Opmet Centres;
- f) distribution of meteorological information in graphical format (e.g. Volcanic Ash Graphics).

Note: Detailed descriptions are contained within the SADIS User Guide (Parts 1 and 2) of the service.

2. Collection service

- a) collection of OPMET information by the SADIS Gateway from States in accordance with approved requirements stated by PIRGs and actioned by Meteorological Operations Working Group (WG-MOG/SADIS);
- b) monitoring, validation and repair of data received at the SADIS Gateway to the required standards, for the provision of real-time scheduled reports and for off-line quality control analysis.

3. Back-up service

The recognised back-up to failure if the SADIS FTP service is via the USA administered, WAFS Information File Service (WIFS). SADIS FTP users are encouraged to arrange back-up accounts with the WIFS provider via <https://aviationweather.gov/wifs/>.

Note 1: - Usage restrictions apply. Further information is provided in the SADIS User Guide Part 1 (Administrative).

Note 2: - It is the responsibility of the SADIS FTP user to arrange and test back-up accounts with WIFS.

4. User support service

- a) 24-hour help line/faults desk;
- b) dissemination of administrative messages, including amendments to bulletin headers given in the SADIS User Guide (Parts 1 and 2).

5. File transfer protocol service

Provision of facilities dedicated to establishing and receiving an FTP connection, using password protected access, to the SADIS FTP server that enables the transfer of WAFS upper-air forecasts in GRIB code, WAFS SIGWX forecasts in BUFR code, WAFS SIGWX forecasts in PNG chart form and OPMET data over the Public Internet. The FTP service implements Digital Signatures and Digital Certificates to confirm data integrity and authenticity of the data.

6. Fair Use of SADIS Products

- a) The use of SADIS is continually monitored to ensure the volume of data being downloaded is not excessive and does not impede the operation of the SADIS FTP Servers;
- b) A user who is responsible for >10% of the total volume of data being downloaded from SADIS FTP Server in a single week will be considered as excessive usage;
- c) If users are deemed to be excessively downloading data then the SADIS Manager will contact the user with a request to the use to reduce the volume data being downloaded. The SADIS Manager may, at their discretion, limit or terminate access to the SADIS FTP server without recourse to the user if the excessive use continues.

7. Security

- a) The SADIS FTP server will be continually monitored for lawful security purposes;
- b) Users are not permitted to share passwords and are responsible for keeping passwords secure;
- c) The SADIS Manager reserves the right to suspend or terminate a user's access to the SADIS FTP Server if the users use of the system or the user has failed to observe the obligations of 7 b) has resulted or is likely to result in an increased risk to security of the SADIS FTP Server;
- d) The SADIS Manager reserves the right to restrict access to the SADIS FTP Server in the event of a security threat and users acknowledge that access to the SADIS FTP Server may be restricted or unavailable until such time the security threat has been resolved.

Glossary of abbreviations

~~AIREP~~ — ~~Air report~~

<i>BUFR</i>	Binary Universal Form for the Representation of meteorological data (code)
<i>FTP</i>	File Transfer Protocol (Internet based)
<i>GRIB2</i>	Gridded binary edition 2 (code)
<i>IWXXM</i>	The ICAO Meteorological Information Exchange Model is a data format for reporting aviation weather information in XML/GML format
<i>METAR</i>	Routine aviation weather report in code form
<i>METP</i>	Meteorology Panel
<i>OPMET</i>	Operational meteorological (information or data)
<i>PIRG</i>	ICAO planning and implementation regional group
<i>PNG</i>	Portable Network Graphics (image format)
<i>SADIS</i>	Secure Aviation Data Information Service
<i>SADIS FTP</i>	Internet based provision of SADIS
<i>SADIS Gateway</i>	The United Kingdom message-handling system which receives data from the Aeronautical Fixed Service for transmission on SADIS
<i>SADISOPSG</i>	SADIS Operations Group. Tasked with the oversight of SADIS until its dissolution in 2015. Superseded by Meteorological Operations Working Group (WG-MOG) under the Meteorology Panel (METP). Reference retained for historical purposes.
<i>SIGMET</i>	Information of specified en-route weather phenomena which may affect the safety of aircraft operations
<i>SIGWX</i>	Significant weather
<i>TAF</i>	Aerodrome forecast in code form
<i>WAFS</i>	World area forecast system
<i>WG-MOG</i>	The oversight of the SADIS service is undertaken by the Meteorological Panel (METP) which has tasked Met Operations Group (WG-MOG/SADIS) to carry out this responsibility, each year they meet to ensure the service is meeting the users needs.

AMENDMENT TO ANNEX II, SADIS INVENTORY, TO THE SADIS AGREEMENT

SADIS Agreement Annex II.

Additions are shown with grey shading, whilst deletions are as a ~~red strikethrough~~.

ANNEX II SADIS INVENTORY ~~(2021-2022-2023)~~

The inventory items identified below cover the equipment and staffing required to provide, operate and maintain the Secure Aviation Data Information Service (SADIS). The inventory includes: communications circuits, communications back-up system, procured services, and staff. It should be noted that some equipment items form part of a wider infrastructure. Costs of some 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 SADIS FTP infrastructure and communications circuits

SADIS infrastructure consists of the following:

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

NIL

Note: In November 2019 SADIS FTP was migrated to use Amazon Web Services infrastructure (see Section 2A) which is a procured service.

ii) **Not procured principally for SADIS**

- a) Met Office Message switch (MetSwitch): ~~Total investment £328K¹ of which 1.23 per cent is attributable to the SADIS FTP service usage: switching~~ routes data to the operational FTP service;
- b) NATS SADIS gateway function software (developed specifically for the gateway as part of the NATS CoreMet system);
- c) Met Office operational monitoring software;

Note. — This enables the operational monitoring of the SADIS FTP service and ensures problems can be identified and resolved in a timely manner.

- d) Met Office Service Desk equipment;

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

B. SADIS data back-up system

The recognised back-up for SADIS FTP in the event of a failure is via the USA administered, WAFS Information File Service (WIFS). SADIS FTP users are encouraged to arrange back-up accounts with the WIFS provider via <https://aviationweather.gov/wifs/>.

Note 1: - Usage restrictions apply. Further information is provided in the SADIS User Guide Part 1 (Administrative)

Note 2: - It is the responsibility of the SADIS FTP user to arrange and test back-up accounts with WIFS.

~~¹ budgeted cost for providing MetSwitch service during the fiscal year 2018/2019.~~

2. PROCURED SERVICES

A. Amazon Web Services (AWS) elements used by the Met Office in the operation of SADIS FTP:

AWS Service	Specification	Quantity	What the service is used for:
EC2	t3.medium 2* vCPU (<i>Intel Xeon Platinum 8000 series</i>) 4 GiB Memory Network Bandwidth: ≤5Gbps; EBS Bandwidth ≤1.50 Gbps)	3 2	2* FTP Server and 1 Apps Server
S3	N/A	12 14	Data Storage : Ingestion; FTP Content; IWXXM; AuthN; Logs & Alerts. Data ingestion; data storage; data egress; large data store; logging and reporting.
DynamoDB	13x Table Primary partition key: report_id Read/write capacity mode: On-Demand	13	Stores incoming TAC and IWXXM reports from AV OPMET Data Services as well as information needed WAFS data report compilation
Route53	N/A	1	DNS
Lambda	N/A	N/A	Various Serverless Functions including used for the following: data debatch; concatenate and sign; packaging IWXXM data; logging; reporting; alerting; housekeeping. , Housekeeping, Log formatting, Alerting Management, packaging IWXXM data, etc
Cloudwatch	N/A	N/A	Log Aggregation
NAT Gateway	N/A	1	Access
VPC	N/A	1	
Kinesis Data Stream	N/A	1	Log Entry Routing
Kinesis Firehose	N/A	2	
DynamoDB	N/A		Alert Management
Athena	N/A		

B. NATS Gateway function:

- i) Communication circuits between Met Office and NATS infrastructure site; and
- ii) System maintenance.

3. ANNUAL STAFF REQUIREMENTS

A. Met Office

i) First Line Support

Help Desk

Skill

- 1. Service desk (first point of contact) enquiries

Incident Management and customer

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

ii) Second Line Support

24-hour IT Operations support

Skill

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Shift Leader (ITCS) 2. Networks Incident Manager (NIM) | Technical Supervisor, incident handling
Service Continuity, system monitoring |
|--|--|

iii) Third and Fourth Line Support

Normal working hours support and “best endeavors” *Skill*

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Message Switching Manager 2. Message Switching Staff 3. AWS Technical Support | Incident handling, server adjustments
Incident handling and account changes
AWS expertise, support and guidance |
|--|---|

iv) Additional support

Day support

Resource

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Administrator 2. International aviation management 3. Contract procurement and management 4. Invoice Administration | 144 138 staff-days of senior stakeholder relationship manager (SADIS manager)
14 staff-days of aviation business head
4 staff-days of senior procurement manager
20 staff-days of finance assistant and
15 8 staff-days of senior finance manager |
|---|---|

B. NATS infrastructure site – Data Services (OPMET Gateway function)

Note 1.—Data Services provide 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 to provide the SADIS Gateway service is the standard required staff days needed to provide the SADIS service. It comprises 6 watches providing the H24 element of the service and day support administrative staff. The cost recovery NATS submits to the SCRAG will represent actual staff-days required to provide the service

Role and Responsibilities

Resource

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Operational Staff
- Operational Staff relates to the H24 function in ROC LONDON. Monitor, validate, record & report on issues raised through the SADIS Gateway operation. 2. Engineering Staff
- Engineering Staff includes the duties carried out by the Engineering Day support team and an H24 engineers for the support of SADIS. | 521 staff-days per annum

20 staff-days per annum |
|---|---|

3. Administration Staff 63 staff-days per annum
- The Administration Office carries out the documentation creation and amendments, adaptation changes, investigations and meeting attendance of the SADIS Gateway operation.

C. Bought-in services

Additional support and maintenance agreements with third parties are in place to provide additional third line AWS support of the SADIS FTP services.

— END —