



SCRAG/18 - REPORT

INTERNATIONAL CIVIL AVIATION ORGANIZATION

**REPORT OF
THE EIGHTEENTH MEETING OF THE
SADIS COST RECOVERY ADMINISTRATIVE GROUP
(SCRAG/18)**

(Gatwick, 8 November 2017)

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INTRODUCTION

Place and Duration

1. The Eighteenth Meeting of the SADIS Cost Recovery Administrative Group (SCRAG) was held at the Office of the Civil Aviation Authority in Gatwick on Wednesday, 8 November 2017.

Attendance

2. The Meeting was attended by two Members from the European region, Mr. Leander Jamin and Mr. Patrick Simon, and the Provider State participants. The list of attendees is in Appendix A and a list of working papers issued for the Meeting is in Appendix B.

Officers and Secretariat

3. Mr. Leander Jamin (Germany), was Chairperson of the Meeting. Ms. Joanna Zorbas, Joint Financing Officer, ICAO Headquarters in Montréal, was Secretary of the Meeting.

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 2016

Agenda Item 4: Review of estimated SADIS costs and cost shares for the period 1 January to 31 December 2018 and estimated costs for the next two to five years

Agenda Item 5: Review of the status of SADIS payments for the current year (2017) invoices

Agenda Item 6: Amendments to Annexes to the Agreement on the Sharing of Costs of the Satellite Distribution System for Information Relating to Air Navigation

Agenda Item 7: Future work and arrangements for the SCRAG/19 Meeting

Agenda Item 8: Other business

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

1.1 The Group noted that the Parties to the SADIS Agreement from the European region represent in the aggregate less than 50 per cent of the total assessments, which results in the nomination of only one SCRAG member from this region, in accordance with Article VII, paragraph 2, of the SADIS Agreement. As a result, Mr. Leander Jamin, the first named Member of the region, participated in the capacity of Chairman and the additional Member from the European region, Mr. Patrick Simon (France), participated as an Observer.

1.2 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.”

1.3 The Group was informed that ICAO had received a formal notification of accession to the SADIS Agreement from 60 States. Three of these States had the service withdrawn and four of these States are Least Developed Countries (LDCs), which are exempted from payment of SADIS cost share. The Group was also informed that 60 other States receiving the SADIS service had not yet acceded to the SADIS Agreement. Of these States, 33 are LDCs, which are exempted from payment of SADIS cost share. States that have formally acceded to the SADIS Agreement and States that have not, are listed in Appendix D.

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 Fourth Meeting of the Meteorology Panel (METP) Working Group on Meteorological Operations Group (WG-MOG) (METP WG-MOG/4, Exeter, United Kingdom, 4 to 7 April 2017) provided by the Rapporteur of the METP WG-MOG.

2.2 In accordance with Action 4/1 of METP WG-MOG/4, 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 Third 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/3 Meeting (Gatwick, 13 to 16 June 2016).

2.3 The following Actions/Decisions relating to the SADIS Service were documented in the report of the METP WG-MOG/4:

Action agreed 4/SADIS1 — Review the result of IATA SADIS/WIFS monitoring

That, the SADIS Provider State and the WIFS Provider State in coordination with the European OPMET Data Management Group, be invited to:

- a) review the IATA monitoring results on SADIS/WIFS content in the Appendix of SN13 and take into consideration while establishing the basic requirements from IATA for agreed exchanged non-AOP aerodromes OPMET;
- b) continue distribution of previously agreed non-AOP aerodromes METAR/TAF; and
- c) establish, with the support of ICAO, a process to maintain and update a list of OPMET required to, or agreed to, be exchanged.

Action agreed 4/SADIS2 — Initiate discussions on the feasibility of establishing a MET table in the eANPs with ICAO

That, the Rapporteur of the METP WG-MOG be invited to investigate (via ICAO) whether the eANP Project Team could establish a MET table detailing non-AOP aerodromes in the eANP that produce METAR.

Action agreed 4/SADIS3 — Alignment of the OPMET content of SADIS and WIFS

That, the SADIS Provider State and the WIFS Provider State in coordination with the European OPMET Data Management Group (DMG), be invited to:

- a) continue efforts to align of the OPMET content of SADIS and WIFS for:
 1. *scheduled* OPMET information (METAR and TAF) with Annex I of the SADIS User Guide; and
 2. *non-scheduled* OPMET information (such as AIRMET, SIGMET, GAMET, Special AIREP etc.) to the extent practicable.
- b) consider how other non-scheduled OPMET, such as US AIRMET, can be added to the content of SADIS and WIFS in accordance with SADISOPSG/7 Conclusion 7/8¹; and
- c) report on progress in respect of the above to the next MOG-SADIS meeting.

¹ *SADISOPSG/7 Report - Paragraph 1.10 and Conclusion 7/8 are reproduced here for convenience:*

The Forty-third meeting of the European Air Navigation Planning Group (EANPG) had formulated Conclusion 43/25 calling for ICAO to consider, subject to bandwidth constraints, the inclusion of AIRMETs and GAMETs in the dissemination of OPMET data via SADIS to satisfy the requirements of pre-flight planning and flight information service for low-level flight. When considering this issue, an assessment was presented to the group which showed that due to the limited number of AIRMETs and GAMETs currently issued by States, the bandwidth would not be an issue. However, some reservations were expressed; it was pointed out that the users would not be able to display the data unless their functionality software was upgraded. Furthermore, the group was cautioned about the risk of the future proliferation of requests for low-level products on the SADIS broadcasts. In this regard, it was emphasized that such a risk would be minimized if only products subject to a stated aeronautical requirement in ICAO Regional Plans would be considered appropriate for the inclusion on the SADIS broadcast. Under these circumstances, the group agreed that these products should be included on the SADIS broadcast and formulated the following conclusion:

Conclusion 7/8 — Inclusion of AIRMET and GAMET on the SADIS broadcast

That, the SADIS Provider State includes AIRMET messages and GAMET area forecasts on the SADIS broadcast.

Note: — Only AIRMET messages and GAMET forecasts from the Regions which have expressed an aeronautical requirement for these products in the ICAO ANPs would be included.

Action agreed 4/SADIS4 — Review of the SADIS approval and cost recovery process

An ad hoc group (SADIS Manager, Hans-Rudi Sonnabend, Graham Easthope, Patrick Simon and Greg Brock) from the Met Operations Group (SADIS work-stream) is created to:

- review the existing SADIS approval and cost recovery process and propose any changes to, for example, the SADIS Agreement, ensure that it remains fit for purpose in light of technological developments;
- consult with the MET Cost Recovery Guidance and Governance; and
- consult with the SADIS Cost Recovery Administrative Group (SCRAG).

Action agreed 4/SADIS5 — Annual statement of operational efficacy of SADIS 2016/2017

That, the Rapporteur of the METP WG-MOG be invited to inform the Chair of the SCRAG that the SADIS continued to meet the operational requirements during the period 2016/2017.

Recommendation 4/SADIS1 — Use of web survey tools for 2017/18 SADIS operational efficacy questionnaire

That, the SADIS Provider State gives consideration to trialling the use of web survey tools for directly inviting users to respond to the survey on-line in order to evaluate any effect on the number of responses received.

Action agreed 4/SADIS6 — 2017/2018 SADIS operational efficacy questionnaire

That, the questionnaire used in the 2017/2018 consultation with States on the operational efficacy of the SADIS will be as proposed in Appendix B of the working paper, suitably adjusted to reflect the period for which the questionnaire will apply.

Action agreed 4/SADIS7 — SADIS Inventory 2017-2018

That, the Rapporteur of the METP WG-MOG be invited to forward the updated SADIS inventory (given in the Appendix to SN/10) to the Chair of SCRAG.

Decision 4/SADIS1 — Withdrawal of requirement for dedicated link between NWSTG and the SADIS Gateway

That, there is no longer a requirement for a dedicated contingency connection (whether via ISDN or other protocol) between NWSTG and the SADIS Gateway Provider.

Note 1: — SADIS FTP users should, in accordance with their own contingency planning, arrange back-up accounts with WIFS, as necessary.

Note 2: — It is the responsibility of the SADIS FTP user to arrange access to WIFS <https://aviationweather.gov/wifs/>. The SADIS Provider cannot make arrangements on behalf of the SADIS FTP user.

Note 3: — The SADIS Provider and SADIS Gateway Provider are invited to update the SADIS Inventory and the SADIS User Guide (Part 1 and Part 2), accordingly.

Action agreed 4/SADIS8 — SADIS FTP Bandwidth

That, the current Secure SADIS FTP bandwidth capacity (24Mbit/sec bursting 42Mbit/sec between SADIS Provider and its Internet Service Provider; with individual client connections limited to 2048Kbit/sec) be increased up to 42Mbit/sec bursting 60Mbit/sec, and that the individual client limit remains at 2048kbit/sec.

Note 1: — The SADIS Provider is invited to implement the change effective 1200 UTC, 25 April 2017.

Note 2: — The annual charge will increase from £10,500 to £17,900 as a result of the change.

Action agreed 4/SADIS9 — Trial of provision of low-level area forecasts in graphical format on SADIS FTP

- a) That, the SADIS Provider, in coordination with the SADIS Gateway Provider, arrange to make available EUR and NAT States existing low-level area forecasts in graphical format via SADIS FTP on a trial basis; and
- b) That, the Rapporteur of the METP WG-MOG be invited to request that ICAO EUR Regional Office invite accredited States to arrange for their existing low-level area forecasts in graphical format to be made available via SADIS FTP in support of the trial.

Note 1: — Only low-level area forecasts in graphical format from the regions which have expressed an aeronautical requirement for these products in the ICAO Air Navigation Plans will be included.

Note 2: — It will be assumed that Regional Air Navigation Plans that currently enable distribution of AIRMET and GAMET via SADIS, should be interpreted as enabling distribution of low-level area forecasts in graphical format.

Note 3: — Originating States shall ensure that such data complies with the principles set out in Appendix B [to MOG/4, SN/08].

Note 4: — The trial, subject always to note 6 below, shall initially be planned to have an end date of 10 July 2018. Subject to note 5 below, the provision of the data shall either then be made fully operational or terminated.

Note 5: — A review of this trial will be presented by the SADIS Provider at the next appropriate METP WG-MOG (SADIS) meeting (anticipated May/June 2018).

Note 6: — During the trial period, the SADIS Provider shall have the right to terminate – without notice – provision of the data if, in the opinion of the SADIS Provider, it endangers the service as whole.

Action agreed 4/SADIS10 — Update to the Sixth Edition of the SADIS User Guide (Part 1 and Part 2)

That, the update to the SADIS User Guide, as presented to the WG-MOG/4 meeting, be endorsed for formal publication.

Action agreed 4/SADIS11 — Update to the SADIS Gateway Operations Handbook

That, the SADIS Gateway Provider, in coordination with the SADIS Manager:

- a) publish and implement the proposed update to Edition 6 of the SADIS Gateway Operations Guide; and
- b) continue to review the guide on an annual basis and, if required, update and present for approval to the METP WG-MOG.

Action agreed 4/SADIS12 — Job Card Review

That, an ad hoc group (Colin, Pat, Patrick, Nigel and Graham E.) from the Met Operations Group (SADIS work-stream) is created to:

- a) carry out a review of MET Job Cards (Numbers 8, 10 and 3 a); and
- b) submit any proposed amendments for the next MOG meeting.

AGENDA ITEM 3: REVIEW OF ACTUAL SADIS COSTS AND COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2016

Review of the 2016 Actual SADIS Costs

3.1 The Group reviewed the actual costs of £ 668 603 for providing the SADIS services in the year 2016. These actual costs are detailed in Appendix F, Column “Actual 2016” and the cost share per State is presented in column 4 of Appendix E. 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 2016

Cost Item	Actual Costs (UK £)
UK Meteorological Office	311 178
UK NATS Gateway	310 861
UK administrative costs	4 087
Sub-total UK	626 126
ICAO support service costs	42 477
TOTAL	668 603

3.2 In response to the concerns raised in previous meetings with regards to ICAO support service costs under the new Meteorology Panel structure (SCRAG/17 Report, paragraph 3.2 and SCRAG/16 Report, paragraph 4.3 refer) an evaluation of tasks was undertaken by ICAO to support the charge for ICAO MET WG-MOG (SADIS) support service. The inventory of tasks indicating 35.75 Officer days and 25.25 technical assistant days was presented to the SCRAG in the working paper, *Annual Support Costs to SADIS Provided by ICAO Under the Meteorology Panel Structure*. The evaluation represents a 38 per cent decrease in Officer days and a 35 per cent decrease in technical assistant days required to operationally support SADIS services, when compared to the evaluation of

tasks conducted in 2012. The Group reviewed the inventory of tasks and discussed the nature of the tasks listed and their applicable allocation of “staff days” in relation to ICAO support for Panel work related solely to SADIS. The METP WG-MOG Rapporteur, Mr. Colin Hord, will provide detailed feedback on the inventory of tasks submitted by the ICAO Air Navigation Bureau (ANB). The inventory of tasks was used as a guide in establishing the 2018 ICAO cost estimates for METP WG-MOG (SADIS) support services; therefore, should future changes be applied to the inventory of tasks, these changes will be reflected in the 2018 actual ICAO support service costs to the METP WG-MOG (SADIS).

3.3 The Group invited that future SCRAG reports contain a breakdown of the NATS Gateway Costs solely dedicated to the provision of SADIS services (outside National and Regional OPMET Center, London functions). This breakdown can be reflected by indicating the percentage of costs allocated to SCRAG-related functions.

Review of the 2016 Actual SADIS Cost Shares

3.4 The Group noted that one State, Sri Lanka, had been assessed for 2016, yet had not received any services throughout the year and, as a result, their share of 2016 actual costs was adjusted to zero. The Group also noted that two States, the Democratic People’s Republic of Korea and Uzbekistan, had their services terminated on 31 July 2016 and consequently each of these State’s share of actual 2016 costs was calculated based on seven full months of service. Another State, Libya, was assessed for one full year of service, however, had only received service for three months in 2016, as a result, their share of actual 2016 cost was adjusted accordingly. The State of Montenegro received services throughout 2016, yet had not been assessed, as a result, they were assessed for 12 full months of service for 2016. The Group also noted that Norway started receiving services in 2016 and in accordance with the start date of their service receipt, was assessed for four full months of service in 2016.

3.5 The Group determined that the actual cost shares for the period 1 January to 31 December 2016 be borne by the States’ party to the SADIS Agreement which are not exempted because they are on the list of the Least Developed Countries or because they denied their accession to the SADIS Agreement, on the basis of the number of available tonne-kilometres (ATKs) in scheduled services for 2016, 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 SADIS Cost Allocation and Recovery (SCAR) Arrangement are shown in Appendix E.

3.6 The Group noted the adjustment for 2016, an over-recovery of £ 9 192, is the difference between the 2016 actual costs and the 2016 estimated costs approved by the SCRAG/16 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 2016**

	Cost Item	Actual Costs (UK £)	Reference
(1)	2016 Actual Cost	668 603	Table 1 (A)
(2)	2016 Estimated Cost	677 795	SCRAG/16 Report, Table 3
(3)	Over-recovery for 2016 (to be subtracted from the amount billed in 2018)	-9 192	(1) - (2) <i>(see Appendix E, column 6 and Appendix I, column 2)</i>

The Group formulated the following Conclusion:

Conclusion 18/1 —

The actual cost shares for 2016 as shown in Appendix E to the SCRAG/18 Report for the States participating in the SCAR Arrangement are approved by the SCRAG/18 Meeting, with consequential adjustments to be made by the United Kingdom in its billing of these States for 2018, in accordance with Article XI, paragraph 3, of the SADIS Agreement.

3.7 The Group received information from the Observer from the United Kingdom on the status of payment of the cost shares of 2016 as at 1 October 2017. It was noted that a total amount of £ 484 153.33 was collected for 2016 (see Appendix G – page G-2). A balance of £ 2 016.33, which represents the sum of six States with balances owed, remains outstanding; total unpaid amount as at 1 October 2017 (£ 3 358.18), minus Sri Lanka adjustment (£ 2 240.23), plus credit balances (£ 898.38). Also noted is that no amounts for years prior to 2016 were collected (see Appendix G – page G-3).

3.8 The Group discussed the administrative cost of billing States for small amounts and the proposal to limit invoicing to balances that surpass £ 10. Notification letters will be issued to States that are not invoiced detailing their outstanding balances; once a State’s outstanding balance surpasses £ 10, their invoice will be issued. A working paper addressing future procedures for invoicing these small amounts will be presented by the Provider State and ICAO at the SCRAG/19 meeting.

3.9 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.

3.10 Having noted the information in Table 1 (A) and paragraphs 3.4 to 3.9 above, the Group agreed that the under-recovery of SADIS cost shares for the year 2016 amounts to £ 98 258 as shown in Table 2. The over-recovery of 2016 is the amount subject to collection for 2016 (£ 582 411), less the amounts collected for 2016 (£ 484 153).

TABLE 2
OVER-RECOVERY FOR 2016

		UK £	References
(1)	Actual costs for 2016	668 603	Table 1 (A)
(2)	Over-recovery for 2014	-86 192	SCRAG/16 Report, Table 2
(3)	Subject to collection for 2016	582 411	(1) + (2)
(4)	Collected from States for 2016 (as at 1 December 2017)	-484 153	Appendix G – page G-2
(5)	Collected from States for years prior to 2016 (as at 1 December 2017)	0	Appendix G – page G-3
(6)	Under-recovery for 2016 (to be added to the assessments for 2018)	98 258	(3) + (4) + (5) <i>(see Appendix H, column 5)</i>

The Group formulated the following Conclusion:

Conclusion 18/2 —

An under-recovery, amounting to £ 98 258 of the SADIS cost shares for the year 2016 will be taken into account in the calculation of the SADIS cost shares for the year 2018, 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 2018 AND ESTIMATED COSTS FOR THE NEXT TWO TO FIVE YEARS

Review of the 2018 Estimated SADIS Costs

4.1 The Group reviewed the cost estimates for providing the SADIS services in the year 2018.

4.2 The cost estimates for 2018 are detailed in the column “Est 2018”, in Appendix F, and total £ 598 770. A summary of these costs are presented in Table 3.

TABLE 3
SUMMARY OF ESTIMATED SADIS COSTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2018

Cost Item	Estimated Costs (UK £)
UK Meteorological Office	245 305
UK NATS Gateway	309 138
UK CAA administrative costs	4 000
Sub-total UK	558 443
ICAO support services costs	40 327
TOTAL	598 770

4.3 The Group discussed line item “r” contained in Appendix F, *SADIS Gateway Upgrade*, and noted that the depreciation of the current capital investment ends in 2019. The Service Provider explained at this time plans for future upgrades for SADIS were still to be determined for the years 2020 and 2021 and are marked as “N/A”. Future development plans will be discussed at the METP WG-MOG/6.

4.4 The Group considered the over-recovery in Table 2 in the calculation of the amount to be assessed under the SADIS Agreement for 2018. The calculation of the amount to be assessed is presented in Table 4.

TABLE 4

AMOUNT TO BE ASSESSED UNDER THE SADIS AGREEMENT FOR 2018

		UK £	References
(1)	Under-recovery for 2016	98 258	Table 2
(2)	Estimated costs for 2018	598 770	Table 3
(3)	Amount to be assessed for 2018	697 028	(1) + (2) <i>(see Appendix H, column 6)</i>

4.5 The Group determined that the cost shares for the period 1 January to 31 December 2018 be borne by the States’ party to the SADIS Agreement which are not exempted because they are on the list of the Least Developed Countries, on the basis of the number of available tonne-kilometres (ATKs) in scheduled services for 2016, in accordance with Article XI, paragraph 3, of the SADIS Agreement.

4.6 The Group noted that one State, Mauritius, started receiving services in October 2017 and is therefore included in the calculation of the assessment of cost shares for 2018.

4.7 The cost share in percentage terms and the share in £ sterling, including the share of under-recovery for 2016, to be borne by each State, are shown in Appendix H. Appendix I shows the amounts to be billed to each State in 2018, corresponding to the adjustment for 2016 (Appendix E), plus the assessment for 2018 (Appendix H), less any deduction of unused credit balances or other adjustments from previous years.

TABLE 5

AMOUNT TO BE BILLED UNDER THE SADIS AGREEMENT FOR 2018

		UK £	References
(1)	Amount to be Assessed for 2018	697 028	Table 4
(2)	Adjustment of Actual SADIS Costs to Estimated Costs for 2016	-9 192	Table 1 (B)
(3)	Deduction of Unused Credit Balances from Previous Years or Other Adjustments	3 517.70	Appendix I
(4)	Amount to be Billed for 2018	691 353.70	(1)+(2)+(3) <i>(see Appendix I, column 5)</i>

The Group formulated the following Conclusion:

Conclusion 18/3 —

The estimated cost shares for 2018 as shown in Appendix H to the SCRAG/18 Report for each State participating in the SCAR Arrangement are approved by the SCRAG/18 Meeting for collection by the United Kingdom. The Secretariat will place the tables in the SCRAG Web page.

Cost Estimates for the Years 2019 to 2021

4.8 The Group considered the estimates provided by the United Kingdom (Appendix F) and summarized in Table 5 of providing the SADIS services for the years 2019 to 2021, 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 2019, 2020 AND 2021***

Cost Item	Estimated Costs 2019 (UK £)	Estimated Costs 2020 (UK £)	Estimated Costs 2021 (UK £)
UK Meteorological Office	245 305	245 305	245 305
UK NATS Gateway	308 606	272 795	277 668
UK CAA administrative costs	4 000	4 000	4 000
Sub-total UK	557 911	522 100	526 973
ICAO support services costs	40 327	40 327	40 327
TOTAL	598 238	562 427	567 300

*Estimates based on 2017 prices.

4.9 The Group noted the information presented by the United Kingdom regarding the depreciated assets as at 31 December 2016 (see Appendix C) and approved the depreciation charges applicable from 2019 to 2020, inclusive.

AGENDA ITEM 5: REVIEW OF THE STATUS OF SADIS PAYMENTS FOR THE CURRENT YEAR (2017) INVOICES

5.1 The Group reviewed WP/13 on the status of payment for the current (2017) year, presented by the United Kingdom.

5.2 The Group formulated the following Conclusion:

Conclusion 18/4 —

The Group agreed that the SADIS Provider be invited to withdraw access to the secure SADIS FTP for those States who, as at 1200 UTC on 23 January 2018, have cumulative outstanding payments over GBP 100 due for any invoice dated 2017 or earlier.

AGENDA ITEM 6: AMENDMENTS TO ANNEXES TO THE AGREEMENT ON THE SHARING OF COSTS OF THE SATELLITE DISTRIBUTION SYSTEM FOR INFORMATION RELATING TO AIR NAVIGATION

6.1 The Group reviewed the amendments to Annex II, SADIS Inventory, to the SADIS Agreement as proposed by the METP WG-MOG and agreed upon by the United Kingdom as the SADIS Provider State. These amendments were necessary to ensure that the inventory would continue to meet the approved operational requirements. The additions and deletions to the existing text of Annex II appear in outline and strikeout formats in Appendix J.

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

Conclusion 18/5 —

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 is amended as indicated in Appendix J to the SCRAG/18 Report.

6.3 The Group reviewed the amendments to Annex I, SADIS Services, to the SADIS Agreement as proposed by the METP WG-MOG and agreed upon by the United Kingdom as the SADIS Provider State. These amendments were necessary to ensure that services would continue to meet the approved operational requirements. The additions and deletions to the existing text of Annex I appear in outline and strikeout formats in Appendix K.

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

Conclusion 18/6 —

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 is amended as indicated in Appendix K to the SCRAG/18 Report.

AGENDA ITEM 7: FUTURE WORK AND ARRANGEMENTS FOR THE SCRAG/19 MEETING

7.1 The Group agreed that, subject to confirmation, its Nineteenth Meeting should be held at the UK CAA Offices in London, on 30 October 2018.

AGENDA ITEM 8: OTHER BUSINESS

8.1 The Group expressed its appreciation to the Gatwick Civil Aviation Authority Office for their hospitality and excellent support received during the Meeting.

APPENDIX A

LIST OF PARTICIPANTS

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APPENDIX B

LIST OF SCRAG/18 WORKING PAPERS

Working Paper No.	Agenda Item	Subject	Presented by
1	1 to 8	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/4 Meeting	Rapporteur, METP WG-MOG
4	3	2016 ICAO actual SADIS administrative costs	Secretariat
5	3	2016 actual SADIS costs	United Kingdom
6	3 & 4	Status of payments for the year 2016	United Kingdom
7	3	Summary of actual costs and cost shares for the year 2016	Secretariat
8	4	Depreciated assets: SADIS costs	United Kingdom
9	4	2018 ICAO estimated SADIS administrative costs	Secretariat
10	4	Estimated SADIS costs: two to five years	United Kingdom
11	4	Summary of estimated costs and assessments for the year 2018	Secretariat
12	6	Amendment to Annex II, SADIS Inventory, to the SADIS Agreement	Secretariat
13	5	Status of payments for the current (2017) year	United Kingdom
14	4	Annual Support Costs to SADIS Provided by ICAO Under the Meteorology Panel Structure	Secretariat
15	6	Proposed amendments to Annex 1 of the SADIS Agreement	United Kingdom

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APPENDIX C

**INVENTORY OF ASSETS EMPLOYED BY THE
UNITED KINGDOM TO PROVIDE SADIS SERVICES**

(1) Inventory of Assets: 2017	(2) Original Value	(3) Depreciated charges in 2017	(4) Total accumulated depreciation	(5) Net depreciated value at end of 2017
Original HUB Investment, Trial Systems and Capitalized Operation Asset	£713,769	£0	£713,769	£0
Two-Way Hub enhancement, VSATS and development	£375,000	£0	£375,000	£0
SADIS 2G Operational System	£87,428	£0	£87,428	£0
SADIS 2G Hardware Refresh	£59,988	£0	£59,988	£0
SADIS Gateway	£227,462	£0	£227,462	£0
SADIS Gateway Mid-life upgrade	£187,330	£37,466	£112,398	£74,932
SADIS Uplink replacement hardware	£28,220	£0	£28,220	£0
Total UK	£1,679,197	£37,466	£1,604,265	£74,932

APPENDIX D
STATUS OF ACCESSION TO THE SADIS AGREEMENT AS AT 20 OCTOBER 2017

STATES WHICH FORMALLY ACCEDED TO THE SADIS AGREEMENT

STATES	LDCs Exempted
Albania	
Armenia	
Australia	
Austria	
Bahrain	
Belgium	
Botswana	
Cameroon	
China	
Congo	
Côte d'Ivoire	
Croatia	
Cyprus	
Czech Republic	
Democratic People's Republic of Korea *	
Democratic Republic of the Congo	X
Denmark	
Egypt	
Estonia	
Finland	
France	
Gabon	
Georgia	
Germany	
Greece	
Hungary	
Israel	
Italy	
Jordan	
Kazakhstan	
Kuwait	
Latvia	
Lithuania	
Madagascar	X
Mauritius	
Mongolia *	
Morocco	
Netherlands	
Norway	
Oman	
Pakistan	
Poland	
Portugal	
Republic of Moldova	
Romania	
Russian Federation	
Senegal	X
Slovakia	
Slovenia	
Spain	
Sweden	
Switzerland	
Thailand	
Tunisia	
Turkmenistan *	
Ukraine	
United Arab Emirates	
United Kingdom	
United Republic of Tanzania	X
Viet Nam	

* 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	LDCs Exempted
Afghanistan	X
Algeria	
Angola	X
Azerbaijan	
Bangladesh	X
Benin	X
Bosnia and Herzegovina	
Bulgaria	
Burkina Faso	X
Burundi	X
Cambodia	X
Cape Verde	
Central African Republic	X
Chad	X
Comoros	X
Djibouti	X
Equatorial Guinea	X
Eritrea	X
Ethiopia	X
Gambia	X
Ghana	
Guinea	X
Guinea-Bissau	X
Iceland	
India	
Indonesia	
Iraq	
Ireland	
Kenya	
Liberia	X
Libya	
Malawi	X
Maldives	
Mali	X
Malta	
Mauritania	X
Montenegro	
Mozambique	X
Namibia	
Nepal	X
Niger	X
Nigeria	
Qatar	
Republic of South Sudan	X
Rwanda	X
Sao Tome and Principe	X
Saudi Arabia	
Serbia	
Seychelles	
Somalia	X
South Africa	
Sudan	X
Swaziland	
The former Yugoslav Republic of Macedonia	
Togo	X
Turkey	
Uganda	X
Yemen	X
Zambia	X
Zimbabwe	

APPENDIX E

**ACTUAL COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2016*
AND ADJUSTMENT FOR 2016**

STATES	2016 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 2016 Actual Costs (£ Sterling)	Share of 2016 Estimated Costs (SCRAG/16) (£ Sterling)	Adjustment for 2016 (£ Sterling)
Albania	3 698	0.001%	3.38	28.01	- 24.63
Algeria	989 007	0.135%	904.43	897.19	7.24
Armenia (note 1)	11 710	0.002%	10.71	12.09	- 1.38
Australia	23 978 276	3.280%	21 927.71	24 211.18	- 2 283.47
Austria	3 790 626	0.518%	3 466.46	3 882.51	- 416.05
Azerbaijan	1 809 568	0.248%	1 654.82	614.29	1 040.53
Bahrain	2 182 054	0.298%	1 995.45	2 207.34	- 211.89
Belgium	5 893 667	0.806%	5 389.66	5 801.00	- 411.34
Bosnia and Herzegovina (note 1)	470	0.000%	0.43	2.23	- 1.80
Botswana	17 286	0.002%	15.81	42.93	- 27.12
Bulgaria	201 852	0.028%	184.59	191.39	- 6.80
Cameroon	85 483	0.012%	78.17	83.77	- 5.60
Cape Verde	100 706	0.014%	92.09	176.86	- 84.77
China: - Beijing	132 224 700	18.085%	120 917.17	111 762.93	9 154.24
- Hong Kong	34 663 255	4.741%	31 698.94	33 935.25	- 2 236.31
- Macau	741 701	0.101%	678.27	631.97	46.30
Congo	104 546	0.014%	95.61	88.83	6.78
Côte d'Ivoire	97 782	0.013%	89.42	59.70	29.72
Croatia	199 546	0.027%	182.48	199.80	- 17.32
Cyprus	51 785	0.007%	47.36	168.90	- 121.54
Czech Republic	1 770 394	0.242%	1 618.99	1 304.46	314.53
Democratic People's Republic of Korea (note 2)	4 779	0.001%	4.37	93.79	- 89.42
Denmark	2 088 935	0.286%	1 910.29	3 643.25	- 1 732.96
Egypt	5 043 651	0.690%	4 612.33	4 753.43	- 141.10
Estonia	97 096	0.013%	88.79	89.90	- 1.11
Finland	5 236 129	0.716%	4 788.35	4 583.83	204.52
France	32 189 376	4.403%	29 436.62	34 328.44	- 4 891.82
Gabon	2 554	0.000%	2.34	0.70	1.64
Georgia	83 266	0.011%	76.15	79.15	- 3.00
Germany	43 404 900	5.937%	39 693.02	42 221.99	- 2 528.97
Ghana	29 317	0.004%	26.81	32.11	- 5.30
Greece	1 630 126	0.223%	1 490.72	1 173.16	317.56
Hungary	3 451 945	0.472%	3 156.74	2 829.36	327.38
Iceland	2 353 415	0.322%	2 152.16	1 391.52	760.64
India	23 372 379	3.197%	21 373.63	19 707.00	1 666.63
Indonesia	16 528 167	2.261%	15 114.72	13 965.11	1 149.61
Iraq	110 722	0.015%	101.25	115.91	- 14.66
Ireland	16 338 465	2.235%	14 941.24	15 029.19	- 87.95
Israel	4 582 035	0.627%	4 190.19	4 521.29	- 331.10
Italy	6 754 958	0.924%	6 177.29	6 282.23	- 104.94
Jordan	1 765 615	0.241%	1 614.62	1 825.88	- 211.26
Kazakhstan (note 1)	1 925 169	0.263%	1 760.53	1 899.63	- 139.10
Kenya	1 910 078	0.261%	1 746.73	2 220.55	- 473.82
Kuwait	1 999 644	0.274%	1 828.64	1 881.96	- 53.32
Latvia	433 288	0.059%	396.23	439.18	- 42.95
Libya (note 3)	85 815	0.012%	78.48	863.76	- 785.28
Lithuania	359 353	0.049%	328.62	81.26	247.36

**ACTUAL COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2016*
AND ADJUSTMENT FOR 2016**

STATES	2016 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 2016 Actual Costs (£ Sterling)	Share of 2016 Estimated Costs (SCRAG/16) (£ Sterling)	Adjustment for 2016 (£ Sterling)
Maldives	115 117	0.016%	105.27	1.51	103.76
Malta	301 738	0.041%	275.93	396.04	- 120.11
Montenegro (note 4)	153 258	0.021%	140.15		140.15
Morocco	3 928 288	0.537%	3 592.35	2 832.00	760.35
Namibia	300 755	0.041%	275.04	322.02	- 46.98
Netherlands	20 424 898	2.794%	18 678.21	22 229.09	- 3 550.88
Nigeria	586 759	0.080%	536.58	788.89	- 252.31
Norway (note 5)	3 012 274	0.412%	2 754.67		2 754.67
Oman	3 029 435	0.414%	2 770.37	2 017.49	752.88
Pakistan	4 205 675	0.575%	3 846.02	2 895.91	950.11
Poland	1 555 762	0.213%	1 422.72	1 394.48	28.24
Portugal	5 243 512	0.717%	4 795.10	5 615.07	- 819.97
Qatar	36 324 359	4.968%	33 217.99	26 138.41	7 079.58
Republic of Moldova	194 338	0.027%	177.72	163.20	14.52
Romania	741 833	0.101%	678.39	667.86	10.53
Russian Federation	32 702 639	4.473%	29 905.99	33 713.32	- 3 807.33
Saudi Arabia	11 228 394	1.536%	10 268.17	14 477.07	- 4 208.90
Senegal	1 489	0.000%	1.36	43.17	- 41.81
Serbia	472 255	0.065%	431.87	343.42	88.45
Seychelles	269 877	0.037%	246.80	247.31	- 0.51
Slovakia	2 984	0.000%	2.73	4.45	- 1.72
Slovenia	150 696	0.021%	137.81	151.32	- 13.51
South Africa	6 242 623	0.854%	5 708.77	6 836.96	- 1 128.19
Spain	15 900 187	2.175%	14 540.44	14 889.89	- 349.45
Sri Lanka (note 6)	0	0.000%	0.00	2 566.61	- 2 566.61
Swaziland (note 1)	2 190	0.000%	2.00	2.24	- 0.24
Sweden	2 129 818	0.291%	1 947.68	3 201.64	- 1 253.96
Switzerland	9 556 202	1.307%	8 738.98	9 744.07	- 1 005.09
Thailand	17 312 589	2.368%	15 832.06	17 732.79	- 1 900.73
The former Yugoslav Republic of Macedonia (note 1)	43 596	0.006%	39.87	42.65	- 2.78
Tunisia	842 860	0.115%	770.78	973.84	- 203.06
Turkey	33 458 413	4.576%	30 597.13	26 940.74	3 656.39
Ukraine	1 511 130	0.207%	1 381.90	1 217.89	164.01
United Arab Emirates	82 639 369	11.303%	75 572.25	73 879.68	1 692.57
United Kingdom	47 589 530	6.509%	43 519.81	47 394.37	- 3 874.56
Uzbekistan (note 7)	724 532	0.099%	662.57	1 375.84	- 713.27
Viet Nam	7 489 542	1.024%	6 849.05	6 011.55	837.50
Zimbabwe	38 999	0.005%	35.66	186.00	- 150.34
TOTAL	731 127 204	100.000%	668 603.00	677 795.00	- 9 192.00

* Excludes Least Developed Countries exempted.

Note 1: 2016 ATKs were not received for Armenia, Bosnia and Herzegovina, Swaziland and The former Yugoslav Republic of Macedonia.

The number of ATKs shown is the latest available adjusted based on the annual growth rate of ATKs for the specific Region.

Note 2: Services for the Democratic People's Republic of Korea (DPRK) were terminated on 31 July 2016. As a result, the DPRK's share of 2016 actual costs was calculated based on 7 full months of service.

Note 3: Libya was assessed for the full year of 2016; however, services were only received in October, November and December. As a result, Libya's share of actual costs was calculated based on 3 full months of service.

Note 4: Montenegro received services throughout 2016, yet had not been assessed. As a result, Montenegro's share of 2016 actual cost was calculated based on 12 full months of service.

Note 5: In accordance with Norway's start of services in 2016, their share of actual 2016 costs was calculated based on 4 full months of service.

Note 6: Sri Lanka was assessed for 2016; however, they did not receive the services throughout the year. Sri Lanka's share of service was adjusted to zero.

Note 7: Services for Uzbekistan were terminated on 31 July 2016. As a result, the Uzbekistan's share of 2016 actual costs was calculated based on 7 full months of service.

APPENDIX F

**SADIS COST ESTIMATES FOR 2018 TO 2021 FOR SADIS SERVICES PROVIDED BY
THE UNITED KINGDOM METEOROLOGICAL OFFICE**

TABLE 1: UKMO Cost and manpower resource projections until year 2021 (at 2017 prices)

INVENTORY REF:	Note	DESCRIPTION	Actual 2016	FOO 2017	Est 2018	Est 2019	Est 2020	Est 2021	
1		UK MET OFFICE COSTS							
		1. Equipment							
		Principally procured for SADIS							
		comms between Whitehill & Met Office	a	SADIS 2G	3,393	0	0	0	0
		comms link SADIS Gateway & Met Office	b	SADIS 2G/SADIS FTP	3,340	3,340	3,340	3,340	3,340
				ISDN Back-up	0	0	0	0	0
		Not procured principally for SADIS							
		message switch (FTP)	c	SADIS FTP	6,274	6,220	6,220	6,220	6,220
		message switch (2G)		SADIS 2G	2,708	0	0	0	0
		internet bandwidth (FTP)	d	FTP	15,664	17,900	17,900	17,900	17,900
		FTP equipment running costs		FTP	20,085	27,800	27,800	27,800	27,800
		Service Desk Equipment Costs	e	Service Desk eqpt	12,472	12,750	12,750	12,750	12,750
		Serial Comms Costs and maintenance		Serial Comms	6,184	0	0	0	0
		sub total			70,120	68,010	68,010	68,010	68,010
		2. Procured Services							
		space segment annual lease	f	Satellite Segment	27,981	0	0	0	0
		annual maintenance	g	2G Maintenance	23,662	0	0	0	0
				2G Facilities Management	3,675	0	0	0	0
				IT Hall Space	8,667	0	0	0	0
			h	ad hoc maintenance	0	1,000	5,000	5,000	5,000
		sub total			63,985	1,000	5,000	5,000	5,000
		3. Annual Staff Requirements							
		Help Desk	i	Help Desk 0.3%	5,916	6,000	6,000	6,000	6,000
				Technical Team Leader 3.5%	12,135	12,520	12,520	12,520	12,520
				Network Systems Supervisor 7%	24,270	25,040	25,040	25,040	25,040
		Additional Support	j	Network Computer Engineer	5,345	5,460	5,460	5,460	5,460
		Systems Integration Team		Message Switching Manager	5,727	5,850	5,850	5,850	5,850
		Message Switching Manager		Executive Officer	63,478	64,235	64,235	64,235	64,235
		Administrator		Aviation Manager	7,363	7,665	7,665	7,665	7,665
		International Aviation Management		Communications Engineer	1,909	1,950	1,950	1,950	1,950
		Data Traffic		Senior Procurement Officer	1,527	1,560	1,560	1,560	1,560
		Contract Procurement and Management		Technical Officer	5,727	5,850	5,850	5,850	5,850
		Message Switching Team		Finance Officer & Business Acct	14,998	15,465	15,465	15,465	15,465
		Invoice Administration							
		SADIS 2G decommissioning	k	Resource costs	1,017	0	0	0	0
		Travel Costs	l	SADISOPSG, METP meetings & SCRAG	1,303	800	1,000	1,000	1,000
		sub total			150,715	152,395	152,595	152,595	152,595
		TOTAL			284,820	221,405	225,605	225,605	225,605
		Cost of Depreciated Capital							
				SADIS 2G	0	0	0	0	0
				FTP enhancements	0	0	0	0	0
			m	SADIS 2G CP6000 replacement	7,055	0	0	0	0
		sub total			291,875	221,405	225,605	225,605	225,605
		Administrative costs	n	Cost of Capital	18,968	19,350	19,350	19,350	19,350
			o	Admin charges	335	350	350	350	350
		Total UKMO Costs			311,178	241,105	245,305	245,305	245,305

TABLE 2: NATS and other SADIS Cost Projections until 2020 (at 2016 prices)

INVENTORY REF:	Note	DESCRIPTION	Actual 2016	FOO 2017	Est 2018	Est 2019	Est 2020	Est 2021
2 NATS Gateway Costs								
Staff Costs	p							
Operational Staff		Air Traffic Services Asst.	216,857	214,908	220,111	221,547	224,891	229,120
Engineering Staff		Maintenance Engineer	6,388	5,611	6,977	7,052	7,175	7,311
Administration Staff		Administration Officer	35,151	30,526	26,793	26,946	27,331	27,839
Engineering Staff		Asset Management		N/A	N/A	N/A	N/A	N/A
		sub total	258,396	251,045	253,881	255,545	259,397	264,270
Systems Maintenance	q	IP Comms link to UKMO	N/A	N/A	N/A	N/A	N/A	N/A
		X.25 Comms link to UKMO	N/A	N/A	N/A	N/A	N/A	N/A
		Systems Maintenance	N/A	N/A	N/A	N/A	N/A	N/A
		Communications	760	319	345	345	345	345
		Maintenance	4,583	7,210	9,430	9,430	9,430	9,430
		T&RE	870	2,798	3,623	3,623	3,623	3,623
Sadis Gateway Upgrade (Capital Project)	r	Capital Investments	37,466	37,466	37,466	37,466	N/A	N/A
Cost of Depreciated Capital		Interest at 5.88%	8,786	6,590	4,393	2,197	N/A	N/A
Sadis Backup enhancement		procurement & Installation	0	0	0	0	0	0
		annual support costs	0	0	0	0	0	0
Total NATS Gateway Costs			310,861	305,428	309,138	308,606	272,795	277,668
CAA Administration Costs			4,087	4,000	4,000	4,000	4,000	4,000
ICAO Administration Costs			42,477	45,176	40,327	40,327	40,327	40,327
TOTAL SADIS COSTS			668,603	595,709	598,770	598,238	562,427	567,300

APPENDIX G

**STATUS OF PAYMENT OF THE ASSESSMENT FOR 2016
AS AT 1 OCTOBER 2017**

(£ Sterling)

STATES	Total amount billed for 2016 (SCRAG/16 Report, Appendix I)	Amount Collected as at 1 October 2017	Administrative Charges Applied	Application of credit balance (or part of)	Unpaid amount (excess paid) as at 1 October 2017
Albania	- 389.52				- 389.52
Algeria	675.57	675.57	11.00		0.00
Armenia	- 101.45				- 101.45
Australia	12 038.09	12 038.09			0.00
Austria	2 836.96	2 836.96			0.00
Azerbaijan	523.93	523.93	2.00		0.00
Bahrain	443.63	443.63			0.00
Belgium	5 798.07	5 798.07			0.00
Bosnia and Herzegovina	- 18.68				- 18.68
Botswana	12.10	12.10			0.00
Bulgaria	126.60	126.60			0.00
Cameroon	49.94	49.94	1.00		0.00
Cape Verde	73.99	73.99			0.00
China: - Beijing	87 021.95	87 021.95	37.11		0.00
- Hong Kong	22 599.26	22 599.26	25.00		0.00
- Macau	615.57	615.57			0.00
Congo	112.43	112.43	7.00		0.00
Côte d'Ivoire	100.73	100.73	1.00		0.00
Croatia	86.58	86.58	1.00		0.00
Cyprus	- 151.19				- 151.19
Czech Republic	1 398.40	1 398.40			0.00
Democratic People's Republic of Korea	130.68				130.68
Denmark	3 576.35	3 576.35			0.00
Egypt	3 053.14	3 053.14	25.00		0.00
Estonia	3.21	3.21	1.00		0.00
Finland	2 994.28	2 994.28			0.00
France	24 925.55	24 925.55	4.00		0.00
Gabon	- 2.22				- 2.22
Georgia	65.36	65.36			0.00
Germany	22 846.54	22 846.54			0.00
Ghana	30.91				30.91
Greece	813.77	813.77	7.00		0.00
Hungary	2 459.95	2 459.95			0.00
Iceland	1 192.48	1 192.48			0.00
India	13 239.53	13 239.53			0.00
Indonesia	8 592.71	8 592.71			0.00
Iraq	219.34				219.34
Ireland	9 865.47	9 865.47			0.00
Israel	2 529.68	2 529.68			0.00
Italy	2 423.12	2 423.12	7.00		0.00
Jordan	916.38	916.38			0.00
Kazakhstan	1 751.51	1 751.51			0.00
Kenya	992.36	992.36			0.00
Kuwait	1 027.30	1 027.30	17.50		0.00
Latvia	103.81	103.81	7.00		0.00
Libya	1 268.15				1 268.15

**STATUS OF PAYMENT OF THE ASSESSMENT FOR 2016
AS AT 1 OCTOBER 2017**

(£ Sterling)

STATES	Total amount billed for 2016 (SCRAG/16 Report, Appendix D)	Amount Collected as at 1 October 2017	Administrative Charges Applied	Application of credit balance (or part of)	Unpaid amount (excess paid) as at 1 October 2017
Lithuania	144.73	144.73			0.00
Maldives	1.05	1.05			0.00
Malta	267.42	267.42	7.00		0.00
Morocco	2 312.21	2 312.21	40.67		0.00
Namibia	148.96	148.96			0.00
Netherlands	13 284.28	13 284.28			0.00
Nigeria	467.14	467.14			0.00
Oman	1 514.75	1 514.75			0.00
Pakistan	1 053.27	1 053.27	32.00		0.00
Poland	847.00	847.00			0.00
Portugal	3 491.01	3 491.01			0.00
Qatar	22 733.74	22 733.74	7.00		0.00
Republic of Moldova	164.50	164.50	32.50		0.00
Romania	272.81	272.81	7.00		0.00
Russian Federation	23 802.83	23 802.83			0.00
Saudi Arabia	12 636.09	12 636.09	22.81		0.00
Senegal	- 37.38				- 37.38
Serbia	382.95	382.95			0.00
Seychelles	389.30	389.30			0.00
Slovakia	2.39	2.39			0.00
Slovenia	286.36	286.36			0.00
South Africa	3 581.31	3 581.31	7.00		0.00
Spain	9 163.94	9 163.94	7.00		0.00
Sri Lanka	2 240.23				2 240.23
Swaziland	1.40				1.40
Sweden	3 142.85	3 142.85			0.00
Switzerland	6 262.30	6 262.30	15.00		0.00
Thailand	12 582.58	12 582.58			0.00
The former Yugoslav Republic of Macedonia	31.22	31.22			0.00
Tunisia	790.31	790.31			0.00
Turkey	26 105.92	26 105.92	12.00		0.00
Ukraine	- 197.94				- 197.94
United Arab Emirates	66 553.22	66 553.22			0.00
United Kingdom	29 028.45	29 028.45			0.00
Uzbekistan	633.73	633.73			0.00
Viet Nam	4 352.38	3 986.53	23.49		365.85
Zimbabwe	201.88	201.88			0.00
TOTAL	487 511.51	484 153.33	367.08	0.00	3 358.18

**STATUS OF PAYMENT OF BALANCES FOR YEARS PRIOR TO 2016
AS AT 1 OCTOBER 2017
(£ Sterling)**

STATES	Balance due for years prior to 2016	Amount Collected as at 1 October 2017	Administrative Charges Applied	Application of credit balance (or part of)	Unpaid amount (excess paid) as at 1 October 2017
Democratic People's Republic of Korea	69.15				69.15
Iran (Islamic Republic of)	14 548.16				14 548.16
Libya	490.98				490.98
Seychelles	127.82				127.82
Swaziland	2.64				2.64
Syrian Arab Republic	2 266.26				2 266.26
Turkmenistan	1 228.35				1 228.35
Zimbabwe	7.82				7.82
TOTAL	18 741.18	0.00	0.00	0.00	18 741.18

APPENDIX H

**ESTIMATED COST SHARES AND ASSESSMENTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2018 ***

STATES	2016 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 2018 Estimated Costs (£ Sterling)	Share of Under-recovery for 2016 (£ Sterling)	Amount to be Assessed for 2018 (£ Sterling)
Albania	3 698	0.001%	3.00	0.49	3.49
Algeria	989 007	0.134%	802.43	131.68	934.11
Armenia	11 710	0.002%	9.50	1.56	11.06
Australia	23 978 276	3.249%	19 454.86	3 192.54	22 647.40
Austria	3 790 626	0.514%	3 075.54	504.70	3 580.24
Azerbaijan	1 809 568	0.245%	1 468.20	240.93	1 709.13
Bahrain	2 182 054	0.296%	1 770.42	290.53	2 060.95
Belgium	5 893 667	0.799%	4 781.85	784.70	5 566.55
Bosnia and Herzegovina	470	0.000%	0.38	0.06	0.44
Botswana	17 286	0.002%	14.03	2.30	16.33
Bulgaria	201 852	0.027%	163.77	26.88	190.65
Cameroon	85 483	0.012%	69.36	11.38	80.74
Cape Verde	100 706	0.014%	81.71	13.41	95.12
China: - Beijing	132 224 700	17.917%	107 281.01	17 604.78	124 885.79
- Hong Kong	34 663 255	4.697%	28 124.16	4 615.17	32 739.33
- Macau	741 701	0.101%	601.78	98.75	700.53
Congo	104 546	0.014%	84.82	13.92	98.74
Côte d'Ivoire	97 782	0.013%	79.34	13.02	92.36
Croatia	199 546	0.027%	161.90	26.57	188.47
Cyprus	51 785	0.007%	42.02	6.89	48.91
Czech Republic	1 770 394	0.240%	1 436.42	235.72	1 672.14
Denmark	2 088 935	0.283%	1 694.87	278.13	1 973.00
Egypt	5 043 651	0.683%	4 092.19	671.53	4 763.72
Estonia	97 096	0.013%	78.78	12.93	91.71
Finland	5 236 129	0.710%	4 248.35	697.15	4 945.50
France	32 189 376	4.362%	26 116.97	4 285.79	30 402.76
Gabon	2 554	0.000%	2.07	0.34	2.41
Georgia	83 266	0.011%	67.56	11.09	78.65
Germany	43 404 900	5.882%	35 216.73	5 779.06	40 995.79
Ghana	29 317	0.004%	23.79	3.90	27.69
Greece	1 630 126	0.221%	1 322.61	217.04	1 539.65
Hungary	3 451 945	0.468%	2 800.75	459.60	3 260.35
Iceland	2 353 415	0.319%	1 909.45	313.34	2 222.79
India	23 372 379	3.167%	18 963.27	3 111.87	22 075.14
Indonesia	16 528 167	2.240%	13 410.19	2 200.61	15 610.80
Iraq	110 722	0.015%	89.83	14.74	104.57
Ireland	16 338 465	2.214%	13 256.27	2 175.35	15 431.62
Israel	4 582 035	0.621%	3 717.65	610.07	4 327.72
Italy	6 754 958	0.915%	5 480.66	899.37	6 380.03
Jordan	1 765 615	0.239%	1 432.54	235.08	1 667.62
Kazakhstan	1 925 169	0.261%	1 561.99	256.32	1 818.31
Kenya	1 910 078	0.259%	1 549.75	254.31	1 804.06
Kuwait	1 999 644	0.271%	1 622.42	266.24	1 888.66
Latvia	433 288	0.059%	351.55	57.69	409.24
Libya	343 258	0.047%	278.50	45.70	324.20

H - 2

**ESTIMATED COST SHARES AND ASSESSMENTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2018 ***

STATES	2016 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 2018 Estimated Costs (£ Sterling)	Share of Under-recovery for 2016 (£ Sterling)	Amount to be Assessed for 2018 (£ Sterling)
Lithuania	359 353	0.049%	291.56	47.85	339.41
Maldives	115 117	0.016%	93.40	15.33	108.73
Malta	301 738	0.041%	244.82	40.17	284.99
Mauritius	1 308 941	0.177%	1 062.01	174.28	1 236.29
Montenegro	153 258	0.021%	124.35	20.41	144.76
Morocco	3 928 288	0.532%	3 187.23	523.02	3 710.25
Namibia	300 755	0.041%	244.02	40.04	284.06
Netherlands	20 424 898	2.768%	16 571.82	2 719.43	19 291.25
Nigeria	586 759	0.080%	476.07	78.12	554.19
Norway	9 036 823	1.225%	7 332.06	1 203.19	8 535.25
Oman	3 029 435	0.410%	2 457.94	403.35	2 861.29
Pakistan	4 205 675	0.570%	3 412.29	559.96	3 972.25
Poland	1 555 762	0.211%	1 262.27	207.14	1 469.41
Portugal	5 243 512	0.711%	4 254.34	698.14	4 952.48
Qatar	36 324 359	4.922%	29 471.90	4 836.33	34 308.23
Republic of Moldova	194 338	0.026%	157.68	25.87	183.55
Romania	741 833	0.101%	601.89	98.77	700.66
Russian Federation	32 702 639	4.431%	26 533.41	4 354.13	30 887.54
Saudi Arabia	11 228 394	1.521%	9 110.20	1 494.98	10 605.18
Senegal	1 489	0.000%	1.21	0.20	1.41
Serbia	472 255	0.064%	383.17	62.88	446.05
Seychelles	269 877	0.037%	218.97	35.93	254.90
Slovakia	2 984	0.000%	2.42	0.40	2.82
Slovenia	150 696	0.020%	122.27	20.06	142.33
South Africa	6 242 623	0.846%	5 064.98	831.16	5 896.14
Spain	15 900 187	2.155%	12 900.68	2 117.00	15 017.68
Swaziland	2 190	0.000%	1.78	0.29	2.07
Sweden	2 129 818	0.289%	1 728.04	283.57	2 011.61
Switzerland	9 556 202	1.295%	7 753.46	1 272.34	9 025.80
Thailand	17 312 589	2.346%	14 046.63	2 305.05	16 351.68
The former Yugoslav Republic of Macedonia	43 596	0.006%	35.37	5.80	41.17
Tunisia	842 860	0.114%	683.86	112.22	796.08
Turkey	33 458 413	4.534%	27 146.61	4 454.75	31 601.36
Ukraine	1 511 130	0.205%	1 226.06	201.20	1 427.26
United Arab Emirates	82 639 369	11.198%	67 049.76	11 002.85	78 052.61
United Kingdom	47 589 530	6.449%	38 611.92	6 336.19	44 948.11
Viet Nam	7 489 542	1.015%	6 076.67	997.18	7 073.85
Zimbabwe	38 999	0.005%	31.64	5.19	36.83
TOTAL	737 988 826	100.000%	598 770.00	98 258.00	697 028.00

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

APPENDIX I
AMOUNTS TO BE BILLED
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2018
(£ Sterling)

STATES	Adjustment for 2016 (Appendix E)	Assessment for 2018 (Appendix H)	Deduction of Unused Credit Balance from Previous Years and Other Adjustments	Total Amount to be Billed for 2018
Albania	- 24.63	3.49		- 21.14
Algeria	7.24	934.11		941.35
Armenia	- 1.38	11.06		9.68
Australia	- 2 283.47	22 647.40		20 363.93
Austria	- 416.05	3 580.24		3 164.19
Azerbaijan	1 040.53	1 709.13		2 749.66
Bahrain	- 211.89	2 060.95		1 849.06
Belgium	- 411.34	5 566.55		5 155.21
Bosnia and Herzegovina	- 1.80	0.44		- 1.36
Botswana	- 27.12	16.33		- 10.79
Bulgaria	- 6.80	190.65		183.85
Cameroon	- 5.60	80.74		75.14
Cape Verde	- 84.77	95.12		10.35
China: - Beijing	9 154.24	124 885.79		134 040.03
- Hong Kong	- 2 236.31	32 739.33		30 503.02
- Macau	46.30	700.53		746.83
Congo	6.78	98.74		105.52
Côte d'Ivoire	29.72	92.36		122.08
Croatia	- 17.32	188.47		171.15
Cyprus	- 121.54	48.91		- 72.63
Czech Republic	314.53	1 672.14		1 986.67
Democratic People's Republic of Korea	- 89.42	0.00		- 89.42
Denmark	- 1 732.96	1 973.00		240.04
Egypt	- 141.10	4 763.72		4 622.62
Estonia	- 1.11	91.71		90.60
Finland	204.52	4 945.50		5 150.02
France	- 4 891.82	30 402.76		25 510.94
Gabon	1.64	2.41		4.05
Georgia	- 3.00	78.65		75.65
Germany	- 2 528.97	40 995.79		38 466.82
Ghana	- 5.30	27.69		22.39
Greece	317.56	1 539.65		1 857.21
Hungary	327.38	3 260.35		3 587.73
Iceland	760.64	2 222.79		2 983.43
India	1 666.63	22 075.14		23 741.77
Indonesia	1 149.61	15 610.80		16 760.41
Iraq	- 14.66	104.57		89.91
Ireland	- 87.95	15 431.62		15 343.67
Israel	- 331.10	4 327.72		3 996.62
Italy	- 104.94	6 380.03		6 275.09
Jordan	- 211.26	1 667.62		1 456.36
Kazakhstan	- 139.10	1 818.31		1 679.21
Kenya	- 473.82	1 804.06		1 330.24
Kuwait	- 53.32	1 888.66		1 835.34
Latvia	- 42.95	409.24		366.29
Libya (note 1)	- 785.28	324.20	951.09	490.01
Lithuania	247.36	339.41		586.77

AMOUNTS TO BE BILLED
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2018
(£ Sterling)

STATES	Adjustment for 2016 (Appendix E)	Assessment for 2018 (Appendix H)	Deduction of Unused Credit Balance from Previous Years and Other Adjustments	Total Amount to be Billed for 2018
Maldives	103.76	108.73		212.49
Malta	- 120.11	284.99		164.88
Mauritius	0.00	1 236.29		1 236.29
Montenegro	140.15	144.76		284.91
Morocco	760.35	3 710.25		4 470.60
Namibia	- 46.98	284.06		237.08
Netherlands	- 3 550.88	19 291.25		15 740.37
Nigeria	- 252.31	554.19		301.88
Norway	2 754.67	8 535.25		11 289.92
Oman	752.88	2 861.29		3 614.17
Pakistan	950.11	3 972.25		4 922.36
Poland	28.24	1 469.41		1 497.65
Portugal	- 819.97	4 952.48		4 132.51
Qatar	7 079.58	34 308.23		41 387.81
Republic of Moldova	14.52	183.55		198.07
Romania	10.53	700.66		711.19
Russian Federation	- 3 807.33	30 887.54		27 080.21
Saudi Arabia	- 4 208.90	10 605.18		6 396.28
Senegal	- 41.81	1.41		- 40.40
Serbia	88.45	446.05		534.50
Seychelles	- 0.51	254.90		254.39
Slovakia	- 1.72	2.82		1.10
Slovenia	- 13.51	142.33		128.82
South Africa	- 1 128.19	5 896.14		4 767.95
Spain	- 349.45	15 017.68		14 668.23
Sri Lanka (note 2)	- 2 566.61	0.00	2 566.61	0.00
Swaziland	- 0.24	2.07		1.83
Sweden	- 1 253.96	2 011.61		757.65
Switzerland	- 1 005.09	9 025.80		8 020.71
Thailand	- 1 900.73	16 351.68		14 450.95
The former Yugoslav Republic of Macedonia	- 2.78	41.17		38.39
Tunisia	- 203.06	796.08		593.02
Turkey	3 656.39	31 601.36		35 257.75
Ukraine	164.01	1 427.26		1 591.27
United Arab Emirates	1 692.57	78 052.61		79 745.18
United Kingdom	- 3 874.56	44 948.11		41 073.55
Uzbekistan	- 713.27	0.00		- 713.27
Viet Nam	837.50	7 073.85		7 911.35
Zimbabwe	- 150.34	36.83		- 113.51
TOTAL	- 9 192.00	697 028.00	3 517.70	691 353.70

Note 1: A £951.09 credit has already been issued to Libya. As a result, the billing amount was adjusted accordingly.

Note 2: Sri Lanka did not receive services in 2016. As a result, their adjustment for 2016 was reversed to reflect no billing amount for 2018.

APPENDIX J

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

SADIS INVENTORY

Editorial note. — Changes proposed by METP WG-MOG are highlighted in tracked-change mode as deletions or additions

ANNEX II

SADIS INVENTORY

~~(2016-2017)~~ **(2017-2018)**

Note, the SADIS 2G Service will be withdrawn at 1200 UTC on 31 July 2016. As such, a number of items will be decommissioned/withdrawn, and therefore removed from the inventory after that date. These are indicated as appropriate in this amendment.

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: ~~hub infrastructure (including all additions following the implementation of Secure SADIS FTP) and communications circuits, ISDN data communications~~ back-up system, procured services, and staff. It should be noted that some equipment items ~~are under lease and~~ form part of a wider infrastructure. Costs of ~~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 Hub~~ infrastructure and communications circuits

~~1. The SADIS 2G hub infrastructure connection to the Met Office message switch (MetSwitch) consists of a number of units developed in conjunction with AEP Networks and other suppliers. These are installed either at Exeter, Devon or at the uplink site at Whitehill, Oxfordshire, UK.~~

NOTE: The SADIS 2G ground hub equipment will be decommissioned during August 2016 following cessation of the SADIS 2G service.

~~12. The ~~Secure~~ SADIS FTP hub infrastructure connection to the Met Office message switch (MetSwitch) consists of a number of units installed at Exeter.~~

i) Solely procured for SADIS (major components)

SADIS gateway function software (developed specifically for the gateway as part of the NATS CoreMet system; see items under "Not procured principally for SADIS").

Dell Poweredge R900 servers to provide the ~~Secure~~ SADIS FTP service (see Section 1 C).

ii) Principally procured for SADIS

a) At the Met Office;

See Section 1 C for itemized components

~~b) Communications between Met Office Exeter and Whitehill uplink facility;~~

~~2 Fibre Optic 64 Kbit/sec circuits in support of SADIS 2G service~~

~~NOTE: These communications links will be decommissioned during August 2016 following cessation of the SADIS 2G service.~~

~~e) At the uplink site (Whitehill);~~

~~1) Units and services leased from Vodafone to support SADIS 2G uplink services:~~

~~— 1 (70 to 140 MHz) converter;~~

~~— Use of 1 (140 to C band) converter;~~

~~— Use of satellite hub (lease represents only a very small part of this large aperture) for SADIS 2G services; and~~

~~NOTE: The SADIS 2G ground hub equipment will be decommissioned during August 2016 following cessation of the SADIS 2G service.~~

~~2) Units forming part of a totally integrated rack structure to provide SADIS 2G service, with back up (see the list under Section 1-C).~~

~~NOTE: These units will be decommissioned during August 2016 following cessation of the SADIS 2G service.~~

~~d) Dual contingent communication links (utilising WMO TCP/IP sockets protocol) between SADIS Gateway and Met Office in support of SADIS 2G service.~~

~~NOTE: These communications links will be decommissioned during August 2016 following cessation of the SADIS 2G service.~~

iii) Not procured principally for SADIS

a) Met Office Message switch (MetSwitch): Total investment ~~£328K~~¹ ~~£738K~~ of which ~~1.23~~ ~~1.00~~ per cent is attributable to the ~~Secure~~ SADIS FTP service usage: switching data to operational FTP service;

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

~~eb) Allocated bandwidth 24 Mbit/sec bursting to 42 Mbit/sec between server and Internet Service Provider (ISP) in support of the Secure SADIS FTP service. Individual client connections have a maximum throughput of 2048 Kbit/sec.~~

~~de) NATS Message switch (CoreMet System);~~

¹ budgeted cost for providing MetSwitch service during the fiscal year ~~2016-2017~~ 2017/2018.

² budgeted cost for providing MetSwitch service during the fiscal year ~~2016-2017~~ 2017/2018.

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

- ~~ed)~~ ~~Secure-SADIS FTP equipment running costs;~~

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

- ~~ie)~~ ~~Met Office Service Desk equipment; and~~

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

- ~~g)~~ ~~Met Office Serial Communications.~~

— Note. — Equates to 20 per cent of total share of Met Office Serial Communications. Includes cost of switching serial data from MetSwitch Message Switch to SADIS FTP 2G, comprising staff and equipment costs of supporting serial WAN, TTL Routers, Serial Modems and TTL matrix switches.

NOTE: Item b) will not be required after 31 July 2016 following cessation of the SADIS 2G service.

B. SADIS data back-up system

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.

The SADIS Gateway (UK NATS) has procured a dedicated SADIS data backup arrangement with the WIFS Provider State. The backup infrastructure includes an ISDN connection between the National Weather Service Telecommunications Gateway (NWSTG) and the SADIS Gateway, and an ISDN connection between the SADIS Gateway and Whitehill uplink facility, to provide SADIS data backup.

C. Hub equipment and services located at Exeter and Whitehill

<i>Item</i>	<i>Description</i>	<i>Quantity</i>
1.	Whitehill services (leased from Cable & Wireless)	
1.1	70 MHz to 140 MHz converter	1
1.2	140 MHz to C-band converter	1
1.3	Satellite Hub leased bandwidth	1 slot

~~Items 1.1 to 1.3 will be decommissioned during August 2016 following cessation of SADIS 2G.~~

2.	ISDN back-up service to Washington (NWSTG)	
2.1	VadEDGE 4200	3*
2.2	ISDN 2e circuit	1
2.3	Interface cables	2

~~Note. — Hardware listed under Section 2 is located at Whitehill.~~

~~Items 2.1 to 2.3 will be decommissioned during August 2016 following cessation of SADIS 2G.~~

13.	Secure SADIS FTP service	
13.1	Dell Poweredge R900 servers with 1 Gb RAM	2
13.2	Dell Poweredge R900 (4 core) servers with 32 Gb RAM *	2
13.3	Shared Storage Arrays (analogous to hard disk storage, but with dynamic upper limit)	2
13.4	VMWave Virtual Platform with Red Hat Linux 5.3 OS	2
13.5	Intel Xeon X7350, 2.93 GHz Processors	2
13.6	Licenses, misc. support and maintenance costs	1

~~Note 1. — Item ~~13.2~~ relates to Digital Signing servers.~~

~~Note 2. — Items listed under Section ~~13~~ are located at Exeter.~~

4.	SADIS 2G Infrastructure	
4.1	MetSwitch port	1
4.2	MegaPAC V-IX Base System Dual PSU including Chassis, 1 CP7000, and 1 switch	2*
4.3	CP7000 for use with MegaPAC V-IX	1*
4.4	VadEDGE 4200	4*
4.5	Uplink modem (Comtech EF Data SDM 300a)	3*
4.6	Communications cabinet and lease	1
4.7	MegaWatch including Enterprise Reports, and PC	1
4.8	Comtech SDM300L demodulator (NERS downlink)	1
4.9	MetSwitch Comparator functions	1
4.10	Communications rack floor space at Exeter in IT Hall 1 and	3

IT Hall 2, and at Whitehill	
4.11 Space in stores at Exeter to locate spare hardware	1
4.12 WAN Module	2
4.13 Comtech EF Data SMS 301 redundancy switch	2*
4.14 BRI Module for VadEDGE 4200	2
4.15 Interface cabling	8

~~* Includes one unit/module stored as a cold spare and one unit as part of downlink that may also be used as a spare for the uplink circuit if necessary.~~

~~Note. Hardware listed under Section 4 is located at Exeter and Whitehill.~~

~~Items 4.1 to 4.15 will be decommissioned during August 2016 following cessation of SADIS 2G.~~

2. PROCURED SERVICES

~~A. Space segment annual lease: Allocated frequency band to SADIS 2G, providing a 64 Kbit/sec data rate (less communications overhead);~~

~~AB. Annual maintenance of Met Office Exeter and Whitehill uplink on-site equipment (SADIS 2G and Secure SADIS FTP server); and~~

~~Item A will no longer be required after 31 July 2016 following cessation of SADIS 2G.~~

~~Item B will be reduced following cessation of SADIS 2G~~

C. Gateway function:

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

3. ANNUAL STAFF REQUIREMENTS

A. United Kingdom Met Office

i) Service Desk

Note.— The Service Desk acts as a first point of contact for all inquiries, including those concerning the OPMET Gateway function. Complex inquiries will be passed to a relevant expert. Experts are available either on a 24-hour rota basis, or as a daytime support with limited on-call capability.

~~Help Desk~~ ~~24-hour Weather Desk support~~ Skill

- | | |
|--|---------------------|
| 1. Service desk (first point of contact) | Incident Management |
| 2. Additional Service Desk operator | Customer Enquiries |

Note. — Total support for SADIS provided by the Met Office Service Desk team equates to 0.3 per cent of the total Weather Desk budget.

24-hour IT Operations support Skill

- | | |
|--|----------------------|
| 1. Shift Leader (ITCS) Technical Team Leader (TTL) | Technical Supervisor |
| 2. Networks Incident Manager (NIM) and Systems Supervisor (NSS) | Service Continuity |

Note. — Total support for SADIS provided by the Met Office IT Operations team equates to 3.5 per cent of the total IT Operations budget.

Normal working hours support Skill

- | | |
|-------------------------------------|--------------------|
| 1. Change and problem manager (CPM) | Process Specialist |
|-------------------------------------|--------------------|

ii) Additional support

Day support Resource

- | | |
|--|---|
| 1. Systems integration team | 14 staff-days of network computer engineer |
| 2. Message Switching Manager | 15 staff-days of MSS manager |
| 3. Administrator | 140 150 staff-days of executive officer |
| 4. International aviation management | 15 staff-days of manager |
| 5. Data traffic | 5 staff-days of communications engineer |
| 6. Contract procurement and management | 4 staff-days of senior procurement officer |
| 7. Message switching Team | 15 staff-days of technical officer |
| 8. Invoice Administration | 20 staff-days of invoicing officer and 15 staff-days of business accountant |

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

Note 1. — The CACC provides the OPMET Gateway function, which is provided from a single operational site, but with a full capability at an alternative site. Staff are available either on a 24-hour basis, or as a daytime support with on-call capability.

*Note 2. — The resource demand of ~~604~~ **608** days required to provide the SADIS Gateway service comprises 6 watches of 1 ATSA4 and 1 ATSA3 each (Operations), 1 ATCE4 (Engineering Watchkeeping) and 3 ATCE4 (Engineering Day Support) and 2 Gateway day support administrative staff.*

<i>24-hour support</i>	<i>Resource</i>
1. Air Traffic Services Assistant	521 staff-days per annum

Note. — Total support for SADIS provided by the 24 hour support for the OPMET Gateway function equates to **36 per cent of the CACC Met Service H24 support and** 18 per cent of the total CACC Helpdesk budget.

2. H24 Maintenance Engineering	10 14 staff-days per annum
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<i>Day Support</i>	<i>Resource</i>
3. Administration-	54 staff-days per annum
4. Meeting Attendance	6 staff days per annum
5. Staff Training and Documentation	3 staff days per annum
6. Day Support Engineering	10 staff days per annum

Note. — Total support for SADIS provided by the day support for the OPMET Gateway function equates to 5 per cent of the total day support budget.

C. Bought-in services

Additional support and maintenance agreements with third parties are in place to provide third line support of the ~~SADIS 2G and Secure~~ SADIS FTP services.

~~References to SADIS 2G will be removed in 2016 following cessation of SADIS 2G.~~

APPENDIX K

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

SADIS SERVICES

Editorial note. — Changes proposed by METP WG-MOG are highlighted in tracked-change mode as deletions or additions

ANNEX I

SADIS SERVICES

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

1. Internet based (FTP) service

A summary of products available on SADIS. Detailed descriptions are contained within the SADIS User Guide (Parts 1 and 2) of the service.

- 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 and tropical cyclone advisories) from those regions whose OPMET information is needed to satisfy approved requirements in the regions served by SADIS;
- e) distribution of meteorological information in graphical format (e.g. Volcanic Ash Graphics).

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), the Working Group tasked by the Meteorological Panel (METP) to oversee the operational provision of 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 I (Administrative)

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

~~ISDN backup link between NWSTG and SADIS Gateway;~~

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.

Glossary of abbreviations

<i>AIREP</i>	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>ISDN</i>	Integrated Services Digital Network
<i>METAR</i>	Routine aviation weather report in code form
<i>METP</i>	Meteorological Panel
<i>NWSTG</i>	National Weather Service Telecommunications Gateway (Washington, USA)
<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