



SCRAG/10 - REPORT

INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF

**THE TENTH MEETING OF THE SADIS COST RECOVERY
ADMINISTRATIVE GROUP
(SCRAG/10)**

(Paris, 6 November 2009)

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INTRODUCTION

Place and duration

i.1 The Tenth Meeting of the SADIS Cost Recovery Administrative Group (SCRAG) was held in the European and North Atlantic (EUR/NAT) ICAO Regional Office, Paris, on 6 November 2009.

Attendance

i.2 The Meeting was attended by two of the five Members of the Group and two of the three Observers. The list of participants is in **Appendix A** and a list of working papers issued for the Meeting is in **Appendix B**.

Officers and Secretariat

i.3 **Mr. L.J.N. Rolvink**, from the Netherlands, was Chairman of the Meeting. **Mr. C. Gauthier**, Coordinator, Joint Financing, ICAO Headquarters, Montreal, acted as Secretary of the Meeting.

Agenda

i.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 SADIS Operations Group (SADISOPSG)

Agenda Item 3: Review of actual SADIS costs and cost shares for the period 1 January to 31 December 2008

Agenda Item 4: Review of estimated SADIS costs and cost shares for the period 1 January to 31 December 2010

Agenda Item 5: Amendment to Annexes to the Agreement on the Sharing of Costs of the Satellite Distribution System relating to Air Navigation

Agenda Item 6: Future work and arrangements for the SCRAG/11 Meeting.

Agenda Item 7: 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 still represent in the aggregate more than 50% of the total assessments, which results in the nomination of two SCRAG members from this Region, in accordance with Article VII, paragraph 2 of the SADIS Agreement.

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 re-assessments 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 44 States. Six of these States had the service withdrawn and three of these States are Least Developed Countries (LDCs), which are exempted from payment of SADIS cost share. The Group was also informed that 11 States had informed ICAO of their intention to accede to the SADIS Agreement but had not yet sent a formal notification of accession and that 44 other States receiving the SADIS service had not yet notified their intention to accede to the SADIS Agreement. It was also informed that from these last 44 States, 24 are LDCs, which are exempted from payment of SADIS cost share.

AGENDA ITEM 2: CONSIDERATION OF ISSUES RELEVANT TO THE SCRAG’S WORK ADDRESSED BY THE SADIS OPERATIONS GROUP (SADISOPSG)

2.1 The Group was informed of the main conclusions of the Fourteenth Meeting of the SADIS Operations Group (SADISOPSG/14, Bangkok, 15 to 17 July 2009) provided by the Chairman of SADISOPSG in the Executive Summary of Discussions of this meeting.

2.2 The Group noted the Statement of SADIS operational efficacy received from the Chairman of SADISOPSG relaying the advice from the Group at its Fourteenth meeting (SADISOPSG/14, Bangkok, 15 to 17 July 2009) to SCRAG that the operational efficacy of the SADIS had continued to be satisfactory meeting all operational requirements since the SADISOPSG/13 Meeting (Dakar, 27 to 29 May 2008).

2.3 The Group noted Conclusion 14/5 of SADISOPSG/14 instructing the Chairman of SADISOPSG to forward to the Chairman of SCRAG an updated SADIS Inventory. This proposal is dealt with under Agenda Item 5 (see below paragraphs 5.1, 5.3 and **Appendix J**).

2.4 The Group noted Conclusion 14/7 of SADISOPSG/14 instructing the Chairman of SADISOPSG to forward to the Chairman of SCRAG background information to the additional SADIS costs and to inform the Chairman of SCRAG that the services are in accordance with current and future service level requirements. This issue is dealt with under Agenda 4 (see below paragraphs 4.5 to 4.7).

2.5 The Group noted Conclusion 14/8 of SADISOPSG/14 instructing the Chairman of SADISOPSG to forward to the Chairman of SCRAG the amendment to Annex I - SADIS Services – to the SADIS Agreement. This proposal is dealt with under Agenda item 5 (see below paragraphs 5.2, 5.3 and **Appendix K**).

2.6 The Group also noted Conclusions 14/18 b), 14/19 b) and 14/23 b) of SADISOPSG/14 instructing the Chairman of SADISOPSG to advise the Chairman of SCRAG of costs arising from the development of SADIS (see below paragraph 4.4).

AGENDA ITEM 3: REVIEW OF ACTUAL SADIS COSTS AND COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2008

Review of the 2008 Actual SADIS Costs

3.1 The Group reviewed the actual costs of providing the SADIS services in the year 2008. These actual costs are presented in **Appendix E** and total £573 878. A summary of these costs is presented in **Table 1**.

**TABLE 1
SUMMARY OF ACTUAL SADIS COSTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2008**

Cost Item	Actual Costs (UK £)
UK Meteorological Office	417 039
UK NATS Gateway	115 907
UK administrative costs	5 014
Sub-total UK	537 960
ICAO support services costs	35 918
TOTAL	573 878

Review of the 2008 Actual SADIS Cost Shares

3.2 The Group noted that one State, Morocco, which was assessed for the year 2008 by the SCRAG/8 Meeting, did not have the service reinstated in 2008. Consequently, its share of the actual costs for 2008 is nil.

3.3 The Group noted that one State, Malaysia, which was assessed for the year 2008 by the SCRAG/8 Meeting, decided to terminate its participation in the SADIS programme as at 31 May 2008. Consequently, its share of the actual costs for 2008 was calculated based on five full months of service in 2008.

3.4 The Group noted that four States, Algeria, Lebanon, the Republic of Korea and the Syrian Arab Republic, which were assessed for the year 2008 by the SCRAG/8 Meeting, have had the SADIS service withdrawn on 17 October 2008. Consequently, their share of the actual costs for 2008 was calculated based on nine full months of service in 2008.

3.5 The Group noted that two States, Kenya and Nigeria, which were not assessed for the year 2008 by the SCRAG/8 Meeting, have had the SADIS service reinstated respectively on 12 August 2008 and on 30 January 2008. Consequently, their share of the actual costs for 2008 was calculated based on four full months of service in 2008 for Kenya and on eleven full months of service for Nigeria.

3.6 The Group noted that three States, Latvia, Libyan Arab Jamahiriya and Lithuania, which were not assessed for the year 2008 by the SCRAG/8 Meeting, are included in the calculation of the actual cost shares for 2008 considering that they receive the SADIS service respectively since 1 March 2007, 1 January 2007 and 1 January 2007. Consequently, their share of the actual costs for 2008 was calculated based on a full year of service in 2008.

3.7 The Group determined the actual cost shares for the period 1 January to 31 December 2008 to 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 2008, 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**. Accordingly the Group formulated the following Conclusion:

Conclusion 10/1 -

The actual cost shares for 2008 as shown in Appendix E to the SCRAG/10 Report for the States participating in the SCAR Arrangement are approved by the SCRAG/10 Meeting, in view of the adjustments to be made by the United Kingdom in its billing of these States.

3.8 The Group received information from the observer from the United Kingdom on the status of payment of the cost shares of 2008 as at 30 September 2009. It noted that a total amount of £573 510 was collected and a total amount of credit balance of £36 075 was applied against the assessments for 2008 (see **Appendix G – Table 1**), both amounts representing 85.8% of the original assessments for 2008 as approved by the SCRAG/8 Meeting.

3.9 The Group noted that despite several reminders, there are still a few States that have not yet paid their assessment for the year 2008. The Group agreed that service to these States be terminated and reinstated only after full payment is received. The Group also formulated the following Conclusion:

Conclusion 10/2 -

The ICAO Regional Offices should be asked to remind the specific States with outstanding amounts in respect to the services received under the SADIS Agreement, that they should pay these amounts in order not to have the SADIS service to their State to be withdrawn.

3.10 Having noted the information in Table 1 and paragraphs 3.2 to 3.9 above, the Group agreed that the net amount of the under-recovery of SADIS cost shares for the year 2008 amounts to £87 850 as shown in **Table 2**. This under-recovery is the difference between the actual costs for 2008 (£573 878), to which the under-recovery for 2006 is added (£92 015) in order to obtain the amount subject to collection for 2008 (£665 893), and the collections from States for 2008 (£573 510 as shown in **Appendix G - Table 1**) plus the collections from States for years prior to 2008 after 31 December 2008 (£4 533 as shown in **Appendix G – Table 2**), and it formulated the following Conclusion:

Conclusion 10/3 -

A net under-recovery, amounting to £87 850 of the SADIS cost shares for the year 2008 will be taken into account in the calculation of the SADIS cost shares for the year 2010, in accordance with Article XI, paragraph 4 of the SADIS Agreement.

TABLE 2
UNDER-RECOVERY FOR 2008

		(UK £)	References
(1)	Actual costs for 2008	573 878	Table 1
(2)	Under-recovery for 2006	92 015	SCRAG/8 Report, Table 2 Revised
(3)	Subject to collection for 2008	665 893	(1) + (2)
(4)	Collected from States for 2008 (as at 30 September 2009)	573 510	Appendix G – Table 1
(5)	Collected from States for years prior to 2008 after 31 December 2008 (as at 30 September 2009)	4 533	Appendix G – Table 2
(6)	Under-recovery for 2008	87 850	(3) – (4) – (5)

Depreciated Assets

3.11 The Group noted the information presented by the United Kingdom regarding the depreciated assets as at 31 December 2009 (see **Appendix C**) and approved the additional depreciation charges applicable from 2009 to 2012.

AGENDA ITEM 4: REVIEW OF ESTIMATED SADIS COSTS AND COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2010

Review of the 2010 Estimated SADIS Costs

4.1 The Group reviewed the cost estimates for providing the SADIS services in the year 2010. These cost estimates are detailed in **Appendix F** and total £892 507. 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 2010

Cost Item	Estimated Costs (UK £)
UK Meteorological Office	525 638
UK NATS Gateway	317 425
UK CAA administrative costs	5 000
Sub-total UK	848 063
ICAO support services costs	44 444
TOTAL	892 507

4.2 At the SCRAG/8 Meeting, the Group noted that the UK Met Office applied a 10% rate of return on the costs incurred for SADIS and requested the UK to review this policy for future years in line with the SADIS Agreement and report back to the SCRAG/9 Meeting. At the SCRAG/9 Meeting, the Group reviewed the information and calculation provided by the UK representatives included in SCRAG/9-WP/13 in support of this rate of return. At the SCRAG/9 Meeting, the Group also asked that an independent audit be carried out by the UK on this issue and that this audit should also ensure that such a charge is in line with the ICAO policies on en-route charges. The Group noted that the cost of this independent audit will be charged to actual SADIS costs.

4.3 The Group reviewed the report of the independent auditor (the UK National Audit Office) included in SCRAG/10-WP/13. The Group noted the opinion of the independent auditor that the revised methodology, applied by the UK Met Office for the calculation of the cost of capital is in accordance with the terms of the SCAR Arrangement and in line with the ICAO policies on en-route charges. The Group endorsed the revised cost of capital calculation for inclusion in the 2008 SADIS cost base and that a similar basis of calculation be used in 2009 and future years. The Group also noted that the cost for carrying out this audit amounted to £2 500 and that this cost has been included in the cost base for 2009.

4.4 The Group also noted that as agreed by the SADISOPSG/14, additional costs arising from the development of SADIS were included in the estimates for 2010. These are:

- the implementation of the SADIS FTP Secure service (“Phase 2”), foreseen to be operational by November 2010 (estimated cost of £69 000 ± £25 000) (at the SCRAG/10 Meeting, the Group was informed by the provider State of a revised estimate of £67 000 ± £13 000);
- increase of annual costs resulting from the increased bandwidth allocation (estimated increase of £3 000); and
- the hardware refresh of the SADIS 2G hub equipment (estimated cost of £65 000).

4.5 At the SCRAG/9 Meeting, the Group noted the substantial increase to the estimated costs for 2009 and future years and asked for further information on the following additional costs:

- UK MET Office costs:
 - Service desk equipment costs (£35 000)
 - Serial communications costs and maintenance (£24 000)
 - Help desk-technical team leader (£15 000)
 - Help desk-network systems supervisor (£20 000)
 - CIDA and infrastructure engineer (£12 500)
- NATS Gateway Costs:
 - Air traffic services assistant (increase of £201 646)

4.6 At the SCRAG/9 Meeting, the Group agreed with the principle that the service Provider be able to charge the full costs of the services but considering the substantial increase in the costs and the need to receive comprehensive additional information on these, it agreed to apply only 80% of the 2009 estimated costs for the purpose of the calculation of the assessments in 2009. It agreed however that the 2009 actual costs will be chargeable on the basis of the costs determined after proper review by the SADISOPSG and the SCRAG and that the difference will be charged in the adjustment of the 2009 actual costs when calculating the assessments for 2011 (SCRAG/9, Conclusion 9/3).

4.7 The Group reviewed the additional information on the increased costs included in SCRAG/10-WP/14 and noted that, as requested, this issue has been reviewed by the SADISOPSG. The Group noted that the SADISOPSG/14 concluded that the additional costs proposed by the SADIS Provider State are in accordance with current and future service level requirements for the SADIS service. However, the Group considered that efforts should be made to reduce the costs in the future and in this respect, it agreed to apply only 80% of the 2010 estimated costs for the purpose of the calculation of the assessments in 2010. The Group also requested that the service Provider and the SADISOPSG determine possible savings in the coming years that would aim at reducing the costs of the years 2009 and 2010 by the portion of 20% of the estimated costs that was not taken into consideration in the calculation of the assessments for those years. Furthermore, when reviewing the 2010 ICAO estimated administrative costs, the Group asked that a review of these costs take place in order to determine how these costs are calculated, more specifically the costs related to the SADISOPSG, and how they could be reduced.

Conclusion 10/4 -

It has been agreed that, for the purpose of the calculation of the assessments for 2010, only 80% of the 2010 estimated costs presented in Appendix F will be used. Any difference with the 2010 actual costs will be adjusted at the SCRAG/12 meeting, following a proper review of the additional costs proposed by the service Provider to be reviewed at the SADISOPSG/15 and the SCRAG/11 meetings.

4.8 The Group considered the under-recovery in **Table 2** in the calculation of the amount to be assessed under the SADIS Agreement for 2010. The calculation of the amount to be assessed is presented in **Table 4**.

TABLE 4
AMOUNT TO BE ASSESSED UNDER THE SADIS AGREEMENT FOR 2010

		(UK £)	References
(1)	Under-recovery for 2008	87 850	Table 2
(2)	80% of the estimated costs for 2010	714 006	Table 3
(3)	Amount to be assessed for 2010	801 856	(1) + (2)

Review of the 2010 Estimated SADIS Cost Shares

4.9 The Group determined the cost shares for the period 1 January to 31 December 2010 to 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 2008, in accordance with Article XI, paragraph 3 of the SADIS Agreement.

4.10 The Group noted that three new receiver States, Bosnia and Herzegovina, Iran (Islamic Republic of) and Uzbekistan, are included in the calculation of the assessment of cost shares for 2010 considering that they receive the SADIS service respectively since 1 August 2009, 1 June 2009 and 1 April 2009.

4.11 The cost share in percentage terms and the share in £ sterling, including the share of under-recovery for 2008, to be borne by each State are shown in **Appendix H**. **Appendix I** shows the amounts to be billed to each State in 2010, corresponding to the adjustment for 2008 (Appendix E) plus the assessment for 2010 (Appendix H).

4.12 The Group agreed that the figures in Conclusion 10/3, tables 2 and 4 above and in Appendices H and I will be updated before the United Kingdom proceed to bill each of the States party to the SADIS Agreement for the share attributable to it in 2010, to take into account any payment received between 30 September and 31 December 2009. Accordingly, the Group formulated the following Conclusion:

Conclusion 10/5 -

Subject to updating by the Secretariat to take into account any payment of arrears received between 30 September and 31 December 2009, the estimated cost shares for 2010 as shown in Appendix H to the SCRAG/10 Report for each State participating in the SCAR Arrangement are approved by the SCRAG/10 Meeting for collection by the United Kingdom. The Secretariat will place the revised tables in the SCRAG web page.

Cost estimates for the years 2011 to 2013

4.13 The Group considered the estimates provided by the United Kingdom (see **Appendix F**) and summarised in **Table 5** of providing the SADIS services for the years 2011 to 2013 as well as the estimates for the United Kingdom administrative costs and the costs of ICAO support services.

TABLE 5
SUMMARY OF ESTIMATED SADIS COSTS
FOR THE YEARS 2011, 2012 AND 2013*

Cost Item	Estimated Costs 2011 (UK £)	Estimated Costs 2012 (UK £)	Estimated Costs 2013 (UK £)
UK Meteorological Office	479 638	474 826	460 392
UK NATS Gateway	317 425	317 425	317 425
UK CAA administrative costs	5 000	5 000	5 000
Sub-total UK	802 063	797 251	782 817
ICAO support services costs	44 444	44 444	44 444
TOTAL	846 507	841 695	827 261

* Estimates based on 2009 prices.

AGENDA ITEM 5: AMENDMENT TO ANNEXES TO THE AGREEMENT ON THE SHARING OF COSTS OF THE SATELLITE DISTRIBUTION SYSTEM RELATING TO AIR NAVIGATION

5.1 The Group reviewed the amendments to Annex II, SADIS Inventory, to the SADIS Agreement as proposed by the SADISOPSG 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**.

5.2 The Group reviewed the amendments to Annex I, SADIS Services, to the SADIS Agreement as proposed by the SADISOPSG. These amendments were necessary to take into account the expansion of the SADIS FTP Service and they reflect factual changes. The additions and deletions to the existing text of Annex I appear in outline and strikeout formats in **Appendix K**.

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

Conclusion 10/6 -

With the consent of the United Kingdom as the SADIS provider State, in accordance with Article XVII, paragraph 5 of the SADIS Agreement, Annex II, SADIS Inventory, and Annex I, SADIS Services, of the SADIS Agreement are amended as indicated in Appendices J and K to the SCRAG/10 Report.

AGENDA ITEM 6: FUTURE WORK AND ARRANGEMENTS FOR THE SCRAG/11 MEETING

6.1 The Group agreed that, subject to confirmation, its Eleventh Meeting should be held at the European and North Atlantic (EUR/NAT) ICAO Regional Office, Paris, at the beginning of November 2010.

AGENDA ITEM 7: OTHER BUSINESS

7.1 The Group expressed its appreciation and thanks to the staff of the ICAO European and North Atlantic Office (Paris) for their hospitality and excellent support received during the meeting.

APPENDIX A

LIST OF PARTICIPANTS

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APPENDIX B**LIST OF SCRAG/10 WORKING PAPERS**

Working Paper No.	Agenda Item	Subject	Presented by
1	1 to 7	Provisional agenda	Secretariat
2	1, 3 & 4	Status of accession to the SADIS Agreement	Secretariat
3	2, 4 & 5	Reports on Conclusions of the SADISOPSG/14 Meeting	Chairman, SADISOPSG
4	3	2008 ICAO actual SADIS administrative costs	Secretariat
5	3	2008 actual SADIS costs	United Kingdom
6	3 & 4	Status of payments for the year 2008	United Kingdom
7	3	Summary of actual costs and cost shares for the year 2008	Secretariat
8	3	Depreciated assets: SADIS costs	United Kingdom
9	4	2010 ICAO estimated SADIS administrative costs	Secretariat
10	4	Estimated SADIS Costs: 2 to 5 years	United Kingdom
11	4	Summary of estimated costs and assessments for the year 2010	Secretariat
12	5	Amendment to Annex II, SADIS Inventory, to the SADIS Agreement	Secretariat
13	3 & 4	Cost of Capital	United Kingdom
14	4	Review of additional SADIS Costs	United Kingdom
15	5	Amendment to Annex I, SADIS Services, to the SADIS Agreement	Secretariat

APPENDIX C

**INVENTORY OF ASSETS AS AT 31 DECEMBER 2008
EMPLOYED BY THE UNITED KINGDOM TO PROVIDE SADIS SERVICES**

(1) Inventory of Assets: 2009	(2) Original Value	(3) Depreciated charges in 2009	(4) Total accumulated depreciation	(5) Net depreciated values at end of 2009
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	£57 738	£4 812	£4 812	£52 926
Total UKMO	£1 233 935	£4 812	£1 181 009	£52 926
SADIS Gateway	£227 462	£0	£227 462	£0

D - 1
APPENDIX D
STATES WHICH FORMALLY ACCEDED
TO THE SADIS AGREEMENT

States	LDC's Exempted
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	
Gabon	
Georgia	
Germany	
Hungary	
Italy	
Jordan	
Madagascar	X
Mauritius	
Mongolia	
Morocco	
Netherlands	
Oman	
Pakistan	
Portugal	
Republic of Moldova	
Romania	
Russian Federation	
Senegal	
Sweden	
Switzerland	
Thailand	
Tunisia	
Turkmenistan	
United Arab Emirates	
United Kingdom	
United Republic of Tanzania	X
Viet Nam	

APPENDIX D (cont'd)

STATES WHICH INFORMED OF THEIR INTENTION
TO ACCEDE TO THE SADIS AGREEMENT

States	LDC's Exempted
Armenia	
Azerbaijan	
Greece	
Ireland	
Kenya	
Kuwait	
Malta	
Saudi Arabia	
Serbia	
Turkey	
Ukraine	

APPENDIX D (cont'd)
STATES WHICH HAVE NOT YET NOTIFIED
THEIR INTENTION TO ACCEDE TO THE SADIS AGREEMENT

States	LDC's Exempted
Afghanistan	X
Algeria	
Bangladesh	X
Benin	X
Bosnia and Herzegovina	
Bulgaria	
Burkina Faso	X
Cape Verde	X
Central African Republic	X
Chad	X
Djibouti	X
Equatorial Guinea	X
Ethiopia	X
Gambia	X
Ghana	
Guinea	X
Iceland	
India	
Iran (Islamic Republic of)	
Lao People's Democratic Republic	X
Latvia	
Libyan Arab Jamahiriya	
Lithuania	
Malawi	X
Maldives	X
Mauritania	X
Mozambique	X
Nepal	X
Niger	X
Nigeria	
Poland	
Qatar	
Rwanda	X
South Africa	
Sri Lanka	
Swaziland	
Syrian Arab Republic	
The former Yugoslav Republic of Macedonia	
Togo	X
Uganda	X
Uzbekistan	
Yemen	X
Zambia	X
Zimbabwe	

APPENDIX E
ACTUAL COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2008*
AND ADJUSTMENT FOR 2008

STATES	2008 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 2008 Actual Costs (£ Sterling)	Share of 2008 Estimated Costs (SCRAG/8) (£ Sterling)	Adjustment for 2008 (£ Sterling)
Algeria *****	356 884	0.098%	564.91	826.88	- 261.97
Armenia	174 080	0.048%	275.55	353.71	- 78.16
Austria	2 929 860	0.808%	4 637.66	7 117.36	- 2 479.70
Azerbaijan	292 082	0.081%	462.34	607.58	- 145.24
Bahrain	1 797 277	0.496%	2 844.90	2 998.26	- 153.36
Belgium	3 331 874	0.919%	5 274.01	4 886.85	387.16
Botswana	22 179	0.006%	35.11	38.38	- 3.27
Bulgaria	234 133	0.065%	370.61	424.06	- 53.45
Cameroon	147 201	0.041%	233.00	244.93	- 11.93
China: - Beijing	56 231 969	15.510%	89 009.35	83 767.98	5 241.37
- Hong Kong	25 016 648	6.900%	39 598.75	41 666.80	- 2 068.05
- Macau	484 198	0.134%	766.43	1 241.95	- 475.52
Congo	78 704	0.022%	124.58	122.81	1.77
Côte d'Ivoire	139 247	0.038%	220.41	201.64	18.77
Croatia	207 821	0.057%	328.96	345.74	- 16.78
Cyprus	713 500	0.197%	1 129.40	1 297.02	- 167.62
Czech Republic	1 111 637	0.307%	1 759.61	2 006.15	- 246.54
Democratic People's Republic of Korea	10 970	0.003%	17.36	20.30	- 2.94
Denmark	1 915 582	0.528%	3 032.17	3 356.10	- 323.93
Egypt	3 357 789	0.926%	5 315.03	5 214.99	100.04
Estonia	143 187	0.039%	226.65	244.55	- 17.90
Finland	4 020 410	1.109%	6 363.89	5 650.26	713.63
Gabon	525 409	0.145%	831.67	875.63	- 43.96
Georgia	101 497	0.028%	160.66	174.69	- 14.03
Germany	40 259 672	11.105%	63 726.86	67 935.84	- 4 208.98
Ghana	23 519	0.006%	37.23	51.29	- 14.06
Greece	1 571 159	0.433%	2 486.98	3 034.00	- 547.02
Hungary	1 025 597	0.283%	1 623.41	1 399.84	223.57
Iceland	786 945	0.217%	1 245.65	1 572.16	- 326.51
India	15 356 582	4.236%	24 307.87	19 310.26	4 997.61
Ireland	9 453 415	2.607%	14 963.77	12 137.35	2 826.42
Italy	8 507 083	2.346%	13 465.83	18 786.54	- 5 320.71
Jordan	1 309 214	0.361%	2 072.35	2 406.98	- 334.63
Kenya **	557 501	0.154%	882.47	0.00	882.47
Kuwait	1 597 420	0.441%	2 528.55	3 180.25	- 651.70
Latvia ***	321 708	0.089%	509.23	0.00	509.23
Lebanon *****	525 640	0.145%	832.03	1 269.61	- 437.58
Libyan Arab Jamahiriya ***	300 753	0.083%	476.06	0.00	476.06
Lithuania ***	157 671	0.043%	249.58	0.00	249.58
Malaysia *****	4 078 673	1.125%	6 456.11	18 743.45	- 12 287.34
Malta	424 964	0.117%	672.67	731.43	- 58.76
Morocco ****	0	0.000%	0.00	3 018.93	- 3 018.93

APPENDIX E (cont'd)
ACTUAL COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2008*
AND ADJUSTMENT FOR 2008

STATES	2008 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 2008 Actual Costs (£ Sterling)	Share of 2008 Estimated Costs (SCRAG/8) (£ Sterling)	Adjustment for 2008 (£ Sterling)
Netherlands	18 833 858	5.195%	29 812.03	33 028.31	- 3 216.28
Nigeria **	252 773	0.070%	400.11	0.00	400.11
Oman	2 024 937	0.559%	3 205.26	2 896.47	308.79
Pakistan	2 932 323	0.809%	4 641.56	6 403.05	- 1 761.49
Poland	1 413 462	0.390%	2 237.36	2 291.53	- 54.17
Portugal	4 721 707	1.302%	7 473.97	6 609.07	864.90
Qatar	9 317 079	2.570%	14 747.96	10 923.50	3 824.46
Republic of Korea *****	21 077 724	5.814%	33 363.84	48 446.90	- 15 083.06
Republic of Moldova	91 423	0.025%	144.71	133.36	11.35
Romania	997 157	0.275%	1 578.40	1 104.84	473.56
Saudi Arabia	7 821 991	2.157%	12 381.40	12 361.63	19.77
Senegal	177 048	0.049%	280.25	290.67	- 10.42
Serbia	216 545	0.060%	342.77	418.42	- 75.65
South Africa	5 709 693	1.575%	9 037.85	11 969.68	- 2 931.83
Sri Lanka	1 695 798	0.468%	2 684.27	3 223.38	- 539.11
Swaziland	1 541	0.000%	2.44	1.26	1.18
Sweden	1 525 392	0.421%	2 414.54	3 346.68	- 932.14
Switzerland	6 406 459	1.767%	10 140.76	9 142.19	998.57
Syrian Arab Republic *****	347 048	0.096%	549.34	858.95	- 309.61
Thailand	10 994 165	3.032%	17 402.62	20 025.13	- 2 622.51
The former Yugoslav Republic of Macedonia	26 563	0.007%	42.05	70.70	- 28.65
Tunisia	573 829	0.158%	908.31	985.52	- 77.21
Turkey	6 504 722	1.794%	10 296.30	9 804.73	491.57
Ukraine	1 185 912	0.327%	1 877.18	1 763.48	113.70
United Arab Emirates	23 754 982	6.552%	37 601.66	37 885.29	- 283.63
United Kingdom	41 271 258	11.384%	65 328.09	73 456.10	- 8 128.01
Viet Nam	2 786 248	0.769%	4 410.34	3 281.79	1 128.55
Zimbabwe	286 165	0.079%	452.97	471.82	- 18.85
TOTAL	362 549 456	100.000%	573 878.00	618 457.00	- 44 579.00

* Excludes Least Developed Countries exempted, States for which the access to SADIS is not operational and States which refused to accede to the SADIS Agreement.

** Considering that the SADIS service to Kenya and Nigeria was reinstated respectively on 12 August 2008 and 30 January 2008, their share of the 2008 actual costs was calculated based on 4 full months of service for Kenya and 11 full months of service for Nigeria.

*** Considering that Latvia, Libyan Arab Jamahiriya and Lithuania are receiving the SADIS service respectively since 1 March 2007, 1 January 2007 and 1 January 2007, their share of the 2008 actual costs was calculated based on a full year of service.

**** Considering that Morocco did not have the service reinstated in 2008, its share of the 2008 actual costs is nil.

***** Considering that the service to Malaysia has ceased at 31 May 2008 and the service to Algeria, Lebanon, the Republic of Korea and the Syrian Arab Republic had been withdrawn on 17 October 2008, their share of the 2008 actual costs was calculated based on 5 full months of service for Malaysia and 9 full months of service for the three others.

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APPENDIX F

TABLE 1: UKMO Cost and manpower resource projections until year 2013 (at 2009 prices)

INVENTORY REF:	Note	DESCRIPTION	2010	2011	2012	2013
1 UK MET OFFICE COSTS						
1. Equipment						
Principally procured for SADIS	a					
comms between Whitehill & Met Office		SADIS 2G	6,364	6,364	6,364	6,364
comms link SADIS Gateway & Met Office		ISDN back up	372	372	372	372
Not procured principally for SADIS	b					
message switch (FROST/FTP)		SADIS FTP	24,000	24,000	24,000	24,000
message switch (FROST/2G)		SADIS 2G	12,500	12,500	12,500	12,500
internet bandwidth (FTP)		FTP	7,000	7,000	7,000	7,000
FTP equipment running costs	c	FTP	16,000	40,000	40,000	40,000
Service Desk Equipment Costs		Service Desk eqpt	15,700	15,700	15,700	15,700
Serial Comms Costs and maintenance		Serial Comms	13,600	13,600	13,600	13,600
		sub total	95,536	119,536	119,536	119,536
2. Procured Services						
space segment annual lease	d	Satellite Segment	91,197	91,197	91,197	91,197
annual maintenance	e	2G Maintenance	31,616	31,616	31,616	31,616
		2G Facilities Management	4,275	4,275	4,275	4,275
		IT Hall Space	15,578	15,578	15,578	15,578
	f	ad hoc maintenance	5,000	5,000	5,000	5,000
		sub total	147,666	147,666	147,666	147,666
3. Annual Staff Requirements						
Help Desk	g					
		Help Desk 0.5%	5,800	5,800	5,800	5,800
		Technical Team Leader 4%	11,066	11,066	11,066	11,066
		Network Systems Supervisor 7%	22,134	22,134	22,134	22,134
Additional Support						
Systems Integration Team		Network Comp Eng.	7,390	7,390	7,390	7,390
Administrator		Executive Officer	55,428	55,428	55,428	55,428
International Aviation Management		Aviation Manager	13,616	13,616	13,616	13,616
Data Traffic		Communications Engineer	3,695	3,695	3,695	3,695
Contract Management		Senior Procurement Officer	3,695	3,695	3,695	3,695
UNIX Support		Computer Engineer	7,390	7,390	7,390	7,390
Web Team Support		Website Designer	7,390	7,390	7,390	7,390
Invoice Administration		Finance Officer	11,086	11,086	11,086	11,086
CIDA		CIDA and Infrastructure Engineer	12,500	12,500	12,500	12,500
Enhancements to FTP Service	h	FTP enhancements	67,000	0	0	0
GRIB2 data trial	i	GRIB2 over SADIS Trial	3,000	0	0	0
Travel Costs		SADISOPSG & SCRAG	6,000	6,000	6,000	6,000
		sub total	237,190	167,190	167,190	167,190
		TOTAL	480,392	434,392	434,392	434,392
Cost of Depreciated Capital						
	j	SADIS 2G	19,246	19,246	14,434	0
		FTP enhancements	0	0	0	0
		sub total	499,638	453,638	448,826	434,392
	k	Cost of Capital	26,000	26,000	26,000	26,000
		Total UKMO Costs	525,638	479,638	474,826	460,392

APPENDIX F (cont'd)

TABLE 2: NATS and other SADIS Cost Projections until 2013

INVENTORY REF:	Note	DESCRIPTION	2010	2011	2012	2013	
2		NATS Gateway Costs					
	I	Staff Costs					
		Operational Staff	Air Traffic Services Asst.	255,275	255,275	255,275	255,275
		Engineering Staff	Systems Engineer	11,915	11,915	11,915	11,915
		Administration Support	Administration Officer	23,830	23,830	23,830	23,830
		asset engineering support	asset management activities	6,851	6,851	6,851	6,851
			sub total	297,871	297,871	297,871	297,871
		Communications	ip comms link to ukmo	12,040	12,040	12,040	12,040
			x25 comms link	0	0	0	0
		Maintenance	Systems Maintenance	6,264	6,264	6,264	6,264
		Cost of Depreciated Capital	Depreciation	0	0	0	0
			Cost of Capital	0	0	0	0
		Sadis Backup enhancement	procurement & Installation	0	0	0	0
			annual support costs	1,250	1,250	1,250	1,250
		Total NATS Gateway Costs		317,425	317,425	317,425	317,425
		CAA Administration Costs		5,000	5,000	5,000	5,000
		ICAO Administration Costs		44,444	44,444	44,444	44,444
		TOTAL SADIS COSTS		892,507	846,507	841,695	827,261

APPENDIX G
TABLE 1
STATUS OF PAYMENT OF THE ASSESSMENT FOR 2008
AS AT 30 SEPTEMBER 2009
(£ Sterling)

STATES	Share of 2008 Assessment	Amount Collected as at 30 September 2009	Application of credit balance (or part of)	Unpaid amount (excess paid) as at 30 September 2009
Algeria	949.90		949.90	0.00
Armenia	406.34	406.34		0.00
Austria	8 176.29	7 668.27	508.02	0.00
Azerbaijan	697.98	697.98		0.00
Bahrain	3 444.35	2 988.31	456.04	0.00
Belgium	5 613.92	4 817.19	796.73	0.00
Botswana	44.09	44.09		0.00
Bulgaria	487.15		487.15	0.00
Cameroon	281.37	272.18	9.19	0.00
China: - Beijing	96 231.11	95 107.07	1 124.04	0.00
- Hong Kong	47 866.05	47 866.05		0.00
- Macau	1 426.73	1 426.73		0.00
Congo	141.08	141.08		0.00
Côte d'Ivoire	231.64	231.64		0.00
Croatia	397.18	397.18		0.00
Cyprus	1 489.99	1 213.21	276.78	0.00
Czech Republic	2 304.63	2 304.63		0.00
Democratic People's Republic of Korea	23.32	23.32		0.00
Denmark	3 855.43	3 855.43		0.00
Egypt	5 990.88	5 990.88		0.00
Estonia	280.93	266.82	14.11	0.00
Finland	6 490.91	6 285.50	205.41	0.00
Gabon	1 005.91	972.45	33.46	0.00
Georgia	200.68	200.68		0.00
Germany	78 043.44	71 497.04	6 546.40	0.00
Ghana	58.92	58.92		0.00
Greece	3 485.40	3 485.40		0.00
Hungary	1 608.11	1 889.53		- 281.42
Iceland	1 806.07	1 622.27	183.80	0.00
India	22 183.27			22 183.27
Ireland	13 943.16	13 943.16		0.00
Italy	21 581.63	21 246.30	335.33	0.00
Jordan	2 765.09	2 765.09		0.00
Kuwait	3 653.41	3 653.41		0.00
Lebanon	1 458.50	1 301.29	157.21	0.00
Malaysia	21 532.13	2 788.68	11 136.86	7 606.59
Malta	840.25	766.07	74.18	0.00
Morocco	3 468.09			3 468.09

APPENDIX G (cont'd)
TABLE 1 (cont'd)
STATUS OF PAYMENT OF THE ASSESSMENT FOR 2008
AS AT 30 SEPTEMBER 2009
(£ Sterling)

STATES	Share of 2008 Assessment	Amount Collected as at 30 September 2009	Application of credit balance (or part of)	Unpaid amount (excess paid) as at 30 September 2009
Netherlands	37 942.31	35 001.02	2 941.29	0.00
Oman	3 327.41	2 826.20	501.21	0.00
Pakistan	7 355.71	7 355.71		0.00
Poland	2 632.47	2 563.50	68.97	0.00
Portugal	7 592.38	7 548.57	43.81	0.00
Qatar	12 548.72	12 548.72		0.00
Republic of Korea	55 654.91			55 654.91
Republic of Moldova	153.20	153.20		0.00
Romania	1 269.22	1 269.22		0.00
Saudi Arabia	14 200.81	13 186.52	1 014.29	0.00
Senegal	333.92	333.92		0.00
Serbia	480.67			480.67
South Africa	13 750.55	13 750.55		0.00
Sri Lanka	3 702.96	3 734.15		- 31.19
Swaziland	1.45			1.45
Sweden	3 844.60	2 194.25	1 650.35	0.00
Switzerland	10 502.38	8 820.95	1 681.43	0.00
Syrian Arab Republic	986.75	986.75		0.00
Thailand	23 004.50	23 004.50		0.00
The former Yugoslav Republic of Macedonia	81.22	81.22		0.00
Tunisia	1 132.15	1 132.15		0.00
Turkey	11 263.49			11 263.49
Ukraine	2 025.85	2 025.85		0.00
United Arab Emirates	43 521.92	43 521.92		0.00
United Kingdom	84,385.04	80 134.06	4 250.98	0.00
Viet Nam	3,770.06	3 142.38	627.68	0.00
Zimbabwe	542.02			542.02
TOTAL	710 472.00	573 509.50	36 074.62	100 887.88

APPENDIX G (cont'd)
TABLE 2
STATUS OF PAYMENT OF BALANCES FOR YEARS PRIOR TO 2008
AS AT 30 SEPTEMBER 2009
(£ Sterling)

STATES	Balance due for years prior to 2008	Amount Collected as at 30 September 2009	Application of credit balance (or part of)	Unpaid amount (excess paid) as at 30 September 2009
Algeria	1 203.04	1 074.63	128.41	0.00
Armenia				0.00
Austria				0.00
Azerbaijan				0.00
Bahrain				0.00
Belgium				0.00
Botswana				0.00
Bulgaria				0.00
Cameroon	185.08		49.49	135.59
China: - Beijing				0.00
- Hong Kong				0.00
- Macau				0.00
Congo				0.00
Côte d'Ivoire				0.00
Croatia				0.00
Cyprus				0.00
Czech Republic				0.00
Democratic People's Republic of Korea				0.00
Denmark				0.00
Egypt				0.00
Estonia				0.00
Finland				0.00
Gabon	795.53		176.99	618.54
Georgia				0.00
Germany				0.00
Ghana				0.00
Greece				0.00
Hungary				0.00
Iceland	1 563.74			1 563.74
India	4 729.82			4 729.82
Ireland	1 920.94	1 920.94		0.00
Italy				0.00
Jordan				0.00
Kuwait				0.00
Lebanon	2 881.75	1 537.89	147.40	1 196.46
Malaysia				0.00
Malta				0.00
Morocco	4 601.37			4 601.37

APPENDIX G (cont'd)
TABLE 2 (cont'd)
STATUS OF PAYMENT OF BALANCES FOR YEARS PRIOR TO 2008
AS AT 30 SEPTEMBER 2009
(£ Sterling)

STATES	Balance due for years prior to 2008	Amount Collected as at 30 September 2009	Application of credit balance (or part of)	Unpaid amount (excess paid) as at 30 September 2009
Netherlands				0.00
Oman				0.00
Pakistan				0.00
Poland				0.00
Portugal				0.00
Qatar				0.00
Republic of Korea	112 712.07		13 722.06	98 990.01
Republic of Moldova				0.00
Romania				0.00
Saudi Arabia				0.00
Senegal	479.59			479.59
Serbia	210.83		208.15	2.68
South Africa				0.00
Sri Lanka				0.00
Swaziland	4.38			4.38
Sweden				0.00
Switzerland				0.00
Syrian Arab Republic				0.00
Thailand				0.00
The former Yugoslav Republic of Macedonia				0.00
Tunisia				0.00
Turkey				0.00
Ukraine				0.00
United Arab Emirates				0.00
United Kingdom				0.00
Viet Nam				0.00
Zimbabwe	119.60			119.60
TOTAL	131 407.74	4 533.46	14 432.50	112 441.78

APPENDIX H

ESTIMATED COST SHARES AND ASSESSMENTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2010 *

STATES	2008 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 80% of 2010 Estimated Costs (£ Sterling)	Share of Under-recovery for 2008 (£ Sterling)	Amount to be Assessed for 2010 (£ Sterling)
Algeria	475 845	0.139%	995.73	122.51	1 118.24
Armenia	174 080	0.051%	364.27	44.82	409.09
Austria	2 929 860	0.859%	6 130.85	754.33	6 885.18
Azerbaijan	292 082	0.086%	611.19	75.20	686.39
Bahrain	1 797 277	0.527%	3 760.88	462.73	4 223.61
Belgium	3 331 874	0.976%	6 972.09	857.83	7 829.92
Bosnia and Herzegovina	14 019	0.004%	29.34	3.61	32.95
Botswana	22 179	0.007%	46.41	5.71	52.12
Bulgaria	234 133	0.069%	489.93	60.28	550.21
Cameroon	147 201	0.043%	308.02	37.90	345.92
China: - Beijing	56 231 969	16.480%	117 667.74	14 477.62	132 145.36
- Hong Kong	25 016 648	7.332%	52 348.38	6 440.85	58 789.23
- Macau	484 198	0.142%	1 013.20	124.66	1 137.86
Congo	78 704	0.023%	164.69	20.26	184.95
Côte d'Ivoire	139 247	0.041%	291.38	35.85	327.23
Croatia	207 821	0.061%	434.87	53.51	488.38
Cyprus	713 500	0.209%	1 493.03	183.70	1 676.73
Czech Republic	1 111 637	0.326%	2 326.15	286.20	2 612.35
Democratic People's Republic of Korea	10 970	0.003%	22.96	2.82	25.78
Denmark	1 915 582	0.561%	4 008.44	493.19	4 501.63
Egypt	3 357 789	0.984%	7 026.31	864.50	7 890.81
Estonia	143 187	0.042%	299.62	36.87	336.49
Finland	4 020 410	1.178%	8 412.88	1 035.10	9 447.98
Gabon	525 409	0.154%	1 099.44	135.27	1 234.71
Georgia	101 497	0.030%	212.39	26.13	238.52
Germany	40 259 672	11.799%	84 245.04	10 365.36	94 610.40
Ghana	23 519	0.007%	49.21	6.06	55.27
Greece	1 571 159	0.460%	3 287.72	404.51	3 692.23
Hungary	1 025 597	0.301%	2 146.10	264.05	2 410.15
Iceland	786 945	0.231%	1 646.72	202.61	1 849.33
India	15 356 582	4.501%	32 134.29	3 953.74	36 088.03
Iran (Islamic Republic of)	1 904 312	0.558%	3 984.85	490.29	4 475.14
Ireland	9 453 415	2.771%	19 781.67	2 433.90	22 215.57
Italy	8 507 083	2.493%	17 801.43	2 190.26	19 991.69
Jordan	1 309 214	0.384%	2 739.58	337.07	3 076.65
Kenya	1 672 503	0.490%	3 499.78	430.61	3 930.39
Kuwait	1 597 420	0.468%	3 342.67	411.28	3 753.95
Latvia	321 708	0.094%	673.19	82.83	756.02
Libyan Arab Jamahiriya	300 753	0.088%	629.34	77.43	706.77
Lithuania	157 671	0.046%	329.93	40.59	370.52
Malta	424 964	0.125%	889.25	109.41	998.66

APPENDIX H (cont'd)
ESTIMATED COST SHARES AND ASSESSMENTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2010 *

STATES	2008 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 80% of 2010 Estimated Costs (£ Sterling)	Share of Under-recovery for 2008 (£ Sterling)	Amount to be Assessed for 2010 (£ Sterling)
Netherlands	18 833 858	5.520%	39 410.63	4 849.01	44 259.64
Nigeria	275 752	0.081%	577.02	71.00	648.02
Oman	2 024 937	0.593%	4 237.27	521.35	4 758.62
Pakistan	2 932 323	0.859%	6 136.01	754.96	6 890.97
Poland	1 413 462	0.414%	2 957.73	363.91	3 321.64
Portugal	4 721 707	1.384%	9 880.37	1 215.66	11 096.03
Qatar	9 317 079	2.731%	19 496.38	2 398.80	21 895.18
Republic of Moldova	91 423	0.027%	191.31	23.54	214.85
Romania	997 157	0.292%	2 086.59	256.73	2 343.32
Saudi Arabia	7 821 991	2.292%	16 367.84	2 013.87	18 381.71
Senegal	177 048	0.052%	370.48	45.58	416.06
Serbia	216 545	0.063%	453.13	55.75	508.88
South Africa	5 709 693	1.673%	11 947.77	1 470.03	13 417.80
Sri Lanka	1 695 798	0.497%	3 548.53	436.60	3 985.13
Swaziland	1 541	0.000%	3.22	0.40	3.62
Sweden	1 525 392	0.447%	3 191.95	392.73	3 584.68
Switzerland	6 406 459	1.878%	13 405.78	1 649.42	15 055.20
Syrian Arab Republic	462 730	0.136%	968.28	119.14	1 087.42
Thailand	10 994 165	3.222%	23 005.75	2 830.59	25 836.34
The former Yugoslav Republic of Macedonia	26 563	0.008%	55.58	6.84	62.42
Tunisia	573 829	0.168%	1 200.76	147.74	1 348.50
Turkey	6 504 722	1.906%	13 611.40	1 674.72	15 286.12
Ukraine	1 185 912	0.348%	2 481.57	305.33	2 786.90
United Arab Emirates	23 754 982	6.962%	49 708.29	6 116.02	55 824.31
United Kingdom	41 271 258	12.095%	86 361.83	10 625.83	96 987.66
Uzbekistan	1 056 331	0.310%	2 210.42	271.97	2 482.39
Viet Nam	2 786 248	0.817%	5 830.34	717.35	6 547.69
Zimbabwe	286 165	0.084%	598.81	73.68	672.49
TOTAL	341 214 705	100.000%	714 006.00	87 850.00	801 856.00

* Excludes Least Developed Countries exempted, States for which the access to SADIS is not operational and States which refused to accede to the SADIS Agreement.

APPENDIX I
AMOUNTS TO BE BILLED
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2010
(£ Sterling)

STATES	Adjustment for 2008 (Appendix E)	Assessment for 2010 (Appendix H)	Total Amount to be Billed for 2010
Algeria	- 261.97	1 118.24	856.27
Armenia	- 78.16	409.09	330.93
Austria	- 2 479.70	6 885.18	4 405.48
Azerbaijan	- 145.24	686.39	541.15
Bahrain	- 153.36	4 223.61	4 070.25
Belgium	387.16	7 829.92	8 217.08
Bosnia and Herzegovina	0.00	32.95	32.95
Botswana	- 3.27	52.12	48.85
Bulgaria	- 53.45	550.21	496.76
Cameroon	- 11.93	345.92	333.99
China: - Beijing	5 241.37	132 145.36	137 386.73
- Hong Kong	- 2 068.05	58 789.23	56 721.18
- Macau	- 475.52	1 137.86	662.34
Congo	1.77	184.95	186.72
Côte d'Ivoire	18.77	327.23	346.00
Croatia	- 16.78	488.38	471.60
Cyprus	- 167.62	1 676.73	1 509.11
Czech Republic	- 246.54	2 612.35	2 365.81
Democratic People's Republic of Korea	- 2.94	25.78	22.84
Denmark	- 323.93	4 501.63	4 177.70
Egypt	100.04	7 890.81	7 990.85
Estonia	- 17.90	336.49	318.59
Finland	713.63	9 447.98	10 161.61
Gabon	- 43.96	1 234.71	1 190.75
Georgia	- 14.03	238.52	224.49
Germany	- 4 208.98	94 610.40	90 401.42
Ghana	- 14.06	55.27	41.21
Greece	- 547.02	3 692.23	3 145.21
Hungary	223.57	2 410.15	2 633.72
Iceland	- 326.51	1 849.33	1 522.82
India	4 997.61	36 088.03	41 085.64
Iran (Islamic Republic of)	0.00	4 475.14	4 475.14
Ireland	2 826.42	22 215.57	25 041.99
Italy	- 5 320.71	19 991.69	14 670.98
Jordan	- 334.63	3 076.65	2 742.02
Kenya	882.47	3 930.39	4 812.86
Kuwait	- 651.70	3 753.95	3 102.25
Latvia	509.23	756.02	1 265.25
Lebanon	- 437.58	0.00	- 437.58
Libyan Arab Jamahiriya	476.06	706.77	1 182.83
Lithuania	249.58	370.52	620.10
Malaysia	- 12 287.34	0.00	- 12 287.34
Malta	- 58.76	998.66	939.90
Morocco	- 3 018.93	0.00	- 3 018.93

APPENDIX I (cont'd)
AMOUNTS TO BE BILLED
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2010
(£ Sterling)

STATES	Adjustment for 2008 (Appendix E)	Assessment for 2010 (Appendix H)	Total Amount to be Billed for 2010
Netherlands	- 3 216.28	44 259.64	41 043.36
Nigeria	400.11	648.02	1 048.13
Oman	308.79	4 758.62	5 067.41
Pakistan	- 1 761.49	6 890.97	5 129.48
Poland	- 54.17	3 321.64	3 267.47
Portugal	864.90	11 096.03	11 960.93
Qatar	3 824.46	21 895.18	25 719.64
Republic of Korea	- 15 083.06	0.00	- 15 083.06
Republic of Moldova	11.35	214.85	226.20
Romania	473.56	2 343.32	2 816.88
Saudi Arabia	19.77	18 381.71	18 401.48
Senegal	- 10.42	416.06	405.64
Serbia	- 75.65	508.88	433.23
South Africa	- 2 931.83	13 417.80	10 485.97
Sri Lanka	- 539.11	3 985.13	3 446.02
Swaziland	1.18	3.62	4.80
Sweden	- 932.14	3 584.68	2 652.54
Switzerland	998.57	15 055.20	16 053.77
Syrian Arab Republic	- 309.61	1 087.42	777.81
Thailand	- 2 622.51	25 836.34	23 213.83
The former Yugoslav Republic of Macedonia	- 28.65	62.42	33.77
Tunisia	- 77.21	1 348.50	1 271.29
Turkey	491.57	15 286.12	15 777.69
Ukraine	113.70	2 786.90	2 900.60
United Arab Emirates	- 283.63	55 824.31	55 540.68
United Kingdom	- 8 128.01	96 987.66	88 859.65
Uzbekistan	0.00	2 482.39	2 482.39
Viet Nam	1 128.55	6 547.69	7 676.24
Zimbabwe	- 18.85	672.49	653.64
TOTAL	- 44 579.00	801 856.00	757 277.00

SADIS INVENTORY

The inventory items identified below cover the equipment and staffing required to provide, operate and maintain the SADIS. The inventory includes: hub infrastructure (including all additions following the completion of the hub enhancement project) and communications circuits, ISCS data 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 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 Hub infrastructure and communications circuits

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

~~Additional hub infrastructure has been installed at Exeter and Whitehill to provide resilient SADIS 2G service. This hardware is physically separate from the SADIS 1G infrastructure.~~

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

The SADIS FTP hub infrastructure connection to the Met Office message switch (Frost) 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”).

~~Hewlett Packard L class~~ Dell Poweredge R900 servers to provide 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 ~~Whitehill and Met Office~~ Exeter and Whitehill uplink facility;

1) ~~2 Fibre Optic 64 Kbps circuits in support of SADIS 1G service; and~~

2) 2 Fibre Optic 64 Kbps circuits in support of SADIS 2G service

- c) At the uplink site (Whitehill);
- 1) ~~Units forming part of a totally integrated rack structure to provide SADIS 1G service, with back up, referred to as Chain A and Chain B (see the list under Section 1 C);~~
 - 2) Units and services leased from Cable and Wireless Communications Ltd. to support SADIS ~~1G~~ and 2G services:
 - 1 (70 to 140 MHz) convertor;
 - Use of 1 (140 to C band) convertor;
 - Use of satellite hub (lease represents only a very small part of this large aperture) for SADIS ~~1G~~ and 2G services; and
 - 3) Units forming part of a totally integrated rack structure to provide SADIS 2G service, with back-up (see the list under Section 1 C).
- d) ~~Communication link (SVC) between SADIS Gateway and Met Office in support of SADIS 1G service; and~~
- e) Dual contingent communication links (utilising WMO TCP/IP sockets protocol) between SADIS Gateway and Met Office in support of SADIS 2G service.
- iii) **Not procured principally for SADIS**
- a) ~~Message switch (FROST): Total investment £1.34M¹ of which 2.40 per cent is attributable to SADIS usage: switching data to operational (1G) broadcast service and to 1G monitoring system – Corobor Comparitor.~~
 - b) Met Office Message switch (FROST): Total investment £1.34 1.26M¹ of which 1.25 1.22 per cent is attributable to SADIS FTP service usage: switching data to operational FTP service;
- Note. – The percentage attributable to the SADIS FTP service will increase as GRIB 2 WAFS data is routed to the server by FROST before the end of 2009.*
- e b) Met Office Message switch (FROST): Total investment £1.34 1.26M¹ of which 0.60 0.63 per cent is attributable to SADIS usage: switching data to operational (2G) broadcast service and to 2G monitoring system (Corobor Comparitor);
- Note. – The percentage attributable to the SADIS FTP service has increased, in part, due to the provision of the gridded icing/turbulence/CB data on SADIS FTP, and the provision of a contingent FTP feed to supply GRIB and BUFR data during a SADIS FTP service interruption in October 2007.*
- d c) Allocated bandwidth (2 Mbps bursting to 4 Mbps) between server and Internet Service Provider (ISP) in support of the SADIS FTP service; ~~and~~
 - e d) Message switch (CoreMet System);
- Note. – Some elements of the CoreMet System are exclusively for the support of the SADIS gateway function.*

¹ budgeted cost for providing FROST service during the fiscal year 2008~~9~~/2009~~10~~.

- e) SADIS FTP equipment running costs;

Note. — These costs are applied to all MET Office internet facing services and primarily relate to costs associated with ensuring high levels of IT security.

- f) 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 FROST Message Switch to SADIS 2G, comprising staff and equipment costs of supporting serial WAN, TTL Routers, Serial Modems and TTL matrix switches.

B. SADIS data back-up system

ISCS VSAT receiving system, including TCP/IP receiver, and cables, on SADIS Provider (UK Met Office) premises.

Note 1. — This hardware is not currently used in an operational environment.

Note 2. — The SADIS Gateway (UK NATS) continues to procure an ISCS VSAT receiving system, a dedicated SADIS data backup arrangement with the ISCS Provider State. The backup infrastructure will include an ISDN connection between the NWS Telecommunications Gateway and the SADIS Gateway, and an ~~including~~ ISDN connection ~~to~~ 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.	Exeter Equipment to support SADIS 1G	
1.1	Network Management System (NMS Computer)	1
1.2	MemoTech PAD (for NMS)	1
1.3	Telecoms interface units Megabox	2
1.4	CX1000 Frame Relay Switch (for NMS)	1
1.5	Product display console including software (COROBOR)	1
1.6	Communications rack floor space in IT hall 1 and space in stores to locate spare equipment	1

2. Exeter Equipment (Spares) to support SADIS 1G

2.1	Telecoms interface units Megabox	2
2.2	NMS Spare CPU	1
2.3	MemoTech PAD (for NMS)	1
2.4	CX1000 Frame Relay Switch (for NMS)	1

Note.— communication links in support of SADIS 1G service are included in Section 1.1 of the inventory.

3. Whitehill earth station (SADIS 1G uplink equipment)

3.1	Telecoms controller Megapac V rack assembly	2
3.2	Station interface unit (SIU)	2
3.3	8360 Modulator	2
3.4	8471 Receive Demodulators	12
3.5	8550 Modem Switch	1
3.6	140 L band upconverter	2
3.7	X Term NMS simulator	1
3.8	Equipment Rack Assembly (Chain 1)	1
3.9	Equipment Rack Assembly (Chain 2)	1
3.10	Communications rack floor space for two communications racks	2

4. Whitehill earth station SADIS 1G (spares)

4.1	8471 Receive Demodulators	1
4.2	Station interface unit (SIU)	1
4.3	MegaPAC V rack assembly	2
4.4	MegaPAC V Frad units	2
4.5	140 L band upconverter	1
4.6	8360 Modulator	1
4.7	8550 Modem Switch	1

51. Whitehill services (leased from Cable & Wireless)

51.1	70 MHz to 140 MHz converters	21
51.2	140 MHz to C band converter	21
51.3	Satellite Hub leased bandwidth	1 slot

6. Test Rig at Poynton

6.1	Enhanced (SADIS 1G) Simulator	1
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72. ISDN back-up service to Washington (NWSTRG)

72.1	MegaPAC 2003 router (MP-2003)	1
72.2	MegaPAC 2003 router plus expansion (MP-2003-3-B)	1
72.3	ISDN 2e circuit	1
72.4	A/B switch	1
72.5	Interface cables	1

Note. — Hardware listed ~~items~~ under Section 72 ~~are~~ is located at Whitehill.

83. SADIS FTP service

83.1	HP L2000 Dell Poweredge R900 servers with 21Gb RAM	2
83.2	48 26.8Gb internal disk drives	2
83.3	DVD-ROM VMW ave Virtual Platform with Red Hat Linux 5.3 OS	2
83.4	Intel Xeon X7350, 2.93 GHz Processors	2
83.5	Licenses, misc. support and maintenance costs	1

Note. — Hardware listed under Section 3 is located at Exeter.

94. Operational SADIS 2G Infrastructure

94.1	Frost port	1
94.2	MegaPAC V System Dual PSU	3*
94.3	MegaPAC 2003 (Exeter)	3*
94.4	Uplink modem (Comtech EF Data SDM-300a)	3*
94.5	Communications cabinet and lease	1
94.6	MegaWatch including Enterprise Reports, and PC	1
4.7	Comtech SDM300L demodulator (NER5 downlink)	1
94.78	Corobor comparator software and PC	1
94.89	X10 Modules	12**
94.910	SIO Modules	3*
94.101	8Mb RAM Modules	3*
94.112	Communications rack floor space at Exeter in IT Hall 1 and IT Hall 2, and at Whitehill	3
94.123	Space in stores at Exeter to locate spare hardware	1
94.134	VadEDGE 4202 – 1U	2
94.145	WAN Module	2
94.156	Comtech EF Data SMS 301 – redundancy switch	2*
94.167	Interface cabling	15

*Note 1. — * Includes one unit/module stored as a cold spare.*

*Note 2. — ** Includes four modules stored as cold spares.*

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

2. PROCURED SERVICES

- A. Space segment annual lease: 1.5 MHz wide frequency band of which 57 per cent is utilised to support SADIS 1G and 2G, with minimum data rates at 38.4 Kbps for both services 64 Kbps data rate (less communications overhead);

Note. — SADIS 1G was terminated on 5th January 2009. The percentage of satellite space segment has, however, remained unchanged because the SADIS 1G satellite bandwidth allocation was maintained in 2009 and 2010, as called for by SADISOPSG Decision 13/26..

- B. Annual maintenance of Met Office Exeter and Whitehill uplink site equipment (SADIS 1G, 2G and SADIS FTP server); and

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.

<i>Normal working hours</i>	<i>24-hour Weather Desk support</i>	<i>Skill</i>
1. Service desk (first point of contact)		Scientific supervisor
2. Additional Service Desk operator		Systems analyst

Note. — ~~Outside normal working hours, the Service Desk facility is provided by the 24 hour positions below~~ Total support for SADIS provided by the Met Office Service Desk team equates to 0.3 per cent of the total Weather Desk budget.

<i>24-hour IT Operations support</i>	<i>Skill</i>
1. Operations systems analyst (OAS)	Systems analyst
2. Technical Team Leader (TTL)	Computer engineer
3. Networks and systems supervisor (NSS)	Technical supervisor
4. Operations Service Delivery (OSD) Service Assurance	Scientist

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.

<i>Normal working hours support</i>	<i>Skill</i>
1. Change and problem manager (CPM)	Systems analyst
2. Additional Service Desk operator	Systems analyst

~~Note.— The total support for SADIS is considered as 1 per cent of the total support provided by the Service Desk and operational support function. These functions comprise 4 24 hour rosters of six staff each, an additional three-man team (CPM), and one further 5-roster team providing further (normal working hours) Service Desk support.~~

ii) **Additional support**

<i>Additional Day support</i>	<i>Skill Resource</i>
1. Systems integration team	30 10 per cent of network computer engineer and 10 per cent of CIDA
2. Message Switching Manager	10 per cent of MSS manager
23. Administrator	75 per cent of executive officer
34. International aviation management	15 per cent of manager
45. Data traffic	5 per cent communications engineer
56. Contract procurement and management	5 per cent of senior procurement officer
67. UNIX support	10 per cent of computer engineer
78. Web team support	10 per cent of website designer

Note 1. — Support by the UNIX team of the SADIS FTP service will incur some additional costs in excess of simple human resources. These costs are applied to all Internet facing services and primarily relate to costs associated with ensuring high levels of IT security.

Note 2. — CIDA is the Co-ordinating Installation Design Authority. The Met Office CIDA Installation Design and Engineering team are technical authorities who work alongside project managers to co-ordinate the efforts of a number of different groups.

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

Note. — 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. The staff is made up of resource demand of 610 days required to provide the SADIS Gateway service comprises 6 watches of 1 ATSA4 (air traffic services assistant) and 1 ATSA3 each (Operations), 1 ATCE4 (air traffic control engineer) (Engineering Watchkeeping) and 3 ATCE4 (Engineering Day Support).

<i>24-hour support</i>	<i>Skill Resource</i>
1. Operational staff support	40 per cent of ATSA4 523 man-days per annum
2. Engineering staff support	40 per cent of ATSA3 40 per cent of systems engineer 22 man-days per annum
 <i>Day Support</i>	
<i>Resource</i>	
3. SADIS administration support	40 per cent of ATSC T & SC 50 man-days per annum
4. Engineering (including on-call)	40 per cent of 75 per cent of ATCE4 15 man-days per annum

C. Bought-in services

Additional support and maintenance agreements with third parties are in place to provide third line support of the SADIS 4G and 2G services.

SADIS SERVICES

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

1. Broadcast service

- a) distribution of WAFS upper-air ~~wind/temperature~~ forecasts in GRIB code ~~(including scheduled repeat of whole data set);~~
- b) ~~distribution of WAFS upper wind/temperature forecasts in T4 facsimile chart form;~~
- e) distribution of WAFS SIGWX forecasts in ~~T4 facsimile chart form~~ BUFR code;
- d c) distribution of WAFS SIGWX forecasts in ~~numerical code form as determined by ICAO PNG~~ chart form;
- e 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;
- f) ~~distribution of amendments to the foregoing, as necessary, and responses to requests for repeat of data as determined by the SADISOPSG.~~
- e) distribution of meteorological information in graphical format (e.g. Volcanic Ash Trajectory and Dispersion Graphics).

2. Collection service

- a) collection of relevant OPMET information by the SADIS Gateway, ~~including the Two-Way facility,~~ from States in accordance with approved requirements stated by PIRGs and actioned by SADISOPSG;
- b) monitoring, ~~and validation and repair~~ of data received at the SADIS Gateway, ~~including the Two-Way,~~ to the required standards, for the provision of real-time scheduled reports and for off-line quality control analysis.

3. Back-up service

Reception of US ISCS broadcasts for back-up purposes.

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 via the SADIS broadcast (and by customary hard copy).~~

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.

— END —