



SCRAG/9 - REPORT

INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF

**THE NINTH MEETING OF THE SADIS COST RECOVERY
ADMINISTRATIVE GROUP
(SCRAG/9)**

(London, 30 October 2008)

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INTRODUCTION

Place and duration

i.1 The Ninth Meeting of the SADIS Cost Recovery Administrative Group (SCRAG) was held at the UK CAA in London on 30 October 2008.

Attendance

i.2 The Meeting was attended by three of the five Members of the Group and one 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 2007

Agenda Item 4: Review of estimated SADIS costs and cost shares for the period 1 January to 31 December 2009

Agenda Item 5: Amendment to Annex II, SADIS Inventory, 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/10 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. Five of these States had the service withdrawn and two 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 37 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 37 States, 22 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 Thirteenth Meeting of the SADIS Operations Group (SADISOPSG/13, Dakar, 27 to 29 May 2008) 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 Thirteenth meeting (SADISOPSG/13, Dakar, 27 to 29 May 2008) to SCRAG that the operational efficacy of the SADIS had continued to be satisfactory meeting all operational requirements since the SADISOPSG/12 Meeting (Bangkok, 4 to 6 June 2007).

2.3 The Group noted Conclusion 13/5 of SADISOPSG/13 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, 5.2 and **Appendix J**).

2.4 The Group also noted Conclusions 13/17 b), 13/19 b) and 13/25 b) of SADISOPSG/13 instructing the Chairman of SADISOPSG to advise the Chairman of SCRAG of costs arising from the development of SADIS (see below paragraph 4.3).

AGENDA ITEM 3: REVIEW OF ACTUAL SADIS COSTS AND COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2007

Review of the 2007 Actual SADIS Costs

3.1 The Group reviewed the actual costs of providing the SADIS services in the year 2007. These actual costs are presented in **Appendix E** and total £607 885. 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 2007

Cost Item	Actual Costs (UK £)
UK Meteorological Office	420 437
UK NATS Gateway	149 978
UK administrative costs	6 136
Sub-total UK	576 551
ICAO support services costs	31 334
TOTAL	607 885

Review of the 2007 Actual SADIS Cost Shares

3.2 The Group noted that one State, Mongolia, which was assessed for the year 2007 by the SCRAG/7 Meeting, did not have an operational equipment in 2007. Consequently, its share of the actual costs for 2007 is nil.

3.3 The Group noted that five States, Kenya, Mauritius, Nigeria, Russian Federation and Seychelles, which were assessed for the year 2007 by the SCRAG/7 Meeting, have had the SADIS service withdrawn on 8 November 2006. Consequently, their share of the actual costs for 2007 is nil. The service to Kenya and to Nigeria was reinstated respectively on 12 August 2008 and on 30 January 2008.

3.4 The Group noted that three new receiver States, Latvia, Libyan Arab Jamahiriya and Lithuania, are included in the calculation of the actual cost shares for 2007 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 2007 was calculated based on 10 full months of service in 2007 for Latvia and a full year of service for the two other States.

3.5 The Group determined the actual cost shares for the period 1 January to 31 December 2007 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 2007, 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 9/1 -

The actual cost shares for 2007 as shown in Appendix E to the SCRAG/9 Report for the States participating in the SCAR Arrangement are approved by the SCRAG/9 Meeting, in view of the adjustments to be made by the United Kingdom in its billing of these States.

3.6 The Group received information from the observer from the United Kingdom on the status of payment of the cost shares of 2007 as at 10 October 2008. It noted that a total amount of £632 003 was collected and a total amount of credit balance of £29 948 was applied against the assessments for 2007 (see **Appendix G – Table 1**), both amounts representing 88.3% of the original assessments for

2007 as approved by the SCRAG/7 Meeting.

3.7 The Group noted that despite several reminders, there are still a few States that have not yet paid their assessment for the year 2007. The Group agreed that service to these States be terminated and reinstated only after full payment is received.

3.8 Having noted the information in Table 1 and paragraphs 3.2 to 3.7 above, the Group agreed that the net amount of the over-recovery of SADIS cost shares for the year 2007 amounts to £30 208 as shown in **Table 2**. This over-recovery is the difference between the actual costs for 2007 (£607 885), to which the under-recovery for 2005 is added (£47 971) in order to obtain the amount subject to collection for 2007 (£655 856), and the collections from States for 2007 (£632 003 as shown in **Appendix G - Table 1**) plus the collections from States for years prior to 2007 after 31 December 2007 (£54 061 as shown in **Appendix G – Table 2**), and it formulated the following Conclusion:

Conclusion 9/2 -

A net over-recovery, amounting to £30 208 of the SADIS cost shares for the year 2007 will be taken into account in the calculation of the SADIS cost shares for the year 2009, in accordance with Article XI, paragraph 4 of the SADIS Agreement.

**TABLE 2
OVER-RECOVERY FOR 2007**

		(UK £)	References
(1)	Actual costs for 2007	607 885	Table 1
(2)	Under-recovery for 2005	47 971	SCRAG/7 Report, Table 2 Revised
(3)	Subject to collection for 2007	655 856	(1) + (2)
(4)	Collected from States for 2007 (as at 10 October 2008)	632 003	Appendix G – Table 1
(5)	Collected from States for years prior to 2007 after 31 December 2007 (as at 10 October 2008)	54 061	Appendix G – Table 2
(6)	Over-recovery for 2007	- 30 208	(3) – (4) – (5)

Depreciated Assets

3.9 The Group noted the information presented by the United Kingdom regarding the depreciated assets as at 31 December 2008 (see **Appendix C**).

AGENDA ITEM 4: REVIEW OF ESTIMATED SADIS COSTS AND COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2009

Review of the 2009 Estimated SADIS Costs

4.1 The Group reviewed the cost estimates for providing the SADIS services in the year 2009. These cost estimates are detailed in **Appendix F** and total £892 915. 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 2009**

Cost Item	Estimated Costs (UK £)
UK Meteorological Office	525 790
UK NATS Gateway	317 425
UK CAA administrative costs	6 000
Sub-total UK	849 215
ICAO support services costs	43 700
TOTAL	892 915

4.2 At its last meeting (SCRAG/8), 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. 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. The Group 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 also noted that as agreed by the SADISOPSG/13, additional costs arising from the development of SADIS were included in the estimates for 2009. These are:

- a trial of compressed GRIB 2-coded WAFS forecast on SADIS 2G (estimated cost of £30 000 in 2009);
- implementation of the SADIS FTP enhancements in two phases; phase 1 would be of little impact to the SADIS users and would consist of the completion of the implementation of a SADIS FTP enhanced service by 31 January 2009 (estimated cost of less than £5 000); and
- decommissioning of SADIS 1G hub equipment at Exeter and Whitehill (estimated cost of £4 510).

4.4 The Group noted the substantial increase to the estimated costs for 2009 and future years. It accepted the new costs agreed by the SADISOPSG/13 indicated in paragraph 4.3 but it 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)

The explanation provided by the service Provider is that the UK policies and protocols require making due allowance for full resource costs, overheads, finance charges and other costs not previously included.

4.5 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.

Conclusion 9/3 -

It has been agreed that, for the purpose of the calculation of the assessments for 2009, only 80% of the 2009 estimated costs presented in Appendix F will be used. Any difference with the 2009 actual costs will be adjusted at the SCRAG/11 meeting, following a proper review of the additional costs proposed by the service Provider to be reviewed at the SADISOPSG/14 and the SCRAG/10 meetings.

4.6 The Group considered the over-recovery in **Table 2** in the calculation of the amount to be assessed under the SADIS Agreement for 2009. The calculation of the amount to be assessed is presented in **Table 4**.

TABLE 4
AMOUNT TO BE ASSESSED UNDER THE SADIS AGREEMENT FOR 2009

		(UK £)	References
(1)	Over-recovery for 2007	- 30 208	Table 2
(2)	80% of the estimated costs for 2009	714 332	Table 3
(3)	Amount to be assessed for 2009	684 124	(1) + (2)

Review of the 2009 Estimated SADIS Cost Shares

4.7 The Group determined the cost shares for the period 1 January to 31 December 2009 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 2007, in accordance with Article XI, paragraph 3 of the SADIS Agreement.

4.8 The Group noted that one State, Morocco, which had the service withdrawn on 6 August 2002, was assessed for the year 2008 by the SCRAG/8 Meeting since it was considering that the service be reinstated. Considering that no official request to reinstate the service was received to date, Morocco is not included in the calculation of the assessment of cost shares for 2009.

4.9 The Group noted that one State, Malaysia, decided to terminate its participation in the SADIS programme in view of cost constraints and the need to rationalize their operations. Consequently, Malaysia is not included in the calculation of the assessment of cost shares for 2009.

4.10 The Group noted that four States, Algeria, Lebanon, Republic of Korea and Syrian Arab Republic, had the service withdrawn on 17 October 2008. Consequently, these four States are not included in the calculation of the assessment of cost shares for 2009.

4.11 The Group noted that two States, Kenya and Nigeria, which had the SADIS service withdrawn on 8 November 2006, had the service reinstated respectively on 12 August 2008 and on 30 January 2008. Consequently, these two States are included in the calculation of the assessment of cost shares for 2009.

4.12 The Group noted that three new receiver States, Latvia, Libyan Arab Jamahiriya and Lithuania, are included in the calculation of the assessment of cost shares for 2009 considering that they receive the SADIS service respectively since 1 March 2007, 1 January 2007 and 1 January 2007.

4.13 The cost share in percentage terms and the share in £ sterling, including the share of over-recovery for 2007, to be borne by each State are shown in **Appendix H**. **Appendix I** shows the amounts to be billed to each State in 2009, corresponding to the adjustment for 2007 (Appendix E) plus the assessment for 2009 (Appendix H).

4.14 The Group agreed that the figures in Conclusion 9/2, 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 2009, to take into account any payment received between 10 October and 31 December 2008. Accordingly, the Group formulated the following Conclusion:

Conclusion 9/4 -

Subject to updating by the Secretariat to take into account any payment of arrears received between 10 October and 31 December 2008, the estimated cost shares for 2009 as shown in Appendix H to the SCRAG/9 Report for each State participating in the SCAR Arrangement are approved by the SCRAG/9 Meeting for collection by the United Kingdom.

Cost estimates for the years 2010 to 2012

4.15 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 2010 to 2012 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 2010, 2011 AND 2012*

Cost Item	Estimated Costs 2010 (UK £)	Estimated Costs 2011 (UK £)	Estimated Costs 2012 (UK £)
UK Meteorological Office	495 529	479 029	479 029
UK NATS Gateway	313 379	313 379	313 379
UK CAA administrative costs	6 000	6 000	6 000
Sub-total UK	814 908	798 408	798 408
ICAO support services costs	43 700	43 700	43 700
TOTAL	858 608	842 108	842 108

* Estimates based on 2008 prices.

AGENDA ITEM 5: AMENDMENT TO ANNEX II, SADIS INVENTORY, 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 As a result of its review, the Group adopted the following Conclusion:

Conclusion 9/5 -

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/9 Report.

5.3 The SADIS provider State informed the Group that the SADIS inventory to be presented to the SCRAG/10 meeting in 2009 will contain substantial editorials to that shown in Appendix J. In light of the decommissioning of SADIS 1G hub equipment, phase 1 enhancements to the SADIS FTP service and completion of a SADIS data backup facility, all expected in 2009, Section 1 (Equipment) of the inventory will contain the majority of the amendments. Editorials to Section 2 (Procured Services) and to Section 3 (Annual Staff Requirements) of the inventory are expected to be minimal.

AGENDA ITEM 6: FUTURE WORK AND ARRANGEMENTS FOR THE SCRAG/10 MEETING

6.1 The Group agreed that, subject to confirmation, its Tenth Meeting should be held at the European and North Atlantic (EUR/NAT) ICAO Regional Office, Paris, at the end of October or at the beginning of November 2009.

AGENDA ITEM 7: OTHER BUSINESS

7.1 The Group expressed its appreciation and thanks to the UK CAA and UK Met Office for their hospitality and excellent support received during the meeting.

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APPENDIX A

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APPENDIX B**LIST OF SCRAG/8 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/13 Meeting	Chairman, SADISOPSG
4	3	2007 ICAO actual SADIS administrative costs	Secretariat
5	3	2007 actual SADIS costs	United Kingdom
6	3 & 4	Status of payments for the year 2007	United Kingdom
7	3	Summary of actual costs and cost shares for the year 2007	Secretariat
8	3	Depreciated assets: SADIS costs	United Kingdom
9	4	2009 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 2009	Secretariat
12	5	Amendment to Annex II, SADIS Inventory, to the SADIS Agreement	Secretariat
13	3 & 4	Cost of Capital	United Kingdom

APPENDIX C

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

(1) Inventory of Assets: 2008	(2) Original Value	(3) Depreciated charges in 2008	(4) Total accumulated depreciation	(5) Net depreciated values at end of 2008
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	£17 488	£87 428	£0
Total UKMO	£1 176 197	£17 488	£1 176 197	£0
SADIS Gateway	£227 462	£12 999	£227 462	£0

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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
Bangladesh	X
Benin	X
Bulgaria	
Burkina Faso	X
Central African Republic	X
Chad	X
Equatorial Guinea	X
Ethiopia	X
Gambia	X
Ghana	
Guinea	X
Iceland	
India	
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	
The former Yugoslav Republic of Macedonia	
Togo	X
Uganda	X
Yemen	X
Zambia	X
Zimbabwe	

APPENDIX E
ACTUAL COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2007*
AND ADJUSTMENT FOR 2007

STATES	2007 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 2007 Actual Costs (£ Sterling)	Share of 2007 Estimated Costs (SCRAG/7) (£ Sterling)	Adjustment for 2007 (£ Sterling)
Algeria	440 685	0.122%	742.78	1 126.02	- 383.24
Armenia	159 178	0.044%	268.30	389.39	- 121.09
Austria	3 168 068	0.878%	5 339.83	7 867.94	-2 528.11
Azerbaijan	318 807	0.088%	537.35	666.09	- 128.74
Bahrain	1 743 045	0.483%	2 937.93	3 509.93	- 572.00
Belgium	2 745 935	0.761%	4 628.32	5 379.76	- 751.44
Botswana	20 830	0.006%	35.11	42.22	- 7.11
Bulgaria	206 514	0.057%	348.08	366.23	- 18.15
Cameroon	133 556	0.037%	225.11	274.60	- 49.49
China: - Beijing	53 638 695	14.873%	90 408.94	87 970.29	2 438.65
- Hong Kong	25 108 613	6.962%	42 321.00	45 658.80	-3 337.80
- Macau	645 500	0.179%	1 088.00	1 313.55	- 225.55
Congo	74 814	0.021%	126.10	188.68	- 62.58
Côte d'Ivoire	132 364	0.037%	223.10	148.32	74.78
Croatia	183 689	0.051%	309.61	410.58	- 100.97
Cyprus	722 284	0.200%	1 217.42	1 504.65	- 287.23
Czech Republic	1 093 203	0.303%	1 842.61	2 365.50	- 522.89
Democratic People's Republic of Korea	11 194	0.003%	18.87	23.00	- 4.13
Denmark	1 805 344	0.501%	3 042.94	3 969.21	- 926.27
Egypt	2 805 334	0.778%	4 728.44	5 340.17	- 611.73
Estonia	134 399	0.037%	226.53	289.27	- 62.74
Finland	3 560 279	0.987%	6 000.91	6 035.39	- 34.48
Gabon	477 392	0.132%	804.65	981.64	- 176.99
Georgia	98 160	0.027%	165.45	192.32	- 26.87
Germany	38 686 692	10.727%	65 207.08	75 971.18	-10 764.10
Ghana	22 356	0.006%	37.68	55.42	- 17.74
Greece	1 686 335	0.468%	2 842.35	3 695.60	- 853.25
Hungary	1 106 430	0.307%	1 864.91	1 689.90	175.01
Iceland	883 399	0.245%	1 488.98	2 103.31	- 614.33
India	12 429 966	3.447%	20 950.92	17 006.19	3 944.73
Ireland	7 943 797	2.203%	13 389.41	11 468.47	1 920.94
Italy	10 089 053	2.797%	17 005.27	21 866.64	-4 861.37
Jordan	1 402 679	0.389%	2 364.24	2 686.53	- 322.29
Kenya **	0	0.000%	0.00	2 901.97	-2 901.97
Kuwait	1 610 328	0.447%	2 714.24	3 436.19	- 721.95
Latvia ***	259 275	0.072%	437.01	0.00	437.01
Lebanon	757 679	0.210%	1 277.08	1 424.48	- 147.40
Libyan Arab Jamahiriya ***	280 629	0.078%	473.00	0.00	473.00
Lithuania ***	105 732	0.029%	178.21	0.00	178.21
Malaysia	9 889 996	2.742%	16 669.76	23 397.70	-6 727.94
Malta	410 990	0.114%	692.73	805.20	- 112.47
Mauritius **	0	0.000%	0.00	2 861.50	-2 861.50

APPENDIX E (cont'd)
ACTUAL COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2007*
AND ADJUSTMENT FOR 2007

STATES	2007 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 2007 Actual Costs (£ Sterling)	Share of 2007 Estimated Costs (SCRAG/7) (£ Sterling)	Adjustment for 2007 (£ Sterling)
Mongolia ****	0	0.000%	0.00	290.58	- 290.58
Netherlands	17 986 209	4.987%	30 316.06	37 272.92	-6 956.86
Nigeria **	0	0.000%	0.00	167.19	- 167.19
Oman	1 698 890	0.471%	2 863.51	3 313.39	- 449.88
Pakistan	3 316 366	0.920%	5 589.79	6 619.77	-1 029.98
Poland	1 298 778	0.360%	2 189.11	2 485.22	- 296.11
Portugal	3 941 498	1.093%	6 643.46	6 769.70	- 126.24
Qatar	7 770 092	2.154%	13 096.62	9 612.86	3 483.76
Republic of Korea	29 089 112	8.066%	49 030.20	53 849.91	-4 819.71
Republic of Moldova	75 776	0.021%	127.72	130.54	- 2.82
Romania	957 515	0.265%	1 613.91	1 103.09	510.82
Russian Federation **	0	0.000%	0.00	26 580.76	-26 580.76
Saudi Arabia	7 256 764	2.012%	12 231.40	13 669.46	-1 438.06
Senegal	158 719	0.044%	267.52	245.62	21.90
Serbia	222 983	0.062%	375.84	444.38	- 68.54
Seychelles **	0	0.000%	0.00	639.11	- 639.11
South Africa	6 056 286	1.679%	10 207.97	14 650.26	-4 442.29
Sri Lanka	1 718 544	0.477%	2 896.64	3 526.48	- 629.84
Swaziland	1 465	0.000%	2.47	1.60	0.87
Sweden	1 437 609	0.399%	2 423.11	4 046.26	-1 623.15
Switzerland	5 424 672	1.504%	9 143.38	10 366.80	-1 223.42
Syrian Arab Republic	500 171	0.139%	843.05	1 055.17	- 212.12
Thailand	11 592 477	3.214%	19 539.32	22 211.96	-2 672.64
The former Yugoslav Republic of Macedonia	39 726	0.011%	66.96	77.83	- 10.87
Tunisia	487 979	0.135%	822.50	1 125.27	- 302.77
Turkey	5 904 527	1.637%	9 952.18	9 334.05	618.13
Ukraine	442 725	0.123%	746.22	1 690.28	- 944.06
United Arab Emirates	22 762 459	6.311%	38 366.51	36 149.60	2 216.91
United Kingdom	40 930 136	11.349%	68 988.49	82 052.52	-13 064.03
Viet Nam	2 329 708	0.646%	3 926.76	4 098.80	- 172.04
Zimbabwe	257 520	0.071%	434.05	368.79	65.26
TOTAL	360 651 924	100.000%	607 885.00	701 334.00	-93 449.00

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

** Considering that the SADIS service to Kenya, Mauritius, Nigeria, Russian Federation and Seychelles was withdrawn on 8 November 2006, their share of the 2007 actual costs is nil. The service to Kenya and Nigeria was reinstated respectively on 12 August 2008 and on 30 January 2008.

*** 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 2007 actual costs was calculated based on 10 full months of service for Latvia and a full year of service for the two other States. In order to properly calculate Latvia's share of the 2007 actual costs, only 10/12th of its ATKs for 2007 was included in the second column.

****Considering that Mongolia did not have an operational equipment in 2007, its share of the 2007 actual costs is nil.

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APPENDIX F

TABLE 1: UKMO Cost and manpower resource projections until year 2012 (at 2008 prices)

INVENTORY REF:	Note	DESCRIPTION	2009	2010	2011	2012
1 UK MET OFFICE COSTS						
1. Equipment						
Principally procured for SADIS						
comms between Whitehill & Met Office	a	SADIS 1G	0	0	0	0
		SADIS 2G	6,364	6,364	6,364	6,364
comms link SADIS Gateway & Met Office	a	SADIS 1G	0	0	0	0
		SADIS 2G	0	0	0	0
		ISDN back up	372	372	372	372
Not procured principally for SADIS						
message switch (FROST/SADIS)	a	SADIS 1G	0	0	0	0
message switch (FROST/FTP)	b	SADIS FTP	24,000	24,000	24,000	24,000
message switch (FROST/2G)	b	SADIS 2G	8,000	15,000	15,000	15,000
internet bandwidth (FTP)	c	FTP	7,000	7,000	7,000	7,000
FTP equipment running costs	d	FTP	16,000	16,000	16,000	16,000
Service Desk Equipment Costs	e	Service Desk eqpt	35,000	35,000	35,000	35,000
Serial Comms Costs and maintenance	e	Serial Comms	24,000	24,000	24,000	24,000
		sub total	120,736	127,736	127,736	127,736
2. Procured Services						
space segment annual lease	f	Satellite Segment	83,610	83,610	83,610	83,610
annual maintenance	a	SADIS 1G C&W	0	0	0	0
	a	1G Facilities Mgmt	0	0	0	0
	g	2G Maintenance	31,000	31,000	31,000	31,000
	g	2G Facilities Mgmt	3,150	3,150	3,150	3,150
		IT Hall Space	11,000	11,000	11,000	11,000
	h	ad hoc maintenance	5,000	5,000	5,000	5,000
		SADIS 1G decommissioning	4,510	0	0	0
		sub total	138,270	133,760	133,760	133,760
3. Annual Staff Requirements						
Help Desk						
	i	Help Desk 0.5%	19,250	19,250	19,250	19,250
	i	Technical Team Leader 4%	15,000	15,000	15,000	15,000
	i	Network Systems Supervisor 7%	20,000	20,000	20,000	20,000
Additional Support						
Systems Integration Team		Network Comp Eng.	6,795	6,795	6,795	6,795
Administrator		Executive Officer	50,963	50,963	50,963	50,963
International Aviation Management		Aviation Manager	12,900	12,900	12,900	12,900
Data Traffic		Communications Engineer	3,398	3,398	3,398	3,398
Contract Management		Senior Procurement Officer	3,398	3,398	3,398	3,398
UNIX Support		Computer Engineer	6,795	6,795	6,795	6,795
Web Team Support		Website Designer	6,795	6,795	6,795	6,795
Invoice Administration		Finance Officer	10,193	10,193	10,193	10,193
CIDA	j	CIDA and Infrastructure Engineer	12,500	12,500	12,500	12,500
Enhancements to FTP Service	k	FTP enhancements	15,000	15,000	0	0
GRIB2 data trial	l	GRIB2 over SADIS Trial	30,000	0	0	0
Travel Costs		SADISOPSG & SCRAG	6,000	6,000	6,000	6,000
		sub total	218,985	188,985	173,985	173,985
		TOTAL	477,991	450,481	435,481	435,481
Cost of Depreciated Capital						
	m	SADIS 2G	0	0	0	0
		FTP enhancements	0	0	0	0
		sub total	477,991	450,481	435,481	435,481
	n	Cost of Capital	47,799	45,048	43,548	43,548
		Total UKMO Costs	525,790	495,529	479,029	479,029

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APPENDIX F (cont'd)

TABLE 2: NATS and other SADIS Cost Projections until 2011

INVENTORY REF:	Note	DESCRIPTION	2009	2010	2011	2012
2 NATS Gateway Costs						
Staff Costs						
Operational Staff	o	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	2,805	2,805	2,805
		sub total	297,871	293,825	293,825	293,825
Communications	p	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	q	Depreciation	0	0	0	0
		Cost of Capital	0	0	0	0
Sadis Backup enhancement	r	procurement & Installation	0	0	0	0
		annual support costs	1,250	1,250	1,250	1,250
Total NATS Gateway Costs			317,425	313,379	313,379	313,379
CAA Administration Costs			6,000	6,000	6,000	6,000
ICAO Administration Costs			43,700	43,700	43,700	43,700
TOTAL SADIS COSTS			892,915	858,608	842,108	842,108

APPENDIX G
TABLE 1
STATUS OF PAYMENT OF THE ASSESSMENT FOR 2007
AS AT 10 OCTOBER 2008
(£ Sterling)

STATES	Share of 2007 Assessment (SCRAG/7, Appendix H revised)	Amount Collected as at 10 October 2008	Application of credit balance (or part of)	Unpaid amount (excess paid) as at 10 October 2008
Algeria	1 203.04		810.58	392.46
Armenia	416.02	416.02		
Austria	8 406.10	8 406.10		
Azerbaijan	711.65	711.65		
Bahrain	3 750.01	3 750.01		
Belgium	5 747.73	5 747.73		
Botswana	45.11	45.11		
Bulgaria	391.28	391.28		
Cameroon	293.38	293.38		
China: - Beijing	94 201.09	90 783.05	3 418.04	0.00
- Hong Kong	48 568.18	48 568.18		
- Macau	1 403.40	1 403.40		
Congo	201.59	201.59		
Côte d'Ivoire	158.47	158.47		
Croatia	438.66	438.66		
Cyprus	1 607.57	1 452.26	155.31	
Czech Republic	2 527.30	2 527.30		
Democratic People's Republic of Korea	24.57	24.57		
Denmark	4 240.70	4 240.70		
Egypt	5 705.44	10 401.31		-4 695.87
Estonia	309.06	309.06		
Finland	6 448.21	6 448.21		
Gabon	1 048.78	1 048.78		
Georgia	205.47	205.47		
Germany	81 167.58	81 167.58		
Ghana	59.21		59.21	
Greece	3 948.38	3 948.38		
Hungary	1 805.49	2 121.45		- 315.96
Iceland	2 247.18	2 247.18		
India	18 169.41	18 169.41		
Ireland	12 252.91	12 252.91		
Italy	23 362.31	23 362.31		
Jordan	2 870.29	2 870.29		
Kenya	3 100.46	3 100.46		
Kuwait	3 671.22	3 671.22		
Lebanon	1 521.91			1 521.91
Malaysia	24 998.09	24 998.09		
Malta	860.28	750.81	109.47	
Mauritius	3 057.23			3 057.23

APPENDIX G (cont'd)
TABLE 1 (cont'd)
STATUS OF PAYMENT OF THE ASSESSMENT FOR 2007
AS AT 10 OCTOBER 2008
 (£ Sterling)

STATES	Share of 2007 Assessment (SCRAG/7, Appendix H revised)	Amount Collected as at 10 October 2008	Application of credit balance (or part of)	Unpaid amount (excess paid) as at 10 October 2008
Mongolia	310.46	310.46		
Netherlands	39 822.37	38 869.26	953.11	
Nigeria	178.63	145.14	33.49	
Oman	3 540.02	3 540.02		
Pakistan	7 072.56	7 072.56		
Poland	2 655.21	2 655.21		
Portugal	7 232.75	7 232.75		
Qatar	10 270.38	10 270.38		
Republic of Korea	57 533.23			57 533.23
Republic of Moldova	139.47	139.47		
Romania	1 178.54	1 178.54		
Russian Federation	28 398.87			28 398.87
Saudi Arabia	14 604.45	14 306.58	297.87	0.00
Senegal	262.42			262.42
Serbia	474.78		403.56	71.22
Seychelles	682.82	682.82		
South Africa	15 652.33	15 652.33		
Sri Lanka	3 767.69	3 767.69		
Swaziland	1.71			1.71
Sweden	4 323.02	4 323.02		
Switzerland	11 075.89	6 900.71	4 175.18	
Syrian Arab Republic	1 127.34			1 127.34
Thailand	23 731.25	23 731.25		
The former Yugoslav Republic of Macedonia	83.15	83.15		
Tunisia	1 202.24	1 202.24		
Turkey	9 972.50	9 972.50		
Ukraine	1 805.89	1 805.89		
United Arab Emirates	38 622.22	38 622.22		
United Kingdom	87,664.88	68 132.93	19 531.95	
Viet Nam	4,379.15	4 379.15		
Zimbabwe	394.02	394.02		
TOTAL	749 305.00	632 002.67	29 947.77	87 354.56

APPENDIX G (cont'd)
TABLE 2
STATUS OF PAYMENT OF BALANCES FOR YEARS PRIOR TO 2007
AS AT 10 OCTOBER 2008
(£ Sterling)

STATES	Balance due for years prior to 2007	Amount Collected as at 10 October 2008	Application of credit balance (or part of)	Unpaid amount (excess paid) as at 10 October 2008
Algeria				
Armenia				
Austria				
Azerbaijan				
Bahrain				
Belgium				
Botswana				
Bulgaria				
Cameroon	244.63		68.74	175.89
China: - Beijing	15 062.77	15 062.77		
- Hong Kong	954.80	954.80		
- Macau	214.60	214.60		
Congo	9.56	9.56		
Côte d'Ivoire	134.27	134.27		
Croatia				
Cyprus				
Czech Republic				
Democratic People's Republic of Korea				
Denmark	409.75	409.75		
Egypt	5 101.83	3 863.35	1 238.48	
Estonia				
Finland				
Gabon	875.15		113.08	762.07
Georgia	77.95	77.95		
Germany				
Ghana				
Greece				
Hungary				
Iceland	1 563.74		183.80	1 379.94
India	18 891.97	14 162.15		4 729.82
Ireland	2 928.60	2 928.60		
Italy	2 294.29	2 294.29		
Jordan	63.29		63.29	
Kenya	4 494.62	3 989.29	338.21	167.12
Kuwait				
Lebanon	1 429.19		226.56	1 202.63
Malaysia				
Malta				
Mauritius	5 550.98		1 353.60	4 197.38

APPENDIX G (cont'd)
TABLE 2 (cont'd)
STATUS OF PAYMENT OF BALANCES FOR YEARS PRIOR TO 2007
AS AT 10 OCTOBER 2008

(£ Sterling)

STATES	Balance due for years prior to 2007	Amount Collected as at 10 October 2008	Application of credit balance (or part of)	Unpaid amount (excess paid) as at 10 October 2008
Mongolia				
Netherlands				
Nigeria	744.32	1 119.54		- 375.22
Oman				
Pakistan				
Poland				
Portugal				
Qatar	4 629.95			4 629.95
Republic of Korea	55 178.84		8 902.35	46 276.49
Republic of Moldova	49.19	49.19		
Romania	215.63	215.63		
Russian Federation	54 986.87		3 185.66	51 801.21
Saudi Arabia	220.03		220.03	
Senegal	282.58	65.41	5.55	211.62
Serbia				
Seychelles	2 974.85		529.98	2 444.87
South Africa				
Sri Lanka	114.69		114.69	
Swaziland	18.88			18.88
Sweden				
Switzerland				
Syrian Arab Republic	862.85			862.85
Thailand				
The former Yugoslav Republic of Macedonia				
Tunisia	51.56	12.79	38.77	
Turkey	2 815.71	839.23	1 939.85	36.63
Ukraine	283.54	283.54		
United Arab Emirates	6 488.82	6 488.82		
United Kingdom				
Viet Nam	546.04	546.04		
Zimbabwe	459.24	339.64		119.60
TOTAL	191 225.58	54 061.21	18 522.64	118 641.73

APPENDIX H
ESTIMATED COST SHARES AND ASSESSMENTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2009 *

STATES	2007 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 80% of 2009 Estimated Costs (£ Sterling)	Share of Over-recovery for 2007 (£ Sterling)	Amount to be Assessed for 2009 (£ Sterling)
Armenia	159 178	0.049%	353.23	- 14.94	338.29
Austria	3 168 068	0.984%	7 030.13	- 297.29	6 732.84
Azerbaijan	318 807	0.099%	707.45	- 29.92	677.53
Bahrain	1 743 045	0.541%	3 867.92	- 163.57	3 704.35
Belgium	2 745 935	0.853%	6 093.39	- 257.68	5 835.71
Botswana	20 830	0.006%	46.22	- 1.95	44.27
Bulgaria	206 514	0.064%	458.27	- 19.38	438.89
Cameroon	133 556	0.041%	296.37	- 12.53	283.84
China: - Beijing	53 638 695	16.663%	119 027.41	-5 033.49	113 993.92
- Hong Kong	25 108 613	7.800%	55 717.49	-2 356.21	53 361.28
- Macau	645 500	0.201%	1 432.40	- 60.57	1 371.83
Congo	74 814	0.023%	166.02	- 7.02	159.00
Côte d'Ivoire	132 364	0.041%	293.72	- 12.42	281.30
Croatia	183 689	0.057%	407.62	- 17.24	390.38
Cyprus	722 284	0.224%	1 602.79	- 67.78	1 535.01
Czech Republic	1 093 203	0.340%	2 425.88	- 102.59	2 323.29
Democratic People's Republic of Korea	11 194	0.003%	24.84	- 1.05	23.79
Denmark	1 805 344	0.561%	4 006.16	- 169.41	3 836.75
Egypt	2 805 334	0.871%	6 225.20	- 263.25	5 961.95
Estonia	134 399	0.042%	298.24	- 12.61	285.63
Finland	3 560 279	1.106%	7 900.47	- 334.10	7 566.37
Gabon	477 392	0.148%	1 059.36	- 44.80	1 014.56
Georgia	98 160	0.030%	217.82	- 9.21	208.61
Germany	38 686 692	12.018%	85 848.04	-3 630.38	82 217.66
Ghana	22 356	0.007%	49.61	- 2.10	47.51
Greece	1 686 335	0.524%	3 742.08	- 158.25	3 583.83
Hungary	1 106 430	0.344%	2 455.23	- 103.83	2 351.40
Iceland	883 399	0.274%	1 960.31	- 82.90	1 877.41
India	12 429 966	3.861%	27 582.82	-1 166.44	26 416.38
Ireland	7 943 797	2.468%	17 627.75	- 745.45	16 882.30
Italy	10 089 053	3.134%	22 388.20	- 946.76	21 441.44
Jordan	1 402 679	0.436%	3 112.63	- 131.63	2 981.00
Kenya	1 628 668	0.506%	3 614.11	- 152.84	3 461.27
Kuwait	1 610 328	0.500%	3 573.41	- 151.11	3 422.30
Latvia	311 130	0.097%	690.42	- 29.20	661.22
Libyan Arab Jamahiriya	280 629	0.087%	622.73	- 26.33	596.40
Lithuania	105 732	0.033%	234.63	- 9.92	224.71
Malta	410 990	0.128%	912.01	- 38.57	873.44

APPENDIX H (cont'd)
ESTIMATED COST SHARES AND ASSESSMENTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2009 *

STATES	2007 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 80% of 2009 Estimated Costs (£ Sterling)	Share of Over-recovery for 2007 (£ Sterling)	Amount to be Assessed for 2009 (£ Sterling)
Netherlands	17 986 209	5.587%	39 912.45	-1 687.84	38 224.61
Nigeria	252 858	0.079%	561.11	- 23.73	537.38
Oman	1 698 890	0.528%	3 769.94	- 159.42	3 610.52
Pakistan	3 316 366	1.030%	7 359.21	- 311.21	7 048.00
Poland	1 298 778	0.403%	2 882.06	- 121.88	2 760.18
Portugal	3 941 498	1.224%	8 746.42	- 369.87	8 376.55
Qatar	7 770 092	2.414%	17 242.29	- 729.15	16 513.14
Republic of Moldova	75 776	0.024%	168.15	- 7.11	161.04
Romania	957 515	0.297%	2 124.78	- 89.85	2 034.93
Saudi Arabia	7 256 764	2.254%	16 103.19	- 680.98	15 422.21
Senegal	158 719	0.049%	352.21	- 14.89	337.32
Serbia	222 983	0.069%	494.81	- 20.92	473.89
South Africa	6 056 286	1.881%	13 439.25	- 568.33	12 870.92
Sri Lanka	1 718 544	0.534%	3 813.55	- 161.27	3 652.28
Swaziland	1 465	0.000%	3.25	- 0.14	3.11
Sweden	1 437 609	0.447%	3 190.14	- 134.91	3 055.23
Switzerland	5 424 672	1.685%	12 037.67	- 509.05	11 528.62
Thailand	11 592 477	3.601%	25 724.39	-1 087.84	24 636.55
The former Yugoslav Republic of Macedonia	39 726	0.012%	88.15	- 3.73	84.42
Tunisia	487 979	0.152%	1 082.85	- 45.79	1 037.06
Turkey	5 904 527	1.834%	13 102.49	- 554.08	12 548.41
Ukraine	442 725	0.138%	982.43	- 41.55	940.88
United Arab Emirates	22 762 459	7.071%	50 511.23	-2 136.04	48 375.19
United Kingdom	40 930 136	12.715%	90 826.39	-3 840.91	86 985.48
Viet Nam	2 329 708	0.724%	5 169.76	- 218.62	4 951.14
Zimbabwe	257 520	0.080%	571.45	- 24.17	547.28
TOTAL	321 907 662	100.000%	714 332.00	-30 208.00	684 124.00

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

APPENDIX I
AMOUNTS TO BE BILLED
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2009
(£ Sterling)

STATES	Adjustment for 2007 (Appendix E)	Assessment for 2009 (Appendix H)	Total Amount to be Billed for 2009
Algeria	- 383.24	0.00	- 383.24
Armenia	- 121.09	338.29	217.20
Austria	-2 528.11	6 732.84	4 204.73
Azerbaijan	- 128.74	677.53	548.79
Bahrain	- 572.00	3 704.35	3 132.35
Belgium	- 751.44	5 835.71	5 084.27
Botswana	- 7.11	44.27	37.16
Bulgaria	- 18.15	438.89	420.74
Cameroon	- 49.49	283.84	234.35
China: - Beijing	2 438.65	113 993.92	116 432.57
- Hong Kong	-3 337.80	53 361.28	50 023.48
- Macau	- 225.55	1 371.83	1 146.28
Congo	- 62.58	159.00	96.42
Côte d'Ivoire	74.78	281.30	356.08
Croatia	- 100.97	390.38	289.41
Cyprus	- 287.23	1 535.01	1 247.78
Czech Republic	- 522.89	2 323.29	1 800.40
Democratic People's Republic of Korea	- 4.13	23.79	19.66
Denmark	- 926.27	3 836.75	2 910.48
Egypt	- 611.73	5 961.95	5 350.22
Estonia	- 62.74	285.63	222.89
Finland	- 34.48	7 566.37	7 531.89
Gabon	- 176.99	1 014.56	837.57
Georgia	- 26.87	208.61	181.74
Germany	-10 764.10	82 217.66	71 453.56
Ghana	- 17.74	47.51	29.77
Greece	- 853.25	3 583.83	2 730.58
Hungary	175.01	2 351.40	2 526.41
Iceland	- 614.33	1 877.41	1 263.08
India	3 944.73	26 416.38	30 361.11
Ireland	1 920.94	16 882.30	18 803.24
Italy	-4 861.37	21 441.44	16 580.07
Jordan	- 322.29	2 981.00	2 658.71
Kenya	-2 901.97	3 461.27	559.30
Kuwait	- 721.95	3 422.30	2 700.35
Latvia	437.01	661.22	1 098.23
Lebanon	- 147.40	0.00	- 147.40
Libyan Arab Jamahiriya	473.00	596.40	1 069.40
Lithuania	178.21	224.71	402.92
Malaysia	-6 727.94	0.00	-6 727.94
Malta	- 112.47	873.44	760.97
Mauritius	-2 861.50	0.00	-2 861.50

APPENDIX I (cont'd)
AMOUNTS TO BE BILLED
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2009
(£ Sterling)

STATES	Adjustment for 2007 (Appendix E)	Assessment for 2009 (Appendix H)	Total Amount to be Billed for 2009
Mongolia	- 290.58	0.00	- 290.58
Netherlands	-6 956.86	38 224.61	31 267.75
Nigeria	- 167.19	537.38	370.19
Oman	- 449.88	3 610.52	3 160.64
Pakistan	-1 029.98	7 048.00	6 018.02
Poland	- 296.11	2 760.18	2 464.07
Portugal	- 126.24	8 376.55	8 250.31
Qatar	3 483.76	16 513.14	19 996.90
Republic of Korea	-4 819.71	0.00	-4 819.71
Republic of Moldova	- 2.82	161.04	158.22
Romania	510.82	2 034.93	2 545.75
Russian Federation	-26 580.76	0.00	-26 580.76
Saudi Arabia	-1 438.06	15 422.21	13 984.15
Senegal	21.90	337.32	359.22
Serbia	- 68.54	473.89	405.35
Seychelles	- 639.11	0.00	- 639.11
South Africa	-4 442.29	12 870.92	8 428.63
Sri Lanka	- 629.84	3 652.28	3 022.44
Swaziland	0.87	3.11	3.98
Sweden	-1 623.15	3 055.23	1 432.08
Switzerland	-1 223.42	11 528.62	10 305.20
Syrian Arab Republic	- 212.12	0.00	- 212.12
Thailand	-2 672.64	24 636.55	21 963.91
The former Yugoslav Republic of Macedonia	- 10.87	84.42	73.55
Tunisia	- 302.77	1 037.06	734.29
Turkey	618.13	12 548.41	13 166.54
Ukraine	- 944.06	940.88	- 3.18
United Arab Emirates	2 216.91	48 375.19	50 592.10
United Kingdom	-13 064.03	86 985.48	73 921.45
Viet Nam	- 172.04	4 951.14	4 779.10
Zimbabwe	65.26	547.28	612.54
TOTAL	- 93 449.00	684 124.00	590 675.00

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.

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 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;

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 £1.21.34M¹ of which 2.472.40 per cent is attributable to SADIS usage: switching data to operational (1G) broadcast service and to 1G monitoring system – Corobor Comparitor.
- b) Message switch (FROST): Total investment £1.21.34M¹ of which 0.771.25 per cent is attributable to SADIS FTP service usage: switching data to operational FTP service;
- c) Message switch (FROST): Total investment £1.21.34M¹ of which 0.80.60 per cent is attributable to SADIS usage: switching data to operational (2G) broadcast service and to 2G monitoring system (Corobor Comparitor);

Note. — The percentages attributable to the SADIS 1G, SADIS FTP and SADIS 2G services have fallen as a result of increased FROST traffic to other users, particularly traffic to web-based services 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) Allocated bandwidth (2 Mbps bursting to 4 Mbps) between server and Internet Service Provider (ISP) in support of the SADIS FTP service; and
- e) Message switch (CoreMet System).

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

B. ISCS 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, including ISDN connection to Whitehill, to provide SADIS data backup.

¹ budgeted cost for providing FROST service during the fiscal year 20078/20089.

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
<i>Note.— communication links in support of SADIS 1G service are included in Section 1.1 of the inventory.</i>		
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
5.	Whitehill services (leased from Cable & Wireless)	
5.1	70 MHz to 140 MHz converters	2
5.2	140 MHz to C band converter	2
5.3	Satellite Hub leased bandwidth	1 slot
6.	Test Rig at Poynton	

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

7.1	MegaPAC 2003 router (MP-2003)	1
7.2	MegaPAC 2003 router plus expansion (MP-2003-3-B)	1
7.3	ISDN 2e circuit	1
7.4	A/B switch	1
7.5	Interface cables	1

Note. — Hardware listed items under Section 7 are located at Whitehill.

8. SADIS FTP service

8.1	HP L2000 servers with 2Gb RAM	2
8.2	18Gb internal disk drives	2
8.3	DVD-ROM	2
8.4	Processors	2
8.5	Licenses, misc. support and maintenance costs	1

9. Operational SADIS 2G Infrastructure

9.1	Frost port	1
9.2	MegaPAC V System Dual PSU	3*
9.3	MegaPAC 2003 (Exeter)	3*
9.4	Uplink modem (Comtech EF Data SDM-300a)	3*
9.5	Communications cabinet and lease	1
9.6	MegaWatch including Enterprise Reports, and PC	1
9.7	Corobor comparator software and PC	1
9.8	X10 Modules	12**
9.9	SIO Modules	3*
9.10	8Mb RAM Modules	3*
9.11	Communications rack floor space at Exeter in IT Hall 1 and IT Hall 2, and at Whitehill	3
9.12	Space in stores at Exeter to locate spare hardware	1
9.13	VadEDGE 4202 – 1U	2
9.14	WAN Module	2
9.15	Comtech EF Data SMS 301 – redundancy switch	2*
9.16	Interface cabling	15

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

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

2. PROCURED SERVICES

- A. Space segment annual lease: 4.21.5 MHz wide frequency band of which 57 per cent is utilised dedicated to support SADIS 1G and 2G, with minimum data rates at 38.4 Kbps for both services;
- 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>Skill</i>
1. Service desk (first point of contact)	Scientific supervisor

Note. — Outside normal working hours, the Service Desk facility is provided by the 24-hour positions below.

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

<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 support</i>	<i>Skill</i>
1. Systems integration team	30 per cent of network computer engineer
2. Administrator	75 per cent of executive officer
3. International aviation management	15 per cent of manager
4. Data traffic	5 per cent communications engineer
5. Contract procurement and management	5 per cent of senior procurement officer

- | | |
|---------------------|----------------------------------|
| 6. UNIX support | 10 per cent of computer engineer |
| 7. Web team support | 10 per cent of website designer |

Note. — 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.

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 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</i>
1. Operational staff support	10 per cent of ATSA4 10 per cent of ATSA3
2. Engineering staff support	10 per cent of systems engineer
 <i>Day Support</i>	
3. SADIS administration support	40 per cent of ATSA ATSC T & SC
4. Engineering (including on-call)	10 per cent of ATCE4 7.5 75 per cent of ATCE4

C. Bought-in services

Additional support and maintenance agreements with third parties are in place to provide third line support of the SADIS 1G and 2G services.