



SCRAG/7 - REPORT

INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF

**THE SEVENTH MEETING OF THE SADIS COST RECOVERY
ADMINISTRATIVE GROUP
(SCRAG/7)**

(Bangkok, 1 and 2 November 2006)

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INTRODUCTION

Place and duration

i.1 The Seventh Meeting of the SADIS Cost Recovery Administrative Group (SCRAG) was held in the Asia and Pacific (ASIA/PAC) ICAO Regional Office, Bangkok, on 1 and 2 November 2006.

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, assisted by **Dr. Paul G. Hooper**, Regional Officer, Air Transport and **Mr. Dimitar H. Ivanov**, Regional Officer, Aeronautical Meteorology.

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 2005

Agenda Item 4: Review of estimated SADIS costs and cost shares for the period 1 January to 31 December 2007

Agenda Item 5: Amendments 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/8 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, 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 38 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 38 States, 19 are Least Developed Countries (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 Eleventh Meeting of the SADIS Operations Group (SADISOPSG/11, Cairo, 23 to 25 May 2006) 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 Eleventh meeting (SADISOPSG/11, Cairo, 23 to 25 May 2006) to SCRAG that the operational efficacy of the SADIS had continued to be satisfactory meeting all operational requirements since the SADISOPSG/10 Meeting (Paris, 24 to 27 May 2005).

2.3 The Group noted Conclusion 11/6 of SADISOPSG/11 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 I**).

2.4 The Group also noted Conclusion 11/21 of SADISOPSG/11 regarding the implementation of back-up service to the SADIS broadcast and that the SADIS provider State be invited to present an estimate of the costs involved for approval at the SCRAG/7 Meeting. Consequently, a working paper (WP/14) was prepared by the SADIS provider State to be discussed under Agenda Item 4 (see below paragraph 4.2).

AGENDA ITEM 3: REVIEW OF ACTUAL SADIS COSTS AND COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2005

Review of the 2005 Actual SADIS Costs

3.1 The Group reviewed the actual costs of providing the SADIS services in the year 2005. These actual costs are presented in **Appendix E** and total £548 497. 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 2005

Cost Item	Actual Costs (UK £)
UK Meteorological Office	379 224
UK NATS Gateway	142 699
UK administrative costs	15 007
Sub-total UK	536 930
ICAO support services costs	11 567
TOTAL	548 497

Review of the 2005 Actual SADIS Cost Shares

3.2 The Group noted that one State, Mongolia, which was assessed for the year 2005 by the SCRAG/5 Meeting, did not have an operational equipment in 2005. Consequently, its share of the actual costs for 2005 is nil.

3.3 The Group noted that one State, Indonesia, which was assessed for the year 2005 by the SCRAG/5 Meeting, has had the SADIS service withdrawn on 6 August 2002. Consequently, its share of the actual costs for 2005 is nil.

3.4 The Group determined the actual cost shares for the period 1 January to 31 December 2005 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 2005, 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 7/1 -

The actual cost shares for 2005 as shown in Appendix E to the SCRAG/7 Report for the States participating in the SCAR Arrangement are approved by the SCRAG/7 Meeting, in view of the adjustments to be made by the United Kingdom in its billing of these States.

3.5 The Group received information from the observer from the United Kingdom on the status of payment of the cost shares of 2005 as at 13 October 2006. It noted that a total amount of £469 245 was collected and a total amount of credit balance of £12 910 was applied against the assessments for 2005 (see **Appendix G – Table 1**), both amounts representing 92.8% of the original assessments for 2005 as approved by the SCRAG/5 Meeting.

3.6 The Group noted that despite several reminders, there are still a few States that have not yet paid their assessment for the year 2005. The Group agreed that service to these States be terminated and reinstated only after full payment is received.

3.7 Having noted the information in Table 1 and paragraphs 3.2 to 3.6 above, the Group agreed that the net amount of the under-recovery of SADIS cost shares for the year 2005 amounts to £51 336 as shown in **Table 2**. This under-recovery is the difference between the actual costs for 2005 (£548 497), to which the over-recovery for 2003 is subtracted (£5 801) in order to obtain the amount subject to collection for 2005, and the collections from States for 2005 (£469 245 as shown in **Appendix G - Table 1**) plus the collections from States for years prior to 2005 after 31 December 2005 (£22 115 as shown in **Appendix G – Table 2**), and it formulated the following Conclusion:

Conclusion 7/2 -

A net under-recovery, amounting to £51 336 of the SADIS cost shares for the year 2005 will be taken into account in the calculation of the SADIS cost shares for the year 2007, in accordance with Article XI, paragraph 4 of the SADIS Agreement.

TABLE 2
UNDER-RECOVERY FOR 2005

		(UK £)	References
(1)	Actual costs for 2005	548 497	Table 1
(2)	Over-recovery for 2003	(5 801)	SCRAG/5 Report, Table 2
(3)	Subject to collection for 2005	542 696	(1) + (2)
(4)	Collected from States for 2005 (as at 13 October 2006)	469 245	Paragraph 3.5
(5)	Collected from States for years prior to 2005 after 31 December 2005 (as at 13 October 2006)	22 115	Paragraph 3.7
(6)	Under-recovery for 2005	51 336	(3) – (4) – (5)

Depreciated Assets

3.8 The Group noted the information presented by the United Kingdom regarding the depreciated assets as at 31 December 2006 (see **Appendix C**).

AGENDA ITEM 4: REVIEW OF ESTIMATED SADIS COSTS AND COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2007

Review of the 2007 Estimated SADIS Costs

4.1 The Group reviewed the cost estimates for providing the SADIS services in the year 2007. These cost estimates are detailed in **Appendix F** and total £701 334. A summary of these costs is presented in **Table 3**.

4.2 The Group considered a proposal by the provider State for SADIS backup enhancement and the corresponding budget estimates. The Group noted that the estimated costs of £29 141 in 2007 represent the cost of implementing a SADIS back-up of WAFC services as discussed at SADISOPSG/11. As a result of its deliberations, the Group adopted the following Conclusion:

Conclusion 7/3 -

The SCRAG approves the budgetary costs presented by the SADIS provider State for SADIS backup enhancement as discussed at SADISOPSG/11.

TABLE 3
SUMMARY OF ESTIMATED SADIS COSTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2007

Cost Item	Estimated Costs (UK £)
UK Meteorological Office	476 801
UK NATS Gateway	170 954
UK CAA administrative costs	5 000
UK Met Office administrative costs	15 000
Sub-total UK	667 755
ICAO support services costs	33 579
TOTAL	701 334

4.3 The Group considered the under-recovery in **Table 2** in the calculation of the amount to be assessed under the SADIS Agreement for 2007. The calculation of the amount to be assessed is presented in **Table 4**.

TABLE 4
AMOUNT TO BE ASSESSED UNDER THE SADIS AGREEMENT FOR 2007

		(UK £)	References
(1)	Under-recovery for 2005	51 336	Table 2
(2)	Estimated costs for 2007	701 334	Table 3
(3)	Amount to be assessed for 2007	752 670	(1) + (2)

Review of the 2007 Estimated SADIS Cost Shares

4.4 The Group determined the 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, on the basis of the number of available tonne-kilometres (ATKs) in scheduled services for 2005, in accordance with Article XI, paragraph 3 of the SADIS Agreement. The Group noted that two new receiver States, Mongolia and the Syrian Arab Republic, are included in the calculation of the assessment of cost shares for 2007. The cost share in percentage terms and the share in £ sterling, including the share of under-recovery for 2005, to be borne by each State are shown in

Appendix H.

4.5 The Group asked that the Secretariat and the provider State ensure that the administrative functions be carried out as cost-effectively as possible.

4.6 The Group agreed that the figures in Conclusion 7/2, tables 2 and 4 above and in Appendix H 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 2007, to take into account any payment received between 13 October and 31 December 2006. Accordingly, the Group formulated the following Conclusion:

Conclusion 7/4 -

Subject to updating by the Secretariat to take into account any payment of arrears received between 13 October and 31 December 2006, the estimated cost shares for 2007 as shown in Appendix H to the SCRAG/7 Report for each State participating in the SCAR Arrangement are approved by the SCRAG/7 Meeting for collection by the United Kingdom.

Cost estimates for the years 2008 to 2010

4.7 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 2008 to 2010 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 2008, 2009 AND 2010*

Cost Item	Estimated Costs 2008 (UK £)	Estimated Costs 2009 (UK £)	Estimated Costs 2010 (UK £)
UK Meteorological Office	462 501	355 933	355 934
UK NATS Gateway	108 302	94 801	94 801
UK CAA administrative costs	5 000	5 000	5 000
UK Met Office administrative costs	15 000	15 000	15 000
Sub-total UK	590 803	470 734	470 735
ICAO support services costs	33 579	33 579	33 579
TOTAL	624 382	504 313	504 314

* Estimates based on 2006 prices.

AGENDA ITEM 5: AMENDMENTS 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, to take account of minor changes in the proportions of resource usage and to improve failover between contingent links and the operator visibility of network performance. The additions and deletions to the existing text of Annex II appear in outline and strikethrough formats in **Appendix I**.

5.2 The Group asked that the SADISOPSG be informed that at its next meeting it should propose an amendment to Annex II, SADIS Inventory, to the SADIS Agreement, in order to remove the reference to “management and invoicing” in section 3, sub-section A, paragraph ii), item 5 which reads under “Additional support”: “Contract procurement, management and invoicing”.

5.3 The Group also reviewed an amendment to Annex III, Financial Issues, to the SADIS Agreement as proposed by the United Kingdom as the SADIS provider State. This amendment, in paragraph 1 e) of the section on chargeable costs, consists of replacing in the last sentence the reference to UK-CAA by United Kingdom since as of 1 January 2007 the UK Met Office will take over the administrative functions from the UK-CAA. The transfer of these functions is not expected to lead to a significant change in the administration costs of SADIS. The Group asked that when sending the next bill to each of the States party to the SADIS Agreement, that the UK Met Office include a letter explaining the administrative change.

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

Conclusion 7/5 -

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 I to the SCRAG/7 Report and Annex III, Financial Issues, of the SADIS Agreement is amended as indicated in paragraph 5.3 of the SCRAG/7 Report.

AGENDA ITEM 6: FUTURE WORK AND ARRANGEMENTS FOR THE SCRAG/8 MEETING

6.1 The Group agreed that, subject to confirmation, its Eight Meeting should be held in the ICAO European and North Atlantic Region Office (Paris) during the first week of November 2007.

AGENDA ITEM 7: OTHER BUSINESS

7.1 The Group expressed its appreciation and thanks to the staff of the Asia and Pacific (ASIA/PAC) ICAO Regional Office for their hospitality and excellent support received during the meeting.

APPENDIX A

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APPENDIX B**LIST OF SCRAG/7 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&5	Reports on Conclusions of the SADISOPSG/11 Meeting	Chairman, SADISOPSG
4	3	2005 ICAO actual SADIS administrative costs	Secretariat
5	3	2005 actual SADIS costs	United Kingdom
6	3&4	Status of payments for the year 2005	United Kingdom
7	3	Summary of actual costs and cost shares for the year 2005	Secretariat
8	3	Depreciated assets: SADIS costs	United Kingdom
9	4	2007 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 2007	Secretariat
12	5&7	Changes to the administrative and billing procedures in the United Kingdom	United Kingdom
13	5	Amendment to Annex II, Inventory, to the SADIS Agreement	Secretariat
14	4	Estimates for SADIS backup enhancement	United Kingdom

APPENDIX C

**INVENTORY OF ASSETS AS AT 31 DECEMBER 2006
EMPLOYED BY THE UNITED KINGDOM TO PROVIDE SADIS SERVICES**

(1) Inventory of Assets: 2006	(2) Original Value	(3) Depreciated charges in 2006	(4) Total accumulated depreciation	(5) Net depreciated values at end of 2006
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	£17 485	£52 455	£34 973
Total UKMO	£1 176 197	£17 485	£1 141 224	£34 973
SADIS Gateway	£227 462	£45 492	£168 971	£58 491

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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
Algeria	
Bangladesh	X
Benin	X
Bulgaria	
Burkina Faso	X
Chad	X
Equatorial Guinea	X
Ethiopia	X
Gambia	X
Ghana	
Guinea	X
Iceland	
India	
Indonesia	
Lao People's Democratic Republic	X
Lebanon	
Malaysia	
Maldives	X
Mozambique	X
Nepal	X
Niger	X
Nigeria	
Poland	
Qatar	
Republic of Korea	
Rwanda	X
Seychelles	
South Africa	
Sri Lanka	
Swaziland	
Syrian Arab Republic	
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 2005*

STATES	2005 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 2005 Actual Costs (£ Sterling)
Algeria	506 739	0.182%	996.13
Armenia	175 234	0.063%	344.47
Austria	3 540 777	1.269%	6 960.30
Azerbaijan	299 759	0.107%	589.25
Bahrain	1 579 561	0.566%	3 105.03
Belgium	2 421 033	0.868%	4 759.16
Botswana	19 001	0.007%	37.35
Bulgaria	164 811	0.059%	323.98
Cameroon	123 578	0.044%	242.92
China **	60 727 698	21.764%	119 375.84
Congo	84 912	0.030%	166.92
Côte d'Ivoire	66 750	0.024%	131.21
Croatia	184 773	0.066%	363.22
Cyprus	677 132	0.243%	1 331.08
Czech Republic	1 064 538	0.382%	2 092.62
Democratic People's Republic of Korea	10 350	0.004%	20.35
Denmark	1 786 246	0.640%	3 511.32
Egypt	2 403 217	0.861%	4 724.14
Estonia	130 177	0.047%	255.90
Finland	2 716 083	0.973%	5 339.16
Gabon	441 763	0.158%	868.40
Georgia	86 547	0.031%	170.13
Germany	34 189 010	12.253%	67 207.25
Ghana	24 942	0.009%	49.03
Greece	1 663 116	0.596%	3 269.28
Hungary	760 501	0.273%	1 494.96
India	7 653 230	2.743%	15 044.38
Italy	9 840 555	3.527%	19 344.13
Jordan	1 209 009	0.433%	2 376.62
Kenya	1 305 962	0.468%	2 567.20
Kuwait	1 546 376	0.554%	3 039.80
Lebanon	641 053	0.230%	1 260.15
Malaysia	10 529 575	3.774%	20 698.58
Malta	362 361	0.130%	712.31
Mauritius	1 287 751	0.462%	2 531.40

APPENDIX E (cont'd)
ACTUAL COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2005*

STATES	2005 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 2005 Actual Costs (£ Sterling)
Netherlands	16 773 786	6.012%	32 973.17
Nigeria	75 239	0.027%	147.90
Oman	1 491 110	0.534%	2 931.16
Pakistan	2 979 067	1.068%	5 856.12
Portugal	3 046 541	1.092%	5 988.76
Republic of Moldova	58 748	0.021%	115.48
Romania	496 417	0.178%	975.83
Russian Federation	11 962 035	4.287%	23 514.44
Saudi Arabia	6 151 614	2.205%	12 092.57
Senegal	110 535	0.040%	217.28
Serbia	199 983	0.072%	393.12
Seychelles	287 614	0.103%	565.38
South Africa	6 592 997	2.363%	12 960.22
Sri Lanka	1 587 007	0.569%	3 119.67
Swaziland	718	0.000%	1.41
Sweden	1 820 921	0.653%	3 579.49
Switzerland	4 665 330	1.672%	9 170.90
Thailand	9 995 961	3.582%	19 649.62
Tunisia	506 400	0.181%	995.46
Turkey	4 200 566	1.505%	8 257.29
Ukraine	760 668	0.273%	1 495.29
United Arab Emirates	16 268 260	5.830%	31 979.43
United Kingdom	36 925 768	13.234%	72 587.07
Viet Nam	1 844 567	0.661%	3 625.97
TOTAL	279 025 972	100.000%	548 497.00

* 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.

** China's share includes:

- Hong Kong SAR: 20 457 648 000 ATKs corresponding to a share of 2005 actual costs of £ 40 214.75

- Macau SAR: 591 132 000 ATKs corresponding to a share of 2005 actual costs of £ 1 162.02

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APPENDIX F

TABLE 1: UKMO Cost and manpower resource projections until year 2010 (at 2006 prices)

INVENTORY REF:	Note	DESCRIPTION	2007	2008	2009	2010
1 UK MET OFFICE COSTS						
1. Equipment						
Principally procured for SADIS						
comms between Whitehill & Met Office	a	SADIS 1G	3,139	3,139	0	0
		SADIS 2G	6,364	6,364	6,364	6,364
comms link SADIS Gateway & Met Office	a	SADIS 1G	3,340	3,340	0	0
		SADIS 2G	0	0	0	0
		ISDN back up	0	0	0	0
Not procured principally for SADIS						
message switch (FROST/SADIS)	a	SADIS 1G	37,800	37,800	0	0
message switch (FROST/FTP)	b	SADIS FTP	12,000	12,000	20,000	20,000
message switch (FROST/2G)		SADIS 2G	21,840	21,840	21,840	21,840
internet bandwidth (FTP)	c	FTP	13,532	13,532	13,532	13,532
FTP equipment running costs	d	FTP	12,300	12,300	12,300	12,300
		sub total	110,315	110,315	74,036	74,036
2. Procured Services						
space segment annual lease	e	Satellite Segment	90,000	90,000	80,000	80,000
annual maintenance	a	SADIS 1G C&W	9,816	9,816	0	0
	a	1G Facilities Mgmt	6,300	6,300	0	0
		2G Maintenance	24,000	24,000	24,000	24,000
		2G Facilities Mgmt	3,150	3,150	3,150	3,150
		IT Hall Space	11,000	11,000	11,000	11,000
	f	ad hoc maintenance	5,000	5,000	5,000	5,000
		sub total	149,266	149,266	123,150	123,150
3. Annual Staff Requirements						
Help Desk		Help Desk	17,500	17,500	17,500	17,500
Additional Support						
Systems Integration Team		Network Comp Eng.	6,658	6,658	6,658	6,658
Administrator		Executive Officer	49,934	49,934	49,934	49,934
International Aviation Management		Aviation Manager	12,773	12,773	12,773	12,773
Data Traffic		Communications Engineer	3,604	3,604	3,604	3,604
Contract Management		Senior Procurement Officer	3,604	3,604	3,604	3,604
UNIX Support		Computer Engineer	6,658	6,658	6,658	6,658
Web Team Support		Website Designer	6,658	6,658	6,658	6,659
Enhancements to FTP Service	g		32,000	17,000	0	0
Travel Costs		SADISOPSG & SCRAG	6,000	6,000	6,000	6,000
		sub total	145,389	130,389	113,389	113,390
		TOTAL	404,970	389,970	310,575	310,576
Cost of Depreciated Capital						
	h	SADIS 2G	17,485	17,485	0	0
	g	FTP enhancements	11,000	13,000	13,000	13,000
		sub total	433,455	420,455	323,575	323,576
	i	Cost of Capital	43,346	42,046	32,358	32,358
		Total UKMO Costs	476,801	462,501	355,933	355,934

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APPENDIX F (cont'd)

TABLE 2: NATS and other SADIS Cost Projections until 2010

INVENTORY REF:	Note	DESCRIPTION	2007	2008	2009	2010
2 NATS Gateway Costs						
Staff Costs						
Operational Staff	l.	Air Traffic Services Asst.	52,066	52,066	52,066	52,066
Engineering Staff	l.	Systems Engineer	21,043	21,043	21,043	21,043
Administration Support	l.	Administration Officer	14,178	14,178	14,178	14,178
		sub total	87,287	87,287	87,287	87,287
Communications		link to UKMO	0	0	0	0
Maintenance	m.	Systems Maintenance	6,264	6,264	6,264	6,264
Cost of Depreciated Capital	n.	Depreciation	45,492	12,997	0	0
	o.	Cost of Capital	2,770	504	0	0
SADIS Backup Enhancement	p.	Procurement & Installation	29,141			
	p.	Annual support costs		1,250	1,250	1,250
Total NATS Gateway Costs			170,954	108,302	94,801	94,801
UK CAA Administration Costs	q.		5,000	5,000	5,000	5,000
UK MET Office Administration Costs	r.		15,000	15,000	15,000	15,000
ICAO Administration Costs			33,579	33,579	33,579	33,579
TOTAL SADIS COSTS			701,334	624,382	504,313	504,314

APPENDIX G
STATUS OF PAYMENT OF THE ASSESSMENT FOR 2005
AS AT 13 OCTOBER 2006

STATES	Share of 2005 Assessment (£ Sterling)	Amount Collected as at 13 October 2006 (£ Sterling)	Application of credit balance (or part of) (£ Sterling)	Unpaid amount as at 13 October 2006 (£ Sterling)
Algeria	1 112.12	1 112.12		
Armenia	258.77	258.77		
Austria	6 406.95	6 406.95		
Azerbaijan	714.11	714.11		
Bahrain	2 757.24	2 757.24		
Belgium	4 467.63		4 467.63	
Botswana	38.68	38.68		
Bulgaria	36.96		36.96	
Cameroon	227.60	221.34	6.26	
China	96 364.90	95 256.20	1 108.69	
Congo	30.72		30.72	
Côte d'Ivoire				
Croatia	365.08	365.08		
Cyprus	1 469.98	1 469.98		
Czech Republic	1 709.63	1 709.63		
Democratic People's Republic of Korea	19.00		19.00	
Denmark	3 067.32	2 941.34	125.98	
Egypt	4 604.29	4 481.07	123.22	
Estonia	201.59	201.59		
Finland	4 935.15	4 935.15		
Gabon	814.84	814.84		
Georgia	94.26	90.70	3.56	
Germany	67 757.21	67 757.21		
Ghana	506.56	124.08	382.48	
Greece	3 274.56	3 274.56		
Hungary	1 511.62	1 511.62		
India	12 503.51	12 503.51		
Indonesia	9 556.79			9 556.79
Italy	16 861.58	14 606.46	2 255.12	
Jordan	2 287.79	2 287.79		
Kenya	2 035.13			2 035.13
Kuwait	3 148.40	3 148.40		
Lebanon	1 230.43	1 230.43		
Malaysia	18 896.26	18 896.26		
Malta	812.71	726.98	85.73	
Mauritius	2 646.36		188.12	2 458.24

APPENDIX G (cont'd)
STATUS OF PAYMENT OF THE ASSESSMENT FOR 2005
AS AT 13 OCTOBER 2006

STATES	Share of 2005 Assessment (£ Sterling)	Amount Collected as at 13 October 2006 (£ Sterling)	Application of credit balance (or part of) (£ Sterling)	Unpaid amount as at 13 October 2006 (£ Sterling)
Mongolia	297.05			297.05
Netherlands	33 551.67	33 416.95	134.72	
Nigeria	179.39			179.39
Oman	3 077.07	3 077.07		
Pakistan	5 549.25	5 549.25		
Portugal	5 666.58	5 666.58		
Republic of Moldova	89.73	89.73		
Romania	946.20	777.37	168.83	
Russian Federation	22 359.54			22 359.54
Saudi Arabia	12 253.63	12 253.63		
Senegal	169.85	169.85		
Serbia	621.37	621.37		
Seychelles	522.78			522.78
South Africa	13 374.49	13 374.49		
Sri Lanka	2 841.83	2 841.83		
Swaziland				
Sweden	4 708.92	4 420.88	288.04	
Switzerland	13 198.71	9 713.41	3 485.30	
Thailand	20 218.93	20 218.93		
Tunisia	971.82	971.82		
Turkey	7 336.15	7 336.15		
Ukraine	1 090.20	1 090.20		
United Arab Emirates	23 074.26	23 074.26		
United Kingdom	71 692.93	71 692.93		
Viet Nam	3 045.92	3 045.92		
TOTAL	519 564.00	469 244.71	12 910.36	37 408.93

APPENDIX G (cont'd)
STATUS OF PAYMENT OF BALANCES FOR YEARS PRIOR TO 2005
AS AT 13 OCTOBER 2006

STATES	Balance due for years prior to 2005 (£ Sterling)	Amount Collected as at 13 October 2006 (£ Sterling)	Application of credit balance (or part of) (£ Sterling)	Unpaid amount as at 13 October 2006 (£ Sterling)
Algeria				
Armenia				
Austria				
Azerbaijan				
Bahrain	1 083.81	1 083.81		
Belgium	129.63	129.63		
Botswana				
Bulgaria	235.72		235.72	
Cameroon				
China *	4 082.67			4 082.67
Congo	74.51		74.51	
Côte d'Ivoire	65.47		65.47	
Croatia				
Cyprus	31.69			31.69
Czech Republic	399.50	399.50		
Democratic People's Republic of Korea				
Denmark				
Egypt	5 208.55	5 208.55		
Estonia	91.64	91.64		
Finland	197.69	197.69		
Gabon				
Georgia	52.07	52.07		
Germany				
Ghana				
Greece				
Hungary				
India	103.02			103.02
Indonesia	5 832.34			5 832.34
Italy				
Jordan				
Kenya	526.35			526.35
Kuwait				
Lebanon				
Malaysia	816.01	816.01		
Malta				
Mauritius				

APPENDIX G (cont'd)
STATUS OF PAYMENT OF BALANCES FOR YEARS PRIOR TO 2005
AS AT 13 OCTOBER 2006

STATES	Balance due for years prior to 2005 (£ Sterling)	Amount Collected as at 13 October 2006 (£ Sterling)	Application of credit balance (or part of) (£ Sterling)	Unpaid amount as at 13 October 2006 (£ Sterling)
Mongolia	88.35			88.35
Netherlands				
Nigeria	185.37			185.37
Oman	902.61	902.61		
Pakistan	241.40		241.40	
Portugal	62.92	62.92		
Republic of Moldova	36.80	36.80		
Romania				
Russian Federation	8 210.64			8 210.64
Saudi Arabia				
Senegal				
Serbia	171.17	199.93		- 28.76
Seychelles	1 432.39			1 432.39
South Africa	1 395.19	1 395.19		
Sri Lanka	184.16	184.16		
Swaziland	16.21			16.21
Sweden				
Switzerland				
Thailand				
Tunisia				
Turkey				
Ukraine	681.48	681.48		
United Arab Emirates	9 354.75	9 354.75		
United Kingdom				
Viet Nam	1 318.17	1 318.17		
TOTAL	43 212.28	22 114.91	617.10	20 480.27

- * China's share includes:
- Hong Kong SAR: no unpaid balance
- Macau SAR: unpaid balance of £ 66.54

APPENDIX H
ESTIMATED COST SHARES AND ASSESSMENTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2007 *

STATES	2005 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 2007 Estimated Costs (£ Sterling)	Share of Under-recovery for 2005 (£ Sterling)	Amount to be Assessed for 2007 (£ Sterling)
Algeria	506 739	0.161%	1 126.02	82.42	1 208.44
Armenia	175 234	0.056%	389.39	28.50	417.89
Austria	3 540 777	1.122%	7 867.94	575.91	8 443.85
Azerbaijan	299 759	0.095%	666.09	48.76	714.85
Bahrain	1 579 561	0.500%	3 509.93	256.92	3 766.85
Belgium	2 421 033	0.767%	5 379.76	393.79	5 773.55
Botswana	19 001	0.006%	42.22	3.09	45.31
Bulgaria	164 811	0.052%	366.23	26.81	393.04
Cameroon	123 578	0.039%	274.60	20.10	294.70
China **	60 727 698	19.241%	134 942.64	9 877.48	144 820.12
Congo	84 912	0.027%	188.68	13.81	202.49
Côte d'Ivoire	66 750	0.021%	148.32	10.86	159.18
Croatia	184 773	0.059%	410.58	30.05	440.63
Cyprus	677 132	0.215%	1 504.65	110.14	1 614.79
Czech Republic	1 064 538	0.337%	2 365.50	173.15	2 538.65
Democratic People's Republic of Korea	10 350	0.003%	23.00	1.68	24.68
Denmark	1 786 246	0.566%	3 969.21	290.54	4 259.75
Egypt	2 403 217	0.761%	5 340.17	390.89	5 731.06
Estonia	130 177	0.041%	289.27	21.17	310.44
Finland	2 716 083	0.861%	6 035.39	441.78	6 477.17
Gabon	441 763	0.140%	981.64	71.85	1 053.49
Georgia	86 547	0.027%	192.32	14.08	206.40
Germany	34 189 010	10.832%	75 971.18	5 560.91	81 532.09
Ghana	24 942	0.008%	55.42	4.06	59.48
Greece	1 663 116	0.527%	3 695.60	270.51	3 966.11
Hungary	760 501	0.241%	1 689.90	123.70	1 813.60
Iceland	946 544	0.300%	2 103.31	153.96	2 257.27
India	7 653 230	2.425%	17 006.19	1 244.81	18 251.00
Ireland	5 161 111	1.635%	11 468.47	839.47	12 307.94
Italy	9 840 555	3.118%	21 866.64	1 600.59	23 467.23
Jordan	1 209 009	0.383%	2 686.53	196.65	2 883.18
Kenya	1 305 962	0.414%	2 901.97	212.42	3 114.39
Kuwait	1 546 376	0.490%	3 436.19	251.52	3 687.71
Lebanon	641 053	0.203%	1 424.48	104.27	1 528.75
Malaysia	10 529 575	3.336%	23 397.70	1 712.66	25 110.36
Malta	362 361	0.115%	805.20	58.94	864.14
Mauritius	1 287 751	0.408%	2 861.50	209.46	3 070.96

APPENDIX H (cont'd)
ESTIMATED COST SHARES AND ASSESSMENTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2007 *

STATES	2005 Available Tonne-Kilometres in Scheduled Services (000)	Percentage Cost Share	Share of 2007 Estimated Costs (£ Sterling)	Share of Under-recovery for 2005 (£ Sterling)	Amount to be Assessed for 2007 (£ Sterling)
Mongolia	130 767	0.041%	290.58	21.27	311.85
Netherlands	16 773 786	5.315%	37 272.92	2 728.29	40 001.21
Nigeria	75 239	0.024%	167.19	12.24	179.43
Oman	1 491 110	0.472%	3 313.39	242.53	3 555.92
Pakistan	2 979 067	0.944%	6 619.77	484.55	7 104.32
Poland	1 118 412	0.354%	2 485.22	181.91	2 667.13
Portugal	3 046 541	0.965%	6 769.70	495.53	7 265.23
Qatar	4 326 036	1.371%	9 612.86	703.64	10 316.50
Republic of Korea	24 233 863	7.678%	53 849.91	3 941.69	57 791.60
Republic of Moldova	58 748	0.019%	130.54	9.56	140.10
Romania	496 417	0.157%	1 103.09	80.74	1 183.83
Russian Federation	11 962 035	3.790%	26 580.76	1 945.65	28 526.41
Saudi Arabia	6 151 614	1.949%	13 669.46	1 000.57	14 670.03
Senegal	110 535	0.035%	245.62	17.98	263.60
Serbia	199 983	0.063%	444.38	32.53	476.91
Seychelles	287 614	0.091%	639.11	46.78	685.89
South Africa	6 592 997	2.089%	14 650.26	1 072.36	15 722.62
Sri Lanka	1 587 007	0.503%	3 526.48	258.13	3 784.61
Swaziland	718	0.000%	1.60	0.12	1.72
Sweden	1 820 921	0.577%	4 046.26	296.18	4 342.44
Switzerland	4 665 330	1.478%	10 366.80	758.83	11 125.63
Syrian Arab Republic	474 856	0.150%	1 055.17	77.24	1 132.41
Thailand	9 995 961	3.167%	22 211.96	1 625.86	23 837.82
The former Yugoslav Republic of Macedonia	35 025	0.011%	77.83	5.70	83.53
Tunisia	506 400	0.160%	1 125.27	82.37	1 207.64
Turkey	4 200 566	1.331%	9 334.05	683.23	10 017.28
Ukraine	760 668	0.241%	1 690.28	123.72	1 814.00
United Arab Emirates	16 268 260	5.154%	36 149.60	2 646.07	38 795.67
United Kingdom	36 925 768	11.699%	82 052.52	6 006.05	88 058.57
Viet Nam	1 844 567	0.584%	4 098.80	299.98	4 398.78
Zimbabwe	165 965	0.053%	368.79	26.99	395.78
TOTAL	315 618 551	100.000%	701 334.00	51 336.00	752 670.00

* 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.

** China's share includes:

- Hong Kong SAR: 20 457 648 000 ATKs corresponding to a share of 2007 assessments of £ 48 786.29
- Macau SAR: 591 132 000 ATKs corresponding to a share of 2007 assessments of £ 1 409.70

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:

- i) 1 (70 to 140 MHz) convertor;
- ii) Use of 1 (140 to C band) convertor;
- iii) Use of satellite hub C (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) Communication link utilising WMO TCP/IP sockets protocol) between SADIS Gateway and Met Office in support of SADIS 2G service. (*Note.— It is expected that this single link will be upgraded to dual contingent links within the next 12 months.*)

iii) **Not procured principally for SADIS**

a) Message switch (FROST): Total investment, £1.2M¹ of which ~~2.69~~ 3.15 per cent is attributable to SADIS usage: switching data to operational (1G) broadcast service and to 1G monitoring system — Corobor Comparitor (~~breakdown: 1.34 per cent to supply operational broadcast; 1.35 per cent to supply monitoring facility~~); .

Note.— The percentage attributable to the SADIS 1G service has increased as a result of increased costs incurred to support the legacy X25 protocol.

b) Message switch (FROST): Total investment, £1.2M¹ of which ~~1.06~~ 0.91 per cent is attributable to SADIS FTP service usage: switching data to operational FTP service;

c) Message switch (FROST): Total investment, £1.2M¹ of which ~~1.14~~ 1.82 per cent is attributable to SADIS usage: switching data to operational (2G) broadcast service and to 2G monitoring system (Corobor Comparitor);

Note.— The SADIS 2G monitoring system (Corobor Comparitor) not activated at the time of the SADISOPSG/10 Meeting; implementation expected before the SCRAG/6 Meeting.

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.

¹ budgeted cost ~~1.195466 M£~~ for providing TROPICS/FROST service during the fiscal year 2005/2006.

B. ISCS data back-up system

ISCS VSAT system, including TCP/IP receiver, and cables.

Note.— ~~The equipment, including leases, listed above are being capitalized over the SADIS contract period~~ This hardware is not currently used in an operational environment.

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	Mega PACV 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. Communications equipment for SADIS second generation (2G) trial~~

7.1	Megapac 2003	1	1
7.2	QPSK De-Modulator/Receivers (Comtech EFD)	1	1

Note.— One QPSK De-modulator/Receiver (Comtech EFD) and MegaPAC located in Zurich for use in the SADIS 2G trial.

87 ISDN back-up service to Washington (NWSWG)

87.1	Mega PAC 2003 router (MP-2003)		1
87.2	Mega PAC 2003 router plus expansion (MP-2003-3-B)		1
87.3	ISDN 2e circuit		1
87.4	A/B switch		1
87.5	Interface cables		1

Note.— Hardware listed items under Section 87 are located at Whitehill.

98. SADIS FTP service

98.1	HP L2000 servers with 2Gb RAM		2
98.2	18 Gb internal disk drives		2
98.3	DVD-ROM		2
98.4	Processors		2
8.5	Licenses, misc. support and maintenance costs		1

Note.— The SADIS FTP service as of 1 July 2005.

409. Operational SADIS 2G Infrastructure

409.1	Frost port	1
409.2	MegaPAC V	3*
409.3	MegaPAC 2003	4*
409.4	Uplink modem (Comtech EF Data SDM-300a)	3
409.5	Communications cabinet and lease	1
409.6	MegaWatch including Enterprise Reports, and PC	1
409.7	Corobor comparator software and PC	1
409.8	Comtech EF Data CR100 redundancy switch	1
409.9	X10 Modules	8
409.10	SIO Modules	2
409.11	8 Mb RAM Modules	2
9.12	Communications rack floor space at Exeter in IT Hall 1 and IT Hall 2, and at Whitehill	3
9.13	Space in stores at Exeter to locate spare hardware	1
9.14	vadEDGE 4202 – 1U	2*
9.15	WAN Module	2
9.16	Comtech EF Data SMS 301 – redundancy switch	1*
9.17	Misc. cables	5

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

2. PROCURED SERVICES

- A. Space segment annual lease: 1.2 Mhz wide frequency band dedicated to SADIS 1G and 2G with minimum data rates at 38.4 Kbps for both services;
- B. Annual maintenance of Met Office and Whitehill site equipment (SADIS 1G, 2G and SADIS FTP server) ~~which is not leased~~; and
- C. Gateway function:
 - i) Communication circuits between Met Office and NATS infrastructure site; and
 - ii) System maintenance.

3. ANNUAL STAFF REQUIREMENTS**A. Met Office of the UK****i) Help Desk**

Note.— The Help 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 ~~a call out~~ limited on call capability.

<i>Normal working hours</i>	Grade and Skill
1. Help desk (first point of contact)	Scientific supervisor

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

<i>24-hour support</i>	Grade and Skill
1. Operations systems analyst (OSA)	Systems analyst
2. Production systems analyst	Systems analyst
3. Networks and services engineer (NSE)	Computer engineer
4. Networks and systems supervisor (NSS)	Technical supervisor
4. Nowcasting and Service Continuity Manager (NSCM)	Scientist

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

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

ii) **Additional support**

<i>Additional support</i>	Grade and Skill
1. Systems integration team	230 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, management and invoicing	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.— As a result of the audit of SADIS costs required by SCRAG, the help desk costs have been re-assessed and reduced to a level of 1 per cent of the total support offered. 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.— See also note under 3. A, “Help desk”, above. The CACC provides the OPMET Gateway function, which is provided from one 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 and 1 ATSA3 each (operations), and ATCE4 (engineering watchkeeping) and 3 ATCE4 (engineering day support).

24-hour support

Grade and skill

- | | |
|------------------------------|--|
| 1. Operational staff support | 50 per cent of air traffic services assistant (H24/365)
10 per cent of ATSA4
10 per cent of ATSA3 |
| 2. Engineering staff support | 10 per cent of systems engineer |

Day Support

- | | |
|---------------------------------|---|
| 3. SADIS administration support | 75 per cent of day support engineer
50 per cent of air traffic services assistant
40 per cent of ATC T & SC |
| 4. Engineering (one on-call) | 10 per cent of ATCE4
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.

— END —