



SCRAG/14 - REPORT

INTERNATIONAL CIVIL AVIATION ORGANIZATION

**REPORT OF
THE FOURTEENTH MEETING OF THE
SADIS COST RECOVERY ADMINISTRATIVE GROUP
(SCRAG/14)**

(Paris, 25 October 2013)

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INTRODUCTION

Place and duration

i.1 The Fourteenth Meeting of the SADIS Cost Recovery Administrative Group (SCRAG) was held at the European and North Atlantic (EUR/NAT) ICAO Regional Office, Paris, on 25 October 2013.

Attendance

i.2 The Meeting was attended by one of the four 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. Jamin, from Germany, was Chairperson of the Meeting. Mr. C. Gauthier, Coordinator, Joint Financing, ICAO Headquarters, Montreal, was 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 2012

Agenda Item 4: Review of estimated SADIS costs and cost shares for the period 1 January to 31 December 2014

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

Agenda Item 6: Future work and arrangements for the SCRAG/15 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 represent in the aggregate less than 50% of the total assessments, which results in the nomination of only one SCRAG member from this Region, in accordance with Article VII, paragraph 2 of the SADIS Agreement.

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 59 States. Four of these States had the service withdrawn and three of these States are Least Developed Countries (LDCs), which are exempted from payment of SADIS cost share. The Group was also informed that 57 other States receiving the SADIS service had not yet acceded to the SADIS Agreement. 28 of these States 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 Eighteenth Meeting of the SADIS Operations Group (SADISOPSG/18, Dakar, 29 to 31 May 2013) provided by the Chairperson of SADISOPSG in the Executive Summary of Discussions of this meeting.

2.2 In accordance with Conclusion 18/6 of SADISOPSG/18, the Group noted the Statement of SADIS operational efficacy received from the Chairperson of SADISOPSG relaying the advice from the Group at its Eighteenth Meeting to SCRAG that the operational efficacy of the SADIS had continued to be satisfactory, meeting all operational requirements since the SADISOPSG/17 Meeting (Cairo, 29 to 31 May 2012).

2.3 The Group noted Conclusion 18/12 of SADISOPSG/18 where the Chairperson of SADISOPSG was expected to notify the Chairperson of SCRAG that the reduction in switching costs associated with the cessation of the distribution of WAFS upper-air gridded global forecasts in the WMO GRIB Edition 1 (GRIB 1) code form on SADIS, is estimated at £1 500 per annum effective 14 November 2013.

2.4 The Group noted Conclusion 18/13 of SADISOPSG/18 where the Chairperson of SADISOPSG was expected to notify the Chairperson of SCRAG that the additional switching costs associated with the provision of WAFS upper-air gridded global forecasts in WMO GRIB Edition 2 (GRIB 2) code form for flight level (FL) 410, is estimated at less than £50 per annum effective 14 November 2013.

2.5 The Group noted Conclusion 18/14 of SADISOPSG/18 where the Chairperson of SADISOPSG was expected to notify the Chairperson of SCRAG that the additional switching costs associated with the provision of WAFS upper-air gridded global forecasts for icing, turbulence and Cb cloud on the SADIS 2G satellite broadcast, is estimated at £89 per annum effective 14 November 2013.

2.6 The Group noted Conclusion 18/17 of SADISOPSG/18 where the Chairperson of SADISOPSG was expected to notify the Chairperson of SCRAG that the project cost, attributable to SADIS, associated with a mid-life upgrade to the SADIS Gateway Coremet system (NATS Message Switch), is estimated to be between £120 000 and £180 000 plus the cost of capital. Such an update has been deemed necessary in view of assuring the ingestion, collation, quality-control, distribution, monitoring and comparison of aeronautical meteorological information on SADIS into the future.

2.7 The Group noted Conclusion 18/18 of SADISOPSG/18 where the Chairperson of SADISOPSG was expected to notify the Chairperson of SCRAG that the SADIS Provider State is expected to require up to £6 000 of capital expenditure for additional equipment in pursuit of solutions to a weaker than expected SADIS 2G VSAT satellite reception signal at the premises of the SADIS Provider (United Kingdom Met Office).

2.8 The Group noted Conclusion 18/19 of SADISOPSG/18 where the Chairperson of SADISOPSG was expected to notify the Chairperson of SCRAG that the cost associated with increasing the bandwidth allocated to the Secure SADIS FTP service (between the SADIS Provider and the SADIS Provider's internet service provider), is estimated at £3 720 per annum at 2013 prices.

2.9 The Group noted Conclusion 18/7 of SADISOPSG/18 where the Chairperson of SADISOPSG was expected to forward to the Chairperson 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).

**AGENDA ITEM 3: REVIEW OF ACTUAL SADIS COSTS AND COST SHARES FOR THE PERIOD
1 JANUARY TO 31 DECEMBER 2012**

Review of the 2012 Actual SADIS Costs

3.1 The Group reviewed the actual costs of providing the SADIS services in the year 2012. These actual costs are presented in Appendix E and total £746 307. 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 2012**

| Cost Item | Actual Costs (UK £) |
|-----------------------------|------------------------|
| UK Meteorological Office | 372 335 |
| UK NATS Gateway | 321 215 |
| UK administrative costs | 5 574 |
| Sub-total UK | 699 124 |
| ICAO support services costs | 47 183 |
| TOTAL | 746 307 |

Review of the 2012 Actual SADIS Cost Shares

3.2 The Group noted that one State, Slovakia, which was not assessed for the year 2012 by the SCRAG/12 Meeting, is included in the calculation of the actual cost shares for 2012 considering that it receives the SADIS service since 1 September 2012. Consequently, its share of the actual costs for 2012 was calculated based on 4 full months of service in 2012.

3.3 The Group noted that one State, Kazakhstan, which was not assessed for the year 2012 by the SCRAG/12 Meeting, is included in the calculation of the actual cost shares for 2012 considering that it receives the SADIS service (access to SADIS 2G) since 1 August 2011. Consequently, its share of the actual costs for 2012 was calculated based on 12 full months of service in 2012.

3.4 The Group noted that one State, Tunisia, which was assessed for the year 2012 by the SCRAG/12 Meeting, had its services withdrawn on 28 June 2012. Consequently, its share of the actual costs for 2012 was calculated based on 5 full months of service in 2012.

3.5 The Group determined the actual cost shares for the period 1 January to 31 December 2012 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 2012, in accordance with Article XI, paragraph 3 of the SADIS Agreement. The cost share in percentage terms and the share in £ sterling to be borne by each State participating in the SADIS Cost Allocation and Recovery (SCAR) Arrangement are shown in Appendix E.

3.6 The Group noted that the adjustment for 2012, which is the difference between the 2012 actual costs and the 2012 estimated costs approved by the SCRAG/12 Meeting, amount to -£20 621. The Group formulated the following Conclusion:

Conclusion 14/1 -

The actual cost shares for 2012 as shown in Appendix E to the SCRAG/14 Report for the States participating in the SCAR Arrangement are approved by the SCRAG/14 Meeting, with consequential adjustments to be made by the United Kingdom in its billing of these States for 2014.

3.7 The Group received information from the observer from the United Kingdom on the status of payment of the cost shares of 2012 as at 1 October 2013. It noted that a total amount of £905 302 was collected for 2012 (see Appendix G – Table 1), representing 98.1% of the original assessments for 2012 as approved by the SCRAG/12 Meeting. It also noted that an amount of £94 987 was collected for years prior to 2012 (see Appendix G – Table 2).

3.8 The Group noted that 13 States have not yet paid their assessment in full for the year 2012 and that the total amount due for 2012 is £17 775 (see Appendix G – Table 1).

3.9 Having noted the information in Table 1 and paragraphs 3.2 to 3.8 above, the Group agreed that the over-recovery of SADIS cost shares for the year 2012 amount to £97 707 as shown in Table 2. The over-recovery of 2012 is the amount subject to collection for 2012 (£902 582), less the amounts collected for 2012 (£905 302) and less the amounts collected for years prior to 2012 (£94 987). The Group formulated the following Conclusions:

Conclusion 14/2 -

An over-recovery, amounting to £97 707 of the SADIS cost shares for the year 2012 will be taken into account in the calculation of the SADIS cost shares for the year 2014, in accordance with Article XI, paragraph 4 of the SADIS Agreement.

**TABLE 2
OVER-RECOVERY FOR 2012**

| | | (UK £) | References |
|-----|--|-----------|-----------------------------|
| (1) | Actual costs for 2012 | 746 307 | Table 1 |
| (2) | Under-recovery for 2010 | 26 541 | SCRAG/12 Report, Table 2 |
| (3) | Adjustment for 2010 to be collected in 2012 | 129 734 | SCRAG/12 Report, Table 2 |
| (4) | Subject to collection for 2012 | 902 582 | (1) + (2) + (3) |
| (5) | Collected from States for 2012 (as at 1 October 2013) | - 905 302 | Appendix G – Table 1 |
| (6) | Collected from States for years prior to 2012 (as at 1 October 2013) | - 94 987 | Appendix G – Table 2 |
| (7) | Over-recovery for 2012 (to be subtracted from the assessments for 2014) | - 97 707 | (4) + (5) + (6) |

Depreciated Assets

3.10 The Group noted the information presented by the United Kingdom regarding the depreciated assets as at 31 December 2013 (see Appendix C) and approved the depreciation charges applicable from 2013 to 2017 inclusive.

AGENDA ITEM 4: REVIEW OF ESTIMATED SADIS COSTS AND COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2014

Review of the 2014 Estimated SADIS Costs

4.1 The Group reviewed the cost estimates for providing the SADIS services in the year 2014.

4.2 The cost estimates for 2014 are detailed in Appendix F and total £801 063. 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 2014**

| Cost Item | Estimated Costs (UK £) |
|-----------------------------|---------------------------|
| UK Meteorological Office | 369 716 |
| UK NATS Gateway | 374 661 |
| UK CAA administrative costs | 5 000 |
| Sub-total UK | 749 377 |
| ICAO support services costs | 51 686 |
| TOTAL | 801 063 |

4.3 The Group considered the over-recovery in Table 2 in the calculation of the amount to be assessed under the SADIS Agreement for 2014. The calculation of the amount to be assessed is presented in Table 4.

TABLE 4
AMOUNT TO BE ASSESSED UNDER THE SADIS AGREEMENT FOR 2014

| | | (UK £) | References |
|-----|--------------------------------|----------|------------|
| (1) | Over-recovery for 2012 | - 97 707 | Table 2 |
| (2) | Estimated costs for 2014 | 801 063 | Table 3 |
| (3) | Amount to be assessed for 2014 | 703 356 | (1) + (2) |

Review of the 2013 Estimated SADIS Cost Shares

4.4 The Group determined the cost shares for the period 1 January to 31 December 2014 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 2012, in accordance with Article XI, paragraph 3 of the SADIS Agreement.

4.5 The Group noted that three States, Spain, Israel and Norway, that have expressed serious interest in receiving the SADIS service very soon, are included in the calculation of the assessment of cost shares for 2014.

4.6 The Group noted that one State, Tunisia, who had the service withdrawn on 28 June 2012, had the service reinstated in March 2013; therefore it is included in the calculation of the assessment of cost shares for 2014.

4.7 The Group noted that two States, Syrian Arab Republic and Iran (Islamic Republic of), had the service withdrawn on 17 April 2013 and 11 September 2013 respectively. Consequently, these two States are not included in the calculation of the assessment of cost shares for 2014.

4.8 The cost share in percentage terms and the share in £ sterling, including the share of over-recovery for 2012, to be borne by each State, are shown in Appendix H. Appendix I shows the amounts to be billed to each State in 2014, corresponding to the adjustment for 2012 (Appendix E), plus the assessment for 2014 (Appendix H), less the deduction of unused credit balances from previous years. The Group formulated the following Conclusion:

Conclusion 14/3 -

The estimated cost shares for 2014 as shown in Appendix H to the SCRAG/14 Report for each State participating in the SCAR Arrangement are approved by the SCRAG/14 Meeting for collection by the United Kingdom. The Secretariat will place the tables in the SCRAG web page.

Cost estimates for the years 2015 to 2017

4.9 The Group considered the estimates provided by the United Kingdom (Appendix F) and summarised in Table 5 of providing the SADIS services for the years 2015 to 2017 as well as the estimates for the United Kingdom administrative costs and the costs of ICAO support services.

4.10 The Group noted that the allowance of £60 000 for new hardware associated with a refresh of the hub infrastructure to be depreciated over five years starting in 2015, results from Conclusion 18/16 of the SADISOPSG/18 which also indicates that the existing SADIS 2G satellite broadcast would be withdrawn in November 2019.

TABLE 5
SUMMARY OF ESTIMATED SADIS COSTS
FOR THE YEARS 2015, 2016 AND 2017*

| Cost Item | Estimated Costs 2015 (UK £) | Estimated Costs 2016 (UK £) | Estimated Costs 2017 (UK £) |
|-----------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| UK Meteorological Office | 383 832 | 379 172 | 379 172 |
| UK NATS Gateway | 372 207 | 367 601 | 365 147 |
| UK CAA administrative costs | 5 000 | 5 000 | 5 000 |
| Sub-total UK | 761 039 | 751 773 | 749 319 |
| ICAO support services costs | 53 062 | 53 062 | 53 062 |
| TOTAL | 814 101 | 804 835 | 802 381 |

* Estimates based on 2013 prices.

4.11 The Group requested that for future SCRAG meetings, the information in WP/3 on Conclusions of the SADISOPSG meeting be linked to the information contained in WP/10 on estimated costs.

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

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

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

Conclusion 14/4 -

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/14 Report.

AGENDA ITEM 6: FUTURE WORK AND ARRANGEMENTS FOR THE SCRAG/15 MEETING

6.1 The Group agreed that, subject to confirmation, its Fifteenth Meeting should be held at the Offices of the Deutscher Wetterdienst, in Offenbach, Germany during the first week of November 2014.

AGENDA ITEM 7: OTHER BUSINESS

7.1 The Group reviewed WP/13 on the status of payment for the current (2013) year, presented by the United Kingdom. The Group noted a comment provided by e-mail by the Member from China in relation to the deadline referenced in Conclusion 14/6 below.

7.2 The Group formulated the following Conclusions:

Conclusion 14/5 -

The Group agreed that a standing agenda item be added to the SCRAG Agenda under which the status of payments for the year that SCRAG sits be reviewed.

Conclusion 14/6 -

The Group agreed that the SADIS Provider be invited to withdraw access to SADIS 2G and/or secure SADIS FTP for those States who, as at 1200 UTC on 28 January 2014, have outstanding payments over GBP 100 due for any invoice dated 2013 or earlier.

Conclusion 14/7 -

The Group agreed that the SADIS Provider be invited to add small additional costs incurred in the process of obtaining payment of SADIS invoices (e.g. bank charges and courier costs) to the administrative costs of the SADIS Provider State.

7.3 The group were informed of a recent communication from one State requesting that an invoice be sent to them for their 2014 assessment before the end of the current (2013) calendar year. The group considered this in the context of the SADIS Agreement and the SADIS Provider's own financial system and invoicing procedures. The group agreed that invoices could not be sent earlier than currently provided for in Article XII of the Agreement. However, it was deemed acceptable for the SADIS Provider to communicate an estimate based upon Appendix H to the SCRAG/14 Report to assist in the State's budgetary calculations but that such amounts should not be considered final or binding.

7.4 The Group noted that the Secretary, Mr. Claude Gauthier, will be retiring soon and it expressed its appreciation for the excellent work over the years.

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

APPENDIX A

LIST OF PARTICIPANTS

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APPENDIX B

LIST OF SCRAG/14 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/18 Meeting | Chairperson, SADISOPSG |
| 4 | 3 | 2012 ICAO actual SADIS administrative costs | Secretariat |
| 5 | 3 | 2012 actual SADIS costs | United Kingdom |
| 6 | 3 & 4 | Status of payments for the year 2012 | United Kingdom |
| 7 | 3 | Summary of actual costs and cost shares for the year 2012 | Secretariat |
| 8 | 3 | Depreciated assets: SADIS costs | United Kingdom |
| 9 | 4 | 2013 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 2014 | Secretariat |
| 12 | 5 | Amendment to Annex II, SADIS Inventory, to the SADIS Agreement | Secretariat |
| 13 | 7 | Status of payments for the current (2013) year | United Kingdom |

APPENDIX C

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

| (1) Inventory of Assets: 2013 | (2) Original Value | (3) Depreciated charges in 2013 | (4) Total accumulated depreciation | (5) Net depreciated values at end of 2013 |
|---|--------------------------|---------------------------------------|---|--|
| Original HUB Investment, Trial Systems and Capitalized Operation Asset | £713 769 | £0 | £713 769 | £0 |
| Two-Way Hub enhancement, VSATS and development | £375 000 | £0 | £375 000 | £0 |
| SADIS 2G Operational System | £87 428 | £0 | £87 428 | £0 |
| SADIS 2G Hardware Refresh | £59 988 | £11 616 | £51 276 | £8 712 |
| Total UKMO | £1 236 185 | £11 616 | £1 227 473 | £8 712 |
| SADIS Gateway | £227 462 | £0 | £227 462 | £0 |

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APPENDIX D

STATES WHICH FORMALLY ACCEDED TO THE SADIS AGREEMENT

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

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

APPENDIX D (cont'd)

STATES WHICH HAVE NOT YET ACCEDED TO THE SADIS AGREEMENT

| STATES | LDC's Exempted |
|---|----------------|
| Afghanistan | X |
| Algeria | |
| Angola | X |
| Azerbaijan | |
| Bangladesh | X |
| Benin | X |
| Bosnia and Herzegovina | |
| Bulgaria | |
| Burkina Faso | X |
| Cambodia | X |
| Cape Verde | |
| Central African Republic | X |
| Chad | X |
| Comoros | X |
| Djibouti | X |
| Equatorial Guinea | X |
| Ethiopia | X |
| Gambia | X |
| Ghana | |
| Guinea | X |
| Guinea-Bissau | X |
| Iceland | |
| India | |
| Indonesia | |
| Iran (Islamic Republic of) | |
| Ireland | |
| Kenya | |
| Lao People's Democratic Republic | X |
| Libya | |
| Malawi | X |
| Maldives | |
| Mali | X |
| Malta | |
| Mauritania | X |
| Mozambique | X |
| Myanmar | X |
| Namibia | |
| Nepal | X |
| Niger | X |
| Nigeria | |
| Qatar | |
| Rwanda | X |
| Saudi Arabia | |
| Serbia | |
| Seychelles | |
| Somalia | X |
| South Africa | |
| Sri Lanka | |
| Swaziland | |
| Syrian Arab Republic * | |
| The former Yugoslav Republic of Macedonia | |
| Togo | X |
| Turkey | |
| Uganda | X |
| Uzbekistan | |
| Yemen | X |
| Zimbabwe | |

* This State does not presently receive the service.

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APPENDIX E

ACTUAL COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2012*

AND ADJUSTMENT FOR 2012

| STATES | 2012 Available | Percentage Cost Share | Share of 2012 Actual Costs (£ Sterling) | Share of 2012 Estimated Costs (SCRAG/12) (£ Sterling) ** | Adjustment for 2012 (£ Sterling) |
|---------------------------------------|--|--------------------------|---|---|--|
| | Tonne-Kilometres in Scheduled Services (000) | | | | |
| Albania | 305 194 | 0.057% | 425.58 | 12.83 | 412.75 |
| Algeria | 704 978 | 0.132% | 983.07 | 1 823.70 | - 840.63 |
| Armenia | 85 747 | 0.016% | 119.57 | 274.45 | - 154.88 |
| Australia | 23 294 904 | 4.353% | 32 483.99 | 20 410.20 | 12 073.79 |
| Austria | 3 110 382 | 0.581% | 4 337.33 | 5 782.42 | - 1 445.09 |
| Azerbaijan | 440 354 | 0.082% | 614.06 | 432.50 | 181.56 |
| Bahrain | 2 574 751 | 0.481% | 3 590.41 | 5 843.53 | - 2 253.12 |
| Belgium | 3 571 996 | 0.667% | 4 981.03 | 5 706.28 | - 725.25 |
| Bosnia and Herzegovina | 15 791 | 0.003% | 22.02 | 110.92 | - 88.90 |
| Botswana | 47 677 | 0.009% | 66.48 | 49.02 | 17.46 |
| Bulgaria | 162 458 | 0.030% | 226.54 | 300.77 | - 74.23 |
| Cameroon | 74 889 | 0.014% | 104.43 | 0.00 | 104.43 |
| Cape Verde | 179 783 | 0.034% | 250.70 | 196.84 | 53.86 |
| China: - Beijing | 85 842 309 | 16.040% | 119 704.32 | 125 032.69 | - 5 328.37 |
| - Hong Kong | 28 701 859 | 5.363% | 40 023.81 | 34 508.28 | 5 515.53 |
| - Macau | 400 230 | 0.075% | 558.11 | 617.77 | - 59.66 |
| Congo | 38 396 | 0.007% | 53.54 | 152.19 | - 98.65 |
| Côte d'Ivoire | 8 441 | 0.002% | 11.77 | 269.27 | - 257.50 |
| Croatia | 201 034 | 0.038% | 280.34 | 319.85 | - 39.51 |
| Cyprus | 324 697 | 0.061% | 452.78 | 1 149.82 | - 697.04 |
| Czech Republic | 737 985 | 0.138% | 1 029.10 | 1 894.32 | - 865.22 |
| Democratic People's Republic of Korea | 32 278 | 0.006% | 45.01 | 24.00 | 21.01 |
| Denmark | 2 288 224 | 0.428% | 3 190.85 | 2 748.38 | 442.47 |
| Egypt | 4 097 903 | 0.766% | 5 714.39 | 6 976.22 | - 1 261.83 |
| Estonia | 115 117 | 0.022% | 160.53 | 143.61 | 16.92 |
| Finland | 3 917 159 | 0.732% | 5 462.35 | 6 320.73 | - 858.38 |
| France | 27 610 667 | 5.159% | 38 502.18 | 42 310.36 | - 3 808.18 |
| Gabon | 2 441 | 0.000% | 3.40 | 141.94 | - 138.54 |
| Georgia | 58 217 | 0.011% | 81.18 | 286.98 | - 205.80 |
| Germany | 39 345 991 | 7.352% | 54 866.71 | 65 956.81 | - 11 090.10 |
| Ghana | 20 594 | 0.004% | 28.72 | 45.48 | - 16.76 |
| Greece | 969 827 | 0.181% | 1 352.39 | 2 368.32 | - 1 015.93 |
| Hungary | 1 995 970 | 0.373% | 2 783.32 | 2 365.21 | 418.11 |
| Iceland | 993 622 | 0.186% | 1 385.57 | 1 255.75 | 129.82 |
| India | 16 588 118 | 3.099% | 23 131.59 | 25 945.83 | - 2 814.24 |
| Indonesia | 12 299 304 | 2.298% | 17 150.98 | 4 158.72 | 12 992.26 |
| Iran (Islamic Republic of) | 2 505 639 | 0.468% | 3 494.03 | 4 294.00 | - 799.97 |
| Ireland | 12 810 225 | 2.394% | 17 863.44 | 21 319.47 | - 3 456.03 |
| Italy | 6 527 564 | 1.220% | 9 102.48 | 12 095.26 | - 2 992.78 |
| Jordan | 1 750 899 | 0.327% | 2 441.57 | 3 238.71 | - 797.14 |
| Kazakhstan | 1 271 196 | 0.238% | 1 772.64 | 0.00 | 1 772.64 |
| Kenya | 2 213 563 | 0.414% | 3 086.74 | 3 259.65 | - 172.91 |
| Kuwait | 1 747 587 | 0.327% | 2 436.95 | 2 764.16 | - 327.21 |
| Latvia | 501 559 | 0.094% | 699.41 | 896.54 | - 197.13 |
| Libya | 252 676 | 0.047% | 352.35 | 1 241.12 | - 888.77 |
| Lithuania | 6 235 | 0.001% | 8.69 | 410.41 | - 401.72 |

APPENDIX E (cont'd)

ACTUAL COST SHARES FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2012*

AND ADJUSTMENT FOR 2012

| STATES | 2012 Available | Percentage Cost Share | Share of 2012 | Share of 2012 | Adjustment for 2012 (£ Sterling) |
|--|--|--------------------------|------------------------------|---|--|
| | Tonne-Kilometres in Scheduled Services (000) | | Actual Costs (£ Sterling) | Estimated Costs (SCRAG/12) (£ Sterling)** | |
| Maldives (note 3) | 1 248 | 0.000% | 1.74 | 1.93 | - 0.19 |
| Malta | 332 429 | 0.062% | 463.56 | 1 542.35 | - 1 078.79 |
| Morocco | 2 101 309 | 0.393% | 2 930.21 | 6 505.37 | - 3 575.16 |
| Namibia | 317 522 | 0.059% | 442.77 | 807.26 | - 364.49 |
| Netherlands | 19 848 726 | 3.709% | 27 678.41 | 31 433.95 | - 3 755.54 |
| Nigeria | 707 386 | 0.132% | 986.43 | 295.95 | 690.48 |
| Oman | 1 588 296 | 0.297% | 2 214.83 | 1 242.87 | 971.96 |
| Pakistan | 3 052 945 | 0.570% | 4 257.23 | 4 156.72 | 100.51 |
| Poland | 1 235 740 | 0.231% | 1 723.20 | 2 284.02 | - 560.82 |
| Portugal | 4 920 415 | 0.919% | 6 861.36 | 7 681.97 | - 820.61 |
| Qatar | 18 433 790 | 3.444% | 25 705.32 | 23 052.26 | 2 653.06 |
| Republic of Moldova | 99 538 | 0.019% | 138.80 | 158.14 | - 19.34 |
| Romania | 683 451 | 0.128% | 953.05 | 1 219.58 | - 266.53 |
| Russian Federation | 27 582 187 | 5.154% | 38 462.47 | 33 710.42 | 4 752.05 |
| Saudi Arabia | 11 095 883 | 2.073% | 15 472.85 | 13 708.30 | 1 764.55 |
| Senegal | 82 120 | 0.015% | 114.51 | 343.25 | - 228.74 |
| Serbia | 184 083 | 0.034% | 256.70 | 314.77 | - 58.07 |
| Seychelles | 54 267 | 0.010% | 75.67 | 353.37 | - 277.70 |
| Slovakia (note 1) | 1 387 | 0.000% | 1.93 | 0.00 | 1.93 |
| South Africa | 6 452 776 | 1.206% | 8 998.19 | 9 889.07 | - 890.88 |
| Sri Lanka | 2 356 937 | 0.440% | 3 286.67 | 2 819.88 | 466.79 |
| Swaziland (note 3) | 1 960 | 0.000% | 2.73 | 2.98 | - 0.25 |
| Sweden | 2 010 863 | 0.376% | 2 804.08 | 2 385.31 | 418.77 |
| Switzerland | 8 397 771 | 1.569% | 11 710.42 | 12 382.25 | - 671.83 |
| Syrian Arab Republic | 562 002 | 0.105% | 783.69 | 1 132.77 | - 349.08 |
| Thailand | 14 464 727 | 2.703% | 20 170.59 | 20 238.04 | - 67.45 |
| The former Yugoslav Republic of Macedonia (note 3) | 34 131 | 0.006% | 47.59 | 48.58 | - 0.99 |
| Tunisia (note 2) | 302 450 | 0.057% | 421.76 | 1 142.61 | - 720.85 |
| Turkey | 17 155 255 | 3.205% | 23 922.45 | 17 577.52 | 6 344.93 |
| Ukraine | 1 725 923 | 0.322% | 2 406.74 | 2 325.67 | 81.07 |
| United Arab Emirates | 50 518 771 | 9.439% | 70 446.79 | 79 572.04 | - 9 125.25 |
| United Kingdom | 41 832 822 | 7.816% | 58 334.56 | 64 854.90 | - 6 520.34 |
| Uzbekistan | 1 358 499 | 0.254% | 1 894.38 | 1 999.00 | - 104.62 |
| Viet Nam | 4 843 798 | 0.905% | 6 754.52 | 6 104.92 | 649.60 |
| Zimbabwe | 103 517 | 0.019% | 144.35 | 184.67 | - 40.32 |
| TOTAL | 535 191 354 | 100.000% | 746 307.00 | 766 928.00 | - 20 621.00 |

* Excludes Least Developed Countries exempted.

Note 1: Considering that Slovakia receives the service since 1 September 2012, its share of the 2012 actual costs was calculated based on 4 full months of service in 2012.

Note 2: Considering that Tunisia had its service withdrawn on 28 June 2012, its share of the 2012 actual costs was calculated based on 5 full months of service in 2012.

Note 3: We did not receive the number of ATKs in 2012 for the Maldives, Swaziland and the Former Yugoslav Republic of Macedonia. The number of ATKs shown is the latest available adjusted based on the annual growth rate of ATKs for the specific Region.

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APPENDIX F

TABLE 1: UKMO Cost and manpower resource projections until year 2017 (at 2013 prices)

| INVENTORY REF: | Note | DESCRIPTION | Actual 2012 | FOO 2013 | Est 2014 | Est 2015 | Est 2016 | Est 2017 |
|---|------|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1 UK MET OFFICE COSTS | | | | | | | | |
| 1. Equipment | | | | | | | | |
| Principally procured for SADIS | | | | | | | | |
| comms between Whitehill & Met Office | a | SADIS 2G | 5,436 | 5,436 | 5,436 | 5,436 | 5,436 | 5,436 |
| comms link SADIS Gateway & Met Office | | SADIS 2G | 3,340 | 3,340 | 3,340 | 3,340 | 3,340 | 3,340 |
| | | ISDN Back-up | 372 | 372 | 372 | 372 | 372 | 372 |
| Not procured principally for SADIS | | | | | | | | |
| message switch (FTP) | b | SADIS FTP | 7,387 | 6,154 | 6,000 | 6,000 | 6,000 | 6,000 |
| message switch (2G) | | SADIS 2G | 5,466 | 4,554 | 4,500 | 4,500 | 4,500 | 4,500 |
| internet bandwidth (FTP) | | FTP | 9,214 | 7,362 | 3,720 | 3,720 | 3,720 | 3,720 |
| FTP equipment running costs | | FTP | 35,534 | 33,805 | 34,000 | 34,000 | 34,000 | 34,000 |
| Service Desk Equipment Costs | | Service Desk eqpt | 10,290 | 12,040 | 12,000 | 12,000 | 12,000 | 12,000 |
| Serial Comms Costs and maintenance | | Serial Comms | 9,248 | 9,848 | 10,000 | 10,000 | 10,000 | 10,000 |
| | | sub total | 86,287 | 82,911 | 79,368 | 79,368 | 79,368 | 79,368 |
| 2. Procured Services | | | | | | | | |
| space segment annual lease | c | Satellite Segment | 54,660 | 54,660 | 54,660 | 54,660 | 60,000 | 60,000 |
| annual maintenance | d | 2G Maintenance | 33,548 | 35,172 | 35,172 | 36,000 | 36,000 | 36,000 |
| | | 2G Facilities Management | 6,300 | 6,300 | 6,300 | 6,300 | 6,300 | 6,300 |
| | | IT Hall Space | 15,170 | 14,824 | 15,000 | 15,000 | 15,000 | 15,000 |
| | e | ad hoc maintenance | 6,555 | 1,500 | 5,000 | 5,000 | 5,000 | 5,000 |
| | | sub total | 116,233 | 112,456 | 116,132 | 116,960 | 122,300 | 122,300 |
| 3. Annual Staff Requirements | | | | | | | | |
| | f | | | | | | | |
| Help Desk | | | | | | | | |
| | | Help Desk 0.5% | 5,510 | 5,510 | 5,500 | 5,500 | 5,500 | 5,500 |
| | | Technical Team Leader 4% | 10,266 | 12,098 | 12,000 | 12,000 | 12,000 | 12,000 |
| | | Network Systems Supervisor 7% | 20,533 | 24,196 | 24,000 | 24,000 | 24,000 | 24,000 |
| Additional Support | | | | | | | | |
| Systems Integration Team | | Network Computer Engineer | 4,866 | 4,866 | 4,866 | 4,866 | 4,866 | 4,866 |
| Message Switching | | Message Switching Manager | 5,214 | 5,214 | 5,214 | 5,214 | 5,214 | 5,214 |
| Administrator | | Executive Officer | 55,612 | 55,612 | 55,612 | 55,612 | 55,612 | 55,612 |
| International Aviation Management | | Aviation Manager | 12,805 | 12,805 | 12,805 | 12,805 | 12,805 | 12,805 |
| Data Traffic | | Communications Engineer | 1,738 | 1,738 | 1,738 | 1,738 | 1,738 | 1,738 |
| Contract Management | | Senior Procurement Officer | 1,390 | 1,390 | 1,390 | 1,390 | 1,390 | 1,390 |
| Message Switching Team | | Technical Officer | 5,214 | 5,214 | 5,214 | 5,214 | 5,214 | 5,214 |
| Invoice Administration | | Finance Officer & Business Acct | 13,354 | 13,354 | 12,165 | 12,165 | 12,165 | 12,165 |
| SADIS Satellite Upgrade/decommissioning | g | Resource costs | | | | 10,000 | | |
| Travel Costs | | SADISOPSG & SCRAG | 2,349 | 2,000 | 5,000 | 5,000 | 5,000 | 5,000 |
| | | sub total | 138,851 | 143,997 | 145,504 | 155,504 | 145,504 | 145,504 |
| | | TOTAL | 341,371 | 339,364 | 341,004 | 351,832 | 347,172 | 347,172 |
| Cost of Depreciated Capital | | | | | | | | |
| | h | SADIS 2G | 11,616 | 11,616 | 8,712 | 0 | 0 | 0 |
| | | FTP enhancements | 0 | 0 | 0 | 0 | 0 | 0 |
| | i | Satellite Service upgrade | 0 | 0 | 0 | 12,000 | 12,000 | 12,000 |
| | | sub total | 352,987 | 350,980 | 349,716 | 363,832 | 359,172 | 359,172 |
| | | Cost of Capital | 19,348 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 |
| | | Total UKMO Costs | 372,335 | 370,980 | 369,716 | 383,832 | 379,172 | 379,172 |

APPENDIX F (cont'd)

TABLE 2: NATS and other SADIS Cost Projections until 2016

| INVENTORY REF: | | Note | DESCRIPTION | 0 7387 | 0 6154 | 2014 | 2015 | 2016 | 2017 |
|----------------|---|------|-----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 2 | NATS Gateway Costs | j | | | | | | | |
| | Staff Costs | | | | | | | | |
| | Operational Staff | | Air Traffic Services Asst. | 258,527 | 250,759 | 255,164 | 255,164 | 255,164 | 255,164 |
| | Engineering Staff | | Systems Engineer | 12,067 | 11,209 | 11,639 | 11,639 | 11,639 | 11,639 |
| | Administration Support | | Administration Officer | 24,134 | 27,348 | 28,472 | 28,472 | 28,472 | 28,472 |
| | asset engineering support | | asset management activities | 6,936 | 3,331 | 3,454 | 3,454 | 3,454 | 3,454 |
| | | | sub total | 301,664 | 292,647 | 298,729 | 298,729 | 298,729 | 298,729 |
| | Communications | | ip comms link to ukmo | 12,040 | 18,128 | 18,672 | 18,672 | 18,672 | 18,672 |
| | | | x25 comms link | 0 | 0 | 0 | 0 | 0 | 0 |
| | Maintenance | | Systems Maintenance | 6,261 | 6,264 | 8,610 | 8,610 | 6,458 | 6,458 |
| | Sadis Gateway Upgrade (Capital Project) | k | Capitalised Staff Costs | 0 | 0 | 15,899 | 15,899 | 15,899 | 15,899 |
| | Cost of Depreciated Capital | | Hardware Depreciation | 0 | 0 | 20,458 | 20,458 | 20,458 | 20,458 |
| | | | Interest @ 6.75% | 0 | 0 | 11,043 | 8,589 | 6,135 | 3,681 |
| | Sadis Backup enhancement | | procurement & Installation | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | annual support costs | 1250 | 1250 | 1,250 | 1,250 | 1,250 | 1,250 |
| | Total NATS Gateway Costs | | | 321,215 | 318,289 | 374,661 | 372,207 | 367,601 | 365,147 |
| | CAA Administration Costs | | | 5,574 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 |
| | ICAO Administration Costs | | | 47,183 | 53,062 | 53,062 | 53,062 | 53,062 | 53,062 |
| | TOTAL SADIS COSTS | | | 746,307 | 747,331 | 802,439 | 814,101 | 804,835 | 802,381 |
| | | | ----- | | | | | | |

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APPENDIX G
TABLE 1
STATUS OF PAYMENT OF THE ASSESSMENT FOR 2012
AS AT 1 OCTOBER 2013

(£ Sterling)

| STATES | Total amount billed for 2012 (SCRAG/12 Report, Appendix I) | Amount Collected as at 1 October 2013 | Application of credit balance (or part of) | Unpaid amount (excess paid) as at 1 October 2013 |
|---------------------------------------|---|--|--|---|
| Albania | 13.27 | 13.27 | | 0.00 |
| Algeria | 3 206.13 | | | 3 206.13 |
| Armenia | 268.07 | 268.07 | | 0.00 |
| Australia | 21 116.53 | 21 116.53 | | 0.00 |
| Austria | 7 192.04 | 7 192.04 | | 0.00 |
| Azerbaijan | 385.30 | 385.30 | | 0.00 |
| Bahrain | 9 702.81 | 9 702.81 | | 0.00 |
| Belgium | 6 175.38 | 6 175.38 | | 0.00 |
| Bosnia and Herzegovina | 226.23 | | | 226.23 |
| Botswana | 66.54 | 66.54 | | 0.00 |
| Bulgaria | 203.05 | 203.05 | | 0.00 |
| Cameroon | - 308.02 | | | - 308.02 |
| Cape Verde | 203.65 | 195.78 | | 7.87 |
| China: - Beijing | 170 411.77 | 170 411.77 | | 0.00 |
| - Hong Kong | 27 159.85 | 27 159.85 | | 0.00 |
| - Macau | 410.16 | 410.16 | | 0.00 |
| Congo | 185.97 | | | 185.97 |
| Côte d'Ivoire | 329.02 | | | 329.02 |
| Croatia | 302.08 | 302.08 | | 0.00 |
| Cyprus | 1 156.20 | 1 156.20 | | 0.00 |
| Czech Republic | 2 038.42 | 2 038.42 | | 0.00 |
| Democratic People's Republic of Korea | 0.00 | 0.00 | | 0.00 |
| Denmark | 2 323.91 | 2 323.91 | | 0.00 |
| Egypt | 9 047.15 | 9 047.15 | | 0.00 |
| Estonia | 31.26 | 31.26 | | 0.00 |
| Finland | 6 150.30 | 6 150.30 | | 0.00 |
| France | 43 774.59 | 43 774.59 | | 0.00 |
| Gabon | - 772.41 | | | - 772.41 |
| Georgia | 448.81 | 448.81 | | 0.00 |
| Germany | 67 721.66 | 67 721.66 | | 0.00 |
| Ghana | 0.00 | 0.00 | | 0.00 |
| Greece | 2 168.96 | 2 168.96 | | 0.00 |
| Hungary | 3 303.42 | 3 303.42 | | 0.00 |
| Iceland | 1 246.57 | 1 246.57 | | 0.00 |
| India | 27 645.76 | 27 645.76 | | 0.00 |
| Indonesia | 4 302.64 | 4 302.64 | | 0.00 |
| Iran (Islamic Republic of) | 5 908.67 | | | 5 908.67 |
| Ireland | 29 339.11 | 29 339.11 | | 0.00 |
| Italy | 10 066.46 | 10 066.46 | | 0.00 |
| Jordan | 4 722.52 | 4 722.52 | | 0.00 |
| Kenya | 4 010.56 | 4 010.00 | | 0.56 |
| Kuwait | 3 026.05 | 3 026.05 | | 0.00 |
| Latvia | 1 392.47 | 1 392.47 | | 0.00 |
| Libya | 2 230.24 | 2 230.24 | | 0.00 |
| Lithuania | 615.66 | 615.66 | | 0.00 |

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APPENDIX G (cont'd)

TABLE 1 (cont'd)

STATUS OF PAYMENT OF THE ASSESSMENT FOR 2012

AS AT 1 OCTOBER 2013

(£ Sterling)

| STATES | Total amount billed for 2012 (SCRAG/12 Report, Appendix I) | Amount Collected as at 1 October 2013 | Application of credit balance (or part of) | Unpaid amount (excess paid) as at 1 October 2013 |
|---|--|---------------------------------------|--|--|
| Maldives | 2.00 | | | 2.00 |
| Malta | 2 664.38 | 2 664.38 | | 0.00 |
| Morocco | 8 634.97 | 8 634.97 | | 0.00 |
| Namibia | 1 347.58 | 1 347.58 | | 0.00 |
| Netherlands | 33 014.25 | 33 014.25 | | 0.00 |
| Nigeria | 104.86 | 104.86 | | 0.00 |
| Oman | -1 373.66 | | | -1 373.66 |
| Pakistan | 3 441.22 | 3 441.22 | | 0.00 |
| Poland | 2 304.73 | 2 304.73 | | 0.00 |
| Portugal | 7 819.15 | 7 584.54 | | 234.61 |
| Qatar | 33 616.80 | 33 616.80 | | 0.00 |
| Republic of Moldova | 173.05 | 173.05 | | 0.00 |
| Romania | 723.36 | 723.36 | | 0.00 |
| Russian Federation | 40 332.61 | 40 332.61 | | 0.00 |
| Saudi Arabia | 15 216.54 | 15 216.54 | | 0.00 |
| Senegal | 420.38 | | | 420.38 |
| Serbia | 272.10 | 272.10 | | 0.00 |
| Seychelles | 365.60 | 365.60 | | 0.00 |
| South Africa | 10 836.98 | 10 836.98 | | 0.00 |
| Sri Lanka | 2 948.57 | 2 948.57 | | 0.00 |
| Swaziland | 3.64 | | | 3.64 |
| Sweden | 2 303.88 | 2 303.88 | | 0.00 |
| Switzerland | 15 123.34 | 15 123.34 | | 0.00 |
| Syrian Arab Republic | 1 641.66 | | | 1 641.66 |
| Thailand | 23 623.38 | 23 623.38 | | 0.00 |
| The former Yugoslav Republic of Macedonia | 18.00 | 18.00 | | 0.00 |
| Tunisia | 1 431.85 | 1 431.85 | | 0.00 |
| Turkey | 26 887.80 | 26 887.80 | | 0.00 |
| Ukraine | 2 876.85 | 2 876.85 | | 0.00 |
| United Arab Emirates | 133 628.36 | 133 628.36 | | 0.00 |
| United Kingdom | 63 066.07 | 63 066.07 | | 0.00 |
| Uzbekistan | 2 395.36 | 2 395.36 | | 0.00 |
| Viet Nam | 8 235.59 | | | 8 235.59 |
| Zimbabwe | - 173.32 | | | - 173.32 |
| TOTAL | 923 076.74 | 905 301.82 | 0.00 | 17 774.92 |

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APPENDIX G (cont'd)

TABLE 2

STATUS OF PAYMENT OF BALANCES FOR YEARS PRIOR TO 2012

AS AT 1 OCTOBER 2013

(£ Sterling)

| STATES | Balance due for years prior to 2012 | Amount Collected as at 1 October 2013 | Application of credit balance (or part of) | Unpaid amount (excess paid) as at 1 October 2013 |
|----------------------------|---|--|--|---|
| Bosnia and Herzegovina | 76.82 | | | 76.82 |
| Congo | 194.31 | | | 194.31 |
| Egypt | 5 151.11 | 9 821.98 | | -4 670.87 |
| India | 39 582.61 | 39 582.61 | | 0.00 |
| Iran (Islamic Republic of) | 7 200.49 | | | 7 200.49 |
| Italy | 740.46 | 740.46 | | 0.00 |
| Kenya | 1.39 | | | 1.39 |
| Russian Federation | 34 191.89 | 34 191.89 | | 0.00 |
| Saudi Arabia | 20 272.72 | | | 20 272.72 |
| Swaziland | 9.85 | | | 9.85 |
| Syrian Arab Republic | 692.75 | | | 692.75 |
| Tunisia | 2 583.36 | 2 583.36 | | 0.00 |
| Vietnam | 8 066.62 | 8 066.62 | | 0.00 |
| Zimbabwe | 740.61 | | | 740.61 |
| TOTAL | 119 504.99 | 94 986.92 | 0.00 | 24 518.07 |

APPENDIX H
ESTIMATED COST SHARES AND ASSESSMENTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2014 *

| STATES | 2012 Available | Percentage Cost Share | Share of 2014 | Share of | Amount to be |
|---------------------------------------|--|--------------------------|---------------------------------|---|-----------------------------------|
| | Tonne-Kilometres in Scheduled Services (000) | | Estimated Costs (£ Sterling) | Over-recovery for 2012 (£ Sterling) | Assessed for 2014 (£ Sterling) |
| Albania | 305 194 | 0.055% | 442.53 | - 53.98 | 388.55 |
| Algeria | 704 978 | 0.128% | 1 022.23 | - 124.68 | 897.55 |
| Armenia | 85 747 | 0.016% | 124.33 | - 15.17 | 109.16 |
| Australia | 23 294 904 | 4.217% | 33 777.87 | -4 119.94 | 29 657.93 |
| Austria | 3 110 382 | 0.563% | 4 510.09 | - 550.10 | 3 959.99 |
| Azerbaijan | 440 354 | 0.080% | 638.52 | - 77.88 | 560.64 |
| Bahrain | 2 574 751 | 0.466% | 3 733.42 | - 455.37 | 3 278.05 |
| Belgium | 3 571 996 | 0.647% | 5 179.43 | - 631.74 | 4 547.69 |
| Bosnia and Herzegovina | 15 791 | 0.003% | 22.90 | - 2.79 | 20.11 |
| Botswana | 47 677 | 0.009% | 69.13 | - 8.43 | 60.70 |
| Bulgaria | 162 458 | 0.029% | 235.57 | - 28.73 | 206.84 |
| Cameroon | 74 889 | 0.014% | 108.59 | - 13.24 | 95.35 |
| Cape Verde | 179 783 | 0.033% | 260.69 | - 31.80 | 228.89 |
| China: - Beijing | 85 842 309 | 15.538% | 124 472.30 | -15 182.10 | 109 290.20 |
| - Hong Kong | 28 701 859 | 5.195% | 41 618.01 | -5 076.22 | 36 541.79 |
| - Macau | 400 230 | 0.072% | 580.34 | - 70.78 | 509.56 |
| Congo | 38 396 | 0.007% | 55.67 | - 6.79 | 48.88 |
| Côte d'Ivoire | 8 441 | 0.002% | 12.24 | - 1.49 | 10.75 |
| Croatia | 201 034 | 0.036% | 291.50 | - 35.55 | 255.95 |
| Cyprus | 324 697 | 0.059% | 470.81 | - 57.43 | 413.38 |
| Czech Republic | 737 985 | 0.134% | 1 070.09 | - 130.52 | 939.57 |
| Democratic People's Republic of Korea | 32 278 | 0.006% | 46.80 | - 5.71 | 41.09 |
| Denmark | 2 288 224 | 0.414% | 3 317.95 | - 404.70 | 2 913.25 |
| Egypt | 4 097 903 | 0.742% | 5 942.00 | - 724.76 | 5 217.24 |
| Estonia | 115 117 | 0.021% | 166.92 | - 20.36 | 146.56 |
| Finland | 3 917 159 | 0.709% | 5 679.92 | - 692.79 | 4 987.13 |
| France | 27 610 667 | 4.998% | 40 035.77 | -4 883.23 | 35 152.54 |
| Gabon | 2 441 | 0.000% | 3.54 | - 0.43 | 3.11 |
| Georgia | 58 217 | 0.011% | 84.42 | - 10.30 | 74.12 |
| Germany | 39 345 991 | 7.122% | 57 052.12 | -6 958.74 | 50 093.38 |
| Ghana | 20 594 | 0.004% | 29.86 | - 3.64 | 26.22 |
| Greece | 969 827 | 0.176% | 1 406.26 | - 171.52 | 1 234.74 |
| Hungary | 1 995 970 | 0.361% | 2 894.18 | - 353.01 | 2 541.17 |
| Iceland | 993 622 | 0.180% | 1 440.76 | - 175.73 | 1 265.03 |
| India | 16 588 118 | 3.003% | 24 052.95 | -2 933.78 | 21 119.17 |
| Indonesia | 12 299 304 | 2.226% | 17 834.13 | -2 175.26 | 15 658.87 |
| Ireland | 12 810 225 | 2.319% | 18 574.97 | -2 265.62 | 16 309.35 |
| Israel | 4 155 945 | 0.752% | 6 026.17 | - 735.02 | 5 291.15 |
| Italy | 6 527 564 | 1.182% | 9 465.04 | -1 154.47 | 8 310.57 |
| Jordan | 1 750 899 | 0.317% | 2 538.82 | - 309.66 | 2 229.16 |
| Kazakhstan | 1 271 196 | 0.230% | 1 843.25 | - 224.82 | 1 618.43 |
| Kenya | 2 213 563 | 0.401% | 3 209.69 | - 391.49 | 2 818.20 |
| Kuwait | 1 747 587 | 0.316% | 2 534.02 | - 309.08 | 2 224.94 |
| Latvia | 501 559 | 0.091% | 727.27 | - 88.71 | 638.56 |
| Libya | 252 676 | 0.046% | 366.38 | - 44.69 | 321.69 |

APPENDIX H (cont'd)
ESTIMATED COST SHARES AND ASSESSMENTS
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2014 *

| STATES | 2012 Available Tonne-Kilometres in Scheduled Services (000) | Percentage Cost Share | Share of 2014 Estimated Costs (£ Sterling) | Share of Over-recovery for 2012 (£ Sterling) | Amount to be Assessed for 2014 (£ Sterling) |
|---|--|--------------------------|--|---|---|
| Lithuania | 6 235 | 0.001% | 9.04 | - 1.10 | 7.94 |
| Maldives | 1 248 | 0.000% | 1.81 | - 0.22 | 1.59 |
| Malta | 332 429 | 0.060% | 482.03 | - 58.79 | 423.24 |
| Morocco | 2 101 309 | 0.380% | 3 046.92 | - 371.64 | 2 675.28 |
| Namibia | 317 522 | 0.057% | 460.41 | - 56.16 | 404.25 |
| Netherlands | 19 848 726 | 3.593% | 28 780.87 | -3 510.45 | 25 270.42 |
| Nigeria | 707 386 | 0.128% | 1 025.72 | - 125.11 | 900.61 |
| Norway | 2 634 925 | 0.477% | 3 820.67 | - 466.01 | 3 354.66 |
| Oman | 1 588 296 | 0.287% | 2 303.05 | - 280.91 | 2 022.14 |
| Pakistan | 3 052 945 | 0.553% | 4 426.80 | - 539.94 | 3 886.86 |
| Poland | 1 235 740 | 0.224% | 1 791.84 | - 218.55 | 1 573.29 |
| Portugal | 4 920 415 | 0.891% | 7 134.66 | - 870.23 | 6 264.43 |
| Qatar | 18 433 790 | 3.337% | 26 729.20 | -3 260.21 | 23 468.99 |
| Republic of Moldova | 99 538 | 0.018% | 144.33 | - 17.60 | 126.73 |
| Romania | 683 451 | 0.124% | 991.01 | - 120.88 | 870.13 |
| Russian Federation | 27 582 187 | 4.993% | 39 994.48 | -4 878.19 | 35 116.29 |
| Saudi Arabia | 11 095 883 | 2.008% | 16 089.15 | -1 962.42 | 14 126.73 |
| Senegal | 82 120 | 0.015% | 119.07 | - 14.52 | 104.55 |
| Serbia | 184 083 | 0.033% | 266.92 | - 32.56 | 234.36 |
| Seychelles | 54 267 | 0.010% | 78.69 | - 9.60 | 69.09 |
| Slovakia | 4 161 | 0.001% | 6.03 | - 0.74 | 5.29 |
| South Africa | 6 452 776 | 1.168% | 9 356.60 | -1 141.24 | 8 215.36 |
| Spain | 13 112 239 | 2.373% | 19 012.89 | -2 319.03 | 16 693.86 |
| Sri Lanka | 2 356 937 | 0.427% | 3 417.58 | - 416.85 | 3 000.73 |
| Swaziland | 1 960 | 0.000% | 2.84 | - 0.35 | 2.49 |
| Sweden | 2 010 863 | 0.364% | 2 915.77 | - 355.64 | 2 560.13 |
| Switzerland | 8 397 771 | 1.520% | 12 176.86 | -1 485.23 | 10 691.63 |
| Thailand | 14 464 727 | 2.618% | 20 974.01 | -2 558.24 | 18 415.77 |
| The former Yugoslav Republic of Macedonia | 34 131 | 0.006% | 49.49 | - 6.04 | 43.45 |
| Tunisia | 725 879 | 0.131% | 1 052.53 | - 128.38 | 924.15 |
| Turkey | 17 155 255 | 3.105% | 24 875.31 | -3 034.08 | 21 841.23 |
| Ukraine | 1 725 923 | 0.312% | 2 502.61 | - 305.25 | 2 197.36 |
| United Arab Emirates | 50 518 771 | 9.144% | 73 252.78 | -8 934.76 | 64 318.02 |
| United Kingdom | 41 832 822 | 7.572% | 60 658.08 | -7 398.58 | 53 259.50 |
| Uzbekistan | 1 358 499 | 0.246% | 1 969.84 | - 240.26 | 1 729.58 |
| Viet Nam | 4 843 798 | 0.877% | 7 023.56 | - 856.68 | 6 166.88 |
| Zimbabwe | 103 517 | 0.019% | 150.10 | - 18.31 | 131.79 |
| TOTAL | 552 453 025 | 100.000% | 801 063.00 | -97 707.00 | 703 356.00 |

* 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.

I - 1
APPENDIX I
AMOUNTS TO BE BILLED
FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2014
(£ Sterling)

| STATES | Adjustment for 2012 (Appendix E) | Assessment for 2014 (Appendix H) | Deduction of Unused Credit Balance from Previous Years | Total Amount to be Billed for 2014 |
|---------------------------------------|--|--|---|---|
| Albania | 412.75 | 388.55 | | 801.30 |
| Algeria | - 840.63 | 897.55 | | 56.92 |
| Armenia | - 154.88 | 109.16 | | - 45.72 |
| Australia | 12 073.79 | 29 657.93 | | 41 731.72 |
| Austria | - 1 445.09 | 3 959.99 | | 2 514.90 |
| Azerbaijan | 181.56 | 560.64 | | 742.20 |
| Bahrain | - 2 253.12 | 3 278.05 | | 1 024.93 |
| Belgium | - 725.25 | 4 547.69 | | 3 822.44 |
| Bosnia and Herzegovina | - 88.90 | 20.11 | | - 68.79 |
| Botswana | 17.46 | 60.70 | | 78.16 |
| Bulgaria | - 74.23 | 206.84 | | 132.61 |
| Cameroon | 104.43 | 95.35 | - 199.78 | 0.00 |
| Cape Verde | 53.86 | 228.89 | | 282.75 |
| China: - Beijing | - 5 328.37 | 109 290.20 | | 103 961.83 |
| - Hong Kong | 5 515.53 | 36 541.79 | | 42 057.32 |
| - Macau | - 59.66 | 509.56 | | 449.90 |
| Congo | - 98.65 | 48.88 | | - 49.77 |
| Côte d'Ivoire | - 257.50 | 10.75 | | - 246.75 |
| Croatia | - 39.51 | 255.95 | | 216.44 |
| Cyprus | - 697.04 | 413.38 | | - 283.66 |
| Czech Republic | - 865.22 | 939.57 | | 74.35 |
| Democratic People's Republic of Korea | 21.01 | 41.09 | | 62.10 |
| Denmark | 442.47 | 2 913.25 | | 3 355.72 |
| Egypt | - 1 261.83 | 5 217.24 | | 3 955.41 |
| Estonia | 16.92 | 146.56 | | 163.48 |
| Finland | - 858.38 | 4 987.13 | | 4 128.75 |
| France | - 3 808.18 | 35 152.54 | | 31 344.36 |
| Gabon | - 138.54 | 3.11 | | - 135.43 |
| Georgia | - 205.80 | 74.12 | | - 131.68 |
| Germany | - 11 090.10 | 50 093.38 | | 39 003.28 |
| Ghana | - 16.76 | 26.22 | - 9.46 | 0.00 |
| Greece | - 1 015.93 | 1 234.74 | | 218.81 |
| Hungary | 418.11 | 2 541.17 | | 2 959.28 |
| Iceland | 129.82 | 1 265.03 | | 1 394.85 |
| India | - 2 814.24 | 21 119.17 | | 18 304.93 |
| Indonesia | 12 992.26 | 15 658.87 | | 28 651.13 |
| Iran (Islamic Republic of) | - 799.97 | 0.00 | | - 799.97 |
| Ireland | - 3 456.03 | 16 309.35 | | 12 853.32 |
| Israel | 0.00 | 5 291.15 | | 5 291.15 |
| Italy | - 2 992.78 | 8 310.57 | | 5 317.79 |
| Jordan | - 797.14 | 2 229.16 | | 1 432.02 |
| Kazakhstan | 1 772.64 | 1 618.43 | | 3 391.07 |
| Kenya | - 172.91 | 2 818.20 | | 2 645.29 |
| Kuwait | - 327.21 | 2 224.94 | | 1 897.73 |
| Latvia | - 197.13 | 638.56 | | 441.43 |
| Libya | - 888.77 | 321.69 | | - 567.08 |
| Lithuania | - 401.72 | 7.94 | | - 393.78 |

APPENDIX I (cont'd)

AMOUNTS TO BE BILLED

FOR THE PERIOD 1 JANUARY TO 31 DECEMBER 2014

(£ Sterling)

| STATES | Adjustment for 2012 (Appendix E) | Assessment for 2014 (Appendix H) | Deduction of Unused Credit Balance from Previous Years | Total Amount to be Billed for 2014 |
|---|--|--|---|---|
| Maldives | - 0.19 | 1.59 | | 1.40 |
| Malta | - 1 078.79 | 423.24 | | - 655.55 |
| Morocco | - 3 575.16 | 2 675.28 | | - 899.88 |
| Namibia | - 364.49 | 404.25 | | 39.76 |
| Netherlands | - 3 755.54 | 25 270.42 | | 21 514.88 |
| Nigeria | 690.48 | 900.61 | | 1 591.09 |
| Norway | 0.00 | 3 354.66 | | 3 354.66 |
| Oman | 971.96 | 2 022.14 | | 2 994.10 |
| Pakistan | 100.51 | 3 886.86 | | 3 987.37 |
| Poland | - 560.82 | 1 573.29 | | 1 012.47 |
| Portugal | - 820.61 | 6 264.43 | | 5 443.82 |
| Qatar | 2 653.06 | 23 468.99 | | 26 122.05 |
| Republic of Moldova | - 19.34 | 126.73 | | 107.39 |
| Romania | - 266.53 | 870.13 | | 603.60 |
| Russian Federation | 4 752.05 | 35 116.29 | | 39 868.34 |
| Saudi Arabia | 1 764.55 | 14 126.73 | | 15 891.28 |
| Senegal | - 228.74 | 104.55 | | - 124.19 |
| Serbia | - 58.07 | 234.36 | | 176.29 |
| Seychelles | - 277.70 | 69.09 | | - 208.61 |
| Slovakia | 1.93 | 5.29 | | 7.22 |
| South Africa | - 890.88 | 8 215.36 | | 7 324.48 |
| Spain | 0.00 | 16 693.86 | | 16 693.86 |
| Sri Lanka | 466.79 | 3 000.73 | | 3 467.52 |
| Swaziland | - 0.25 | 2.49 | | 2.24 |
| Sweden | 418.77 | 2 560.13 | | 2 978.90 |
| Switzerland | - 671.83 | 10 691.63 | | 10 019.80 |
| Syrian Arab Republic | - 349.08 | 0.00 | | - 349.08 |
| Thailand | - 67.45 | 18 415.77 | | 18 348.32 |
| The former Yugoslav Republic of Macedonia | - 0.99 | 43.45 | | 42.46 |
| Tunisia | - 720.85 | 924.15 | - 200.07 | 3.23 |
| Turkey | 6 344.93 | 21 841.23 | | 28 186.16 |
| Ukraine | 81.07 | 2 197.36 | | 2 278.43 |
| United Arab Emirates | - 9 125.25 | 64 318.02 | | 55 192.77 |
| United Kingdom | - 6 520.34 | 53 259.50 | | 46 739.16 |
| Uzbekistan | - 104.62 | 1 729.58 | | 1 624.96 |
| Viet Nam | 649.60 | 6 166.88 | | 6 816.48 |
| Zimbabwe | - 40.32 | 131.79 | | 91.47 |
| TOTAL | - 20 621.00 | 703 356.00 | - 409.31 | 682 325.69 |

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 implementation of Secure SADIS FTP) and communications circuits, ~~ISCS~~ **ISDN** 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

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

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

i) Solely procured for SADIS (major components)

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

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

ii) Principally procured for SADIS

a) At the Met Office;

See Section 1 C for itemized components

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

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

c) At the uplink site (Whitehill);

1) Units and services leased from Cable and Wireless Communications Ltd. to support SADIS 2G services:

- 1 (70 to 140 MHz) converter;
- Use of 1 (140 to C band) converter;
- Use of satellite hub (lease represents only a very small part of this large aperture) for SADIS 2G services; and

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

- d) 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) Met Office Message switch (~~METSwith~~ MetSwitch): Total investment £738K¹ of which 1.00 per cent is attributable to the Secure SADIS FTP service usage: switching data to operational FTP service;
- b) Met Office Message switch (~~METSwith~~ MetSwitch): Total investment £738K¹ of which 0.74 per cent is attributable to SADIS 2G usage: switching data to operational (2G) broadcast service and to 2G monitoring system (Corobor Comparator/~~MetSwitch~~ Dev);
- c) Allocated bandwidth 4 Mbps bursting to 8 Mbps between server and Internet Service Provider (ISP) in support of the Secure SADIS FTP service;

Note. — To be taken over by Secure SADIS FTP Service when SADIS FTP is withdrawn 30 November 2012 in accordance with SADISOPSG/16 Conclusion 16/15.

- ~~d) At the moment Secure SADIS FTP bandwidth is sufficient to deal with foreseen data traffic and will be assigned the bandwidth allocated to SADIS FTP when SADIS FTP is withdrawn as noted at c) above;~~
- e) **d)** NATS Message switch (CoreMet System);

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

- f) **e)** Secure SADIS FTP equipment running costs;

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

- g) **f)** Met Office Service Desk equipment; and

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

- h) **g)** Met Office Serial Communications.

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

¹ budgeted cost for providing ~~METSwith~~ MetSwitch service during the fiscal year ~~2012/2013~~ 2013/2014.

B. SADIS data back-up system

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

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

Note.—~~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. | Whitehill services (leased from Cable & Wireless) | |
| 1.1 | 70 MHz to 140 MHz converter | 1 |
| 1.2 | 140 MHz to C band converter | 1 |
| 1.3 | Satellite Hub leased bandwidth | 1 slot |
| 2. | ISDN back-up service to Washington (NWSTG) | |
| 2.1 | VadEDGE 4200 | 3* |
| 2.2 | ISDN 2e circuit | 1 |
| 2.3 | Interface cables | 2 |

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

~~3. SADIS FTP service~~

| | | |
|----------------|--|--------------|
| 3.1 | Dell Poweredge R900 servers with 1 Gb RAM | 2 |
| 3.2 | 26.8 Gb internal disk drives | 2 |
| 3.3 | VMWave Virtual Platform with Red Hat Linux 5.3 OS | 2 |
| 3.4 | Intel Xeon X7350, 2.93 GHz Processors | 2 |
| 3.5 | Licenses, misc. support and maintenance costs | 1 |

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

4.3. Secure SADIS FTP service

| | | |
|--------------|--|---|
| 4.3.1 | Dell Poweredge R900 servers with 1 Gb RAM | 2 |
| 4.3.2 | Dell Poweredge R900 (4 core) servers with 32 Gb RAM * | 2 |
| 4.3.3 | Shared Storage Arrays (analogous to hard disk storage, but with dynamic upper limit) | 2 |
| 4.3.4 | VMWave Virtual Platform with Red Hat Linux 5.3 OS | 2 |
| 4.3.5 | Intel Xeon X7350, 2.93 GHz Processors | 2 |
| 4.3.6 | Licenses, misc. support and maintenance costs | 1 |

Note 1. — **Item 4.2 3.2** relates to Digital Signing servers.

Note 2. — **Items listed under Section 3 are located at Exeter.**

5. 4. SADIS 2G Infrastructure

| | | |
|--------|--|----|
| 5-4.1 | METSwitch MetSwitch port | 1 |
| 5-4.2 | MegaPAC V-IX Base System Dual PSU including Chassis, 1 CP6000, and 1 switch | 2* |
| 5-4.3 | CP6000 for use with MegaPAC V-IX | 1* |
| 5-4.4 | VadEDGE 4200 | 4* |
| 5-4.5 | Uplink modem (Comtech EF Data SDM-300a) | 3* |
| 5-4.6 | Communications cabinet and lease | 1 |
| 5-4.7 | MegaWatch including Enterprise Reports, and PC | 1 |
| 5-4.8 | Comtech SDM300L demodulator (NER5 downlink) | 1 |
| 5-4.9 | Corobor comparator software and PC | 1 |
| 5-4.10 | Communications rack floor space at Exeter in IT Hall 1 and IT Hall 2, and at Whitehill | 3 |
| 5-4.11 | Space in stores at Exeter to locate spare hardware | 1 |
| 5-4.12 | WAN Module | 2 |
| 5-4.13 | Comtech EF Data SMS 301 – redundancy switch | 2* |
| 5-4.14 | BRI Module for VadEDGE 4200 | 2 |
| 5-4.15 | Interface cabling | 8 |

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

Note. — Hardware listed under Section 5-4 is located at Exeter and Whitehill.

2. PROCURED SERVICES

- A. Space segment annual lease: Allocated frequency band to SADIS 2G, providing a 64 Kbps data rate (less communications overhead);
- B. Annual maintenance of Met Office Exeter and Whitehill uplink site equipment (SADIS 2G and Secure 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.

24-hour Weather Desk support

Skill

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

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

24-hour IT Operations support

Skill

- | | |
|--|----------------------|
| 1. Technical Team Leader (TTL) | Technical Supervisor |
| 2. Networks and Systems Supervisor (NSS) | Service Continuity |

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

Normal working hours support

Skill

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

ii) Additional support

Day support

Resource

- | | |
|--|---|
| 1. Systems integration team | 14 staff-days of network computer engineer |
| 2. Message Switching Manager | 15 staff-days of MSS manager |
| 3. Administrator | 160 staff-days of executive officer |
| 4. International aviation management | 30 staff-days of manager |
| 5. Data traffic | 5 staff-days of communications engineer |
| 6. Contract procurement and management | 4 staff-days of senior procurement officer |
| 7. Message switching Team | 15 staff-days of technical officer |
| 8. Invoice Administration | 20 staff-days of invoicing officer and 15 staff-days of business accountant |

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

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

Note 2. — The resource demand of 610 days required to provide the SADIS Gateway service comprises 6 watches of 1 ATSA4 and 1 ATSA3 each (Operations), 1 ATCE4 (Engineering Watchkeeping) and 3 ATCE4 (Engineering Day Support).

24-hour support

Resource

- | | |
|------------------------------|--------------------------|
| 1. Operational staff support | 523 staff-days per annum |
| 2. Engineering staff support | 22 staff-days per annum |

Day Support

Resource

- | | |
|------------------------------------|-------------------------|
| 3. SADIS administration support | 50 staff-days per annum |
| 4. Engineering (including on-call) | 15 staff-days per annum |

C. Bought-in services

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

— END —