

APPENDIX H**Part I
WORK PROGRAMME**

Task No.	Title of task	Estimated completed date	Source
1	Development and maintenance of the SADIS broadcast content, schedule and priorities, including WAFS data/products and OPMET message broadcast content, and any other data agreed for transmission.	Content published in SADIS User Guide, thereafter, ongoing maintenance task.	T.O.R.
2	Development of SADIS gateway function by SADISOPSG Gateway Working Group in co-ordination with MOTNEG. SADISOPSG responsible for overall gateway functions provided by London WAFS and NATS, MOTNEG responsible for OPMET exchange technical details.	Ongoing Interim Gateway Operational. Full implementation of Gateway expected in 2001.	SADISOPSG/1 — Decision 1/1 SADISOPSG/4 Appendix M
3	Organization of the flow of OPMET message traffic through SADIS gateway to SADIS node based on OPMET exchange systems in existence, or being developed, in the AFI, ASIA, EUR and MID Regions (including “MOTNE area”, i.e. EUR Region and relevant parts of AFI, NAT and MID Regions), and OPMET message traffic relayed from Washington ISCS broadcast.	To be decided step by step depending on status of planning by MOTNEG, and APANPIRG, APIRG and MIDANPIRG COM/MET Sub-groups. On-going	T.O.R. and, regarding inclusion of ISCS OPMET data, MOTNEG/1 (para. 2.18) and METG/5, Appendix A, para. 1.1, to Agenda Item 5.
4	Establish SADIS monitoring function and data/communications back-up procedures. Special monitoring being arranged with BMG through MOTNEG	Ongoing Results in 4th quarter 2000	T.O.R. SADISOPSG/5, Concl 5/8
5	SADIS User Guide. Maintenance and update, as necessary, using agreed amendment procedure.	ICAO published 1997; thereafter, routine maintenance of document. Second Edition to be issued after SADISOPSG/5, and placed on ICAO SADIS web site.	EANPG/37 Concl. 37/20
6	Development and maintenance of METAR and TAF requirements tables for SADIS based on SADISOPSG Tasks No. 1 & 3.	On-going.	METG/5, para. 5.27 and LIM MID Recs 4/13 and 5/8

Task No.	Title of task	Estimated completed date	Source
7	Inclusion of low-level and medium level SIGWX charts in SADIS broadcast schedule when BUFR code implemented by States.	Decision made not to include low level in T4 for time being (except the low/med. level charts issued by Nairobi RAFC) until BUFR code implemented	METG/5 Concl. 5/2 and WAFSSG. SADISOPSG/2 draft conclusion endorsed by relevant PIRGs
8	Coordination, as necessary, with SADIS Cost Recovery and Allocation Administrative Group.	Ongoing through respective group Chairman and secretaries	T.O.R
9	Operational Clearance of SADIS Enhanced Two-way Capability (SADISOPSG Two-way Operational Clearance Team)	2000 Test site for trials under selection	SADISOPSG/1 draft conclusion endorsed by EANPG noted by other relevant PIRGs and approved by the ICAO Council. SADISOPSG/4, Conclusions 4/9 and 4/10. SADISOPSG/5 Concl 5/12, 5/13 and 5/14
10	SADIS Gateway Function (SADISOPSG Gateway Working Group)	2000	EANPG 38/33 endorsed by the PIRGs approved by the ICAO Council. SADISOPSG/4, Appendix M, SADISOPSG/5 Concl 5/15.
11	SADIS Strategic Assessment (5 year outlook)	All PIRGs concerned have agreed to update the tables annually.	SADISOPSG/2 Decision 2/9 and Appendices D and E, SADISOPSG/4, Appendix K
12	Study inclusion of AIS information on SADIS in consultation with EUR AFS Group, EATCHIP AIS Team, APANPIRG AFS Management Task Force and ATS/AIS/SAR Sub-group, MIDANPIRG AIS/ATM Sub-group	1998 Feasibility study completed. PIRGs agreed that study be discontinued pending statement of operational requirements. APIRG still studying requirement	EANPG/38 Conclusion 38/25 and endorsed by other relevant PIRGs SADISOPSG/3 (Draft) Conclusion subsequently endorsed by PIRGS concerned
13	Monitor, report on and propose, as necessary, technological developments having an impact on the SADIS (SADISOPSG - Technological Developments Team)	Ongoing TCP/IP conversion unit made available 2000	SADISOPSG/3 Decision 3/13, SADISOPSG/4, Decision 4/12

Task No.	Title of task	Estimated completed date	Source
14	Tests of transmission of BUFR code on SADIS	2002 First test conducted March/April 1999. Second test in 2000 successful using PVC3	SADISOPSG/3 Conclusion 3/11
15	Co-ordination of Annexes 2 and 3 of SADIS User Guide and the BMG OPMET Tables. Co-ordination with MOTNEG in the revision of EUR OPMET update procedure.	On-going	SADISOPSG/4 Conclusion 4/7
16	Introduction of TCP/IP Protocols for the SADIS	2000	SADISOPSG/4 Conclusion 4/13
17	Testing of SADIS work station software by SADIS provider State	2001	SADISOPSG/5 Concl 5/5

Part II
SADISOPSG EXECUTIVE SUMMARIES

SADISOPSG Task No. R*1: Development and maintenance of the SADIS broadcast content, schedule and priorities

Task: The data and product content of the SADIS broadcast has to be developed, maintained and updated in line with operational requirements developed by the ICAO planning and implementation regional groups

Source: Terms of reference

Co-ordination: MOTNEG and all MET and COM/MET sub-groups of APANPIRG, APIRG, EANPG and MIDANPIRG; WAFSSG and VAWSG, as necessary

Output: Up-to-date annexes to SADIS User Guide with amendments promulgated via SADIS broadcast and subsequently by hard copy. Replace current Annex 2 by Annexes 2 and 3 based on BMG OPMET tables.

Progress: List of aerodromes and OPMET information issued by these aerodromes published as Annex 1 of the SADIS User Guide. Content of broadcast published as Annexes 2 and 3 of SADIS User Guide. Format of Annex 3 reviewed at SADISOPSG/4 which agreed that Annexes 2 and 3 should be based on the EUR BMG OPMET tables.

References: SADISOPSG/1 Report, paragraphs 9.1 to 9.14
SADISOPSG/3 Report, paragraphs 5.4, Conclusion 3/15
SADISOPSG/4 Report, paragraphs 3.1 to 3.6, Conclusion 4/8
SADISOPSG/5 Report, paragraphs 3.7 to 3.9, Conclusion 5/9

* Routine task

SADISOPSG Task No. R2: Organization of flow of OPMET messages through SADIS gateway to SADIS node

- Task:** The flow of OPMET traffic must be organized to ensure smooth and reliable transit through the SADIS gateway at the London switch to the SADIS node for uplink on the broadcast. Pattern of flow based on the various OPMET exchange systems in existence in the AFI, ASIA, EUR and MID Regions (AMBEX, ROBEX and MOTNE), and the inclusion of ISCS(l) data, as necessary, and the installation of SADIS two-way VSATs, as decided by the relevant PIRGs.
- Source:** SADISOPSG terms of reference; MOTNEG/1 (paragraph 2.18) and METG/5, Appendix A, paragraph 1.1 to Agenda Item 5
- Co-ordination:** MOTNEG and all MET and COM/MET sub-groups of APANPIRG, APIRG, EANPG and MIDANPIRG
- Output:** OPMET message routing table/flow diagram; SADIS Gateway High-Level Technical Requirements and SADIS Gateway Operations Handbook
- Progress:** To be developed in step with regional planning. Technical requirements completed. First draft of Operations Handbook material to be considered at SADISOPSG/3. Production of handbook delayed in line with delay in implementation of the gateway.
- References:** SADISOPSG/2 Report, Appendices H and I.
- Group responsible :** SADISOPSG Gateway Working Group (terms of reference given in SADISOPSG/1, Appendix G)
Rapporteur: Mike Williamson

SADISOPSG Task No. R3: SADIS monitoring and backup functions for the SADIS

Task: To develop monitoring and backup functions.

Source: Terms of reference

Co-ordination: MOTNEG; Between London and Washington WAFCs.

Output: Monitoring function included in Gateway Technical Requirements; backup function responsibility of SADIS provider State and service provider.

Progress: SADIS Gateway High-Level Technical Requirements paragraph 3.4.

References: MOTNEG/2 Report Appendix C; SADISOPSG/2 Report, Appendix H.
SADISOPSG/5 Conclusion 5/8 and Appendix F

SADISOPSG Task No. R4: SADIS User Guide

Task: Maintain, update and extend, as necessary, SADIS User Guide.

Source: EANPG Conclusion 37/20

Co-ordination: NIL

Output: SADIS User Guide (in Arabic, English, French, Russian and Spanish) and amendments thereto

Progress: Guide was circulated to States by ICAO regional offices in May 1997. Amendment 1 issued 30 May 1997 via SADIS broadcast with hard copy following 11 June 1997. Amendment 2 issued 5 February 1998. SADIS Home page introduced at: <http://www.met-office.gov.uk/sadis/>. ICAO SADIS website to be introduced in 2000, however, Annex 1 would not be downloadable.

References: SADISOPSG/1, Decision 1/11; SADISOPSG/2, Decision 2/15.
SADISOPSG/4, Decision 4/1, Conclusions 4/2 and 4/17
SADISOPSG/5, paragraphs 5.1 to 5.3

SADISOPSG Task No. R5: SADIS METAR/TAF requirements table

- Task:** To develop and maintain the table of METAR and TAF messages required to be broadcast on SADIS.
- Source:** METG/5 paragraph 5.27 and LIM MID Recommendations 4/13 and 5/8
- Co-ordination:** MOTNEG and all MET and COM/MET sub-groups of APANPIRG, APIRG, EANPG and MIDANPIRG
- Output:** Annex 1 to SADIS User Guide
- Progress:** Annex included in first edition of SADIS User Guide sent to States in May 1997. Routine questionnaire circulated to States to update the annex.
- References:** SADISOPSG/1 Report, paragraphs 8.3 to 8.5.
SADISOPSG/4 Report, Appendix E

SADISOPSG Task No. R6: Operational clearance of SADIS and SADIS inventory

Task: Routine issuance of annual operational clearance and update of SADIS inventory for submission to (E)SCRAG.

Source: (E)SCRAG

Co-ordination: (E)SCRAG, London WAFC

Output: Annual management report (since 1997/98) by service provider.
Annual statement of SADIS operational efficacy and updated inventory sent by the Chairman to the Chairman of (E)SCRAG

Progress: 1995/1996 operational clearance and inventory issued by SADISOPSG/1;
1996/1997 operational clearance and updated inventory issued by SADISOPSG/2;
1997/1998 operational clearance and inventory issued by SADISOPSG/3.
1998/1999 operational clearance and inventory issued by SADISOPSG/4;
1999/2000 operational clearance and inventory to be issued by SADISOPSG/5.

References: SADISOPSG/1 Report, Conclusion 1/6 and 1/8; SADISOPSG/2, Conclusions 2/2, 2/3 and 2/5; SADISOPSG/3, Conclusion 3/7
SADISOPSG/4, Conclusions 4/5 and 4/6
SADISOPSG/5, Conclusions 5/5 and 5/7

SADISOPSG Task No. R7: Collection and distribution of AIS information on SADIS

Task: Study the use of SADIS for the collection and distribution of AIS information, initially for the EUR Region.

Source: EANPG/38 Conclusion 38/26 b)

Co-ordination: EUR AFS Group and Eurocontrol EATCHIP AIS Team

Output: Results of the study presented to EANPG/39 (and possibly other relevant PIRGs (see below).

Progress: Although the study applied initially to the EUR Region, the APANPIRG, APIRG and MIDANPIRG were consulted whether and agreed that their regions should also be included in the study. The AIS/MAP Divisional Meeting (1998) addressed this subject from the global conceptual viewpoint and recommended that the study be brought to the attention of GREPECAS (AIS/MAP Divisional Meeting, Rec. 3/1.1). Feasibility established but study cannot be progressed any further in the absence of an operational requirement indicating which specific AIS data would be disseminated. PIRGs agreed to SADISOPSG/3 proposal that the study be discontinued pending statement of an operational requirement by one of the PIRGs concerned. APIRG still studying requirement.

References: SADISOPSG/2 Decision 2/18.
SADISOPSG/3 (Draft) Conclusion was endorsed by the PIRGS discontinuing the study pending a statement of an operational requirement.

Group responsible : SADISOPSG AIS *ad hoc* Task Force with Chairman as Rapporteur

SADISOPSG Task No. R8: Technological Developments

- Task:** Monitor, report on and propose action on technological developments having an impact on the SADIS.
- Source:** SADISOPSG T.O.R. (Development)
- Coordination:** (E)SCRAG
- Output:** Reports from time to time to SADISOPSG. First report for SADISOPSG/4 will concern study of possible TPC/IP output part on SADIS VSATs.
- Progress:** First report to SADISOPSG/4, 1999.
TCP/IP conversion unit developed by MMS in 2000.
- References:** SADISOPSG/3 Dec 3/14 and Appendix I
SADISOPSG/4, Dec 4/12 and Appendix J; Conclusion 4/13
- Group responsible:** SADISOPSG Technological Developments Team
Rapporteur: Will van Dyk

SADISOPSG Task No. A*1: Development of SADIS Gateway Function

Task: To develop over-all SADIS Gateway Function, in association with the MOTNEG which is responsible for the MOTNE area OPMET exchange technical details.

Source: EANPG Conclusions 38/33 and 38/34, endorsed by APANPIRG, APIRG and MIDANPIRG. Conclusion 38/33 approved by the ICAO Council in June 1997.

Co-ordination: MOTNEG and all MET and COM/MET sub-groups of APANPIRG, APIRG, EANPG and MIDANPIRG

Output: Gateway Technical Requirements Document
Gateway Operations Handbook

Progress: High-Level Technical Requirements were developed 1996/early 1997 by joint meetings of SADISOPSG Gateway Working Group and MOTNEG Working Group (see MOTNEG/2 Report, Appendix C), endorsed in principle by EANPG/38, with the proviso that the SADISOPSG complete outstanding details at SADISOPSG/2 and adopt final technical requirements. Work at SADISOPSG/3 comprised:

- a) assessment of peak data flows;
- b) incorporation of ISCS(l) data/products;
- c) operational procedures for gateway; and
- d) quality control of inter-regional OPMET messages (including potential legal liability of automatic error correction).

SADISOPSG/4 approved SADIS Gateway High-level Technical Requirements including automatic error correction procedures. Re-tendering for gateway function underway in 2000, results were considered by SADISOPSG/5, which delegated authority to approve technical solution to a joint meeting of the SADISOPSG Gateway Working Group and the MOTNEG Working Group.

References: EANPG Conclusions 38/33 and 34; Council 151/14; SADISOPSG/2, Conclusions 2/11, 2/12 and 2/13. SADISOPSG/3 Conclusion 3/13; SADISOPSG/4, Conclusions 4/15 and 4/16, SADISOPSG/5, Conclusion 5/15.

Group

responsible : SADISOPSG Gateway Working Group
Rapporteur: Mike Williamson

SADISOPSG Task No. A2: SADIS users table

- Task:** To develop and maintain list of authorized SADIS users for inclusion in relevant RAN plan FASIDs for information.
- Source:** ANC
- Co-ordination:** None — processed through ICAO Bangkok, Cairo, Dakar, Paris and Nairobi regional offices
- Output:** FASID tables
- Progress:** Initial table developed by SADISOPSG/1, was refined at SADISOPSG/2 and 3 subsequent meetings of the group. All regions have proposed inclusion of table in their respective regional FASID documents.
- References:** SADISOPSG/1, paragraph 7.4 and Appendix D; SADISOPSG, para. 6.1, Conclusion 2/16 and Appendix C. Appendix D; SADISOPSG/4, Appendix F.

SADISOPSG Task No. A3: Inclusion of SWL SIGWX charts on SADIS

- Task:** If a requirement to carry SWL SIGWX charts on SADIS is approved, to arrange for their inclusion without adversely impacting transmission of WAFS products and OPMET messages.
- Source:** METG/5 Conclusion 5/2 and WAFSSG
- Co-ordination:** WAFSSG and MET and COM/MET sub-groups of APANPIRG, APIRG, EANPG and MIDANPIRG
- Output:** Inclusion in SADIS broadcast content, if necessary.
- Progress:** WAFSSG/6 advised SWL SIGWX in T4 format should not be included on SADIS at this early stage in its development. This has been endorsed by the relevant PIRGs. Subsequently, clarified that this restriction would not necessarily apply to SWL SIGWX in BUFR code, and will not become operational until BUFR code implemented by States.
- References:** SADISOPSG/1 Report, paragraph 9.2; WAFSSG/6 Report, paragraph 6.5.1; SADISOPSG/2 para 3.13 and (draft) Conclusion endorsed by relevant PIRGs

SADISOPSG Task No. A4: Graphical volcanic ash advisories

Task: To arrange for the collection/transmission of volcanic ash advisories in graphical format on the SADIS broadcast.

Source: LIM MID RAN Recommendation 4/6, WAFSSG/5 and VAWSG/2

Co-ordination: WAFSSG and VAWSG

Output: Inclusion of graphical advisories on SADIS. Continue monitoring

Progress: Graphical advisory based on US VAFAD format included in Amendment 71 to Annex 3, sent to States on 23 May 1997. Existing VAFADs already produced by VACs are to be sent to the WAFs for uplink on SADIS and ISCS(1), ISCS(2) broadcasts.

References: SADISOPSG/1 Report, paragraph 9.1; State Letter AN 10/1-97/47 dated 23 May 1997

SADISOPSG Task No. A5: Tests of BUFR code transmission on SADIS

Task: To conduct tests of BUFR code transmission on the SADIS.

Source: T.O.R. and WAFSSG

Co-ordination: WAFSSG

Output: Test results reported to SADISOPSG/4

Progress: First test conducted March/April 1999. Some problems reviewed by SADISOPSG/4. Off-line test using BUFR code as part of the T4 bit stream on PVC 3 to be conducted before operational trials are considered.

Second test conducted successfully in 2000 using PVC3, to be reported to SADISOPSG/5.

Reference: SADISOPSG/3, Conclusion 3/11; SADISOPSG/4, paragraphs 4.15 to 4.20.

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Part III
TERMS OF REFERENCE OF SADISOPSG,
WORKING GROUPS AND TEAMS

SADIS OPERATIONS GROUP - COMPOSITION AND TERMS OF REFERENCE

1. Composition

Côte d'Ivoire, Egypt, Arab Republic of, France, Germany, India, Kenya, Netherlands, Russian Federation, Saudi Arabia, Senegal, Singapore Republic of, South Africa, Spain, Ukraine, United Kingdom, United States, Agency for the Security of Aerial Navigation in Africa and Madagascar (ASECNA), International Air Transport Association (IATA) and World Meteorological Organization (WMO).

2. Terms of Reference

The SADIS Operations Group should keep under review the SADIS operations to ensure that the system meets agreed requirements. It should also make recommendations to ICAO for the further development of the SADIS. In its work the group should take into account the financial implications of its technical and operational decisions and conclusions. The group should:

2.1 Co-ordinate with States in the area served by the system on the following:

- a) identification of user States' requirements;
- b) content and schedule of broadcasts with the WAFC provider State based on user States' requirements identified under a) above; and
- c) necessary remedial action to overcome identified deficiencies.

2.2 Organize the flow of message traffic to:

- d) define and establish OPMET collection exchange/dissemination programmes in close co-ordination with the EUR MOTNEG, MET and COM/MET Sub-groups concerned in the AFI, ASIA, EUR and MID Regions;
- e) review channelling and routing schemes; and
- f) establish transmission priorities.

2.3 Ensure SADIS adherence to relevant ICAO and WMO standards, recommended practices and procedures.

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- 2.4 Organize the monitoring of the service to ensure the service meets user requirements.
 - 2.5 Monitor and review, as necessary, back-up procedures.
 - 2.6 Liaise effectively with operational, and when required financial, experts in user States; other ICAO management groups; (E)SCRAG; VAACs; TCACs; RAFCs; and the two WAFCs to develop recommendations, as necessary, for consideration by ICAO to ensure that the SADIS evolves to meet existing and future aeronautical requirements in harmony with developments towards implementation of the final phase of the WAFS.
 - 2.7 Co-ordinate the operational aspects of the joint ICAO/WMO use of the system as regards ICAO aeronautical requirements.
 - 2.8 Study the use of SADIS for the collection and distribution of AIS information in co-operation with the EUR AFS Group and the Eurocontrol EATCHIP AIS Team, APANPIRG AFS Management Task Force and ATS/AIS/SAR Sub-group, and MIDANPIRG AIS/ATM Sub-group.
 - 2.9 Report regularly to the EANPG, APIRG, MIDANPIRG and APANPIRG regarding the status of SADIS and on the activities of the SADIS Operations Group (SADISOPSG).

SADISOPSG GATEWAY WORKING GROUP

1. Composition

Austria (Chairman of MOTNEG), Netherlands (replacing Switzerland), United Kingdom, United States and International Air Transport Association (IATA).

2. Terms of reference

- 2.1 Produce a user requirement document for the SADIS Gateway including data, content, distribution of product guides, information, validation, monitoring, error-handling procedures and reliability, making reference to the appropriate standards.
- 2.2 Produce a technical requirements document for the SADIS Gateway based on the proposal by the United Kingdom in Appendix F of the report of SADISOPSG/1. This document should include reference to monitoring, validation, error-handling procedures, performance, reliability and communications, quoting appropriate standards were required. In producing this document the group should liaise with the communications sub-groups of appropriate regional planning and implementation groups.
- 2.3 Compile inventory of SIGWX charts actually received from RAFCs at London WAFC.
- 2.4 Report to SADISOPSG and MOTNEG the following:
 - assessment of peak data flows and its impact on the SADIS Gateway, and solutions, if necessary;
 - the use of ISCS data in the context of the SADIS Gateway to obtain complementary OPMET data, and earlier OPMET data;
 - operational procedures associated with the gateway, including the use of help desks and regional responsibilities for data quality; and
 - quality control of inter-regional OPMET exchanges.
- 2.5 Develop SADIS Gateway Operations Handbook based upon document structure given in Appendix I of the report of SADISOPSG/2.

Rapporteur: Mike Williamson

SADISOPSG STRATEGIC ASSESSMENT TEAM**1. Composition**

France, Germany, Saudi Arabia, United Kingdom ASECNA, IATA and WMO

2. Terms of reference

Analyse the tables of assessed future regional requirements provided by the PIRGs concerned and develop a report, for endorsement by the SADISOPSG, on a annual basis.

Rapporteur: Richard Orrell

SADISOPSG TWO-WAY OPERATIONAL CLEARANCE TEAM**1. Composition**

France, Germany, Netherlands (replacing Switzerland), Saudi Arabia, United Kingdom, Chairman of MOTNEG, IATA and WMO

2. Terms of reference

- a) Endorse the operational acceptance of the two-way enhancement project;
- b) endorse the test report prepared by the provider State and users of the trial VSAT systems, participating in the field trial programme, for presentation to the SADISOPSG; and
- c) refine the two-way installation instructions in order to remove any ambiguity which may exist.

Rapporteur: Richard Orrell

SADISOPSG TECHNICAL DEVELOPMENTS TEAM**1. Composition**

Netherlands (replacing Switzerland), United Kingdom, United States and IATA.

2. Initial Task*

- Develop change procedure for technological developments of which could impact on SADIS.

3. Continuous tasks

- Evaluate options for technological development in respect of the technical and financial impacts and report back to the SADISOPSG.
- Report back to the SADISOPSG if the evaluation requires funding for consideration by ESRAG.
- Co-ordinate any funded study/evaluation, if approved by ESCRAG and report back the results to the SADISOPSG.

Rapporteur: Wil Van Dijk

* task completed