
APPENDIX E

Part I

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 and communications circuits including those required for the OPMET gateway function, 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. Due to the enhancement of the SADIS infrastructure and the development of a new enhanced Two-Way VSAT the inventory identifies three specific time periods:

1. the inventory in existence until the completion of the enhancement (July 1999).
2. the additional new inventory items (shaded items), procured for the enhancement, that will replace some of the existing inventory items ('scored out') **and**
3. the new inventory from July 1999 (the shaded items plus the existing ones that are not being replaced i.e. those that are not 'scored out').

1. EQUIPMENT

1.1 Hub infrastructure & communications circuits

The hub infrastructure connection to the United Kingdom Met Office (UKMO) message-switch consist of a number of units developed in conjunction with Matra Marconi Space and other suppliers. These are installed either at Bracknell or at the up-link site at Whitehill, Oxford. They are, with the exception of the messages switch (TROPICS) and the OPMET gateway function, 80% dedicated to (i.e. principally procured for) SADIS usage or 100 percent dedicated to (i.e. solely procured for) SADIS usage. More specifically, the inventory of units or items includes those:

1.1.1 Solely procured for SADIS

- a) 2 two-way enhanced VSATs for enhanced two-way capability, including development of the two-way enhancement, staff support and trials;
*(in addition to 3 * TWO-Ways in UK, South Africa and Switzerland)*
 - 2 Channel master 2.4 metre type approved
 - 2 5 watt C Band Outdoor unit assembly
 - 2 Low noise block downconverter
 - 2 RF Integration kit

- 2 Indoor unit rack assembly
- 2 Station interface unit (SIU)
- 2 8471 Receive Demodulators
- 2 Telecoms interface units Megabox
- 2 8371 Modulator
- 2 Tool kit
- 2 Cross site cables set
- 1 Enhanced Simulator

- b) OPMET gateway function equipment.
- c) SADIS Two-Way Development & Field Trials.

Note.— Also solely procured for SADIS but not inventory items as such are: Trials of transmission of SIGWX in BUFR code and transfer of RAFC responsibilities to WAFC.

1.1.2 Principally procured for SADIS

- a) **At the UKMO**
 - Matrix switch
 - Product display console, including software
 - 1 Network Management System (NMS Computer)
 - 2 Telecoms interface units Megabox
- b) **Communications between Whitehill and UKMO**
 - 2 Fibre Optic 64 Kbps circuits
- c) **At the Up-link Site (Whitehill)**
 - i) **Units forming part of a totally integrated rack structure, with back-up, referred to as Chain A and Chain B:**
 - 1 Matrix switch
 - 2 modulators
 - 2 receive modems
 - 2 Telecoms controller Megapac V rack assembly
 - 2 Station interface unit (SIU)
 - 10 8471 Receive Demodulators
 - 2 140 - L band upconverter
 - 1 X Term NMS simulator
 - Spares**
 - 1 8471 Receive Demodulators
 - 1 Station interface unit (SIU)

- 1 NMS Spare CPU
- 1 Megapac V rack assembly
- 2 Megabox Frad units
- 1 140 – L band upconverter

ii) **Units and services leased from Matra Marconi Space under contract to Cable and Wireless:**

- 1 (70 to 140 MHz) convertors
- 1 (70 to 140 MHz) convertors
- Use of 1 (140 to C band) convertor
- 1 (140MHz to C band convertor)
- 1 Satellite Hub Lease bandwidth 1 slot (900 KHz)

iii) **Not procured principally for SADIS**

- a) Message-switch (TROPICS): Total investment £2.3M of which 1.25 percent is attributable to SADIS usage.
- b) OPMET gateway function — NATS infrastructure site: Operational core MET system, including installation, oversight, tests and training: £700 000 of which 20 percent is attributable to SADIS

1.2 **ISCS Data Back-up System**

ISCS VSAT system including, receiver, cables, break unit and X 25 frame relay switch.

Note.— The equipment, including leases, listed above under A and B are being capitalized over the SADIS contract period.

2. **PROCURED SERVICES**

- a) Space segment annual lease: 900 kHz bandwidth dedicated to SADIS with data rates at 38.4 Kbps for the one-way channel and 19.2 Kbp for the two-way channel.
- b) Annual maintenance of UKMO and Whitehills site equipment which is not leased.
- c) OPMET gateway function:
 - i) Communication link between UKMO and NATS infrastructure site
 - ii) System maintenance

3. ANNUAL STAFF REQUIREMENT

3.1 United Kingdom Meteorological Office

Help Desk

Note.— The Help Desk acts as a first point of contact for all enquiries, including those concerning the OPMET gateway function. Complex enquiries 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 capability.

24-hour support

Grade & Skill

- | | |
|---------------------------------------|-------------------------------------|
| 1. Help desk (first point of contact) | Scientific supervisor |
| 2. Operational Supervisor | Technical meteorologist |
| 3. Systems Supervisor | Computer engineer |
| 4. HQ maintenance Support | Telecommunication technical officer |

The total support for SADIS is considered as 10% of the total support offered by the four posts. These four posts are directly involved with SADIS operations and form part of a total roster of eight different skills and functions.

Additional support

Systems Integration Team

Grade & Skill

	50% of engineer
	5% of network computer engineer
	30% data traffic manager (computer scientist)
Administrator	45% executive officer
Support to ICAO Regions & SADIS User Guide	25% of support specialist and meteorologist

Development & enhanced 2-Way Field Trial Support and other projects

Manpower	10% of engineer
	10% of data traffic manager
Budgets	Travel/Expenses (Consultants fees etc)

3.2. NATS Infrastructure Site (OPMET gateway function) See also note under 3 A 'Help desk' above

24-hour support	Grade & Skill
1. Operational staff support	40% of air traffic services assistant
2. Engineering staff support	20% of systems engineer
3. SADIS administration support	100% of air traffic services assistant

Part II

INVENTORY FORMAT PROPOSAL

PROJECT 1 BUFR TRIAL

Equipment

Manpower

Budget Travel/Expenses (Consultants fees etc.)

To test the use of PVC 3 on the SADIS VSAT in receiving BUFR coded significant weather forecasts (SIGWX)

PROJECT 2 WEB SITE MANAGEMENT

Equipment

Manpower

Budget Travel/Expenses (Consultants fees etc.)
to develop the use of the web-site for information for SADIS users.

PROJECT 3

PROJECT 4

etc. as required.

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