

**Memorandum of Understanding**  
**Between**  
**National Meteorological Services of the WMO Regional Association V (RA V)**  
**In the operation of**  
**The RA V Regional Meteorological Telecommunications Network (RMTN)**

**1. Purpose**

This MOU is not intended to create any legally binding obligations or relationships between the parties.

The purpose of this MOU is to record arrangements for cooperation between Participating Centres in using managed telecommunications network services supporting the RA V RMTN, purchased from a single Network Service Provider.

**2. Terms and abbreviations**

Centre	An operational meteorological establishment operated by a Member.
CIR	Committed Information Rate.
GTS	Global Telecommunications System (A global telecommunications network operated by members of the WMO).
Member	The National Meteorological Service of a country, which is also a member state of the WMO.
Network Service Provider	A telecommunications company providing data transmission services to the Participating Centres.
Participating Centre	A Centre operated by a Member participating in the network through this MOU.
PVC	Permanent Virtual Circuit (a logical connection through the network between two participating Centres).
Regional Association V (RA V)	S E Asia, Australasia and SW Pacific.
WMO	World Meteorological Organisation (An agency of the UN).
WWW	World Weather Watch (A program of the WMO).

**3. Background**

Traditional arrangements for providing communications circuits which make up the RA V RMTN involved dedicated point to point circuits between Centres, where each Centre arranged the circuit through its national telecommunications carrier and met the appropriate half-circuit charges.

Technological developments have now made available telecommunications services based on packet switching technology which offer technically superior and lower cost communications services. Such networks have been implemented by several telecommunications companies (Network Service Providers) on a regional or global scale. The cost advantages of such networks stem from economies of scale in providing services using infrastructure efficiently shared by many users.

The benefits to WMO Members, of adopting these newer types of services, increase as more Members participate. This brings about a need to develop a new framework for multi lateral cooperation in the purchase and operation of such modern networks. A new mechanism is required to facilitate cooperation between several Members in working together to purchase services from a single Network Service Provider. The cooperation is based upon a shared objective of efficient and cost effective telecommunications service, while maintaining complete autonomy and financial responsibility of individual Centres. This form of MOU provides the framework for such cooperation.

#### 4. Participating Centres

Any Member of WMO in RA V may participate in this network. Participating Centres for the time being are:

- Jakarta; Indonesian Meteorological and Geophysical Agency
- Melbourne; Australian Bureau of Meteorology
- Singapore; Meteorological Service.

#### 5. Management

Cooperative arrangements will be implemented between Participating Centres at the level of the designated representation on the RA V WWW Working Group or the Sub-group on Regional Aspects of the GTS.

Activities will be coordinated by the designated RA V Coordinator of the Sub-group on Regional Aspects of the GTS, currently M J Hassett, Australia.

#### 6. Period of, and withdrawal from MOU

This MOU has a duration of twelve months to 31st July 2000. It will be deemed to be automatically renewed annually thereafter, unless a Participating Centre indicates in writing to RA V Coordinator of the Sub-group on Regional Aspects of the GTS, that it wishes to withdraw its participation in the MOU.

Participating Centres will need to carefully consider the consequences of withdrawal from the network arrangements covered by this MOU as it will impact the GTS operation and other connected Centres. The possibility of such withdrawal would need to be raised at the earliest opportunity to allow for consultation with other affected Centres, to ensure that disruption to GTS operation is avoided.

#### 7. Additional Participating Centres and other changes to MOU

New Participating Centres will be added to the network upon request, subject to agreement of Other Participating Centres with whom the new participant requires a connection through the network. All other Participating Centres will be informed of the inclusion of the new participant(s).

New Participating Centres would enter into a contract with the current Network Service Provider in accordance with clause 11.

Any other changes required to this MOU from time to time, will be made subject to the agreement of all Participating Centres.

#### 8. Telecommunications Services

The telecommunications services comprise a Frame Relay network linking the Participating Centres as listed in Table 1 below.

Source Centre		Destination Centre Committed Information Rate (CIR) Purpose		
		Melbourne	Singapore	Jakarta
Melbourne	64 Kbps		8 Kbps GTS (TCP/IP)	4 Kbps GTS (X.25) 4 Kbps Difacs TCP/IP
Singapore	64 Kbps	8 Kbps GTS		4 Kbps GTS

		(TCP/IP)		(X.25 or TCP/IP)
Jakarta	64 Kbps	4 Kbps GTS (X.25) 4 Kbps Difacs (TCP/IP)	4 Kbps GTS (X.25 or TCP/IP)	

**Table 1.**

**9. Cost sharing**

Each Participating Centre will meet the full cost of its network access and 50% of the cost of each PVC which connects to that Centre. Each Participating Centre will also meet the full cost of any additional equipment it may choose to obtain from the Network Service Provider, either by lease or purchase (for example, a router).

**10. Selection and review of Network Service Provider**

The Network Service Provider will be selected initially through a competitive open tendering process managed by the Coordinator of the Sub-group on Regional Aspects of the GTS, with representation by all Participating Centres.

Participating Centres will repeat the competitive tendering process for ongoing provision of the network at three yearly intervals in the future, unless agreed otherwise.

**11. Contracts and payment**

Each Participating Centre will enter into a contract for the provision of network connectivity listed in Table 1 above, for a minimum period of one year, directly with the selected Network Service Provider, under the laws of the country of the Participating Centre.

Each Participating Centre will be fully responsible to the Network Service Provider for all its payments and other contractual obligations.

The Network Service Provider will be directly responsible to the Participating Centre for discharge of its obligations under the contract.

The dates of contracts between the Network Service Provider and Participating Centres will correspond where there are PVCs between Participating Centres.

Signed on behalf of the National Meteorological Service of .....

Date:

Signed by RA V Coordinator of the Sub-group on Regional Aspects of the GTS .....

Date: