

University of Tasmania
Vice-Chancellor's Office

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GPO Box 252C
HOBART 7001

ADG/hcd
24 April 1991

Attention: Mr TJ Mullarvey

Chairman AARNet Steering Committee
Australian Vice-Chancellor's Committee
GPO Box 1142
CANBERRA ACT 2600

Dear Sir,

AARNet Project

The enclosure is forwarded for consideration as an 1991 AARNet development project.

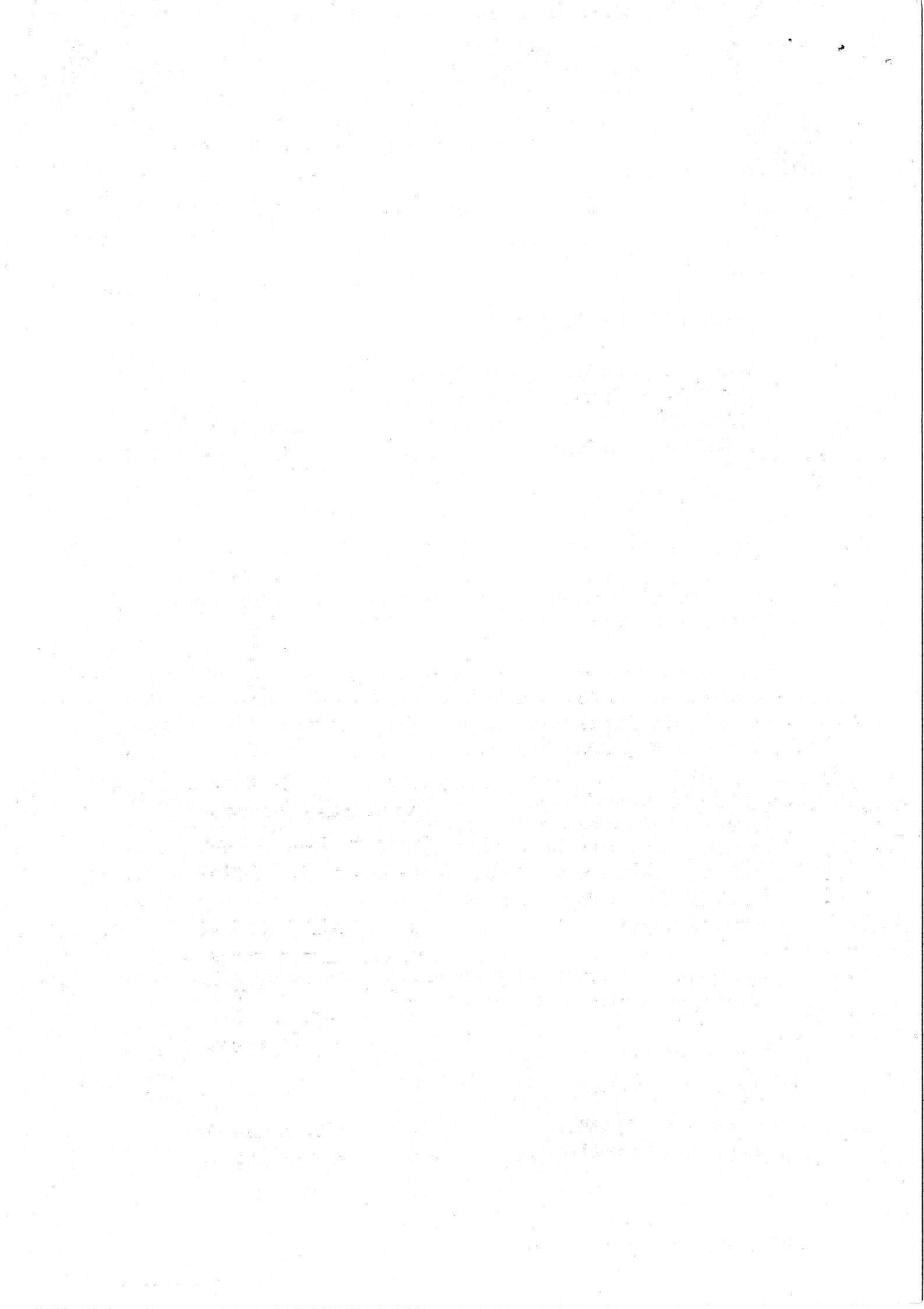
The proposal is that the Antarctic Division at Kingston, Tasmania, should become a network affiliate member of AARNet with affiliate fees being waived and the necessary routers and telecommunications service being installed as an AARNet development project.

Such a project would allow AARNet to connect to the wide area network being established by the Antarctic Division. This connection and associated access to the Antarctic would be of immense value to researchers in Australia and would enhance Australia's international reputation for employing modern communications technology in the service of science.

The proposal is directly relevant to AARNet's primary function of supporting members' research activities.

Yours sincerely,

Professor Alan D. Gilbert
Vice-Chancellor and Principal



AARNet PROJECT FUNDING PROPOSAL

UNIVERSITY OF TASMANIA

This proposal is for the AARNet data communications network to be extended to include the Antarctic Division headquarters at Kingston, Tasmania. This AARNet extension would allow members of the Australian scientific community to have access to the Antarctic Division computer network at Kingston and thereby gain access to Australian research stations in the Antarctic.

Background

The Antarctic Division has satellite connections between Kingston and computer terminals at Antarctic stations which allow those terminals to use computers at Kingston. There are near term plans for computers to be installed at research stations in the near future and for satellite connections between those computers and Kingston to form an Antarctic Division wide area network extending over Antarctic stations and the Kingston headquarters.

The AARNet data communications network extends from the national hub in Melbourne to the University of Tasmania where a router connects AARNet with University and CSIRO Marine Labs networks.

This proposal envisages a link between the Tasmanian AARNet hub at the University and the Antarctic Division headquarters at Kingston thus connecting the Antarctic Division wide area network and AARNet. The AARNet telecommunication connection between Melbourne and Hobart can handle the expected additional traffic to the Antarctic Division.

Benefits

AARNet access to the Antarctic Division wide area network would allow researchers in Australian universities and the CSIRO to communicate directly with colleagues engaged in Antarctic field work. Such immediate and direct access, to the mutual benefit of all parties, is directly relevant to AARNet's primary function of supporting members' research activities.

Conversely, researchers in Antarctic stations would have access to libraries and colleagues in Australian universities and CSIRO divisions from their field stations.

A link to the Antarctic would enhance Australia's international science reputation for Southern Ocean and Antarctic studies. Traffic via the trans-Pacific link between the United States of America and Melbourne would be able to pass all the way to the Antarctic. It would rightly be seen as confirming Australian academic interest in the Antarctic.

Summary

This proposal is that the Antarctic Division at Kingston be accepted as a network affiliate member of AARNet. The value of an AARNet connection to the Antarctic Division (and hence to the Antarctic stations) is so great that affiliate membership fees should be waived and the necessary routers and telecommunications service installed as an AARNet development project for 1991.

The library collection at the Antarctic Division headquarters is a valuable repository of research information unique in Australia. This would be accessible to other research workers in Australia after AARNet is extended.

Membership Status

Mail affiliate membership would have some uses but restrictions inherent in mail membership limit AARNet's utility to researchers. Network affiliate membership is essential to make full use of data communications between AARNet members and the Antarctic Division.

An Antarctic connection would be of such advantage to Australian scientific and research activities that it is proposed that the Antarctic Division be accepted as a network affiliate member without paying affiliation fees.

Associated Work

The Antarctic Division uses the DECNet protocol for internal data networking. Much AARNet traffic uses the TCP/IP protocol and some programming will be needed to pass messages between networks. The Antarctic Division has agreed to undertake that programming.

Timing

Timing will be determined by availability of the programmer to implement the protocol interfacing. A new programmer position established in the Antarctic Division for that purpose is expected to be filled by mid-1991.

Technical Risk

There is no technical risk involved in this proposal.

Maintenance

The link to Kingston would be maintained by contractors in accordance with established procedures for AARNet maintenance. Integrity of the link between Kingston and the AARNet hub at the University of Tasmania would be automatically and frequently checked by system integrity software monitoring the AARNet network in Tasmania.

Telecommunications

A 48 Kilobit per second Digital Data Service is envisaged as the link between the University and Antarctic Division. It is proposed that the initial cost of this DDS be funded as part of the AARNet development project. As a cost reduction measure a lower-speed (and therefore cheaper) telecommunications service could be substituted.

Cost

Estimated cost of providing the additional router needed and installing an additional 48 Kbps Digital Data Service as an AARNet development project is \$35,520. A break down of this cost is attached. Cost of programming to transfer messages between protocols is not included as this will be borne by the Antarctic Division.

Attachment One - Cost Breakdown

There is a CGS router at the University of Tasmania providing two low-speed (48 Kbps) serial and one Ethernet ports. The 48Kbps services go to the AARNet hub in Melbourne and the CSIRO Marine Labs in Hobart respectively. Under this proposal the CGS Cisco router now at the University of Tasmania would be re-located to the Antarctic Division to provide the single low speed serial port and DECNet port needed there. An MGS 4-slot router would be installed at the University to provide the additional low-speed port needed to serve the new line to the Antarctic Division.

Estimated cost of the MGS router is:

Basic chassis (4-slot)	\$10,344	
Card for 2 E'net, 2 serial ports	\$6,469	
Card for one serial port	\$1,925	
Applications for serial ports	\$335	
Freight and insurance - 3%	\$573	
		\$19,646
Cost of one 48 Kbps DDS		
Installation	\$2,900	
One year rental	\$12,984	
		\$15,884
TOTAL		<u>\$35,520</u>

Note: These figures are based on April 1991 Telecom charges and Cisco Pty Ltd prices in April 1991 including AARNet member discounts.