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Submission No. 958

Copy No.

Title

Minister

PROCUREMENT OF NEW ANALYSIS COMPUTER FOR DEFENCE SIGNALS DIRECTORATE

GORDON SCHOLES
Minister for Defence

FOR CABINET

More: Take by . MISC , 27 Jul 84

Purpose/Issues

To seek approval for the acquisition for Defence Signals Directorate (DSD) of a very high performance data processing computer together with the provision of appropriate site facilities, the issue of appropriate certificates of exemption from normal open tendering procedures, exemption from consideration by the Joint Committee of Public Accounts and should works cost exceed \$2.0m, a recommendation to the Governor-General in Council that the works not be referred to the Public Works Committee.

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Relation to existing policy

In 1978 the Government approved roles and functions for DSD which, inter alia, require DSD, together with certain elements of the Defence Force, to maintain an Australian capability in signals intelligence (Sigint) for national purposes generally. The proposed computer to be installed at DSD will be used for analysis necessary to this function.

Legislation involved

NIL

Urgency: Critical/significant dates A decision is required now to allow DSD's Sigint capabilities to be upgraded to match expected improvements in the level of protection of priority 'target' communications. Contracts for the computer are planned to be let in March 1985 to achieve delivery and acceptance in February/April 1986.

Consultation:
. Ministers/Depts
consulted

The acquisition of the computer has been endorsed by the Permanent Heads Committee on Intelligence and Security. The Departments of Prime Minister's and Cabinet and Finance, and ONA have been consulted.

. Is there agreement?

Yes

Cost this fiscal year year 2
 Works (\$Am)
 Equipment (\$Am)
 Total (\$Am)

 1.900
 1.900 (Annual maintenance

 7.350
 7.350 cost of \$0.600m

 3.700
 from Year 3 onwards)

Funds provided from within Defence outlays.

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Implications of proposals

. social

. economic

. environmental

. women

. employment

. administrative

. other

Wider consultation

. state or foreign governments

unions and industry bodies

. other special interest groups

What general or sectional support can be expected?

What criticism is anticipated and how will it be answered?

Timing and handling of announcement of decision N/A

N/A

N/A

A draft public statement acknowledging in general terms the purchase of the computer and its purpose, to be made by the Minister for Defence before contract arrangements are finalised, is at Attachment A. It is proposed that any questions or criticisms be answered to the effect that the Government will not comment further on the grounds that the computer is for intelligence purposes.

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BACKGROUND

This submission seeks approval for the acquisition of a very high power computer for the Defence Signals Directorate, together with accompanying site works at an estimated Project cost of \$12.950m (April 1984 prices, June 1984 exchange rate).

- 2. DSD's prime function is to produce signals intelligence (Sigint) from foreign communications to meet Australia's national and defence intelligence needs. The most valuable Sigint is normally derived from communications which are encrypted and must be subject to cryptanalysis to be readable. Thus an effective cryptanalytic capability against the level of encryption likely to be achieved by our most important communications 'targets' is vital if DSD is to meet its responsibilities. As technology advances, the protection of target communications will improve at a rate that is only generally predictable and will be influenced by the priority given by the 'target'.
- 3. The nature of cryptographic techniques is such that increasingly powerful computers are essential to timely and comprehensive analysis. DSD's existing cryptanalytic computer was installed in 1977.
- 4. Extensive consideration of the past and anticipated future trends in communications security systems used by importance to Australia leads to the

conclusion that a substantial increase in computer capability is necessary

Australia's access to these

communications at an effective level.

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CONSIDERATION OF THE ISSUES .

5. Modern electronic and computing technology has made it possible to dramatically improve communications security.

have exploited these developments and public disclosures of Australian Sigint activities,

would have stimulated the priority to improve communications security systems and to introduce new forms of encrypted communications such as digital speech and multi-channel systems.

6.

7. DSD's existing Cyber 175 computer has reached the limits of its capacity despite various improvements introduced over the years. As a result timeliness and effectiveness of intelligence production is already degrading.

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- 8. DSD studies, conducted in conjunction with the principal users of DSD's product, viz, ONA, JIO and the Department of Foreign Affairs, indicate that should the current trend continue, the potential loss in intelligence production will reach very serious levels by 1987. Noting that it will take a minimum of twelve months to implement the cryptanalytic programs on the new computer, it is important that the proposed computer be acquired earlier if this loss of intelligence is to be contained.
- 9. It has been assessed that to maintain DSD's crypt-analytic capability at an adequate level, a specialised computer of at least ten times the power of the Cyber 175 is required. If a satisfactory level of exploitation is to be maintained, the new computer should be capable of some additional expansion which, on present projections, will be needed around 1990-91.
- 10. Any new computer introduced by DSD must be able to accept cryptanalytic software developed by collaborating overseas Sigint agencies if DSD is to take advantage of vast software assets
- . DSD is incapable, with anything near its existing resources, of developing and main-taining the unique specialized and complex software.
- 11. The required compatibility hinges on a specially developed software system called FOLKLORE. The only computers available which will provide the required computational capacity and which are capable of running FOLKLORE are those manufactured

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by Cray Research Incorporated. Certain specialised operational support equipments, supplied by Raytheon Data Systems and Network Systems Corporation are also required. All suppliers are US companies, with some Australian representation.

Accordingly, it is proposed that the equipment and support items be acquired from the relevant Australian agents for these items utilising Certificates of Exemption for which approval is sought. Because maintenance of the system will require continuing access to highly specialized resources (diagnostic software, engineering services and spares) which are only available from the original suppliers referred to above, it is proposed that the restrictions of the source of supply should also encompass maintenance support.

OPTIONS

13. Hire of all equipment has been considered but discarded because the charges would equal the purchase cost over a very few years and this option is clearly uneconomic. A further option is an initial installation of a less powerful second-hand machine, with a subsequent upgrade to a more powerful model. While this would allow a greater spread of expenditure, it would add approximately \$3.5m to the overall project cost.

AUSTRALIAN INDUSTRY PARTICIPATION

14. The Australian Government's offset conditions will be included in the request for tender. Because of the technological characteristics of the computer system and the very low production volumes, the potential for Australian industrial involvement is limited. However, since Cray Research Incorporated

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support their systems with on-site repair to component level, Australian participation in follow-on support will be high.

FINANCIAL CONSIDERATIONS

- The estimated cost of the project is \$12.95m (April 1984 prices, June 1984 exchange rate) comprising expenditure of \$1.90m for works and \$11.05m for the equipment investment. Funds have been provided in the 1984-85 draft estimates and the later years of the Defence programme and the priority of the proposal will be sustained in any likely reduced budget. Details of resource aspects are at Attachment B.
- 16. With the introduction of the new equipment, additional operating costs will be incurred of \$0.60m per annum from 1986-87. However, overall operating costs will be reduced by \$0.53m per year after the phase out of the Cyber computer in August 1989.
- 17. As stated in paragraph 9 enhancement of the computer may be required around 1990-91. This is estimated to cost some \$3.00m for which approval will be sought later.

FACILITIES

18. In March 1984 the Minister for Housing and Construction and the Minister for Finance agreed to the concurrent design and documentation of the capital works, in advance of formal project approval without any commitment. This will allow the works aspects to be progressed to meet the timescales for the equipment delivery and installation as shown at Attachment C.

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EXEMPTIONS

19. Approval of the Executive Council will be required to exempt referral of the capital works to the Public Works
Committee (PWC) should the cost exceed \$2.0m (presently \$1.9m in April 1984 prices) as seems likely with inflation. Exemption of consideration of the proposed computer acquisition by the Joint Committee on Public Accounts (JCPA) is required. For security reasons consideration by these bodies would be contrary to public interest. Cabinet agreement to these actions is required.

ACQUISITION STRATEGY AND PUBLICITY

20. It is proposed that equipment be procured and supported by sole source solicitation on tenders from the respective Australian agents of the equipments required.

Distribution

of information on the computer configuration will be limited to the companies concerned, who will be required to give the information appropriate security protection.

It is proposed that this project be given only minimal publicity with the release, before the award of the contract, of a statement along the lines of that at Attachment A.

CONSULTATION

22. The Permanent Heads Committee on Intelligence and Security has endorsed the need for priority to be given to upgrading DSD's cryptanalytic computer capability. This

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submission has been agreed by the Departments of Prime Minister and Cabinet and Finance. The Director General of the Office of National Assessments also supports the proposal and has commented that the maintenance of DSD's cryptanalytic capability is of great importance in the context of sustaining the level of intelligence currently enjoyed by the Government on the region of prime strategic interest to Australia.

RECOMMENDATION

- 23. It is recommended that Cabinet:
 - (a) agree that a computer system based on a Cray Research Inc processor be acquired and installed at Defence's Defence Signals Directorate at an estimated cost of \$12.95m (April 1984 prices, June 1984 exchange rate);
 - (b) approve on the grounds of national security and systems compatability the restriction of the source of supply of the prime equipment in (a) above to Cray Research Inc and its associated support to the original suppliers of such items;
 - (c) in the event that the cost of the associated capital works increases to an amount in excess of \$2.0m agree that, on the grounds of national security, it be recommended to the Governor-General in Council that

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the works not be referred to the Parliamentary Standing Committee on Public Works;

- (d) <u>agree</u> that the proposal be exempt from reference to JCPA;
- (e) <u>note</u> that minimal publicity of the project is proposed and that the Minister for Defence will be releasing, at an appropriate time, a statement along the lines of that given at Attachment A.

GORDON SCHOLES 19 July 1984

ATTACHMENTS

- A. Form of Public Statement
- B. Resource Aspects
- C. Implementation Schedule

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ATTACHMENT A

FORM OF PUBLIC STATEMENT

"The Government has approved the acquisition of a computer system from (Cray Research Incorporated) subject to the conclusion of satisfactory contractual arrangements by the Departments of Administrative Services and Defence. It will be used by the Department of Defence for tasks connected with intelligence. The Government's decision, made after very careful consideration of all the issues involved, was in this case determined by the highly specialised requirements."

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ATTACHMENT B

RESOURCE ASPECTS

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The following table summarizes the Project costs. \$Am (April 1984 prices, June 1984 Exchange Rate)

	1984-85 Draft Ests	1985-86	1986-87	1987-88	1988-89	1989-90	Total Project
A. Obligation							
- Equipment	11.05		-	-		-	11.05
- Facilities	1.90	-	-		-	-	1.90
TOTAL Obligations	12.95	-	-	-	-	-	12.95
B. Expenditure							
- Equipment	-	7.35	3.70	-	-	-	11.05
- Facilities	1.90	-	-	-	-	-	1.90
TOTAL Expenditure	1.90	7.35	3.70	-		-	12.95
C. Manpower	+3(1)	+1(1)	-	-	-	_	+4
D. Operating Costs					1		
- New Equipment	-	_	+.600	+.600	+.600	+.600	+.600 pa
- Cyber Support	-	-	-	-	_	530	530 pa
Phase Out (Aug 89)				*	3		1
TOTAL	-	-	+.600	+.600	+.600	+.070	+.070 pa

Additional manpower will be provided from within DSD's authorized manning levels. Notes: (1)

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ATTACHMENT C

IMPLEMENTATION SCHEDULE

Implementation is planned to be achieved in the following timescale:

a.	Project Approval	Jul	84	
b.	Release Request for Tender	Aug	84	
c.	Contract Let	Mar	85	
d.	Equipment Delivery	Feb	86	
e.	Equipment Acceptance	Apr	86	
f.	Phased installation of US software	Apr	86-May	87
g.	Phased transfer cryptanalytic tasks from CYBER	Apr	86-Jul	89
h.	Decommission CYBER	Aug	89	