PROJECT DESINE -

Proposed Computer

Acquisition by the

Department of Defence

Report

254

Joint Committee of
Public Accounts

Parliament of the Commonwealth of Australia 1986

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

JOINT COMMITTEE OF PUBLIC ACCOUNTS

REPORT 254

PROJECT DESINE

PROPOSED COMPUTER ACQUISITIONS BY THE DEPARTMENT OF DEFENCE

Australian Government Publishing Service
CANBERRA 1986

Printed by C J Thompson, Commonwealth Government Printer,
CANBERRA

JOINT COMMITTEE OF PUBLIC ACCOUNTS

FIFTEENTH COMMITTEE

SENATOR G GEORGES (Chairman)

SENATOR J O W WATSON (Vice-Chairman)

SENATOR THE HON DAME MARGARET GUILFOYLE, DBE	B J CONQUEST, MP
SENATOR B COONEY	A J DOWNER, MP
SENATOR G MAGUIRE	R J KELLY, MP
	H MAYER, MP
	J G MOUNTFORD, MP *
	G B NEHL, MP
	L R S PRICE, MP
	A C ROCHER, MP
	P M RUDDOCK, MP
	DR A C THEOPHANOUS, MP
	R E TICKNER, MP

*Ex-officio member being Chairman,
House of Representatives Standing Committee
on Expenditure

SECTIONAL COMMITTEE ON AUTOMATIC DATA PROCESSING

SENATOR THE HON DAME MARGARET GUILFOYLE, DBE (Chair)

B J CONQUEST, MP	DR A C THEOPHANOUS, MP
A J DOWNER, MP	R E TICKNER, MP
L R S PRICE, MP	

DUTIES OF THE COMMITTEE

Section 8.(1) of the Public Accounts Committee Act 1951 reads as follows:

> Subject to sub-section (2), the duties of the Committee are:
>
> (a) to examine the accounts of the receipts and expenditure of the Commonwealth including the financial statements transmitted to the Auditor-General under sub-section (4) of section 50 of the Audit Act 1901;
>
> (aa) to examine the financial affairs of authorities of the Commonwealth to which this Act applies and of intergovernmental bodies to which this Act applies;
>
> (ab) to examine all reports of the Auditor-General (including reports of the results of efficiency audits) copies of which have been laid before the Houses of the Parliament;
>
> (b) to report to both Houses of the Parliament, with such comment as it thinks fit, any items or matters in those accounts, statements and reports, or any circumstances connected with them, to which the Committee is of the opinion that the attention of the Parliament should be directed;
>
> (c) to report to both Houses of the Parliament any alteration which the Committee thinks desirable in the form of the public accounts or in the method of keeping them, or in the mode of receipt, control, issue or payment of public moneys; and
>
> (d) to inquire into any question in connexion with the public accounts which is referred to it by either House of the Parliament, and to report to that House upon that question,
>
> and include such other duties as are assigned to the Committee by Joint Standing Orders approved by both Houses of the Parliament.

PREFACE

This report presents the findings of the Committee's examination of proposed computing acquisitions, including those for Project DESINE, by the Department of Defence. This set of proposals by the Department of Defence is the third, and by far the largest, acquisition proposal received by the Committee to date under its standing reference to examine and report on proposed acquisitions of Automatic Data Processing facilities by Commonwealth departments and authorities staffed under the Public Service Act 1922.

The Defence submission to the Committee resulted from a Cabinet decision in December 1985 which gave in principle approval to the proposals. However Cabinet did not give approval for any procurement action or expenditure of funds, pending a favourable report from the Committee.

The Defence proposals are both large and complex. The largest of these proposals, Project DESINE, will involve the expenditure of more than $300 million including the costs of 3,300 manyears of development effort over the next 10 years. The Department of Defence proposes to do three things under Project DESINE:

- to decentralise its administrative computing systems and to establish a standard computing environment for those systems (the DESINE Strategy);
- to implement two major redevelopment projects, called the Supply and the Manpower Systems Redevelopment Projects, under the DESINE Strategy; and
- to establish a five year period contract with a prime contractor to establish a standard computing environment and to supply equipment and software for these major redevelopment projects.

The Committee's examination of the Project DESINE proposals has focussed on five major issues:

- project cost/benefit justification;
- technical risks;
- Australian industry participation;
- proposed method of acquisition; and
- staff resources required.

The Committee's examination of these issues has led it to recommend that a phased implementation and procurement strategy be adopted for project DESINE. The Committee concludes that, given the size, complexity and duration of the DESINE redevelopment projects, the only satisfactory approach is to plan, cost/benefit justify, obtain funding approval and implement each sub-project of the DESINE projects in turn. The initiation of each sub-project should be considered in the light of a review of the preceding sub-projects. This should allow the effective monitoring of both the expenditure incurred on, and the benefits resulting from, these projects.

The Department of Defence intends to let a single period contract for the supply of two things: a 'network architecture' which will provide the basis for its computing standards; and subsequently, implementation quantities of equipment and software conforming with those standards. The Committee is recommending a two-stage tendering process be employed to ensure that a satisfactory 'network architecture' is supplied and satisfactory standards are established, before large quantities of equipment are purchased. This will reduce the risk of major cost overruns should difficulties be experienced in proving the 'network architecture' and establishing satisfactory computing standards. A two-stage tendering arrangement will also increase competition in the tendering for these separate supply requirements and will increase the opportunities for Australian firms to participate.

The Committee believes that the Project DESINE acquisition offers a major opportunity for government purchasing to contribute to the development of a technologically advanced, innovative and competitive computing industry in Australia. It has therefore recommended that special measures be taken to ensure that this opportunity is not missed and, that a satisfactory level of Australian industry participation is achieved in the DESINE contracts.

The Committee has also reviewed the two other, and quite separate, proposals by the Department of Defence to purchase computing equipment for the Office of Defence Production and, to purchase small, stand-alone computing systems. The Committee has given qualified support to the former but does not support the latter proposal.

For and on behalf of the Committee

Senator G Georges
Chairman

M J Talberg
Secretary
Public Accounts Committee
Parliament House
CANBERRA ACT
17 September 1986

TABLE OF CONTENTS

LIST OF APPENDICES

1. A Submission to the Joint Parliamentary Committee of Public Accounts on the Project 'DESINE' Request for Tender, Department of Defence, 23 April 1986.

   - Vol I Executive Summary
   - Vol II Acquisition and Standardisation Strategy Overview
   - Vol III Supply Systems Redevelopment Project Overview
   - Vol IV Manpower Systems Redevelopment Project Overview
   - Vol V Office of Defence Production Acquisition

2. Letter to departments from JPCPA of 21 May 1985 containing guidelines to departments preparing submissions for the JPCPA.

3. Letter to the Department of Defence from JPCPA of 13 May 1986 requesting further information.

4. Letter to the Department of Local Government and Administrative Services from JPCPA of 14 May 1986 requesting information.

5. Letter to the Public Service Board from JPCPA of 14 May 1986 requesting information.

6. Letter to JPCPA from the Department of Defence of 21 May 1986 providing supplementary information.

7. Letter to JPCPA from the Department of Defence of 13 June 1986 providing supplementary information.

8. Letter to JPCPA from the Department of Defence of 24 June 1986 detailing proposed acquisition of a surplus computer for the Office of Defence Production.

9. Letter to JPCPA from the Department of Defence of 11 July 1986 providing supplementary information on the Office of Defence Production proposals.

10. Letter to JPCPA from the Department of Local Government and Administrative Services of 23 May 1986.

11. Letter to JPCPA from the Department of Finance of 14 August 1986 providing comments on project cost-benefit analysis.

12. Letter to JPCPA from the Public Service Board of 26 May 1986.

13. Letter to JPCPA from the Department of Defence of 13 August 1986 providing supplementary information on acquisition costings.

14. Letter to JPCPA from the Minister for Finance of 2 June 1986 concerning terms of the Defence reference.

15. List of Witnesses and Observers at Public Hearing on 5 June 1986

16. Proposed Procurement and Implementation Strategy for Project DESINE.

LIST OF TABLES

ABBREVIATIONS AND ACRONYMS

ACEMA	Australian Computer Equipment Manufacturers' Association
DESINE	Defence EDP Systems Integrated Network Environment
DISCON	Defence Integrated Service Communications Network
DOLGAS	Department of Local Government and Administrative Services
MCB	Manufacturing Computing Bureau (within the office of Defence Production)
MSRP	Manpower Systems Redevelopment Project
ODP	Office of Defence Production
SNA	Systems Network Architecture (IBM's proprietary network architecture)
SSRP	Supply Systems Redevelopment Project

CHAPTER 1

SUMMARY OF FINDINGS

1.1 The Defence submission sets out the Department's proposals for its administrative computing systems over the next 10 years. The proposals are both large, involving the expenditure of more than $300 million and complex, comprising four sub-proposals. These are:

A. A decentralisation and standardisation strategy, called Project DESINE, for administrative computing systems in the Department;

B. The Supply and Manpower Systems Redevelopment Projects and proposed procurement arrangements to purchase approximately $60 million of equipment and software for these two projects over the period 1987/88 - 1991/92;

C. A separate procurement and funding proposal to purchase approximately $6 million of equipment for the Office of Defence Production over the period 1987/88 - 1990/91; and

D. A proposal to establish a period contract to purchase an unspecified quantity of small, stand-alone computer systems.

A. DESINE STRATEGY

1.2 The Department of Defence intends to decentralise functionally its administrative computing away from the highly centralised system which exists at the moment. However, to avoid the proliferation of many incompatible systems and to reduce inefficient duplication of functions, a standardised computing environment is also to be established which will ensure these decentralised systems will be able to exchange data and programs. This standardised computing environment is called DESINE, Defence EDP Systems Integrated Network Environment.

1.3 The Committee agrees that the DESINE strategy is soundly based and that the technology appears to be available to provide a standardised computing environment of the type envisaged by Defence.

B. SUPPLY AND MANPOWER SYSTEMS REDEVELOPMENT PROJECTS AND PROPOSED PROCUREMENT ARRANGEMENTS

1.4 The Department proposes to commence the implementation of its DESINE strategy through the redevelopment and functional decentralisation of two of its major existing administrative computing systems. These redevelopment projects are the Supply Systems Redevelopment Project (SSRP) and the Manpower Systems Redevelopment Project (MSRP).

1.5 The first scheduled sub-project of these major redevelopment projects is the Depot/Base sub-project of the SSRP which will in itself involve capital expenditure of approximately $30 million from 1987/88 - 1993/94.

1.6 The Committee agrees with the decision to decentralise functionally the Department's supply and manpower systems. However, it does not consider that even the first sub-projects of the SSRP and MSRP have been adequately defined or justified in cost-benefit terms at this time. It also notes that the funds requested to implement the first sub-projects of these major redevelopment projects have not as yet been subject to the full processes of internal scrutiny and review in the Department nor have they been endorsed by the Secretary of the Department.

1.7 The Committee recommends that (paragraph 3.41):

1 the Department of Defence not procure implementation quantities of equipment for each major sub-project of the Supply and Manpower Systems Redevelopment Projects or any other projects to be implemented under Project DESINE until:

- the planning, systems definition and cost-benefit studies necessary to define and justify fully these sub-projects have been completed;

- the Secretary of the Department of Defence has endorsed each of these sub-projects in turn and the funds necessary to implement them; and

- a submission dealing with these sub-projects has been made to the Committee under its standing reference to examine and report on ADP acquisition proposals over $5 million. The Committee understands that the first of these is likely to be the Depot/Base sub-project of the Supply Systems Redevelopment Project which involves approximately $30 million of capital expenditure.

1.8 The Department also proposes to establish a five year period contract with a prime contractor to perform two tasks:

- to supply and prove a network architecture which will provide the basis for the DESINE standardised computing environment; and

- to supply subsequently implementation quantities of compatible equipment and software for the Supply and Manpower Systems Redevelopment Projects.

1.9 The Committee understands that most of the major computer manufacturers have a proprietary network architecture capable of providing the broad functionality necessary to support the standardised computing environment envisaged by Defence. The Committee is concerned that the proposed procurement arrangements involve a small, but significant risk of delays and large additional costs should the network architecture supplied not perform fully satisfactorily. It is also concerned that there will be minimal opportunities for Australian industry participation under the proposed prime contractor arrangement.

1.10 The Committee is therefore recommending an alternative two-stage procurement and implementation strategy for Project DESINE which will:

- allow the two tasks referred to above to be performed separately in a Stage 1 and a Stage 2 tender;
- minimise the risk of major cost overruns resulting from any delays or complications in establishing and proving a network architecture;
- permit broader competition and therefore better price and performance, especially when implementation quantities of equipment are being procured in Stage 2; and
- increase the opportunities for Australian firms to supply equipment and software in compliance with the selected network architecture.

1.11 The Committee recognises that a two-stage procurement may involve some additional administrative costs but it concludes that:

- it need not cause any delays to the main implementation phase of the Supply Systems Redevelopment Project which is not scheduled to commence until 1990; and
- any additional costs resulting from conducting two tenders and from any consequent small delay, are more than justified by the reduced risks, greater competition and greater opportunities for Australian industry participation which will result.

1.12 The Committee believes that Project DESINE, which will involve capital acquisitions of $141 million, offers a major opportunity for government purchasing to contribute to the development of a competitive, innovative and export-oriented computer industry in Australia. It therefore considers that special measures are justified, above and beyond the application of existing Australian purchasing preference and offsets policies, to secure a satisfactory level of Australian industry participation in the DESINE contracts.

1.13 The Committee also considers that, given the sizes and extended implementation periods for the Supply and Manpower Systems Redevelopment Projects, and the uncertainties flowing from the rate of change in the technology, it is impossible to produce a full assessment of the costs and benefits of these projects at this time. A staged approach should be adopted in the planning, approval of funds and implementation of these projects.

1.14 The Committee therefore recommends that the Department of Defence provide to the Committee and subsequently to Cabinet (paragraph 3.152 and 3.153):

13 a supplementary and succinct submission (Submission 1) as soon as possible which sets out proposed general arrangements for the two stage procurements and detailed arrangements for Stage 1 procurements including:

- the numbers, types and cost of equipment and software necessary to test and prove the selected network architecture in Stage 1; and

- the broad specification of the network architecture to be included in the Stage 1 request for tender;

14 a further submission (Submission 2) as per the Committee's guidelines for submissions under its standing reference, which sets out detailed proposals for Stage 2. This submission will be made only when Stage 1 is complete, and detailed planning for the first sub-projects of the Supply Systems Redevelopment Project is also complete. It will include:

- the results of the Stage 1 evaluation and trial implementation of the selected network architecture;

- a full definition of the first sub-projects of the Supply Systems Redevelopment Project, and the cost-benefit and other information necessary to support them;

- comprehensive plans for monitoring the performance of, and benefits resulting from these sub-projects; and

- an indication of the proposed part tendering arrangements and the expected level of Australian industry participation in the Stage 2 contracts;

15 additional submissions for any other projects, including the Manpower Systems Redevelopment Project, to be implemented under DESINE, as and when required under the Committee's standing reference to examine and report on major ADP acquisition proposals over $5 million; and

16 the Department of Defence provide an annual progress report to the Department of Finance and this Committee which summarises progress to date on Project DESINE and its component projects against agreed plans. This report will detail:

- the benefits achieved in comparison with those initially asserted at the time of project approval;
- the costs incurred to date in comparison with those initially asserted;
- the degree of Australian industry participation achieved; and
- the proposed expenditure for DESINE projects for the following financial year.

1.15 The Committee's detailed recommendations about the Stage 1 and Stage 2 contracting arrangements are given in Chapter 3, paragraphs 3.146 and 3.147.

1.16 The Committee has also made several recommendations resulting from its concerns about the availability of technical computing staff for Project DESINE, and the Defence proposals to provide data communication facilities for Project DESINE. These are given in Chapter 3 of this report at paragraphs 3.184 and 3.166.

C. PROPOSED PROCUREMENTS FOR THE OFFICE OF DEFENCE PRODUCTION

1.17 The Office of Defence Production has already established a standardised environment for its computing systems and has a proven network architecture in place. The Office proposes to establish a five year period contract to purchase additional computing capacity for its Manufacturing Computing Bureau. The Bureau provides computing support to the Office's corporate services and to individual Defence factories.

1.18 In view of the established standard computing environment in the Office, the Committee does not believe a prime contractor arrangement is necessary for the proposed period contract. A part tendering arrangment will both increase competition and provide greater opportunities for Australian industry participation.

1.19 **The Committee recommends that (paragraph 4.43):**

25 the Department of Defence invite part tenders for the proposed five year period contract to be established for the supply of equipment to the Office of Defence Production.

1.20 Defence's initial submission stated that additional computing capacity for the Office of Defence Production was not required until the end of 1987. However in a subsequent and supplementary submission the Department indicates that because of difficulties in securing suitable accommodation for some of the Office's existing equipment, additional interim computing capacity would have to be obtained. The Department argues that the most cost-effective means of securing this interim capacity is to purchase a $1.85 million 'surplus' computer which has become available in the Commonwealth Bank.

1.21 The Committee's subsequent enquiries into the circumstances surrounding the Office's inability to secure accommodation for a warehoused computer already owned by the Office and which could have met its interim requirements, revealed serious failings in the planning and/or procurement process for computer accommodation. The Committee intends to investigate this matter further in its current inquiry into the Administration of the Commonwealth's Property Functions.

1.22 **The Committee recommends that (paragraph 4.20):**

20 the Department of Local Government and Administrative Services and the Department of Housing and Construction make submissions to the Committee's inquiry into the Administration of the Commonwealth's Property Functions, explaining the reasons for the delay in providing suitable accommodation for the Office of Defence Production's existing equipment.

1.23 The Committee also believes that the capacity demand projections on which the proposal to purchase a 'surplus' computer is based, are likely to be inflated by the absence of any real user charging and cost recovery for the Manufacturing Computing Bureau's services. The Committee is not persuaded that the purchase of additional interim capacity or greater use of external bureau services is necessary between the end of 1986 and the supply of new computing equipment in 1987.

1.24 **The Committee recommends that (paragraphs 4.28 and 4.35):**

21 the Office of Defence Production introduce, as a matter of high priority, real user charging and cost recovery for the Manufacturing Computing Bureau's services to ensure that the level of use of these services is cost-benefit justified;

22 the Department of Defence expedite the Office of Defence Production's tender independently of the Project DESINE tender, to allow new computing equipment to be delivered to the Office as soon as possible;

23 the Office of Defence Production review its capacity demand projections for the Manufacturing Computing Bureau with a view to deferring the provision of lower priority services until suitable accommodation can be found for its existing equipment and/or new equipment is delivered; and

24 the Department of Local Government and Administrative Services take the necessary urgent action to accelerate the provision of suitable accomodation for the Office's equipment.

1.25 The Committee's conclusions and recommendations on the proposed Office of Defence Production procurements are presented in detail in Chapter 4.

D. THE SMALL, STAND-ALONE SYSTEMS CONTRACT PROPOSAL

1.26 The Department of Defence proposes to establish a five year period contract with a prime contractor to provide small computing systems which Defence asserts will not need to communicate at this stage with other administrative computing systems in the Department. Such systems could of course be provided under the Project DESINE contract, but as the Department has pointed out, this separate contract would give opportunities for Australian firms to bid for business who would be unable to do so under the DESINE contract.

1.27 The Committee does not believe there is sufficient justification for establishing this separate small systems contract. It considers that adequate opportunity will be given to Australian firms under the two-stage DESINE contracting arrangements recommended by the Committee in Chapter 3. It also notes that the Department of Local Government and Administrative Services has recently established a panel period contract for the supply of small, stand-alone systems which the Department of Defence could use.

1.28 The Committee has some concerns about the magnitude (of the order of $7 million per annum) of funds spent in the past by the Department on stand-alone computer systems. It believes that it would be indefensible for Defence to continue to spend such large sums on the progressive acquisition of stand-alone equipment that the Department itself admits will eventually have to be interconnected, at considerable cost, with the rest of the Department's administrative computing equipment. The Committee believes it may well be more cost-effective to purchase these 'stand-alone' systems under the DESINE period contracts to permit easy interconnection in future and to avoid the costly provision of communication gateways.

1.29 The Committee recommends that (paragraph 5.14):

26 the Department of Defence's proposal to establish a separate period contract for small, stand-alone computer systems not proceed;

27 the Department of Defence give serious consideration to purchasing its small, stand-alone computing systems through the DESINE period contracts so as to provide for the possible future need to interconnect these systems; and

28 the Department of Defence, in consultation with the Department of Local Government and Administrative Services, determine the most appropriate alternative means of procuring any further small, stand-alone computer systems it requires.

1.30 The small, stand-alone systems contract proposal is discussed further in Chapter 5.

1.31 A complete listing of all the Committee's conclusions and recommendations about the Department of Defence's four sub-proposals is given at the end of this report.

CHAPTER 2

INTRODUCTION

- The Committee's Inquiry
- The Defence Proposals
- History of Defence Administrative Computing
- The Major Issues

The Committee's Inquiry

2.1 On 23 April, 1986 the Department of Defence made a four-part submission to the Committee on its plans for administrative computing from 1986 through to the mid-1990s. The submission resulted from a Cabinet decision in December 1985 which gave 'in principle' approval to the four proposals comprehended by the submission. Cabinet referred to the need to maximise the contribution of Australian industry to the proposed acquisitions consistent with approved government policies. Cabinet also requested that the Minister for Defence refer these proposals to the Public Accounts Committee for examination and report under the Committee's standing reference on major computer acquisition proposals. The original submission to the Committee was supplemented by a further submission proposing the interim acquisition of a surplus computer for the Office of Defence Production (ODP).

2.2 The Committee's inquiry has used numerous sources of information. The Department of Defence made two formal submissions to the Committee and also provided supplementary information in response to specific Committee requests. The Committee inspected Defence factories in the Office of Defence Production and also inspected a RAAF supply depot. The Committee held a public hearing on 5 June 1986 at which it took evidence from the Public Service Board and the Australian Computer Equipment Manufacturers' Association (ACEMA) and the Departments of: Defence; Finance; Local Government and Administrative Services; and Industry, Technology and Commerce.

2.3 The executive summary of the submission from the Department of Defence is at Appendix 1. The Committee's guidelines on the form and content of submissions to the Committee in support of ADP acquisition proposals is at Appendix 2. The Committee's requests for further information and the Department of Defence's replies are at Appendices 3,6,7 and 13. Defence submissions specifically relating to the proposal to acquire a 'surplus' computer for the Office of Defence Production are at Appendices 8 and 9. Committee requests to other departments and agencies and their responses are at Appendices 4,5,10,11 and 12.

The Defence Proposals

2.4 The Defence submission covers four proposals:

- a decentralisation and standardisation (DESINE) strategy for administrative computing in the Department;
- funding and procurement proposals for the two initial projects to be implemented under this DESINE strategy, the Supply Systems Redevelopment Project (SSRP) and the Manpower Systems Redevelopment Project (MSRP);
- funding and procurement proposals for the Office of Defence Production; and
- a procurement proposal for small stand-alone computer systems.

2.5 These four proposals, contained in what is consequently a quite complex 'omnibus' submission from the Department of Defence, are outlined below.

Decentralisation and Standardisation Strategy for Administrative Computing (DESINE Strategy)

2.6 A strategy is proposed which envisages the functional decentralisation of most administrative computing systems in the Department of Defence away from the strongly centralised systems which have been in place since the 1960s.[1] An essential element of this strategy is the establishment of a standardised computing environment, called a 'network architecture', which will aim to ensure that the administrative computing equipment acquired for the Department and the three Services will exhibit a high degree of compatibility and inter-operability.[2] In short, the goal is to enable the many administrative computer systems Department-wide to communicate with each other and to exchange data and programs without the expense and delay associated with conversions or re-programming that have characterised such exchanges of information in the past. The standardised computing environment is to be known as the Defence EDP Systems Integrated Network Environment, or by its acronym, DESINE.[3]

2.7 Initially only the supply and manpower computer systems in the Department are to be re-developed using the selected network architecture and the new equipment and software that will be acquired to support it. Plans for these two projects comprise the major part of the Defence submission. The Department intends that ultimately all those administrative computing systems which have a need to interchange data and information with locations or organisations beyond the originator will also be re-developed. The one significant exception involves the Office of Defence Production which has already adopted a commercial proprietary network architecture as a standard.

---

1. A Submission to the Joint Parliamentary Committee of Public Accounts on the Project 'DESINE' Request for Tender, Department of Defence, 23 April 1986, Enclosure 4A, page (i)
2. Appendix 1, Vol I, pages 2 and 3
3. Appendix 1, Vol I, page 2

2.8 The DESINE strategy is discussed in greater detail in Chapter 3.

Procurement and Funding Proposals for Project DESINE

2.9 To attain its goal of decentralisation and standardisation, the Department proposes to call tenders in late 1986 to select a single prime contractor. The prime contractor would be engaged for five years under the terms of a period contract for the supply of a network architecture that desirably will comply with, or evolve into compliance with, international standards for interconnecting a multi-computer environment.[4] In addition, the selected supplier would supply all services, software and equipment (ranging from large mainframe computers through minicomputers to microcomputers, terminals and associated devices) as may be required to implement the DESINE strategy over this initial five year period.

2.10 The existing centralised computing systems which the Department operates from Defence Central in Canberra are estimated to have a useful life which will extend into the first half of the 1990s. It is likely that the network architecture to be selected for DESINE will not operate directly with many of these present systems and special steps may have to be taken in order to keep them working efficiently during the transitional years while the new systems are being developed. This practical requirement will probably involve the need to develop a 'one-off' suite of operating software which will provide the gateway between the old systems and the new.[5]

2.11 As noted earlier, Project DESINE will initially involve two major redevelopment activities. The first will be a Supply Systems Redevelopment Project, called SSRP; the second a Manpower Systems Redevelopment Project, called MSRP. Together, according to indicative plans at this stage, they will represent the requirement to expend approximately $310 million, including the costs of 3300 manyears of effort, on their development in the period 1982/83 - 1995/96.

2.12 The Committee has had great difficulty in determining from the Department of Defence's submissions, the precise nature, costs and relationships between the individual sub-projects and development tasks within the DESINE redevelopment projects. The Committee has commented in its previous ADP reports on the inadequacy of costing information and explanatory detail contained in other departments' submissions to the Committee. The Committee found it necessary to seek supplementary costing information on several occasions from these departments. The Committee is disappointed that the information presented in the Department of Defence's submission has revealed similar deficiencies.

---

4. Appendix 1, Vol II, pages 1,8 and Defence Submission, op. cit., Enclosure 4A, page 13
5. Defence Submission, op. cit., Enclosure 4A, page 5

2.13 A department with resources such as those available to Defence and which is contemplating acquisitions costing several hundred million dollars, should be able to present the elements of its proposals in a concise and mutually consistent manner. The Department of Defence's inability to do so, casts some doubt on its ability to manage these large and complex acquisition and development projects.

2.14 The costing aspect of the Department's submission is one where these inadequacies are very apparent. While a considerable volume of costing data was provided, this was often more confusing than enlightening. Cost categories differed between sub-projects and variations in costs in documents at different times were often not reconciled. Insufficient work was done by the Department to draw the disparate detail together so as to allow the Committee to understand the precise nature of, and relationship between the proposals' various sub-components.

2.15 The Committee went to considerable lengths to clarify the timing and costing of the various proposals. For example, the Committee found it necessary to adjust the staff costs of MSRP to bring those costs onto the same basis as SSRP staff costs. It also found that while non-staff costs for SSRP and MSRP are based on April 1985 prices, staff costs are based mainly on August 1986 prices. A further difficulty emerged with the supplementary costing data provided by Defence. The same staff category descriptions are used for staff who are performing very different functions in the SSRP and MSRP respectively. These inconsistencies make accurate comparisons of staff requirements between these two projects extremely difficult.

2.16 Costing and manpower data which the Committee has extracted from the Department of Defence's submissions in an attempt to clarify the costing and manpower requirements of the proposals, are presented in Tables 1 and 2. The numerous footnotes to the two tables indicate the types of adjustments and manipulations which the Committee has found it necessary to make in its attempt to place the component elements of the DESINE acquisitions on some comparible basis.

2.17 The costs estimated for SSRP and MSRP are given in Table 1. On-going operational costs of the resultant computer systems are not included.

2.18 As indicated in Table 1, $125 million expenditure is required under the 1986/87-1990/91 Five Year Defence Plan for the initial phase of the Supply and Manpower Systems Redevelopment Projects. The comparable development cost for these projects over their full lives is $310 million.

2.19 Data on the staff resources required to develop the SSRP and MSRP projects are presented in Table 2. The development task is clearly massive, requiring 3277 manyears of effort in total. SSRP is by far the greater consumer of human resources, requiring an estimated 2558 manyears of development effort. This compares with a development effort for MSRP of 719 manyears.

TABLE 1 - DEVELOPMENT COSTS FOR THE SUPPLY SYSTEMS REDEVELOPMENT PROJECT (SSRP) AND THE MANPOWER SYSTEMS REDEVELOPMENT PROJECT (MSRP)

($ MILLION)

	Five Year Defence Plan	First Period Contract	Life of Project
SSRP	1986/87-1990/91	1987/88-1991/92	1982/83 - 1995/96
.Hardware and Software to be procured under DESINE contracts		25[a]	68[a,g]
.Hardware, Software and Site Preparation	27		100[a,f]
.Total Project Costs[e]	67[b]		236[c]
MSRP	1986/87-1990/91	1987/88-1991/92	1986/87-1993/94
.Hardware and Software to be procured under DESINE contracts		34[a]	34[a]
.Hardware, Software and Site Preparation	37		41[a]
.Total Project Costs[e]	58[d]		74[d]

a April 1985 prices. (See Appendix 13)
b Non-staff costs are based on April 1985 prices. Staff costs are based mainly on August 1986 prices (See Appendix 13). Staff costs for 'user area' staff are omitted.
c April 1986 prices. Staff costs for 'user area' staff are included. (See Appendix 6, page 11).
d Non-staff costs are based at April 1985 prices. Staff costs are based on August 1986 prices (see Appendix 13). Staff costs have been adjusted to bring them to the same basis as SSRP costs by raising them by the ratio of the SSRP to the MSRP staff costs, for the different categories of staff.
e Total project costs represent hardware, software, site preparation, staff, furniture and administrative costs.
f Includes $8.221 million for hardware, software and site preparation to be spent prior to the DESINE contract being let.
g Excludes $8.181 million for hardware and software for the existing Sperry equipment needed for SSRP.

TABLE 2 - HUMAN RESOURCES REQUIRED FOR THE SUPPLY SYSTEMS REDEVELOPMENT PROJECT (SSRP) AND THE MANPOWER SYSTEMS REDEVELOPMENT PROJECT (MSRP)

(MAN YEARS)

	SSRP Life of Project	MSRP Life of Project
	1982/83 - 1995/96	1986/87 - 1993/94
Computer Systems Officers (CSO)	843	413
Other Staff engaged in computing activities	693	0
User Area Staff	597	306
Contract Staff	425	a
TOTAL	2558[b]	719[a]

a Figure for contract staff requirement in man years is not available, however the estimated cost is $0.54 million. (See Appendix 13).

b Appendix 6, (appendix 2 to annex B), and Appendix 1, Vol I, page 7

2.20 Each of the DESINE projects comprises several sub-projects for the development of new, or the redevelopment of existing, specialised administrative computing systems. The SSRP will encompass a substantial common core system with unique-to-Service elements only where these are required for genuine differences in Service roles. The underlying supply activities are substantially similar for the different Services, eg procurement, receipts and issues. Common computer systems based on common supply policies, methods and procedures would be cheaper to develop, maintain and operate than separate single Service systems. The SSRP will perform such tasks as determining stock levels, ordering and tracking the progress of orders for spare parts and commodities, keeping inventories and managing and reporting costs.[6] The MSRP will be developing a common approach to the next generation of manpower systems, using procedures to ensure compatibility between functional users. The manpower systems to be developed in the MSRP are those managed by the three Service Offices and the areas of Service Pay, Civilian Personnel and Organisation and Establishments.[7]

2.21 In each project, Defence contemplates undertaking the redevelopments in a way which will introduce common systems and procedures throughout the Department and the three Services to the extent feasible, bearing in mind the peculiar operational requirements which will require that there are differences in some instances.[8]

2.22 The Department of Defence seeks endorsement for both the proposed procurement arrangements for Project DESINE and for the Supply and Manpower Systems Redevelopment Projects.

2.23 Issues raised by these procurement and project proposals are discussed in detail in Chapter 3.

The Office of Defence Production Proposal

2.24 One major exception to the Department's decision to standardise all administrative computing occurs in the Office of Defence Production (ODP), most of which comprises the former Department of Defence Support. That Department had earlier adopted the IBM protocols for effecting computer system interconnection. Bearing in mind the investment that has already been made, the Department has decided to maintain this IBM compatible orientation in the Office of Defence Production.

2.25 To augment ODP's existing computing capabilities, Defence proposes to establish a five-year period contract, quite distinct from that envisaged for Project DESINE, but also with a single prime contractor, to provide the desired equipment and services.

---

6. Appendix 1, Vol III, page 3
7. Appendix 1, Vol IV, page 1
8. Appendix 1, Vol III, page 3, Vol IV, pages 1 and 2

2.26 Initial acquisitions under this contract are to be made for ODP's Manufacturing Computer Bureau at a cost of $6.7 million.[9] The Bureau provides services to individual factories and establishments within the ODP and for corporate information systems. The Department aims to achieve efficiencies and cost savings through this common bureau approach.

2.27 Subsequent to the original submission to the Committee, the Department of Local Government and Administrative Services circulated in May 1986 a notice to all departments advising them of the availability of a 'surplus' mainframe computer in the Commonwealth Bank which was compatible with the network architecture used by the Office of Defence Production. Defence subsequently lodged a supplementary submission with the Public Accounts Committee requesting the Committee to consider and report on a new proposal to acquire this computer as an interim augmentation of existing computing facilities in the ODP.[10]

2.28 The Department of Defence seeks endorsement of both the proposed procurement arrangements for IBM compatible computer systems for the ODP and, endorsement of an initial proposed expenditure of $6.1 million over the period 1987/88 to 1990/91 for equipment required for the Manufacturing Computing Bureau. The supplementary submission also seeks endorsement of the proposal to acquire a 'surplus' computer valued at $1.85 million to provide interim capacity in the Bureau up until mid-1988.

2.29 The proposed procurements for the Office of Defence Production are discussed further in Chapter 4.

The Small, Stand-alone Systems Proposal

2.30 The Defence submission proposes a third five-year period contract for the acquisition of small, 'stand-alone' microcomputers and office equipment for those requirements where interconnectivity is not a necessity.[11] This proposal also contemplates a single prime contractor as the source of supply. The Defence submission does not identify specific requirements for this category of procurement and no request for funds is included. Defence submits that equipment and software to be purchased under this contract will be justified, and funds approved, as the need arises.[12]

2.31 Both the proposed DESINE and ODP contracts will provide the means to acquire equipment which will be similar to the requirements stated for this 'small, stand-alone systems' contract. However, Defence deems it to be important to establish this third category of contract to enable it to tap a source of supply which might not otherwise participate in the first two categories of contracts. Defence also submits in a letter of 21 May 1986 to the Committee that the separation of this particular type of requirement is designed to increase the potential for Australian industry participation.[13]

---

9. Appendix 1, Vol IV, page 8 and Defence Submission, op. cit., Enclosure 4B, Attachment F
10. Appendix 8
11. Appendix 1, Vol V, page 1
12. Appendix 1, Vol II, page 2
13. Appendix 6, page D-5

2.32 The Department of Defence seeks endorsement of its proposal to establish a five-year period contract with a single prime contractor for small, stand-alone computing systems.

2.33 Chapter 5 of this report examines this proposal in detail.

History of Defence Administrative Computing

2.34 The Committee considers that it is important that the current Defence proposals are assessed with reference where relevant, to the history of administrative computing in the Department of Defence. In particular, there are some important lessons to be learnt from past computing developments in the Department.

2.35 Defence commenced its active use of computer systems for administration in the early 1960s with the acquisition of Honeywell equipment. The facility was located in Canberra and from the outset it was organisationally strongly centralised. At that time, which was very early in the history of commercial computing, a new programming language named FACT was selected by the Department as the basis for developing the various administrative systems which were to evolve over the ensuing years.[14]

2.36 While the selected equipment probably performed no better or worse than did most other computers of that era, the choice of the FACT compiler led to problems. It was said to provide a technically good software environment for developing applications systems but unfortunately a different programming language, called COBOL, very soon became the worldwide standard for such purposes. FACT was not adopted by most users and before long there was only a small number of computer installations anywhere which continued to use it. As a consequence, the level of support available to Defence became increasingly limited. Indeed most of the programs and systems which were deployed had to be developed by Defence using internal staff resources.

2.37 As time went by and technology advanced, the task of continually upgrading, modifying and keeping existing systems up-to-date with evolving requirements became a very time-consuming and expensive problem. Demands from various internal organisations and the three Services for additional systems increased, as they continually sought to improve their operating efficiencies. Those demands were often frustrated because of administrative problems and the difficulties associated with FACT.[15]

2.38 After about ten years of service the Honeywell computer installation was supplanted by a move to Sperry Univac equipment. At that time, the Department decided to convert most of the earlier FACT-based programs and systems to the new equipment, running under the broadly-accepted COBOL compiler, rather than

14. Defence Submission, op. cit., Enclosure 1, page 15 and Minutes of Evidence, op. cit., page 17
15. ibid., page 17

developing them afresh. Largely because of the difficulties described above, this conversion process proved to be more complex and expensive than had been expected. The backlog of requirements for the development of new applications grew even further.

2.39 In the midst of this conversion process, in the mid-1970s, Defence procured a network of minicomputers to enable the centrally controlled and operated systems to receive input from, and despatch output to, the widely dispersed users throughout the Department and the Services. Whilst this move was a major step forward for the users, the family of minicomputers which had been selected did not operate with a standard suite of communications software. Once again Departmental resources were strained by the need to develop and maintain the necessary communications software.[16]

2.40 The pressures from users continued nonetheless. With the advent of inexpensive microcomputers, of stand-alone systems and particularly software which was easier for less specialised ADP staff to operate, the pressures for decentralisation began to grow.

2.41 Finally, in about 1980, Defence recognised the possibility that these problems of user demand might better be addressed through a decentralisation strategy.[17]

2.42 In 1982 a Departmental working party produced the Defence Computing Infrastructure Study Working Party Report that recommended adopting a policy that would lead to a 'cautious and phased decentralisation of administrative computing' along functional lines and subject to the imposition of central controls on the decentralised environment.[18] In essence, this report set out a prescription for avoiding chaos and confusion arising from the possible introduction of disparate computer systems which could not communicate with each other. The standardised computing environment would subsequently become known as the Defence EDP Systems Integrated Network Environment (DESINE). Further studies and reports finally led to the adoption of this policy.[19] Along the way, the Department decided that the first two systems to be decentralised would be the supply and manpower systems.

2.43 The fundamental trade-off made here was that while central systems are more easily controlled and, if they perform well, require fewer staff and are less costly, they also tend to be less responsive than decentralised systems to evolving user requirements. Also, with the advent of smaller and cheaper special-purpose systems, centralised systems threaten to lead to a proliferation of heterogeneous and incompatible 'stand-alone'

16. Minutes of Evidence, op. cit., page 73
17. Defence Submission, op. cit., Enclosure 1, pages 9, 10
18. Defence Submission, op. cit., Enclosure 1, page 13
19. Defence Submission, op. cit., Enclosures 2, 3 and 4A

systems which are acquired out of frustration with the services provided by centralised systems. This proliferation, in turn, puts further strains on scarce technical staff resources and can result in an uneconomic dispersion of these. Such an argument leads to the rationale for embracing a decentralisation strategy subject to strong central control of the 'computing environment', or as it has become known, the 'network architecture'.

The Major Issues

2.44 The Committee's guidelines for submissions relating to ADP acquisition proposals established the basis for the Committee's examination of the present proposals by the Department of Defence. A copy of the Committee's guidelines for submissions is at Appendix 2. The Committee's examination of the Defence proposals resulted in the identification of several major issues based on the following guidelines (the number references given in parentheses below refer to the relevant paragraphs of the guidelines):

- the nature of and the justification for the proposals [10(i)];
- the details of the system's proposals and associated cost-benefit analyses [10(vi), 10(vii) and 10(viii)];
- technical issues including risks and constraints along with the proposed use of technological facilities not yet in common use [10(iv) and 10(ix)];
- the proposed method of acquisition and concomitant questions relating to policy constraints in general and Australian industry participation in particular [10(iv), 10(x) and 10(xiii)]; and
- a job impact study report with special reference to the potential staffing consequences of the proposals [10(xii) and 11].

2.45 The Committee's inquiry has therefore focussed on five major issues:

- cost-benefit justification;
- technical risk;
- Australian industry participation;
- proposed method of acquisition; and
- staff requirements.

CHAPTER 3

THE PROJECT DESINE PROPOSALS

- The DESINE Strategy
- Departmental Endorsement of Project Proposals
- Cost-Effectiveness and Cost-Benefit Analyses
- Prime Contractor Arrangements
- Risk in the DESINE Strategy
- Australian Industry Participation
- Procurement and Implementation Strategy Recommended by Committee
- Data Communications in Project DESINE
- Technical Staff Resources

The DESINE Strategy

3.1 The Department of Defence is proposing to decentralise its administrative computing systems subject to the centralised control of a standardised computing environment. This environment is to be known as the Defence EDP Systems Integrated Network Environment (DESINE). The implementation of this strategy of decentralisation and standardisation is referred to as Project DESINE.

3.2 The Department of Defence commenced its use of computer systems early in the 1960s when the nature and costs of technology clearly favoured centralised installations. Technological improvements and reduced unit costs for computing power have combined to form a very different environment now. The Department of Defence submits that 'The general consensus in Defence is that centralisation does not meet current needs'.[1] The Department of Defence now proposes to move away from the current centralised computing arrangement for its administrative computing to one of functional decentralisation with the first components of this strategy centering on the Supply Systems Redevelopment Project (SSRP) and the Manpower Systems Redevelopment Project (MSRP).

3.3 Technological developments, particularly in smaller computer systems, have placed major strains on existing, highly centralised computer systems. These developments have brought with them the danger of an uncontrolled spread of incompatible systems, a form of 'de-facto' decentralisation, as remote users seek recourse to a range of more responsive but often disparate systems in order to get their work done faster and better. Rapid growth and the widespread use of computers in a tightly centralised environment also carry the risk of duplication and inefficiency when viewed from a total systems and organisational perspective as users attempt to acquire equipment by 'the back door' in the hope of avoiding the attention of those exercising central control.

---

1. A Submission to the Joint Parliamentary Committee of Public Accounts on the Project 'DESINE' Request for Tender, 23 April 1986, Enclosure 1, page 10

3.4 The 1985 Defence Administrative Computing Strategic Plan, in a discussion of the increasing difficulties associated with the burgeoning spread of administrative computing, notes:

> ...too much effort was being dedicated to controlling and too little to providing computer systems.[2]

That document also quoted an internal departmental report which notes that,

> labyrinthine procedures forced many users to seek alternative methods of computer acquisition.[3]

Decentralisation vs Centralisation

3.5 The Defence Computing Infrastructure Study Working Party Report outlines the Department's view of the advantages and disadvantages of decentralisation:[4]

> The advantages inherent in decentralisation are:
>
> a. the unquantifiable but real benefit of giving functional managers resources more closely related to their responsibilities;
>
> b. better recognition of priorities by managers because they are able to correlate their manpower with other resources and with work priorities more responsively (the same managers would resist relocation of their manpower for central work priorities or be less responsible in their demands for other resources not budgeted by them);
>
> c. decentralised systems can be better tailored, more flexible, more responsive to local user needs whilst retaining the capability of responding to needs of higher echelons; and
>
> d. the dispersion associated with decentralisation results in less system vulnerability overall.
>
> The disadvantages include:
>
> a. dispersion of and hence inefficient use of scarce manpower skills;

2. Defence Submission, op. cit., Enclosure 4A, page 3, para 16
3. Defence Submission, op. cit., Enclosure 4A, page 3, para 17
4. Defence Submission, op. cit., Enclosure 1, page 11

b. difficulty in maintaining commonality and interoperability;

c. possible duplication of effort and, inter alia, rediscovery of solutions and lessons;

d. difficulties in maintaining effective control; and

e. in the data area, the difficulty of ensuring compatibility of records.

3.6 The philosophy behind the current Australian Defence Forces concept is one of separate but integrated Services and while decentralisation is arguably an effective solution to computing problems, the various decentralised components of the Department of Defence's administrative computing complex need to be compatible to the extent that they can communicate readily with each other.

3.7 The Department of Defence argues then that a standard network architecture should be adopted for its computing environment.[5]

3.8 In other words the problem of incompatibilities between different components of the Department's computing systems can be alleviated if a common basis for computing is established. As Defence points out, decentralisation must be accompanied by a form of standardisation in order to permit:[6]

- ready exchange of data and data requests;
- interchangeability of equipment and portability of software between systems;
- reduction of manpower costs as regards training and skills required;
- reliance on manufacturer provided software; and
- evolution to international computing standards.

3.9 The Department identifies the following areas for standardisation in its computing environment:[7]

- System Software incorporating:
  - Network Architecture capability;
  - Operating system;
  - Data base;

5. Defence Submission, op. cit., Enclosure 2, page 1, para 3
6. Defence Submission, op. cit., Enclosure 2, page 11
7. Defence Submission, op. cit., Enclosure 2, page 22

- Communications Transport facility;
- Hardware;
- Transaction format;
- Office Technology; and
- Local Networks.

3.10 Agreement by the Department of Defence's computing users on these levels of standardisation should assist in ensuring commonality between decentralised components. It is also worth noting that in addition to commonality between elements of its computing environment the Department is also seeking to achieve a high degree of commonality within those functionally decentralised components. The submission states of the SSRP:[8]

> The existing systems are single Service systems which are costly to maintain and operate. A key SSRP objective is to develop 'common' (i.e. tri-Service) systems, with unique-to-Service elements only where these are unavoidable for genuine differences in Service roles. The underlying supply activities are substantially similar for the different Services, eg procurement, receipts, issues etc.

3.11 The Committee also understands that as part of the MSRP, the Department intends to develop a combined pay system to meet the common needs of the three Services.[9]

3.12 If the Department of Defence can achieve an environment characterised by a network architecture and appropriate standards, and can successfully exploit the commonality of its systems then the disadvantages of the decentralised approach should be minimised. The Committee notes however, that the requirement for standardisation introduces some risk in that there may be problems in the selection of satisfactory standards. This is discussed in the section in Chapter 3 entitled 'Risk in the DESINE Strategy'.

Functional Decentralisation

3.13 The Department of Defence states its case for functional decentralisation as follows:[10]

> The debate on centralisation/decentralisation is world wide and there are as many advocates for as against either position. The arguments for centralisation hinge on efficiency whilst those for decentralisation hinge on effectiveness. Occasionally, both approaches have been adopted in turn by large organisations with as many successes as there have been failures. The one consistent point that emerges is that only an

8. Appendix 1, Volume III, page 3
9. Defence Submission, op. cit., Enclosure 42, page 11.6
10. Defence Submission, op. cit., Enclosure 1, page 11

approach which sets user requirements in the context of the corporate structure, management style and corporate goals will succeed. In short, complete autonomy will succeed only where the elements of the organisation are autonomous. Organisation is therefore a key factor in deciding on a management approach to the computing function.

There is a strong and broadly based consensus within Defence for some change towards decentralisation, essentially along functional lines which reflects the nature of the Defence organisation and its style of centralised policy and decentralised implementation. The inability of the present arrangements to meet the needs of Defence coupled with the desirability, if possible, of agreeing with the broadly based Defence opinion, argue for some moves towards decentralisation of Defence computing.

3.14 The Department rejects decentralisation along Service management lines arguing:[11]

> The organisation of the Defence Department is now functionally oriented and there would be considerable crossing of organisational boundaries if this option were implemented.

and that

> [functional decentralisation] is more attuned than other options to the organisational structure and is more acceptable to the majority of users as logical, satisfactory and workable.

3.15 In the process of dividing a large systems problem into smaller manageable components, the functions included within the defined boundaries of a component need to be cohesive (in the computing vernacular, tightly coupled) and the communications between components should be minimised. A division along Service lines would not only be at odds with organisational practice in the Department but would also require increased communications between the same functions of the various Services. For example, having three Service supply systems would lead to increased intercommunication when one Service wished to avail itself of parts stored in a depot or base of another Service.

3.16 The Committee supports the proposed strategy of decentralisation along functional lines as proposed under the DESINE strategy.

---

11. Defence Submission, op. cit., Enclosure 1, page 12

Availability of Technology

3.17 The Department of Defence indicates that most of the major computer manufacturers have a proprietary network architecture from which the Department can choose under open tendering procedures.[12] A 'network architecture' is a set of standards and specifications which ensure the components of a computing network are able to exchange data and software readily. The Committee understands that these proprietary network architectures can provide the broad functionality necessary to support the standardised computing environment envisaged by the Department of Defence.

3.18 The Committee concludes that:

- the decision by the Department of Defence to implement Project DESINE and decentralise administrative computing subject to central control over a standardised computing environment, is soundly based;
- the decision to decentralise administrative computing on a functional basis centering initially on the Supply Systems Redevelopment Project and the Manpower Systems Redevelopment Project is also soundly based; and
- the technology appears to be available which can provide the broad functionality necessary to support the standardised computing environment envisaged by the Department of Defence under Project DESINE.

Departmental Endorsement of Project Proposals

3.19 While the submission reports that the Department's Defence Force Development Committee has endorsed the DESINE strategy of decentralisation and standardisation, approval has not as yet been given for the specific projects to be implemented under DESINE.[13]

3.20 The Department's schedule for approval and procurement action as at 21 May 1986 indicates that the Supply Systems Redevelopment Project (SSRP) is the first project for which expenditure on capital equipment will be incurred. The SSRP comprises five sub-projects:[14]

- Development of a common Depot/Base System;
- Development of an initial Policy and Resource System;
- Enhancements of the existing Executive Systems;

12. Defence Submission, op. cit., Enclosure 2, page 1
13. Appendix 1, Vol I, page 2
14. Defence Submission, op. cit., Vol 3, page 4

- Development of a common Executive Level System; and

- Development of a common Policy and Resource System.

3.21 The first expenditures of money for capital equipment will be in December 1987 for a development machine for the common Depot/Base sub-project.[15]

3.22 Clearly this expenditure should not occur until agreement has been reached between the Services and the Department on the scope and purpose of the system and particularly on those system elements which are to be common across Services. Concomitantly, this expenditure and the initiation of the common Depot/Base sub-project should not occur until the sub-project and the required funds have been subject to the normal process of internal scrutiny and review within the Department and have been endorsed by the Secretary of the Department.

3.23 The Committee notes that the first of a series of requests for internal approval of SSRP sub-projects and funds is not due to occur before October 1986 when the Defence Forces Development Committee (DFDC) will be requested to consider and approve the Depot/Base project.[16] The Committee understands that the Depot/Base project is currently being reviewed at lower levels of the Department's committee approval structure.

3.24 Further, the Department indicates that:[17]

> ... for each of these elements of the Supply Systems Redevelopment Project the approval we have is a broad approval to proceed to systems definition. At that stage the whole project, including a rigid cost-benefit analysis, is put before the departmental decision-making process. That is when we get the go/no go decision.

3.25 The Committee understands that the Manpower Systems Redevelopment Project is similarly situated; none of its sub-projects has as yet received endorsement or funding approval by the Defence Executive. The Committee thus finds itself in the position of being asked to consider and endorse projects and, by implication, funds for those projects which as yet do not have the full endorsement of the Department itself.

3.26 The Committee is also aware through its examination of Defence project management[18] of the methods by which major Defence equipment projects receive scrutiny within the Department of Defence before government approval is sought. The Committee is concerned that the SSRP and MSRP, despite their

---

15. Appendix 6, Annex A-I
16. Ibid.
17. Minutes of Evidence, Joint Parliamentary Committee of Public Accounts, Project DESINE - Proposed Computer Acquisitions by the Department of Defence, 5 June 1986, page 26
18. Public Accounts Committee, Report 243, Review of Defence Project Management, 1986

size and likely impact on the administration of the Defence Force, have not yet received this usual scrutiny within the Department of Defence and in particular have not apparently been referred to the Defence Force Development Committee before submission to the Public Accounts Committee.

3.27 The Committee does not believe that it was the intention of its standing reference on major ADP acquisition proposals that it should be examining and reporting on ADP projects and associated funding requirements before they have received the endorsement of the relevant department's secretary. Indeed the Committee has placed great weight on the necessity for departmental secretaries and heads of organisation not only to endorse these projects but also to appear personally at Committee hearings to state their commitment to, and confidence in, the success of these proposals.[19]

3.28 The Committee concludes that:

> the timing, composition and funding requirements of the first two projects, the Supply and Manpower Systems Redevelopment Projects, which are to be implemented as part of Project DESINE, have not yet been:
>
> - subject to the full process of internal scrutiny and approval within the Department of Defence; or
>
> - endorsed by the Secretary of the Department of Defence.

Cost-Effectiveness and Cost-Benefit Analyses

The Principles

3.29 The Committee expects that each submission involving a proposed major acquisition of ADP facilities be accompanied by a detailed cost-effectiveness and cost-benefit analysis where applicable.

3.30 In those cases for which the specific objectives or requirements of the acquisition are known, then usually a cost-effectiveness analysis is sufficient. Such an analysis should compare quantitatively each of the feasible means which might be available to satisfy the requirement.

3.31 For example, in the case of the proposed acquisition of a defined amount of computing power, or in the case of providing a known capacity and connectivity of packet switched communications for DESINE systems, the objectives can be quantitatively projected, year by year for the full period under study. In such cases, the different means of achieving the stated requirement can be set out and compared in terms of capital, lease, hire and ongoing operating costs. When each

19. Appendix 2

stream of net costs is adjusted to a net present value a direct comparison of cost-effectiveness can be made in terms of the given statement of requirements. The Public Service Board's guide to cost-effectiveness of ADP systems describes the recommended methodology.[20]

3.32 The SSRP proposal is a different case. The SSRP does not represent the exact replacement of an existing capacity nor the mere addition of a known amount of computing power. Instead, this proposed acquisition considers a complete redevelopment of many systems accompanied by a major change to existing organisational arrangements. At the same time it is intended to harmonise significantly procedures within the Department. The justification for the SSRP acquisition therefore requires definition using the methods of cost-benefit analysis.

3.33 Cost-benefit techniques should commence with a quantitative statement of requirements, preferably ones which correspond directly with the operational objectives of the Department itself. If a given requirement for mobilisation or war readiness is postulated, for example, there should be an accompanying statement of the minimum acceptable adequacy or responsiveness of the overall logistic support function. This derived statement would of course vary with increased or decreased operational readiness requirements. Merely to say that every part and commodity must be immediately available at all times, at all places would be expensively wrong; but stating that only some given percentage of all requests for supply action must be met from existing stocks, or within some particular time period would also be wrong. There are priorities and tolerances which must be taken into account in establishing requirements.

3.34 To continue with the example, associated with each level of requirement for the operational responsiveness of a supply system would be an overall cost. In those cases where precise operational requirements are not available, or cannot be obtained, then examining additional increments of capability provided at added increments of cost can assist the planners and decision makers to define points of diminishing return, and to make value judgements accordingly.

3.35 The Committee requests that submissions in support of projects like the SSRP contain the results of cost-benefit and cost-effectiveness analyses which comply with the relevant Public Service Board guidelines. Submissions should also consider options which involve not only different levels of cost but also different levels of benefits. In particular, options which would provide a lower level of benefits but would also be less costly than other options should be considered in any cost-benefit evaluation. The Committee refers the Department of Defence to comments made on this and related matters by the Department of Finance.[21]

---

20. Public Service Board, A Guide to Cost-Effectiveness Analysis of ADP Systems, 1982
21. Appendix 11

Redevelopments in Project DESINE

3.36 The Committee had great difficulty during its inquiry in gaining an appreciation of the real worth of the redevelopment proposals within Project DESINE. While overall cost-effectiveness comparisons were given for each of the SSRP and MSRP submissions, and as noted above cost-effectiveness analyses are appropriate when the specific objectives are known, they were all based on the premise that some unidentified and therefore as yet unjustified goal served to define them. But the SSRP and to some extent the MSRP represent new developments, not just 'lift-offs' of existing systems to another format. In this context, and especially when it is recognised that each one itself is an amalgam of many sub-systems, the Committee has not been provided with the information needed to differentiate the necessary from the desirable or even from the wasteful. When an entirely new capacity is to be introduced, simple comparisons with the old do not suffice.

3.37 During its inquiry it became clear to the Committee that the problem above had not yet been resolved by Defence either. The submission contained cost-effectiveness comparisons, but supplementary information established that detailed cost-benefit studies were still in train and therefore their results were not available.

3.38 It was explained at the public hearing that in its assessment of the cost-effectiveness of the SSRP the Business Review Working Group of the Department considered the direction of the supply systems into and beyond the year 2000:

> ... [the] options ... essentially broke down into three basic options of single Service redevelopment, straight lift-off or conversion on to new equipment or a centrally conducted redevelopment approach which would in that process introduce commonality as far as possible between the three Services. These options were costed...[22]
>
> Having chosen that path, which was the Defence centrally managed redevelopment of common systems the cost-effectiveness related in essence to a choice between the two redevelopment options...[23]
>
> We are at the stage of one element of the Supply Systems Redevelopment Project, the Depot/Base element of that project ... In relation to that project alone, we have tentative cost-benefit figures from some consultants whom we have employed to do an initial look. I would stress that these are indicative only and the study is not fully complete, it has quite a way to go.[24]

22. Minutes of Evidence, op. cit., page 24
23. Minutes of Evidence, op. cit., page 25
24. Ibid., page 25

3.39 The schedule of projected programme activities provided to the Committee established that the various higher internal committees within the Department itself intend to review the initial sub-project of the SSRP in October 1986 and of the MSRP beginning in May 1987.[25] The first of the sub-projects likely to be put forward for approval in October 1986 is the common Depot/Base sub-project of the SSRP which is currently estimated to require for hardware, the expenditure of $31.5 million over the period 1987/88 to 1993/94.

3.40 The Committee concludes that:

- the Department of Defence has not yet completed the system definition, cost-benefit and other necessary studies for the first sub-projects of the Supply and Manpower Systems Redevelopment Projects; and

- in consequence, insufficient information is available to permit the Committee to assess the adequacy of the planning and cost-benefit justification for these sub-projects which in aggregate involve expenditures of approximately $310 million.

3.41 The Committee recommends that:

1 the Department of Defence not procure implementation quantities of equipment for each major sub-project of the Supply and Manpower Systems Redevelopment Projects or any other projects to be implemented under Project DESINE until:

- the planning, systems definition and cost-benefit studies necessary to define and justify fully these sub-projects, have been completed;

- the Secretary of the Department of Defence has endorsed each of these sub-projects in turn and the funds necessary to implement them; and

- a submission dealing with these sub-projects has been made to the Committee under its standing reference to examine and report on ADP acquisition proposals over $5 million. The Committee understands that the first of these is likely to be the Depot/Base sub-project of the Supply Systems Redevelopment Project which involves approximately $30 million of capital expenditure.

---

25. See Appendix 6, Annex A, and Minutes of Evidence, op. cit., page 51

Prime Contractor Arrangements

3.42 The Defence submission states at the outset that:[26]

> The essence of the Strategy [the acquisition and standardisation strategy] is the establishment of up to three period contracts under which all Defence administrative computing requirements for hardware and software should be purchased over the next five years. Prime contractors will be sought ...

3.43 The Committee notes that 'the strategy' referred to here is not the DESINE strategy, but rather a procurement strategy which the Department of Defence has proposed to permit the implementation of the DESINE decentralisation and standardisation strategy.

3.44 While the Committee supports the DESINE strategy, the particular procurement strategy proposed by Defence is quite a separate issue and requires separate justification. In particular the proposal for the use of prime contractors to perform the tasks envisaged under the first five years of Project DESINE, requires separate justification.

3.45 In support of the case for prime contractors the Department states:[27]

> ... With the diversity of equipments that we have in Defence at the moment, we are very conscious of our problems in supporting that great variety. I think a lot of the advantage that we see in the prime contractor arrangement is that it does allow our own reasonably scarce technical resources to be freed for the development of user systems rather than having to be spent in support of a variety of manufacturers' offerings of hardware and software. Again, I would stress that we are speaking of a prime contractor. The prime contractor himself, of course, may put together the hardware and software offerings of a number of different suppliers.

3.46 While this is of great importance given the current and continuing scarcity of technical computing staff, the Committee is conscious of the differing nature of technical staff in the computing industry. The type of officer who is attracted to the operating systems, software/communications environments and who would be involved in software support or the problems of interconnection, is not necessarily capable of, or willing to shift roles to end-user support. These officers may prefer to move to software support areas in other departments or private enterprise where there are abundant opportunities. Therefore it is not necessarily the case that using a prime contractor will allow a substantial shift in technical staff to the development of user systems.

---

26. Appendix 1, Vol I, page 1
27. Minutes of Evidence, op. cit., page 20

3.47 The Department also argues that its best people have in the past worked on necessary but unproductive tasks as far as the end user is concerned. The Department submits:[28]

> a lot of the thinking behind the concept which we call DESINE - the Defence EDP Systems Network Environment - is based on the fact that in the 20 years that we have been in the business, Defence has been its own systems integrator, to use the jargon. It has spent an enormous amount of its resources doing just the things which we hope the prime contractor will do. We have written operating systems, we have written complete communications networks, we have written compilers and we have done the whole gamut. The cost to us has always been that our best people have had to be put on to that activity whereas we feel that the best people we have should be looking directly at the customer end of our operation and producing good systems for Defence.

3.48 The Committee agrees that the implementation of the DESINE strategy will release Defence staff from these tasks which have in the past consumed so many resources. However this will occur principally as a result of the implementation of a standard computing environment, and not as a consequence of the use of a prime contractor. Defence is not again going to develop these systems no matter what tendering arrangements are employed.

3.49 For example, neither Defence nor indeed any other department, would contemplate writing operating systems for hardware in this day and age, nor would it contemplate writing compilers. The software industry provides these facilities for modern hardware used in administrative computing and has done so for some time. While the Department may have once written communications software, the implementation of a standard computing environment and network architecture will obviate the need to do so in future. Whether this architecture is supplied by a prime contractor or not, the Department will no longer be involved in writing communications software.

3.50 The Department of Defence itself provides evidence that the computing industry can supply this type of software.[29]

> On a matter of history, the Fact versus Cobol decision made in the early 1960s certainly took the Department down a track which cost it dear when it was necessary to convert. But I think the industry as a whole has moved on substantially since then and what we are proposing in the way of a network architecture would not, in my view, carry the same risks. The technology as it stood, say, two years ago was that if you wanted

28. Defence Submission, op. cit., page 73
29. Minutes of Evidence, op. cit., page 17

to have a network architecture in which you had a reasonable chance of getting competitive bids you were almost certainly limited to the IBM System Network Architecture. IBM itself obviously supported it, but so did a variety of other suppliers.

3.51 The Committee understands the Department's concerns about the level of technical resources invested in the past on support for a variety of manufacturers' offerings of hardware and software. In the past without a standard network architecture the level of technical resources and knowledge necessary to support and interconnect disparate devices was high. However, as the Department itself indicates, in today's market most of the major manufacturers have a proprietary network architecture or have products capable of linking into a network architecture arrangement.[30] In consequence the problems of technical support under a standard network architecture arrangement will be greatly reduced compared with the technical support currently required by the Department. This will occur regardless of the use of a prime contractor.

3.52 The Committee agrees that Defence can and should reduce the range of suppliers, equipment and software in comparison with that previously used in its administrative computing systems. The implementation of Project DESINE and a standard network architecture will necessarily restrict the range of suppliers in future and result in a dramatic reduction in the in-house technical resources necessary to support them. However the Committee does not accept that this constitutes an argument for a prime contracting arrangement with the further restriction of suppliers and competition to only prime suppliers and any subcontractors they may choose to involve.

3.53 The Committee recognises and agrees that the implementation of a standard network architecture will free a considerable number of technical support staff currently required to support the existing non-standard computing environment in the Department. It also recognises that the use of a prime contractor arrangement would further reduce the level of in-house technical support necessary but believes that the magnitude and importance of this further reduction has been overstated by the Department.

3.54 Some technical support will continue to be necessary during and after the establishment of a standard computing environment. The Department has two options for providing this technical support:

- to secure this technical support from an external contractor; or
- to use in-house technical staff.

30. Defence Submission, op. cit., Enclosure 2, page 1

3.55 In both instances the Department has to pay for this support. The Department has provided no cost information or arguments to demonstrate that it would be more cost-effective to use a prime contractor than to use in-house staff for this support.

3.56 The Committee concludes that:

- the implementation of a standardised computing environment will substantially reduce levels of technical support required in comparison with those required under a non-standardised environment;
- the Department of Defence has overstated the savings of in-house technical support which will result from the use of a prime contractor arrangement for Project DESINE; and
- the Department of Defence has provided no convincing cost-effectiveness argument based on the lower costs of technical support, where that support is provided by a contractor rather than by Departmental staff, to justify the use of a prime contractor.

3.57 The Office of Defence Production (ODP) proposals support the Committee's conclusion about the merits of a standard network architecture. The ODP's proposals are mentioned here in so far as they impinge on the proposed contracting arrangements. The ODP proposals are discussed further in Chapter 4.

3.58 The ODP already has a standard network architecture in place. While the future of its network architecture in relation to future international standards is not clear it is nonetheless a well established architecture in the market place. There is a range of compatible products available from suppliers other than the original developer and supplier of this architecture. The ODP currently uses IBM-compatible equipment which utilise IBM's network architecture, Systems Network Architecture (SNA).[31]

3.59 The ODP is in a position, having already chosen SNA, to feel comfortable acquiring further equipment under part tendering arrangements. While the ODP has very limited technical staff in comparison with the remainder of the Department[32], it is prepared to contemplate different suppliers for different types of equipment and to provide the technical support necessary to ensure total integration of this equipment and software from its own technical resources.

---

31. Defence Submission, op. cit., Enclosure 4B, page 14
32. The Chief of Defence Production referred to 10 staff as constituting a 'very significant' use of resources. See Minutes of Evidence, page 61

3.60 The Chief of Defence Production stated at the Committee's public hearing:

> ...When we go to contract we will be looking for the answer to be one contractor for our large scale processing requirements, not a panel; if there is a requirement for what I might describe ...as a middle level requirement, there would be one contractor who would satisfy that requirement; and there would be another who would satisfy requirements at lower levels, but they would not necessarily be the same supplier. As long as they satisfy our basic requirements of IBM compatibility, it could theoretically be that we would get three different suppliers.[35]

and

> In the earlier part of the proceedings today there was some discussion in relation to prime contractors and how we would actually handle contracts in relation to module B, the Office of Defence Production component. I see the possibility of the hierarchy of contracts ranging from very big requirements which would handle the Computing Bureau requirements over the next few years, through to middle-range processes, through to very small processes.[36]

3.61 The DOLGAS representative at the hearing agreed that these contractual arrangements would be workable:[37]

> ...There is certainly nothing inherent in that strategy which prevents local industry because, as was mentioned, there is a hierarchy of requirements. There is the mainframe requirement; there is a middle level or minicomputer requirement and then there is a microcomputer requirement or terminal requirement. It is in the minicomputer and the microcomputer and terminal requirement that local industry which is producing IBM-compatible systems now, will have a chance to bid. We would not have a difficulty, provided, as I said before, it is done up front, and it is explained to industry right now that this is the strategy [of a hierarchy of tenders] which will be followed.

3.62 The Department's own evidence suggests that more than one supplier could also be used to satisfy the hierarchy of equipment and software requirements for Project DESINE, once a network architecture is in place and has been proven.

---

35. Minutes of Evidence, op. cit., page 65
36. Minutes of Evidence, op.cit., page 61
37. Minutes of Evidence, op. cit., page 63

3.63 This contention is also supported by the Department of Defence's statement:[36]

> At each subsequent five year interval, the Department would review its position to determine if the DESINE requirements are best met by the selection of either a prime contractor or panel period contract. Onward compatibility of successive standard environments is a mandatory requirement. These recurring arrangements are aimed at ensuring that Defence enjoys the benefits of plug compatibility and/or newer technology, and that there is evolutionary progress in its standard computing environment which reduces disruptions. At the same time, the approach provides scope for hardware and software vendors to participate in and compete for DESINE tenders on a regular basis.

3.64 In other words at the end of the 5 year period of the first contract under the Department's acquisition strategy, Defence is prepared to open the tendering arrangements to allow participation by other suppliers provided plug-compatibility with its existing environment is established.

3.65 The Committee believes that tendering should be open to plug-compatible suppliers at an earlier stage of Project DESINE: after the Department has selected and proven its network architecture, but before it proceeds to purchase implementation (ie large) quantities of equipment. By this time the viability of the network architecture would have been demonstrated and the Department would be in a position to assure itself that other suppliers meet its network architecture specifications.

3.66 The Committee does accept that the initial task of supplying and demonstrating a network architecture is complex and embodies a level of risk which justifies the use of a prime contracting arrangement. However the arguments for a prime contracting arrangement to reduce risk, complexity and in-house technical support are greatly reduced for the subsequent task of supplying large quantities of equipment and software which conform with that architecture.

3.67 The Committee concludes that:

- the proposed initial task of proving the selected network architecture and ensuring that the new systems will continue to interoperate with existing ones is sufficiently complex that the use of a prime contractor is warranted for this initial task;

---

36. Defence Submission, op. cit., Enclosure 3, page 24

- the justification for a prime contractor arrangement will be greatly reduced once the Department of Defence has a proven network architecture in place and is proceeding to purchase implementation quantities of equipment and software; and

- once the network architecture has been put in place and proven in all important respects, there will emerge a full set of specifications and procedures that will permit implementation quantities of equipment and software to be provided by part contractors.

Risk in the DESINE Strategy

3.68 In its submission to the Committee, the Department of Defence justifies its DESINE proposals on the basis of the recommendations of the Defence Computing Infrastructure Study Working Party report of October 1981. That report recommended that Defence '... proceed towards cautious and phased decentralisation of its administrative computing, conditional upon certain caveats, particularly regarding strategic planning and standardisation.'[37]

3.69 The main caveat regarding the decentralisation strategy was stated to be the prior establishment of a standardised computing environment called Defence EDP Systems Integrated Network Environment, DESINE. Specifically, '... [the establishment of DESINE] was to be a prerequisite for effective decentralisation'.[38] Subsequent internal Defence reports in the submission trace the flow of discussion and decisions which led to the adoption of those recommendations as policy by the Department.[39]

3.70 Later in the submission when prescribing the broad categories of anticipated procurement actions, the need is further defined to be for '... a network architecture, which includes support for international communications standards, encompassing a full range of products'.[40] However following a review of progress of the International Standards Organisation in developing specifications for Open Systems Interconnection (OSI) standards, Defence concluded that OSI standards were not sufficiently advanced to enable the Department to make a firm commitment to an OSI-based network architecture.[41]

37. Defence Submission, op. cit., Enclosure 1, page 13
38. Appendix 1, Vol I, page 2
39. Defence Submission, op. cit., Enclosures 2, 3, 4A
40. Appendix 1, Vol II, page 1
41. Defence Submission, op. cit., Enclosure 3, page 24

3.71 As Defence states in subsequent correspondence to the Committee, this conclusion led the Department to decide to seek tenders which would:[42]

> ...state support for the philosophy of OSI, indicate a long term intention to move in that direction if possible and seek interoperability with some OSI based standards.

3.72 This decision, in the words of the 1985 Defence Administrative Computing Strategic Plan, acknowledges that:[43]

> In practice this is likely to mean that the selected network architecture will in fact be the proprietary architecture of the selected supplier. Defence will not pursue its goal of use of international standards to the extent of adopting unproven products or using its own resources to plug the gaps.

3.73 Because of the complexity of managing the proposed procurement so that all elements of the end product will interoperate and be compatible with an as yet undefined set of protocols, which themselves hopefully will evolve into compliance with as yet incomplete international standards, Defence bases its acquisition plans for Project DESINE on the need for a single prime contractor to supply and prove the network architecture.

3.74 At the Committee's hearing Defence raised a further practical but complicating requirement in the implementation of DESINE. DESINE equipment and software is to be acquired and progressively installed commencing in the late 1980s. The existing Defence Central computer systems, which represent a sizeable investment, will have a considerable number of years of useful and necessary operating life remaining. Therefore, the task of putting any new network architecture into place will be further complicated by the additional need to provide the new equipment with a temporary but workable way of interconnecting with the old. This connection will probably not be via the method of the new selected network architecture, and consequently it will be an important, 'one-off' task. Defence explained that:[44]

> But again I stress that we cannot look at a completely new situation. We are not moving in a bare paddock; we have a tremendous amount of investment in present systems and we have to have a position that new systems will continue to be able to interoperate with our existing systems for a considerable number of years. So there are a number of very technical questions to be resolved in this area.

---

42. Appendix 6, Annex D, page 2
43. Defence Submission, op. cit., Enclosure 4A, page 13
44. Minutes of Evidence, op. cit., page 18

3.75 Defence therefore proposes that the same prime contractor supply the means of interconnecting the Department's existing computing systems and Sperry equipment, with the new systems and equipment operating under the DESINE network architecture.

3.76 It is clear that the computing planners in the Department of Defence face a dilemma. The OSI standards, when and if they arrive and are implemented through software products, will allow the Department to purchase and easily interconnect equipment from one or more suppliers which comply with the OSI standards. The Department of Defence should also be able to interconnect its equipment with other Defence organisations and contractors around the world whose equipment complies with the OSI standards.

3.77 However, as the Department indicates, a totally open OSI, completely transparent to users, is not foreseen before the end of the century. The Department must therefore choose a network architecture of sufficient capability to satisfy its immediate interconnectivity requirements but which hopefully will subsequently migrate to OSI standards. The Department therefore runs the risk that its selected network architecture which will allow for one or more suppliers' equipment to be interconnected immediately, may not subsequently migrate to the OSI standards.

3.78 Under these circumstances the losses to the Department would be twofold. Firstly, interconnection between the selected network architecture and the network architectures of other Defence organisations and contractors may not be easily effected. One-off gateways would be required, just as a one-off solution will be necessary to interconnect Defence's existing Sperry equipment and the new DESINE equipment. Secondly, the Department would not be able to acquire and easily use other vendors' equipment unless it was compatible with the initially selected network architecture. Other vendors' equipment would also require special gateways to be developed to permit its use with DESINE equipment.

3.79 Thus, there will be future penalties if a network architecture is selected which does not evolve to OSI standards. However, as the availability of OSI standards is some considerable way off yet and other, less ambitious proprietary architectures already exist, the Committee agrees that OSI compatability should only be a desirable requirement of the request for tender.

3.80 The Committee does however doubt whether it is possible in any practical way to evaluate and weight in a tender evaluation, a supplier's aspirations and stated long term intentions to move in the direction of OSI. Contractual enforcement of such commitments would also be very difficult if not impossible. The value of such commitments is therefore called into doubt.

3.81 The Committee believes that the major risk facing the Department is that it may select a network architecture that does not prove satisfactory and does not allow immediate interconnection between the selected supplier's equipment. This

would negate the DESINE concept and involve substantial delays and costs in the subsequent implementation of the SSRP and MSRP.

3.82 Hence the Committee considers that the supply and proving of a network architecture must be the major and a mandatory requirement of the initial request for tender.

3.83 The Committee concludes that:

- while the use of international standards called Open Systems Interconnection remains a goal of the DESINE strategy, no such international standards yet exist in complete form and there is considerable uncertainty about when they will be fully developed and agreed;

- the Department of Defence therefore intends to accept an existing proprietary network architecture, while aspiring to select a contractor who has indicated a commitment to migrate to Open Systems Interconnection standards; and

- there remains considerable doubt about the ability of the Department of Defence to evaluate and enforce contractually such commitments. These commitments are consequently of questionable value.

3.84 The Committee recommends that:

2 the initial request for tender for a network architecture for Project DESINE include as a mandatory requirement the immediate supply and proving of a network architecture and, as a desirable requirement, the subsequent migration to Open Systems Interconnection standards.

3.85 In addition, Defence proposes that the same prime contractor, under the terms of a five year period contract, will also provide an ongoing supply of implementation quantities of equipment, software and services conforming with the selected network architecture.

3.86 The Committee has strong reservations about this proposed procurement strategy whereby a single prime contractor will, under the terms of a five year period contract, supply the network architecture and subsequently, under the terms of the same contract, supply large quantities of equipment and software consistent with that architecture. The Committee's reservations about the justification for restricting the supply of equipment and software to a prime contractor have been discussed in the section of Chapter 3 entitled 'Prime Contractor Arrangements'. The Committee's reservations about the opportunities for Australian industry participation under the procurement arrangements proposed by Defence are presented in the following section of Chapter 3 entitled 'Australian Industry Participation'.

3.87 The Committee also believes that the proposed procurement arrangements whereby the Department will, after procuring a network architecture, proceed immediately to purchase implementation quantities of equipment and software under the same period contract, involves a small but significant risk of delays and major cost overruns, if the selected network architecture does not prove fully satisfactory.

3.88 The Department of Defence argues that the probability of this occurring is small.[45] The Committee agrees. However the probability of this occurring has to be balanced against the cost consequences should it occur.

3.89 Project DESINE is one of the largest computing projects ever undertaken by the Australian Government. It involves project development costs of over $300 million, including equipment software and site costs of approximately $150 million over the next 10 years. Should a network architecture be chosen which proves unsatisfactory, the cost consequences in terms of delay and foregone benefits, and in terms of the additional costs to rectify the problems could be very large. Under the first five year period contract alone, the Department envisages purchasing over $59 million of equipment and software. However the procurement strategy proposed by Defence allows for no checkpoint or 'failsafe' should the network architecture not prove fully satisfactory, before the Department proceeds to expend these large sums of money on equipment and software for its redeveloped administrative systems.

3.90 Given the history of Defence administrative computing outlined in Chapter 2 and, in particular, the unfortunate choice by Defence of its first software compiler in the 1960s and of a mini computer network in the 1970s, both of which cost the Department dearly, a more circumspect approach is recommended by the Committee. The phased procurement and implementation strategy proposed by the Committee in the next section of this Chapter is, among other things, designed to minimise the cost consequences in the later stages of Project DESINE resulting from an 'unfortunate' choice in the selection of an unsatisfactory network architecture in the initial stage of the Project.

3.91 The Committee concludes that:

- there is a small but significant risk that the network architecture chosen for Project DESINE will not prove satisfactory, resulting in difficulties and delays in the major redevelopment projects to be implemented under Project DESINE;

- although the probability of this occurring is small, the consequent costs resulting from delay and disruption in these projects may be very large; and

---

45. Minutes of Evidence, op. cit., page 17

- the Department of Defence's proposed acquisition strategy of procuring and proving a network architecture and then proceeding immediately, under the same period contract, to purchase the equipment, software and services for the implementation of the Supply and Manpower Systems Redevelopment Projects involves the risk of major delays and cost overruns if the selected network architecture does not prove fully satisfactory.

3.92 The Committee recommends that:

3 the procurement arrangements and implementation schedule for Project DESINE be designed to minimise the risk and cost consequences of delay and disruption to the project.

Australian Industry Participation

3.93 The Cabinet decision which gave 'in principle' approval to the Defence proposals, referred to the need to maximise the participation of Australian industry in the proposed acquisition, consistent with approved government policies. Despite Defence's submission that there are no policy constraints on the DESINE acquisition proposals,[46] the Committee believes that the government's industry and purchasing policies do impose some constraints on the proposed procurement arrangements for Project DESINE.

3.94 The Committee concludes that:

> it is government policy to maximise opportunities for Australian industry to compete effectively for government contracts and this has direct consequences for the form of the proposed procurement arrangements for Project DESINE.

3.95 The Committee accepts that under the proposed five year period contract with a prime contractor, the Department of Defence will ensure that the Australian Purchasing Preference and Offsets Policies will be complied with.

3.96 The Committee notes that there have been major shortcomings in the administration of the Offsets Program which is currently the subject of a separate inquiry by the Committee.[47] However, the Committee is aware that most if not all of the major, overseas-based computer vendors have,

46. Defence Submission, op.cit., Vol I, page 3
47. Public Accounts Committee, Inquiry into Offsets and Australian Industry Participation

principally through the establishment of equipment assembly operations in Australia, committed themselves to long term offsets agreements which should ensure offsets commitments are met. The question of course still remains whether the form in which these offsets are being provided is making the most beneficial contribution to the development of Australia's computing industry.

3.97 The application of Australian Purchasing Preference is now a standard feature of all government tendering arrangements and the Committee has no doubt that the appropriate provisions will be made in the request for tender and tender evaluation to ensure that the strict requirements of this policy are met.

3.98 The Committee does however note that no advance notice was provided to industry about the Department of Defence's proposed acquisitions in the summary of ADP Strategic Plans published by DOLGAS in October 1985. This was one of the requirements of the revised government purchasing preference arrangements announced in December 1983, for providing advance notice to industry about computer acquisitions planned by the Commonwealth. The Committee has previously commented on a similar omission from the Job Seeker tender by the Department of Employment and Industrial Relations.[48]

3.99 Given the size and complexity of the Defence acquisition proposals this omission must mean that many smaller firms which are not always in a position to closely monitor computing developments in the Commonwealth, may not have been given the lead times necessary to position themselves to bid effectively for Defence work.

3.100 The Committee however notes that, subsequent to the Department of Industry, Technology and Commerce expressing some concerns to Defence in September 1985 about Australian industry involvement, the Department of Defence has been at some pains to brief industry groups and computer vendors about Defence's proposals.[49]

3.101 The Committee believes that the proposed procurement arrangements, which are for a five year period contract with a single prime contractor, will in practice offer very limited opportunities for Australian industry to participate in the DESINE contract for the following reasons:

- the prime contractor will almost certainly be a major overseas-based computer vendor; and
- although Australian firms could still participate as sub contractors to the prime contractor, existing arrangements including Australian Purchasing Preference are unlikely to provide a sufficient or an effective incentive for this.

---

48. Public Accounts Committee, Report 252, Job Seeker - Computer Acquisition by the Department of Employment and Industrial Relations, 1986
49. Defence Submission, op. cit., Enclosure 16

3.102 Only overseas-based vendors are likely to have the capability of both supplying a network architecture and providing the management and technical expertise required to integrate and demonstrate the viability of equipment and software conforming with that architecture. Although the application of Government Purchasing Preference for Australian goods will provide a financial incentive to a prime contractor to sub contract to local firms, in practice there are many disincentives for this.

3.103 The representative of the Australian Computer Equipment Manufacturers' Association (ACEMA) in giving evidence at the hearing stated:[50]

> ...the prime area which we are concerned about is this move of responsibility from Defence to the prime contractor. Bearing that in mind, the prime contractor then must either have embedded in the tender, or something like that, some commitment which will make him recognise that there is an Australian industry which has to take some part in this. Secondly, the period of five years will not allow new industry to enter into that prime contractor's umbrella, if you like, due to the fact that once he has got the contract signed and delivered he is not going out to incur any more expense, or possible expense, in including new companies under that umbrella. Thirdly, the strengthening of the Australian content clauses in the tender must be such that it does actively promote the joint venturing structure and the Australian content of any government purchasing. One of the problems we are facing in the industry in Australia is the volume of business, or the actual size of the Australian market. To become competitive, if the Australian industry is denied access to a major contract of this size, then the market is considerably reduced over the next five-year period for Australian industry.

3.104 ACEMA also indicates in its submission to the Committee that:[51]

> Although the Government has publicly stated its desire to see a greater proportion of Commonwealth computer acquisitions being directed to the local industry, this proposed major purchase by Defence, if implemented in its present form, will not result in any further sales being directed to Australian designed and manufactured equipment.

---

50. Minutes of Evidence, op. cit., page 80
51. Minutes of Evidence, op. cit., page 76

3.105 ACEMA also states its concern that the proposed length of the period contract (5 years) means that in a rapidly developing industry new companies and products will be excluded for the duration of the period. ACEMA states:[52]

> The ... problem [ACEMA] see[s] with a prime contractor ... is a 5 year period. The Australian computer industry and Australian industry generally are in a state of rapid growth and development. We have seen a current panel period contract running with Defence, which has now been going for four or five years. I do not believe there is any Australian company on it. The one that was on has now pulled out. But for five years Australian companies have been denied access to the defence market and that has spilled over into the general government purchasing area. They have been denied access to easy sales to the government. For Australian industry to sell to the government as the present time is quite difficult. It is difficult for the companies but it is difficult for the purchasing officers in government. They must go out to tender or get three quotes, whereas if it is a period panel contract they simply raise a requisition.

3.106 ACEMA puts the view that without a definite incentive or requirement to get Australian firms involved, an overseas-based prime contractor is in practice unlikely to include Australian industry participation. The ACEMA representative states by way of analogy:[53]

> Commercially, I know that if I was asked to take some Third World company under my wing to support a contract when I could do the thing just as equally well in Australia, commercially it would be a liability on the company, and that company would be responsible. Therefore the costing structure I would have to employ would be considerably higher than if I was contracting out from my own production plant. So there is a responsibility there on the prime contractor and a financial commitment if he is going to take on subcontractors or go into a venture.

3.107 The use of a prime contractor arrangement shifts the onus for detailed compliance with such policies as offsets and purchasing preference for Australian goods away from the

52. Minutes of Evidence, op. cit., page 71
53. Minutes of Evidence, op. cit., page 79

purchasing department to the selected prime contractor.[54] Then, after contracts have been let and work is proceeding, any change in orders which may arise is no longer negotiated in the face of available competitors. In such a scenario it becomes easier for the prime contractor to avoid the intentions of these policies, particularly if it is cost-advantageous to the purchasing department as well as to the prime contractor.

3.108 Thus in a prime contractor arrangement, the purchasing department has a significantly diminished relationship with sub contractors after the initial prime contract has been signed. This feature becomes significant when it is recognised that the single prime contractor approach embodied in the Defence proposals makes it highly improbable that any Australian firm will be able to bid successfully as a prime contractor. This in turn suggests the likelihood that the (presumably overseas-based) prime tenderer will seek to recruit sub contractors using only that amount of genuine 'Australian content' which it judges to be sufficient to win out over competitors. For simple commercial reasons tenderers will not be motivated to exceed this minimum requirement.

3.109 From the point of view of an overseas-based prime contractor, even when the cost and performance factors of an Australian sub contractor may be equal to an overseas subcontractor, the overheads associated with keeping close contact with and close supervision over a sub contractor, which is located thousands of kilometres away in Australia, are high.

3.110 In consequence, as recent history shows, much of the sub contracting and offsets in Australia is with subsidiaries of overseas firms which are located in Australia (sometimes established here just for the purpose) and which make a doubtful contribution to development of a local, competitive, innovative and export oriented computing industry. Although such 'Australian industry' sub contractors meet the literal test of 'residency' and provide employment to Australians, under these arrangements it is often found that little innovative technology is transferred to Australia and too many of the jobs turn out to be temporary.

3.111 Given the size of the acquisitions likely to be made under the first, five year period contract for Project DESINE ($59 million), this means a major development opportunity for the Australian computing industry will be lost, not to mention the loss of local income and the resulting contribution to Australia's balance of trade and current account figures.

3.112 The Committee believes that greater opportunities can be given to Australian firms to participate in the DESINE contracts if a part tendering arrangement is employed for the supply of implementation quantities of equipment and software for Project DESINE. A part tendering arrangement would both increase the breadth of competition and permit Australian firms to bid directly for work rather than be dependent on an overseas-based prime contractor for such opportunities.

---

54. Appendix 1, Vol II, page 8

3.113 The Committee concludes that:

- the procurement arrangements proposed by the Department of Defence, whereby a single prime contractor will supply both the network architecture and subsequently, will supply implementation quantities of equipment and software for Project DESINE, will offer very limited opportunities for Australian industry participation; and

- a part tendering arrangement for the supply of implementation quantities of equipment and software for Project DESINE will provide better prospects for Australian industry participation than a single prime contractor arrangement.

3.114 At the Committee's public hearing DOLGAS suggested another option for tendering:[55]

> The other alternative, of course, is that in all of our tenders and in this one, no less, we would include the provision for part supply, that is, that part tenderers would be considered. One of the things we have done in recent times and could do again would be to ask those prime contractors to accept responsibility for sub contractors who may have come in as part tenderers.

3.115 The Committee gives qualified support to this suggestion. It believes that the only circumstances under which a prime supplier should be accepted is where that supplier competes successfully against part tenders in relation to all the major categories of equipment and software requested.

3.116 The Committee regards a part tendering arrangement in the major implementation phase of Project DESINE as a necessary prerequisite if Australian industry is to have the opportunity to compete effectively for DESINE contracts. However it does not consider this a sufficient condition for achieving satisfactory levels of Australian industry participation because it perceives persevering deficiencies in the current application of Australian purchasing preference policy.

3.117 The Committee believes that some aspects of the current purchasing preference arrangements actually discourage purchasing departments from giving effect to the spirit, as distinct from the rule, of purchasing preference requirements. Purchasing departments which negotiate contracts involving Australian suppliers are financially penalised because the application of a 20 per cent preference to Australian suppliers in the evaluation of tenders means that departments can pay up to 20 per cent more than if the same equipment or software were purchased overseas. In summary, by buying from Australian suppliers, departments often pay more (or get less) than they would from an overseas supplier.

---

55. Minutes of Evidence, op. cit., page 68

3.118 In consequence, in the absence of any budgetary compensation for this additional cost, departments may, while still observing the strict requirements of the purchasing preference policy, find other ways to minimise the risk of incurring additional costs resulting from Australian industry involvement. The Committee is not critical of departments for acting in this manner, since it considers this behaviour to be a rational response to the possible budgetary consequences of buying Australian.

3.119 Given this and other difficulties previously discussed, the Committee believes special measures, above and beyond the application of the Australian purchasing preference and offsets policies, are justified to ensure that these major procurements by the Department of Defence, do involve a satisfactory level of Australian industry participation and do contribute effectively to the development of the Australian computing industry. The measures recommended by the Committee are elaborated in the following section of Chapter 3 entitled 'Procurement and Implementation Strategy Recommended by the Committee'.

3.120 The Committee concludes that:

- the application of the existing Australian purchasing preference and offsets policies is unlikely to secure a satisfactory level of Australian industry participation in the DESINE contracts; and

- given the magnitude of the acquisitions proposed under Project DESINE, special measures are justified to ensure a satisfactory level of Australian industry participation in the DESINE contracts.

3.121 The Committee recommends that:

4 part tendering arrangements be adopted in the major implementation phase of Project DESINE to increase the prospects for Australian industry participation in the supply of specific categories of equipment and software;

5 in addition to the enforcement of the Australian purchasing preference and offsets policies, the level of Australian industry participation be a specific criterion in the evaluation of tenders for the DESINE contracts;

6 the Department of Industry, Technology and Commerce and the Department of Local Government and Administrative Services participate in the weighting of this

evaluation criterion and review the level of Australian industry participation in the recommended tenders before contracts are let; and

7 if a satisfactory level of Australian industry participation cannot be agreed at Departmental level, the matter be referred to the responsible Ministers for decision.

Procurement and Implementation Strategy Recommended by Committee

3.122 The Department of Defence proposes to establish a five year period contract with a prime contractor to supply a network architecture and compatible equipment and software, consistent with the DESINE strategy of functional decentralisation and standardisation. These particular procurement arrangements have been presented by the Department as a necessary part of the DESINE strategy itself. The Committee does not accept that these procurement arrangements proposed by Defence are a necessary part of the DESINE strategy. The Committee argues that there are other workable and preferable means of acquiring equipment and software for Project DESINE.

3.123 The Department of Defence intends to accomplish two separate tasks under the proposed five year contract with a prime contractor.

3.124 The first task is to select, acquire and demonstrate a network architecture which will be the keystone of the DESINE standardised computing environment for administrative computing systems in the Department for the forseeable future.

3.125 The second task is to acquire large quantities of compatible equipment and software for the redevelopment of the Department's supply and manpower systems.

3.126 The Committee does not believe that the use of a five year period contract with a prime contractor is the best means of accomplishing these tasks. The Committee has already identified two major disadvantages in this procurement strategy proposed by Defence. In summary these are:

- the risk that the network architecture chosen at the outset will not prove fully satisfactory, and will subsequently result in difficulties and costly delays during the implementation of the Supply and Manpower Systems Redevelopment Projects; and

- the very limited opportunities for participation by Australian firms in the supply of DESINE equipment and software, because of the use of a prime contractor for both of the tasks referred to above.

3.127 The Committee considers that the two tasks referred to above are separate and separable. In addition their successful accomplishment will require the use of contractors with significantly different capabilities and skills.

3.128 The supply and proving of a network architecture will require a contractor with the ability to integrate a large range of equipment and software and to manage a variety of complex systems. Given the successful demonstration of the selected network architecture, the supply of different categories of equipment and software compatible with that network architecture will require contractors who can deliver best on price and performance for large quantities of equipment and software. By requiring that a single prime contractor perform both these tasks, a compromise will have to be struck between these quite different capabilities when evaluating tenders.

3.129 The Committee considers such a compromise to be unsatisfactory and unnecessary. In addition the use of a prime contractor, rather than part contractors, for the supply of implementation quantities of equipment and software will unnecessarily restrict competition and opportunities for Australian industry participation.

3.130 The Committee is therefore recommending that a two stage procurement and implementation strategy be employed for Project DESINE which will enable the separation of these two tasks. This should both increase the levels of competition and enable the best performing contractors to be selected for these respective tasks.

3.131 The Committee accepts that the use of a prime contractor is justified for the supply and demonstration of a network architecture. However, once that architecture has been put in place and proven in all important respects, it believes that a range of suppliers could provide equipment and software without detriment to the success of the project. The Committee is therefore proposing that part tenders be invited for the second task of supplying implementation quantities of equipment and software compatible with the selected network architecture.

3.132 This will both increase levels of competition and hopefully result in better price and performance in the supply of the large quantities of equipment and software envisaged (approximately $60 million in the first five years). It will also increase opportunities for Australian firms to supply some of these requirements.

3.133 The Committee is also recommending that in the evaluation of the first stage tenders for the supply and demonstration of a network architecture, potential prime contractors be required to demonstrate that the network architecture proposed is non-exclusive to the equipment and software supplied by that prime contractor. This is intended to

ensure that the successful prime contractor for the supply of the network architecture does not effectively lock-out other part suppliers of equipment and software from the second stage tenders. Indeed the first stage request for tender should clearly indicate in advance, that part tenders will be invited in the second stage request for tender for the supply of implementation quantities of equipment and software, and that major emphasis will be given to Australian industry participation.

3.134 The Committee therefore believes that the extent to which potential prime contractors for the supply of a network architecture can demonstrate that their network architecture will admit other firms', and particularly Australian firms', equipment and software should be a specific evaluation criterion in the first stage tenders. A potential prime contractor could demonstrate the non-exclusivity of its network architecture by providing evidence that the specification of that architecture is available to other firms; that equipment and software products of other firms are currently available which are compatible with this network architecture; and/or that other firms, and particularly Australian firms, are able and prepared to develop products which are compatible with that architecture.

3.135 However, the Committee does not believe that the application of existing Australian purchasing preference and offsets policies under part tendering arrangements will, in the absence of other measures, be likely to secure a satisfactory level of Australian industry participation in the supply of equipment and software for Project DESINE. The reasons for the Committee's reservations about the effects of these policies are given in the previous section of this Chapter entitled 'Australian Industry Participation'. Given the magnitude of the acquisitions proposed under Project DESINE, the Committee recommends that the level of Australian industry participation be a specific evaluation criterion in the selection of suppliers of this equipment and software. It therefore proposes that the Department of Industry, Technology and Commerce and the Department of Local Government and Administrative Services participate in establishing the weighting of this criterion and also review the level of Australian industry participation in the recommended tenders before contracts are let. If a satisfactory level of Australian industry participation cannot be agreed at a Departmental level, the matter should be referred to the responsible Ministers for decision.

3.136 The Committee believes that the DESINE acquisitions offer a major opportunity for government purchasing to contribute to the development of the Australian computer industry, and that these measures are justified to ensure this potential is realised.

3.137 The Committee also believes that by adopting a two stage implementation strategy, the risks of delay and major cost overruns in the implementation of the Supply and Manpower Systems

Redevelopment Projects will also be reduced. The Committee therefore recommends that contracts not be let for the supply of implementation quantities of equipment and software for these projects until the selected network architecture has been proven in all important respects.

3.138 Under circumstances where the selected architecture proves less than satisfactory, the Department will not be committed to the use of the same prime contractor for the supply of further equipment and software. Of equal importance will be the limits placed on Departmental purchases of equipment and software until such time as it can demonstrate the satisfactory performance of the architecture. In consequence, should the worst happen, the Department's sunk costs will be restricted to the costs of the supply of the architecture and sufficient equipment to demonstrate it, a modest amount in comparison with the large expenditures envisaged for the Supply and Manpower Systems Redevelopment Projects (SSRP and MSRP).

3.139 The Committee accepts that a two stage tendering process may involve some additional administrative costs associated with the tendering and procurement process. The Committee also accepts that the two-stage process may add to the length of the implementation schedule for the initial stages of Project DESINE.

3.140 However, given a suitably positive attitude by the Department of Defence, the Committee does not accept that it need cause any significant delays to the later and main implementation phase of DESINE. The Committee notes that the major equipment acquisitions for the first redevelopment project to be implemented under DESINE, the Supply Systems Redevelopment Project, will not commence until 1989/90 under Defence's current plans. The initial acquisitions envisaged under this project in 1987/88 and 1988/89 are for so-called development equipment which will be used for proving the DESINE architecture and piloting parts of SSRP. The Committee's two stage proposal would not require the alteration of these plans.

3.141 The Committee believes that with genuine commitment by the Department of Defence, any delays resulting from the conduct of the second stage tender will be small. For example, after a contract has been let for the supply of a network architecture, but before it has been fully trialled and proven, Defence could invite expressions of interest from potential suppliers of equipment and software compatible with that architecture. This could shorten considerably the time, and reduce the complexity, associated with the second stage tender and establishment of contracts for the supply of equipment and software, after the architecture had been fully proven.

3.142 In summary, the Committee accepts that there may be some modest and readily established additional costs resulting from a two stage procurement and implementation process for

Project DESINE. However, these must be balanced against the benefits of greater competition, improved prospects for Australian industry participation, and the reduced risks of large additional costs should difficulties develop with the selected network architecture. The Committee is persuaded that the benefits of greater competition, reduced risk and greater Australian industry involvement more than justify any additional costs associated with a two stage procurement and implementation.

3.143 The Committee also recognises that under the proposed part tendering arrangements for the supply of implementation quantities of equipment and software, the Department of Defence will be involved in some project management activity which would otherwise be performed by a prime contractor. However, this project management will have to be paid for, whether performed by Defence or by a contractor. The Committee does have concerns about the supply of technical manpower for Project DESINE. However, the Department of Defence already performs a project management function for its existing systems and suppliers, and clearly has the expertise and resources to continue to do so for the much smaller number of systems and suppliers who will be involved in DESINE contracts. As discussed in the section of Chapter 3 entitled 'Prime Contractor Arrangements', the Committee believes that the level of technical support required for this project management task has been overstated by Defence and it is well within the Department's capabilities to perform it.

3.144 The Committee concludes that:

- the Department of Defence intends the accomplishment of two separate tasks under the five year period contract with a prime supplier which it has proposed for Project DESINE:
  - to select, acquire and prove a network architecture ; and
  - to procure implementation quantities of compatible equipment and software for the Supply and Manpower Systems Redevelopment Projects;
- a two-stage procurement arrangement for Project DESINE is feasible and desirable to permit these two tasks to be completed and to:
  - minimise the risks of major cost overruns resulting from any delays or complications in establishing and proving a network architecture;
  - permit broader competition and therefore better prices and performance,

especially when implementation quantities of equipment and software are being procured; and

- increase the opportunities for Australian firms to supply equipment and software in compliance with the established network architecture;

- although a two-stage procurement arrangement may involve some additional administrative costs:

  - it need not cause any delays to the main implementation phase of the Supply Systems Redevelopment Project which is not scheduled to commence until 1990; and

  - any additional costs resulting from conducting two tenders and from any consequent small delay, are more than justified by the reduced risks, greater competition and greater opportunities for Australian industry participation which will result.

3.145 The Committee's recommendations for the conduct of the Stage 1 and Stage 2 tenders are given below. The Committee has specified what it believes should be the basic features of the respective requests for tenders. Beyond this it considers that it should be a matter for the Department of Defence to decide the precise timing of these stages, the extent and nature of the systems to be used in the proving of the network architecture in Stage 1 and other matters of detail which require an intimate understanding of the Department's computing environment and requirements.

Stage 1 Tender

3.146 The Committee recommends that:

8 the Department of Defence issue a Stage 1 request for tender for a single prime contractor to supply:

  - a network architecture for Project DESINE;

  - sufficient equipment and software to test and prove that architecture; and

  - a communications gateway to link Project DESINE equipment to Defence's existing equipment;

9 the Stage 1 request for tender clearly indicate to potential suppliers of a network architecture and associated demonstration equipment and software that:

- this is the first stage of a two-stage tendering process, as outlined above;
- the network architecture which is supplied by a prime contractor in Stage 1 must be demonstrated to be non-exclusive to the equipment and software supplied by that prime contractor; and
- the supplier of the network architecture may be requested to demonstrate that non-exclusivity by integrating equipment and software from other vendors;

10 the extent to which the proposed network architecture will admit other firms' and particularly Australian firms', equipment and software be a specific evaluation criterion in the Stage 1 tender. This could be demonstrated by evidence that:

- the specification of the prime supplier's network architecture is available to other firms;
- equipment and software products of other, and particularly Australian, firms are currently available which conform with this network architecture; and
- other firms, particularly Australian firms, are able and prepared to develop products which conform with this network architecture.

Stage 2 Tender

3.147 The Committee also recommends that:

11 the Department of Defence issue a Stage 2 request for part tenders to supply implementation quantities of different categories of equipment and software compatible with the selected network architecture; and

12 the level of Australian industry participation be a specific evaluation criterion and be given a substantial weighting in the evaluation of Stage 2 tenders.

3.148 The Committee also considers that, given the size and extended implementation periods for the first two major redevelopment projects to be implemented under Project DESINE, a staged approach should also be adopted in their implementation.

3.149 The Committee does not consider that at this time, even the first sub-projects of the Supply and Manpower Systems Redevelopment Projects (SSRP and MSRP) are in an adequate state of preparedness to permit their commencement. The Committee's detailed views on this matter are given in the section of Chapter 3 entitled 'Cost-Effectiveness and Cost-Benefit Analysis'. The Department of Finance has confirmed the Committee's view that the Department of Defence has not provided an acceptable cost-benefit analysis for the SSRP and MSRP.[56] The Committee therefore recommends that Stage 2 of Project DESINE should not commence until the systems definition and cost-benefit analysis necessary to support the first sub-projects of the Supply Systems Redevelopment Project are complete.

3.150 The Committee also recommends that equipment acquisitions for other projects, including the Manpower Systems Pedevelopment Project should not commence until at least the first major sub-projects of those projects have been fully defined and cost-benefit justified. Where the capital expenditure on equipment for these projects exceeds $5 million, as will certainly be the case for the MSRP, the Committee expects to receive a separate submission under its standing reference to examine and report on major computer acquisition proposals.

3.151 The Committee also expects that these submissions will include comprehensive plans for the monitoring of the performance and benefits resulting from the progressive implementation of these projects. The Committee believes that because of the size of, and long time period for the implementation of the SSRP and MSRP, Defence should adopt a conservative approach to the implementation of these major redevelopments whereby their individual sub-projects and stages are progressively developed and reviewed in the light of preceding stages and changing technology. This will require the ability not only to monitor the costs incurred in comparison with those initially asserted, but also to monitor the benefits achieved in comparison with those asserted at the time the project was approved. The Committee refers the Department of Defence and other departments proposing major, long term computer projects to comments made by the Department of Finance on this and related matters.[57]

---

56. Appendix 11, page 1
57. Appendix 11

Further Submissions

3.152 The Committee recommends that the Department of Defence provide to the Committee and subsequently to Cabinet:

13 a supplementary and succinct submission (Submission 1) as soon as possible which sets out proposed general arrangements for the two stage procurements and detailed arrangements for Stage 1 procurements including:

- the numbers, types and cost of equipment and software necessary to test and prove the selected network architecture in Stage 1; and

- the broad specification of the network architecture to be included in the Stage 1 request for tender;

14 a further submission (Submission 2) as per the Committee's guidelines for submissions under its standing reference, which sets out detailed proposals for Stage 2. This submission will be made only when Stage 1 is complete, and detailed planning for the first sub-projects of the Supply Systems Redevelopment Project is also complete. It will include:

- the results of the Stage 1 evaluation and trial implementation of the selected network architecture;

- a full definition of the first sub-projects of the Supply Systems Redevelopment Project, and the cost-benefit and other information necessary to support them;

- comprehensive plans for monitoring the performance of, and benefits resulting from these sub-projects; and

- an indication of the proposed part tendering arrangements and the expected level of Australian industry participation in the Stage 2 contracts; and

15 additional submissions for any other projects, including the Manpower Systems Redevelopment Project, to be implemented under DESINE, as and when required under the Committee's standing reference to examine and report on major ADP acquisition proposals over $5 million.

3.153 The Committee further recommends that:

16 the Department of Defence provide an annual progress report to the Department of Finance and this Committee which summarises progress to date on Project DESINE and its component projects against agreed plans. This report will detail:

- the benefits achieved in comparison with those initially asserted at the time of project approval;
- the costs incurred to date in comparison with those initially asserted;
- the degree of Australian industry participation achieved; and
- the proposed expenditure for DESINE projects for the following financial year.

3.154 The Committee's recommended two-stage procurement and implementation strategy for Project DESINE and its recommendations concerning further submissions are summarised in a diagram at Appendix 15.

Data Communications in Project DESINE

3.155 As a result of the new directions for administrative computing within Project DESINE there will be extensive requirements for data communications. Such requirements are not entirely new but they will be increased. Defence has been using computer networks for similar applications since the mid-1970s. Because in general the data being transferred have been administrative in nature, most of the communications involved have used the facilities of Telecom. Defence proposes to replace the use of Telecom services for administrative computing with its own Defence Strategic Communications Network, and more specifically the planned element of that communications network which handles sensitive material - the Defence Integrated Service Communications Network (DISCON). DISCON will be introduced progressively between 1987 and 1990. In its initial form DISCON will provide non-switched data communications services and will be later developed to provide packet switching services for classified and non-classified data communications.

3.156 Telecom has a packet switching capability and for reasons of economy, it is commonly used by many Australian operators of multi-computer installations. Where a degree of data

protection is deemed necessary, such as in the case of financial institutions, security can be achieved by the use of commercially available devices. This technique does not afford the same protection as military cryptographic systems and guarded premises which are designed to ensure high level national security. Nonetheless, it is commonly used to foil all but the most determined interlopers who would have to be equipped with extremely sophisticated and expensive interception systems to penetrate Telecom's secure communications systems.

3.157 The fact that Defence has hitherto regularly used commercial transmission systems for exchanging data in its administrative computing systems suggests to the Committee that no high level national security requirements exist in this area. The Defence submission contains no detailed discussion of requirements for special security measures. Recognising that the primary purposes of the systems proposed at this time for Project DESINE are supply, manpower, payroll and the like, the Committee finds this intuitively understandable.

3.158 Although in testimony at the public hearing concerning SSRP the Department asserted that '...the communications ... are confidential and secret', the Committee found no other indication in the submission that high level security is a material requirement for this system.[58] That coupled with the fact that ordinary commercial communications provided by Telecom have carried these data for a decade or more, would obviously call into question any subsequent claim by the Department that high level security is now necessary.

3.159 The Department intends to change its current communications practices for administrative computing with the implementation of Project DESINE. In outlining its intentions regarding data communications, the Department states:[59]

> Present indications are that in the long-term most data communications needs for administrative computing will be provided via the Defence Strategic Communications Network. The key element of this network is the planned and approved Defence Integrated Secure Communications Network (DISCON) which will be introduced progressively between 1986 (now 1987) and 1990. The initial DISCON implementation will provide non-switched data communications services. The provision of packet switching services for classified and non-classified data communications is planned as a further development.
>
> The move from the existing situation to reliance upon the Defence Strategic Communications Network will involve various transition arrangements, each with different combinations of TELECOM (possibly both Digital Data Service and Austpac) and Defence

58. Minutes of Evidence, op. cit., pages 29 and 30
59. Appendix 6, Annex B and Defence Submission, op. cit., Enclosure 4A, page 11

owned facilities. The precise nature of these arrangements will evolve as planning for DESINE, SSRP, MSRP, DISCON and related projects progresses.

Defence Strategic Communications Network (DSCN) plans cover requirements for secure and non-secure data communications. As its title suggests, the Defence Integrated Secure Communications Network (DISCON) Project covers requirements for secure communications. Planning for both non-secure and secure (DISCON) elements of DSCN to incorporate packet switching is proceeding on the basis that it is a cost-effective network solution.

3.160 At the public hearing, Defence confirmed that the desired capability of packet switching does not currently exist in DISCON. The Committee infers that a further and separate submission for capital and operating funds will have to be made to provide the packet switching augmentation to DISCON which Defence proposes.

3.161 The two major alternatives for providing data communications would therefore appear to be the continued use of Telecom or use of DISCON with the attendant extra cost of the packet switching augmentation.

The Committee concludes that:

> the decision to use DISCON for Project DESINE administrative data communications, implies the requirement for an additional capital investment in DISCON to increase its capabilities and for additional maintenance and support costs. This investment may exceed the costs of using existing Telecom services.

3.162 The submission, however, contains no cost-effectiveness justification for selecting between DISCON or Telecom. The Committee is tempted to conclude that no such justification was included because such an analysis may not support the selection of DISCON.

3.163 The Committee also concludes that:

> the proposed use of DISCON for project DESINE data communications has not been justified on cost-effectiveness grounds.

3.164 At the public hearing, Departmental representatives were asked what cost comparisons had been done between using Telecom or DISCON. The Committee was informed that some costs have been examined for the SSRP element of DESINE because the SSRP is the most advanced project. It was argued that although

the SSRP handles information ranging in security classification from 'restricted' to 'secret', as the data take on an aggregated form they become sensitive because they indicate some aspects of defence capability. The Committee was informed that because of that aspect 'we really have not put that cost [of DISCON] directly against use of the Telecom Austpac data network. We have tended to stay inside DISCON because of its secure nature...'[60]

3.165 The Committee concludes that:

> no case has been adduced by the Department of Defence to show that the proposed administrative computing systems to be implemented under Project DESINE will require the high levels of security provided by the DISCON system.

3.166 The Committee recommends that:

> 17 the Department of Defence make no change from its present use of Telecom services for data communications for administrative computing, unless and until such a change is separately proposed and justified on the grounds of a high level, national security requirement or, on the basis of a cost-effectiveness analysis.

Technical Staff Resources

3.167 Project DESINE will require very large, technical computing staff resources for its implementation. Defence estimates combined computing staff requirements for the Supply and Manpower Systems Redevelopments (SSRP and MSRP) at 3300 man years. Details of these estimated requirements are provided in the Defence submissions.[61] The Committee has summarised some of this information in Table 2 in Chapter 2 of this Report.

3.168 Defence plans to use a combination of technical and non-technical, civilian and Service staff, supplemented where necessary by contract staff to meet these requirements. For example, the total staff requirement for the SSRP is estimated at 2588 manyears of which:

- 843 manyears will be met using civilian Computing Systems Officers (CSOs);
- 597 manyears will be met using both civilian and Service staff for non-programming work;
- 693 manyears will be met by using both civilian and Service staff, who do not have formal computing qualifications but do have considerable programming skills; and

60. Minutes of Evidence, op. cit., page 30
61. Appendix 1, Vol III, page 7; Appendix 6, Annex C; and Appendix 13

- 425 manyears of additional contractor effort will be required.

3.169 The Committee considers that it is likely that Defence has underestimated its staffing requirements for the SSRP and MSRP. Defence proposes, consistent with the DESINE strategy of functional decentralisation, to downgrade the Defence Central Computing Division, and to establish separate computing service organisations within the Supply and Manpower Divisions. In addition, the role of the computing service organisations are to 'diminish' over time to one of setting and controlling computing standards, while the development of new applications and systems will be undertaken in the decentralised functional areas.

3.170 Under such a strategy of decentralisation there is a tendency for the diminishing centralised functions to diminish at a lesser rate than the decentralised functions grow. In consequence the Committee believes that it is likely that computing staff requirements will be even greater than Defence predicts. There is also of course, the additional risk that the 'labryinthine procedures'[62] associated with the former centralised administrative computing bureaucacy, will be replaced by two sets of such procedures.

3.171 As discussed in the section of Chapter 3 entitled 'Prime Contractor Arrangements', the technical computing staff resources required to develop and maintain the functionally decentralised computing system would be substantially greater, were not Defence also planning to implement a standardised computing environment. Nevertheless the technical staff resources required for the presently planned redevelopment projects will be very large. The Committee has serious concerns about the capacity of the Department of Defence to attract and retain the level of technical computing staff required for the successful and undisrupted implementation of these projects.

3.172 There has been for some time now a serious shortage in the supply of technical computing staff, particularly those specialising in computer systems development. Demand for these has and continues to far exceed supply in the market generally. The recruitment and retention of professional computing staff in the Public Service has been an even greater problem because of the inflexibility of classifications and salary scales in responding to changing market demands. This has presented major problems in the implementation of recent large computing projects in the Public Service such as the Stratplan project in the Department of Social Security where delays and cost overruns resulted and where recourse was then taken to the use of contract staff with, this Committee believes, sometimes unsatisfactory results.

3.173 The Committee sought and received advice from the Public Service Board about the current difficulties being experienced in recruiting technical computing staff.[63] It also communicated its concerns to the Department of Defence that the

62. Defence Submission, op. cit., Enclosure 4A, page 3
63. Appendix 12

proposed schedule for Project DESINE appeared to be very optimistic in its assumption that large numbers of technical computing staff can be found.[64]

3.174 The Public Service Board's response and in particular the data enclosed on recent shortfalls in the supply of computing staff in the Public Service, confirm the Committee's concerns.[65] In summary the Board's data indicate the following recruiting shortfalls in the Public Service as a whole (the percentage difference between the number of Computing Service Officers required and the number recruited) over the last 5 years:

Year	Shortfall (%)
1981/82	12
1982/83	10
1983/84	19
1984/85	29
1985/86	54

3.175 These figures clearly indicate a serious and deteriorating situation. The Board acknowledges the severity of the problem and indicates some of the steps it is taking to address the problem:

- investigating possible steps to relax existing qualifications requirements for Computer Systems Officers in order to broaden the pool of applicants;
- streamlining promotions and assessment procedures to improve the attractiveness of the Public Service for Computer Systems Officers; and
- surveying rates of pay for computing staff paid by other employees as a possible basis within the National Wage Case guidelines to adjust Service rates.

3.176 The Public Service Board's advice however is not optimistic. The Board concludes that while such measures may ameliorate the problem, because of the industry-wide shortage of computing staff 'problems are likely to persist in this area for some time to come'.[66]

3.177 The Department of Defence advised the Committee in more optimistic tones, of the steps it is taking to address this problem. These include the intensification of internal recruitment from non-computing staff areas, training programs and the use of external contractors where needed[67].

---

64. Appendix 3
65. Appendix 12, Attachment A
66. Appendix 12, Attachment A, page 2
67. Appendix 6, Annex C

3.178 Although these types of measures indicate a positive attitude by Defence to a serious supply problem, they are unlikely to do more than ease the already severe strains on the supply of technical computing staff. They are unlikely to generate the large numbers of technical staff required for the SSRP and MSRP in an environment where the supply shortfall in the Public Service is growing rapidly. Indeed, should the Department of Defence be successful in recruiting large numbers of computing staff, this may, given the size of Defence's requirements, seriously prejudice the supply of such staff to other departments in the Public Service.

3.179 The Committee believes that the danger exists of unpredicted and therefore costly delays occurring in the Supply and Manpower Systems Redevelopments because of shortages of technical computing staff. The Committee notes that the peak demand for these projects will occur in the period 1988 to 1993 when 2125 manyears of effort will be required. During this critical period the Department will still be maintaining and to some degree enhancing its existing central computing systems while the DESINE systems are under development.

3.180 As the Defence submission states:[68]

> ... the short term strategy for Defence computing is to:
>
> a. maintain the viability of the central systems which represent a very large investment in equipment and manpower and constitute the core of administrative computing upon which each of the Services and Defence Central depend;
>
> b. enhance the central systems within the bounds of limited funds and consistent with the policy of functional decentralisation and the migration to DESINE; and
>
> c. facilitate the introduction and effective implementation of User Development Computing Systems, again within the limits of available funds.

3.181 The Committee believes that Defence should critically review its currently planned implementation schedule for the SSRP and MSRP so as to reduce this peak by rescheduling, and if necessary, deferring individual redevelopment tasks. It does not consider that the greater use of contract programmers is likely to provide a cost-effective solution to the shortage of in-house technical staff. The Committee notes that there have been some notably rapid migrations of departmental in-house staff to private contracting firms in circumstances where departments have resorted to the heavy use of contract programmers. The solution has to some degree exacerbated the problem.

---

68. Defence Submission, op. cit., Enclosure 4A, page (ii)

3.182 Finally, the Committee cannot but conclude that the supply of adequate numbers of technical computing staff will continue to be a major problem in the implementation of major computing projects. The cost-effective implementation of such projects may be as dependent on the availability of qualified computing staff as on the availability of funds.

3.183 The Committee concludes that:

- the proposed schedule for Project DESINE appears to be over optimistic in assuming the availability of large numbers of technical computing staff;
- as a consequence the danger exists of unexpected and costly delays occurring in Project DESINE redevelopments because of shortages of technical computing staff; and
- the supply of adequate numbers of technical computing staff will continue to be a major problem in future in the implementation of major computing projects in the Australian Public Service.

3.184 The Committee recommends that:

18 the Department of Defence reschedule some of the concurrent redevelopment tasks presently included in the Supply and Manpower Systems Redevelopment Projects, so as to reduce the large peak demand for technical computing manpower which now exists during the period 1988 - 1993; and

19 technical staffing requirements and proposed measures to meet them be addressed as specific issues in all major computer acquisition proposals submitted to Cabinet and/or this Committee.

CHAPTER 4

THE PROPOSED PROCUREMENTS FOR THE OFFICE OF DEFENCE PRODUCTION

- Acquisition of 'Surplus' Computer
- Contract Form for the Office of Defence Production Procurement

Acquisition of 'Surplus' Computer

4.1 The Department of Defence proposes to acquire additional computing capacity for the Manufacturing Computing Bureau (MCB) within the Office of Defence Production (ODP). This additional capacity would not be required before December 1987 when it is planned to have a five year period contract in place. Initial expenditure in 1987/88 would be approximately $4.1 million with an additional $2.0 million to be expended over financial years 1988/89 to 1990/91. The additional capacity being sought is stated to be required to accommodate the planned growth in computing-based services across the various manufacturing establishments which comprise the Office of Defence Production.[1]

4.2 The original Defence submission, dated 23 April 1986, emphasizes the thoroughness of the planning undertaken in the ODP to date and includes the statement:[2]

> Forecasts of the growth in demand on the Manufacturing Computing Bureau show that the equipment presently installed and on order will run out of capacity before December 1987. During 1987/88 therefore, additional capacity must be provided in the form of replacement processors, additional disc storage and further communications equipment, at an estimated cost of $4.1 million in 1987/88.

4.3 No mention was made in this submission or at the Committee's subsequent public hearing on 5 June 1986 of the need to acquire additional 'interim' computing capacity for the ODP's Manufacturing Computing Bureau before the 1987/88 financial year.

4.4 The Committee was therefore surprised when on 13 June 1986 Defence indicated in correspondence with the Committee that the information contained in the original submission was no longer current and that the ODP would be seeking to acquire a 'surplus' mainframe computer that had recently become available in the Commonwealth Bank as the most 'cost-effective approach to meeting interim capacity requirements at the Manufacturing Computing Bureau [of the ODP]'.[3]

---

1. Appendix 1, Vol IV, page 1
2. Appendix 1, Vol IV, page 1
3. Appendix 7, page 3

4.5 In further correspondence dated 24 June 1986 Defence indicated that it wished to purchase this 'surplus' computer from the Commonwealth Bank at a value of $1.85 million before the end of the 1985/86 financial year; ie within a week of notifying the Committee of its intentions.[4]

4.6 The Committee was informed in this correspondence that the ODP had been aware of a shortfall in capacity and of the possibility of purchasing a second hand computer since mid-May. The Committee was understandably perturbed that it was not informed of these concurrent developments earlier and certainly when it held a public hearing on 5 June 1986.

4.7 The Committee also has good reason to believe that this purchase would have proceeded without the Committee's knowledge and without the Committee having the opportunity to assess its impact on the proposals contained in the original Defence submission of 23 April 1986, had not the Purchasing and Disposal Division of the Department of Local Government and Administrative Services declined to take any procurement action until the Committee had been consulted.

4.8 In summary, the Committee believes that the Department of Defence and the Office of Defence Production have been less than forthright with the Committee on this matter.

4.9 The purchase of the 'surplus' computer did not proceed in the 1985/86 financial year. The Department of Local Government and Administrative Services has subsequently advised that a direct purchase from the Commonwealth Bank could not proceed without other potential suppliers being invited to bid for this business. In consequence the purchase cannot proceed under any circumstances before mid-September.

4.10 Defence provided further information to the Committee about the proposal on 11 July 1986.[5] The Committee has reviewed that information and notes that the train of events which lead to the proposal to acquire the 'surplus' computer for the ODP is regrettable to say the least.

4.11 The Office of Defence Production currently owns Amdahl V8 and V6 mainframe computers. The V8 was purchased in September 1985 and is installed and operating in Jensen House in Melbourne. It has sufficient capacity to meet the ODP's projected requirements until the end of 1986. The V6 computer is currently not in use but has been warehoused for some time with the intention of recommissioning it at the end of 1986, when additional capacity will be required.

4.12 It has been the ODP's intention since late 1985 to use both the V8 and V6 processors, with minimal supplementation from an external bureau if necessary, to meet its requirements up until the end of 1987 when new equipment could be purchased under the

4. Appendix 8, page 3
5. Appendix 9

proposed five year ODP period contract. However the existing accommodation in Jensen House could not simultaneously house the V8 and V6 computers. Since Jensen House was designated for demolition under the Victorian State Government's 'Victoria Project', an upgrade of the Jensen House accommodation was not considered cost-effective. In May 1985 Defence commenced planning for alternative computer accommodation in the Plaza Building at 350 St Kilda Road. Tenders were called in September 1985 by the Department of Housing and Construction for the required refurbishment. Work was to commence in November 1985 and to be completed by March 1986. This would have provided sufficient accommodation for both the V6 and V8 computers and well in advance of the expected date (December 1986) for recommissioning the V6.

4.13 However, in November 1985, just at the time work was scheduled to begin on the Plaza Building, Defence was advised that the loading capacity of the Plaza Building was inadequate to house modern computing equipment. The Committee notes that this oversight cost the Department about 6 months planning effort, but still left it over 12 months to find alternative accommodation for the V6 and V8 computers.

4.14 The search recommenced and in the Department's own words:[6]

> Following the decision not to proceed with the Plaza building, DOLGAS sought alternative suitable accommodation for the MCB. Because of the urgency of the requirement fully fitted or purpose built accommodation was initially sought, however this could not be found and appropriate leased accommodation requiring fit out was then sought. Suitable premises were identified in March 1986 and a lease is being negotiated. Detailed planning for fit out by DH&C will commence when a lease has been negotiated. Current estimates by DH&C are that occupancy of the identified premises would not be available before November 1987.

4.15 The Committee has not, in this inquiry, sought comments on this representation of events from the other responsible agencies, the Property Directorate of the Department of Local Government and Administrative Services and the Department of Housing and Construction. However based on the information provided by the Department of Defence, the Committee concludes that there has been an unacceptable failure in planning and/or action by the Department of Defence and/or one or more of these other responsible agencies. From a situation in May 1985 when the ODP had over 18 months lead time to secure suitable computing accommodation, the situation as of July 1986 is asserted to be that no suitable accommodation can be provided until November 1987. This means that it will have taken almost two and a half years since the need was identified, to provide

6. Appendix 9, page 11

accommodation for the ODP's existing V6 and V8 computing equipment. One month after this accommodation becomes available in November 1987 the Department proposes to purchase new equipment to replace the V6 and V8 i.e. at the end of 1987.

4.16 Delays in securing suitable accommodation to house the equipment already owned by ODP and which could have met its capacity requirements up until late 1987, have resulted in a proposal to buy $1.85 million of additional equipment (the 'surplus' computer) which can apparently be housed in existing accommodation at Jensen House.

4.17 The Committee is unable to establish on the information available which of the Department of Defence, the Property Directorate of the Department of Local Government and Administrative Services, and the Department of Housing and Construction is primarily responsible for this situation. However, it is clear that because of the failure of one or all of these agencies to do its job properly, and plan for and provide suitable accommodation for existing computing equipment, the Department of Defence proposes to expend substantial additional funds on alternative equipment.

4.18 The Committee concludes that:

- the Office of Defence Production failed to secure suitable working accommodation for a warehoused computer already owned by the Office and which could have met its interim computing capacity requirements up until the end of 1987;
- in consequence the Office maintains that this equipment cannot now be used to meet the Office's interim computing capacity requirements for its Manufacturing Computing Bureau as originally planned;
- this situation represents an unacceptable failure of planning and action by the Office and/or the Department of Local Government and Administrative Services and the Department of Housing and Construction in not ensuring suitable accommodation was provided for the existing equipment; and
- instead the Office proposes to expend substantial additional funds ($1.85 million) to purchase a 'surplus' computer which has become available in the Commonwealth Bank.

4.19 The Committee intends to use this as a case study in its current inquiry into the Administration of the Commonwealth's Property Functions. It will be requesting submissions from the Department of Local Government and Administrative Services and the Department of Housing and Construction explaining the reasons

for the previous delay in the procurement of accommodation and, how further delay in the procurement of accommodation can be reduced.

4.20 The Committee recommends that:

> 20 the Department of Local Government and Administrative Services and the Department of Housing and Construction make submissions to the Committee's inquiry into the Administration of the Commonwealth's Property Functions, explaining the reasons for the delay in providing suitable accommodation for the Office of Defence Production's existing equipment.

4.21 The Committee also has serious doubts about the accuracy of the computing capacity projections which have been used as the basis for the Office of Defence Production's proposal to buy a 'surplus' computer. The Committee believes that these capacity estimates are likely to be inflated for two reasons.

4.22 First, the capacity projections for the Manufacturing Computing Bureau were made by two major computer vendors. The Committee notes that both these vendors are existing or potential suppliers of IBM compatible equipment to the ODP and hence the 'independence' of their capacity projections must remain open to some doubt.

4.23 Second, the Committee also believes that current and projected demand for services by the ODP's factories from the Manufacturing Computing Bureau is unlikely to reflect the full cost of providing those services. Currently a notional charging system only is used for the services provided by the Manufacturing Computing Bureau, although a decision has apparently been made that the Bureau 'will move to actual charging with full cost recovery in a phased manner'[7].

4.24 However, in the absence of these full charging and cost recovery arrangements, the demand for computer services from the Bureau will almost certainly be in excess of that which can be cost-benefit justified. The Committee has no doubt that there is scope for reducing that demand significantly without overall detriment to the cost-effectiveness of the ODP's current operations.

4.25 In its submission to this Committee the Office of Defence Production states:

> The central task of ODP is the management of Government defence factories and dockyards with the goal of more commercial orientation and the injection of realistic market perspectives into planning and production. As part of the process of commercialisation modern computer based systems

7. Appendix 9, page 9

are being introduced. These systems are playing an increasingly vital role in the establishment of an economic, efficient and commercially viable defence production capability;[8] and

Commercialisation includes the introduction of full costing and progressive extension of trust account financing to all establishments. It also requires the installation of modern computer based production control, inventory, project management and cost accounting systems ...[9]

4.26 The Office of Defence Production's aspirations to give its operations a more commercial orientation, and to that end to introduce full costing to all establishments, are commendable. Computing systems can and should play a prominent role in achieving these objectives. The Committee however would point out that these computing systems should be justified and operated in accordance with the same 'commercial' principles and costing arrangements which are advocated for the Office's general operations. The acquisition of new computing equipment should be fully cost-benefit justified and the demand for computing services should also be regulated by full charging and cost recovery measures.

4.27 The Committee concludes that:

the capacity demand projections on which the proposal to purchase a 'surplus' computer is based are likely to be inflated by the absence of any real user charging and cost recovery for the Manufacturing Computing Bureau's services.

4.28 The Committee recommends that:

21 the Office of Defence Production introduce, as a matter of high priority, real user charging and cost recovery for the Manufacturing Computing Bureau's services to ensure that the level of use of these services is fully cost-benefit justified.

4.29 The Department's original submission projects costs for computing-related activities of the ODP, and that projection includes a line item for the use of external bureau services to augment internal factilities.[10] The line item fluctuates over the years 1984/85 to 1988/89, but the last planned amount, $1.88 million for 1988/89, would appear to be useful as a guide to the expected external bureau usage, because the original Defence submission proposed that the new computing equipment would be installed and operating before that time (i.e. in 1987/88).

8. Appendix 1, Vol V, page 2
9. Appendix 1, Vol V, page 2
10. Appendix 1, Vol V, page 3

4.30 Comparing the abovementioned $1.88 million for 1988/89 with the amounts of $2.02 million for 1986/87 and $2.23 million for 1987/88 suggests that something of the order of (2.02-1.88) plus (2.23-1.88), or $0.49 million was initially estimated to be the extent of outside commercial bureau augmentation which would be needed during those two years to compensate for shortages in installed computing power. This figure stands in marked contrast to the amount of $2.08 million for the 1987 calendar year alone, which was cited by Defence in its supplementary submission.[11]

4.31 The Department's submission of 11 July 1986 also states that the proposed acquisition of interim computing capacity (ie the purchase of a surplus computer) has no impact on the original proposal put to the Committee to acquire additional new equipment commencing in late 1987. The Committee has some difficulty in reconciling this assertion with the:

- a statement in Defence's original submission that the equipment presently installed and on order will run out of capacity before December 1987;[12]
- a statement in the same submission that $4.1 million funds for new equipment will be requested in the 1987/88 financial year[13]; and
- a statement in Defence's request for a Certificate of Exemption to the Department of Local Government and Administrative Services that the purchase of the 'surplus' computer will provide sufficient processing power to meet ODP's requirements to mid 1988.[14]

4.32 The Committee deduces from the last and presumably, most accurate statement, that if a 'surplus' computer were purchased in 1986, it would permit the deferral of any expenditure on new equipment for the ODP's Manufacturing Computing Bureau from the 1987/88 to the 1988/89 financial years.

4.33 The Committee is not pursuaded that the purchase of additional computing capacity for the ODP is imperative at the end of 1986. It believes that the purchase of additional interim computing capacity could be avoided and the increased use of external bureau services could likewise be avoided if:

- the ODP undertakes a serious and critical review of the services provided by the Manufacturing Computing Bureau with a view to deferring additional lower priority services until suitable accommodation can be found for its existing computing equipment and/or new equipment is obtained;

---

11. Appendix 9, Annex C
12. Appendix 1, Vol V, page 1
13. Ibid., page 1
14. Letter to DOLGAS from Assistant Secretary, Computing and Systems Branch, Department of Defence, 19 June 1986, page 2

- the Department of Local Government and Administrative Services takes the necessary urgent action to advance the provision of accommodation for existing equipment to no later than June 1987; and

- the request for tender for new equipment for the Office of Defence Production is issued as soon as possible and independently of the Project DESINE tender, so as to permit the delivery of new equipment to the Office well before the end of 1987.

4.34 The Committee recognises that there may be some administrative cost savings in progressing the ODP and Project DESINE tenders together. However in view of the Committee's recommendations that the small systems tender not proceed (refer Chapter 5) and that the Project DESINE tendering arrangements be amended (refer Chapter 3), the Committee believes that the ODP tender should be progressed independently and urgently. The ODP's requirements are already clearly defined and quite independent of those of Project DESINE. In view of the ODP's current difficulties in providing interim computing capacity, and the substantial costs of purchasing either a 'surplus' computer and/or external bureau services, the Committee believes that the purchase of new computing equipment for the ODP should be advanced as quickly as possible.

4.35 The Committee recommends that:

22 the Department of Defence expedite the Office of Defence Production's tender independently of the Project DESINE tender, to allow new computing equipment to be delivered to the Office as soon as possible;

23 the Office of Defence Production review its capacity demand projections for the Manufacturing Computing Bureau with a view to deferring the provision of lower priority services until suitable accommodation can be found for its existing equipment and/or new equipment is delivered; and

24 the Department of Local Government and Administrative Services take the necessary urgent action to accelerate the provision of suitable accommodation for the Office's equipment.

Contract Form for the Office of Defence Production Procurement

4.36 As in the case of Project DESINE, Defence proposes in its original submission to utilise a five year period contract with a single prime contractor to acquire the additional equipment needed by the Office of Defence Production in its Manufacturing Computing Bureau.[15] Unlike Project DESINE, however, the network architecture for this application has already been defined and specified as IBM's 'Systems Network Architecture', known simply as SNA.[16]

4.37 The submission points out that although SNA is an IBM product, because of its wide use throughout the computing industry it has become a well-accepted network architecture and it is supported by a number of computer manufacturers.[17] In the mainframe area alone, there are four suppliers operating in Australia which have the ability to tender for this proposed acquisition. When small microcomputers are added, the number of potential suppliers increases even further.

4.38 However during the public hearing conflicting evidence was given by Defence that suggested strongly that a prime contractor arrangement was neither a mandatory requirement nor was it even necessarily desirable. The Chief of Defence Production stated:[18]

> An option is that we have one prime contract to handle all of that. I believe that might not be the best way to go. It may well be that this hierarchy of requirements could be satisfied by a number of contractors which, I think, is consistent with the thrust of some of the questions that you put ...

4.39 This evidence of course contrasts with that of the original submission which proposes that:[19]

> prime contractors will be sought in three areas, [including the following for ODP requirements]:
>
> > Category 'B'. The requirements are for IBM compatible equipment for those areas with existing large investments in that architecture. A wide range of products will be required, ...

4.40 Regardless of these conflicting representations about the need for a single prime contractor, the Committee's view is that the complexities of acquiring and managing the initial installation of a new network architecture which exist for

---

15. Appendix 1, Vol II, page 1
16. Defence Submission, op. cit., Enclosure 4B, page 14
17. Minutes of Evidence, op. cit., page 22
18. Ibid., page 61
19. Appendix 1, Vol II, page 1

Project DESINE, do not exist in the the ODP acquisition. A network architecture and related standards already exist for the ODP computing environment; they are proven and systems using them have already been installed.

4.41 In the interests of economy and maximum competition in the tendering process, and also to maximise opportunities for Australian industry participation, the Committee believes part tenders should be called for the ODP's computing requirements.

4.42 The Committee concludes that:

- the requirement for a single prime contractor to minimise risk and complexity is not the first priority in the planned computer acquisitions by the Office of Defence Production; and

- part tendering arrangements are justified by the greater levels of competition and opportunities for Australian industry participation which will result.

4.43 The Committee recommends that:

25 the Department of Defence invite part tenders for the proposed five-year period contract to be established for the supply of equipment to the Office of Defence Production.

CHAPTER 5

THE SMALL, STAND-ALONE SYSTEMS CONTRACT PROPOSAL

5.1 The Department of Defence states that the Department will have requirements for stand-alone microcomputers and small office systems which will be unrelated to similar equipments which might be acquired for Project DESINE or by the Office of Defence Production.[1] It is proposed that this stand-alone equipment be acquired from a single prime contractor under a five year period contract.

5.2 Defence, having stated these broad requirements, neither states the precise nature of the need, nor presents anywhere in the submission the facts surrounding its identification. No quantities or costs of equipment are given, and no explicit justification is provided.

5.3 The Committee does accept that the establishment of this separate, specific purpose period contract for small, stand-alone systems would admit substantially greater opportunities for Australian industry participation than the DESINE contract proposed by the Department of Defence. However, given the uncertain and unspecified level of use of this stand-alone systems contract, the benefits to Australian suppliers would be equally uncertain. The Committee suspects that the small, stand-alone contract proposal was included in this submission by Defence, to compensate for the very limited opportunities offered to Australian firms in the DESINE and the ODP period contracts which Defence initially proposed.

5.4 The Committee is convinced that the alternative arrangements which it has proposed for the DESINE procurements in Chapter 3, will provide far better prospects for Australian industry participation in the supply of equipment and software for Defence's administrative computing system.

5.5 In response to a Committee request for more information about the stand-alone systems contract,[2] Defence asserts that in the area of small, stand-alone systems, '... the arguments for standardisation are compelling'.[3] These arguments note that because of, '...the absence of formal standards [throughout the industry], the acquisition of many such items from a variety of suppliers produces diverse solutions to similar problems, incompatibilities in hardware, software and user skills...'.[4]

---

1. Appendix 1, Vol I, page 1
2. Appendix 3, page 6
3. Appendix 6, Annex D, page 5
4. Ibid, page 5

5.6 The Committee sought advice from the Department of Local Government and Administrative Services on the proposed small systems contract and was advised by DOLGAS that:[5]

> A five-year period contract [such as one for Defence] with a single prime contractor [for this proposed procurement] would not be a viable proposition in the absence of identification of specific requirements...

and that, more generally:

> DOLGAS is currently arranging a new panel contract with a wide choice of suppliers and equipment in the micro and small office systems categories. This will involve firm price contracts renewable every 12 months.

5.7 The Committee understands that the DOLGAS panel contract, which has now been finalised, has annual limits applied to its use. Departments are limited to $0.5 million annual total expenditure for stand-alone microcomputers and to two stand-alone Local Area Networks (LANs) of no more than $125,000 each per annum. DOLGAS has indicated to departments that annual requirements for systems exceeding these limits should be satisfied by normal tendering arrangements, because questions of interconnectivity begin to take on significance for purchases above these limits.

5.8 At the Committee's public hearing, when the stand-alone proposal was discussed, the Department of Defence indicated that it spends of the order of $7 million to $8 million per annum on small, stand-alone systems.[6] The Committee is concerned that such large expenditures have been incurred in the past on systems which DOLGAS now requires to be purchased by open tendering. In addition the Committee questions the justification for using these large quantities of stand-alone equipment.

5.9 The Committee's concern is reinforced by the Department's statement at the hearing that:[7]

> [Defence] ... also have in mind the fact that these systems will sooner or later have to talk to the bigger systems through communications gateways.

It seems then that equipment that is acquired by Defence using a period contract for stand-alone systems will subsequently need to be interconnected with DESINE equipment. While the equipment might initially be acquired for stand-alone purposes, Defence admits that it will eventually have to be integrated with other systems via communications gateways.

---

5. Appendix 10, page 2
6. Minutes of Evidence, op.cit., page 39
7. Minutes of Evidence, op.cit., page 43

5.10 The Committee has reservations about this approach and about the proposed use of costly communications gateways. The Department argues that its interconnectivity requirements for the DESINE strategy should be satisfied by the acquisition of a network architecture. Yet in the case of small systems, the Department appears willing to sweep aside its own voluminous arguments for a standard network architecture interconnection, and instead it proposes the use of one-off communications gateways to connect its small 'stand-alone' systems to its bigger systems as the need arises.

5.11 The Department also indicated at the hearing that experience shows that the demand for small systems is limited only by the budget.[8] It would be indefensible for large sums of money to be spent on the progressive acquisition of stand-alone equipment that eventually will have to be interconnected at considerable cost with the rest of the Department's administrative computing equipment.

5.12 The Committee's view is that, if the Department of Defence is to continue to purchase so-called, stand-alone computing systems at the rate it has in the past, it should seriously assess the possible future need to interconnect these with DESINE equipment. It may well be more cost-effective to purchase all systems including 'stand-alone' systems from the DESINE period contracts to cover the contingency that interconnection is necessary in the future and to avoid the costly provision of communications gateways.

5.13 The Committee concludes that:

- insufficient justification has been given for establishing a separate period contract for small, stand-alone computer systems for the Department of Defence;
- the Department of Local Government and Administrative Services has recently established a panel period contract for the purchase of equipment and software for small, stand-alone systems of this type; and
- in the past the Department of Defence's annual expenditure on stand-alone systems has exceeded the limits now prescribed for the use of the panel period contract established by the Department of Local Government and Administrative Services.

5.14 The Committee recommends that:

26 the Department of Defence's proposal to establish a separate period contract for small, stand-alone computer systems not proceed;

---

8. Minutes of Evidence, op.cit., page 43

27 the Department of Defence give serious consideration to purchasing its small, stand-alone computing systems through the DESINE period contracts so as to provide for the possible future need to interconnect these systems; and

28 the Department of Defence, in consultation with the Department of Local Government and Administrative Services, determine the most appropriate alternative means of procuring any further small, stand-alone computer systems it requires.

LIST OF CONCLUSIONS AND RECOMMENDATIONS

THE PROJECT DESINE PROPOSALS (CHAPTER 3)

The DESINE Strategy

The Committee concludes that (paragraph 3.18):

- the decision by the Department of Defence to implement Project DESINE and decentralise administrative computing subject to central control over a standardised computing environment, is soundly based;
- the decision to decentralise administrative computing on a functional basis centering initially on the Supply Systems Redevelopment Project and the Manpower Systems Redevelopment Project is also soundly based; and
- the technology appears to be available which can provide the broad functionality necessary to support the standardised computing environment envisaged by the Department of Defence under Project DESINE.

Departmental Endorsement of Project Proposals

The Committee concludes that (paragraph 3.28):

- the timing, composition and funding requirements of the first two projects, the Supply and Manpower Systems Redevelopment Projects, which are to be implemented as part of Project DESINE, have not yet been:
  - subject to the full process of internal scrutiny and approval within the Department of Defence; or
  - endorsed by the Secretary of the Department of Defence.

Cost-Effectiveness and Cost-Benefit Analyses

The Committee concludes that (paragraph 3.40):

- the Department of Defence has not yet completed the system definition, cost-benefit and other necessary studies for the first sub-projects of the Supply and Manpower Systems Redevelopment Projects; and

- in consequence, insufficient information is available to permit the Committee to assess the adequacy of the planning and cost-benefit justification for these sub-projects which in aggregate involve expenditures of approximately $310 million.

The Committee recommends that (paragraph 3.41):

1 the Department of Defence not procure implementation quantities of equipment for each major sub-project of the Supply and Manpower Systems Redevelopment Projects or any other projects to be implemented under Project DESINE until:

   - the planning, systems definition and cost-benefit studies necessary to define and justify fully these sub-projects, have been completed;

   - the Secretary of the Department of Defence has endorsed each of these sub-projects in turn and the funds necessary to implement them; and

   - a submission dealing with these sub-projects has been made to the Committee under its standing reference to examine and report on ADP acquisition proposals over $5 million. The Committee understands that the first of these is likely to be the Depot/Base sub-project of the Supply Systems Redevelopment Project which involves approximately $30 million of capital expenditure.

Prime Contractor Arrangements

The Committee concludes that (paragraphs 3.56 and 3.67):

- the implementation of a standardized computing environment will substantially reduce levels of technical support required in comparison with those required under a non-standardised environment;

- the Department of Defence has overstated the savings of in-house technical support which will result from the use of a prime contractor arrangement for Project DESINE;

- the Department of Defence has provided no convincing cost-effectiveness argument based on the lower costs of technical support, where that support is provided by a contractor rather than by Departmental staff, to justify the use of a prime contractor;

- the proposed initial task of proving the selected network architecture and ensuring that the new systems will continue to interoperate with existing ones is sufficiently complex that the use of a prime contractor is warranted for this initial task;

- the justification for a prime contractor arrangement will be greatly reduced once the Department of Defence has a proven network architecture in place and is proceeding to purchase implementation quantities of equipment and software; and

- once the network architecture has been put in place and proven in all important respects, there will emerge a full set of specifications and procedures that will permit implementation quantities of equipment and software to be provided by part contractors.

Risk in the DESINE Strategy

The Committee concludes that (paragraph 3.83):

- while the use of international standards called Open Systems Interconnection remains a goal of the DESINE strategy, no such international standards yet exist in complete form and there is considerable uncertainty about when they will be fully developed and agreed;

- the Department of Defence therefore intends to accept an existing proprietary network architecture, while aspiring to select a contractor who has indicated a commitment to migrate to Open Systems Interconnection standards; and

- there remains considerable doubt about the ability of the Department of Defence to evaluate and enforce contractually such commitments. These commitments are consequently of questionable value.

The Committee recommends that (paragraph 3.84):

2 the initial request for tender for a network architecture for Project DESINE include as a mandatory requirement the immediate supply and proving of a network architecture and, as a desirable requirement, the subsequent migration to Open Systems Interconnection standards.

The Committee concludes that (paragraph 3.91):

- there is a small but significant risk that the network architecture chosen for Project DESINE will not prove satisfactory, resulting in difficulties and delays in the major redevelopment projects to be implemented under Project DESINE;

- although the probability of this occurring is small, the consequent costs resulting from delay and disruption in these projects may be very large; and

- the Department of Defence's proposed acquisition strategy of procuring and proving a network architecture and then proceeding immediately, under the same period contract, to purchase the equipment, software and services for the implementation of the Supply and Manpower Systems Redevelopment Projects involves the risk of major delays and cost overruns if the selected network architecture does not prove fully satisfactory.

The Committee recommends that (paragraph 3.92):

3 the procurement arrangements and implementation schedule for Project DESINE be designed to minimise the risk and cost consequences of delay and disruption to the project.

Australian Industry Participation

The Committee concludes that (paragraphs 3.94, 3.113, and 3.120):

- it is government policy to maximise opportunities for Australian industry to compete effectively for government contracts and this has direct consequences for the form of the proposed procurement arrangements for Project DESINE;

- the procurement arrangements proposed by the Department of Defence, whereby a single prime contractor will supply both the network architecture and subsequently, will supply implementation quantities of equipment and software for Project DESINE, will offer very limited opportunities for Australian industry participation;

- a part tendering arrangement for the supply of implementation quantities of equipment and software for Project DESINE will provide better prospects for Australian industry participation than a single prime contractor arrangement;

- the application of the existing Australian purchasing preference and offsets policies is unlikely to secure a satisfactory level of Australian industry participation in the DESINE contracts; and

- given the magnitude of the acquisitions proposed under Project DESINE, special measures are justified to ensure a satisfactory level of Australian industry participation in the DESINE contracts.

The Committee recommends that (paragraph 3.121):

4 part tendering arrangements be adopted in the major implementation phase of Project DESINE to increase the prospects for Australian industry participation in the supply of specific categories of equipment and software;

5 in addition to the enforcement of the Australian purchasing preference and offsets policies, the level of Australian industry participation be a specific criterion in the evaluation of tenders for the DESINE contracts;

6 the Department of Industry, Technology and Commerce and the Department of Local Government and Administrative Services participate in the weighting of this evaluation criterion and review the level of Australian industry participation in the recommended tenders before contracts are let; and

7 if a satisfactory level of Australian industry participation cannot be agreed at Departmental level, the matter be referred to the responsible Ministers for decision.

Procurement and Implementation Strategy Recommended by Committee

The Committee concludes that (paragraph 3.144):

- the Department of Defence intends the accomplishment of two separate tasks under the five year period contract with a prime supplier which it has proposed for Project DESINE:

  - to select, acquire and prove a network architecture; and

  - to procure implementation quantities of compatible equipment and software for the Supply and Manpower Systems Redevelopment Projects;

- a two-stage procurement arrangement for Project DESINE is feasible and desirable to permit these two tasks to be completed and to:

  - minimise the risks of major cost overruns resulting from any delays or complications in establishing and proving a network architecture;

  - permit broader competition and therefore better prices and performance, especially when implementation quantities of equipment and software are being procured; and

  - increase the opportunities for Australian firms to supply equipment and software in compliance with the established network architecture;

- although a two-stage procurement arrangement may involve some additional administrative costs:

  - it need not cause any delays to the main implementation phase of the Supply Systems Redevelopment Project which is not scheduled to commence until 1990; and

  - any additional costs resulting from conducting two tenders and from any consequent small delay, are more than justified by the reduced risks, greater competition and greater opportunities for Australian industry participation which will result.

Stage 1 Tender

The Committee recommends that (paragraph 3.146):

8 the Department of Defence issue a Stage 1 request for tender for a single prime contractor to supply:

  - a network architecture for Project DESINE;

  - sufficient equipment and software to test and prove that architecture; and

  - a communications gateway to link Project DESINE equipment to Defence's existing equipment;

9 the Stage 1 request for tender clearly indicate to potential suppliers of a network architecture and associated demonstration equipment and software that:

  - this is the first stage of a two-stage tendering process, as outlined above;

- the network architecture which is supplied by a prime contractor in Stage 1 must be demonstrated to be non-exclusive to the equipment and software supplied by that prime contractor; and

- the supplier of the network architecture may be requested to demonstrate that non-exclusivity by integrating equipment and software from other vendors;

10 the extent to which the proposed network architecture will admit other firms', and particularly Australian firms', equipment and software be a specific evaluation criterion in the Stage 1 tender. This could be demonstrated by evidence that:

- the specification of the prime supplier's network architecture is available to other firms;

- equipment and software products of other, and particularly Australian, firms are currently available which conform with this network architecture; and

- other firms, particularly Australian firms, are able and prepared to develop products which conform with this network architecture.

Stage 2 Tender

The Committee also recommends that (paragraph 3.147):

11 the Department of Defence issue a Stage 2 request for part tenders to supply implementation quantities of different categories of equipment and software compatible with the selected network architecture; and

12 the level of Australian industry participation be a specific evaluation criterion and be given a substantial weighting in the evaluation of Stage 2 tenders.

Further Submissions

The Committee recommends that (paragraph 3.152) the Department of Defence provide to the Committee and subsequently to Cabinet:

13 a supplementary and succinct submission (Submission 1) as soon as possible which sets out proposed general arrangements for the two-stage procurements and detailed arrangements for Stage 1 procurements including:

- the numbers, types and cost of equipment and software necessary to test and prove the selected network architecture in Stage 1; and

- the broad specification of the network architecture to be included in the Stage 1 request for tender;

14 a further submission (Submission 2) as per the Committee's guidelines for submissions under its standing reference, which sets out detailed proposals for Stage 2. This submission will be made only when Stage 1 is complete, and detailed planning for the first sub-projects of the Supply Systems Redevelopment Project is also complete. It will include:

- the results of the Stage 1 evaluation and trial implementation of the selected network architecture;

- a full definition of the first sub-projects of the Supply Systems Redevelopment Project, and the cost-benefit and other information necessary to support them;

- comprehensive plans for monitoring the performance of, and benefits resulting from these sub-projects; and

- an indication of the proposed part tendering arrangements and the expected level of Australian industry participation in the Stage 2 contracts;

15 additional submissions for any other projects, including the Manpower Systems Redevelopment Project, to be implemented under DESINE, as and when required under the Committee's standing reference to examine and report on major ADP acquisition proposals over $5 million.

The Committee further recommends that (paragraph 3.153):

16 the Department of Defence provide an annual progress report to the Department of Finance and this Committee which summarises progress to date on Project DESINE and its component projects against agreed plans. This report will detail:

- the benefits achieved in comparison with those initially asserted at the time of project approval;

- the costs incurred to date in comparison with those initially asserted;

- the degree of Australian industry participation achieved; and

- the proposed expenditure for DESINE projects for the following financial year.

Data Communications in Project DESINE

The Committee concludes that (paragraphs 3.161, 3.163 and 3.165):

- the decision to use DISCON for Project DESINE administrative data communications, implies the requirement for an additional capital investment in DISCON to increase its capabilities and for additional maintenance and support costs. This investment may exceed the costs of using existing Telecom services;

- the proposed use of DISCON for Project DESINE data communications has not been justified on cost-effectiveness grounds; and

- no case has been adduced by the Department of Defence to show that the proposed administrative computing systems to be implemented under Project DESINE will require the high levels of security provided by the DISCON system.

The Committee recommends that (paragraph 3.166):

17 the Department of Defence make no change from its present use of Telecom services for data communications for administrative computing, unless and until such a change is separately proposed and justified on the grounds of a high level, national security requirement or, on the basis of a cost-effectiveness analysis.

Technical Staff Resources

The Committee concludes that (paragraph 3.183):

- the proposed schedule for Project DESINE appears to be over optimistic in assuming the availability of large numbers of technical computing staff;

- as a consequence the danger exists of unexpected and costly delays occurring in Project DESINE redevelopments because of shortages of technical computing staff; and

- the supply of adequate numbers of technical computing staff will continue to be a major problem in future in the implementation of major computing projects in the Australian Public Service.

The Committee recommends that (paragraph 3.184):

18 the Department of Defence reschedule some of the concurrent redevelopment tasks presently included in the Supply and Manpower Systems Redevelopment Projects, so as to reduce the large peak demand for technical computing manpower which now exists during the period 1988 - 1993; and

19 technical staffing requirements and proposed measures to meet them be addressed as specific issues in all major computer acquisition proposals submitted to Cabinet and/or this Committee.

THE PROPOSED PROCUREMENTS FOR THE OFFICE OF DEFENCE PRODUCTION (CHAPTER 4)

Acquisition of 'Surplus' Computer

The Committee concludes that (paragraph 4.18):

- the Office of Defence Production failed to secure suitable working accommodation for a warehoused computer already owned by the Office and which could have met its interim computing capacity requirements up until the end of 1987;

- in consequence the Office maintains that this equipment cannot now be used to meet the Office's interim computing capacity requirements for its Manufacturing Computing Bureau as originally planned;

- this situation represents a unacceptable failure of planning and action by the Office and/or by the Department of Local Government and Administrative Services and the Department of Housing and Construction, in not ensuring suitable accommodation was provided for the existing equipment; and

- instead the Office proposes to expend substantial additional funds ($1.85 million) to purchase a 'surplus' computer which has become available in the Commonwealth Bank.

The Committee recommends that (paragraph 4.20):

20 the Department of Local Government and Administrative Services and the Department of Housing and Construction make submissions to the Committee's inquiry into the Administration of the Commonwealth's Property Functions, explaining the reasons for the delay in providing suitable accommodation for the Office of Defence Productions existing equipment.

The Committee concludes that (paragraph 4.27):

the capacity demand projections on which the proposal to purchase a 'surplus' computer is based are likely to be inflated by the absence of any real user charging and cost recovery for the Manufacturing Computing Bureau's services.

The Committee recommends that (paragraph 4.28 and 4.35):

21 the Office of Defence Production introduce, as a matter of high priority, real user charging and cost recovery for the Manufacturing Computing Bureau's services to ensure that the level of use of these services is cost-benefit justified;

22 the Department of Defence expedite the Office of Defence Production's tender independently of the Project DESINE tender, to allow new computing equipment to be delivered to the Office as soon as possible;

23 the Office of Defence Production review its capacity demand projections for the Manufacturing Computing Bureau with a view to deferring the provision of lower priority services until suitable accommodation can be found for its existing equipment and/or new equipment is delivered; and

24 the Department of Local Government and Administrative Services take the necessary urgent action to accelerate the provision of suitable accommodation for the Office's equipment by not.

Contract Form for the Office of Defence Production Procurement

The Committee concludes that (paragraph 4.42):

- the requirement for a single prime contractor to minimise risk and complexity is not the first priority in the planned computer acquisitions by the Office of Defence Production; and

- part tendering arrangements are justified by the greater levels of competition and opportunities for Australian industry participation which will result.

The Committee recommends that (paragraph 4.43):

25 The Department of Defence invite part tenders for the proposed five year period contract to be established for the supply of equipment to the Office of Defence Production.

THE SMALL, STAND-ALONE SYSTEMS CONTRACT PROPOSAL (CHAPTER 5)

The Committee concludes that (paragraph 5.13):

- insufficient justification has been given for establishing a separate period contract for small stand-alone computer systems for the Department of Defence;

- the Department of Local Government and Administrative Services has recently established a panel period contract for the purchase of equipment and software for small, stand-alone systems of this type; and

- in the past the Department of Defence's annual expenditure on stand-alone systems has exceeded the limits now prescribed for the use of the panel period contract established by the Department of Local Government and Administrative Services.

The Committee recommends that (paragraph 5.14):

26 the Department of Defence's proposal to establish a separate period contract for small, stand-alone computer systems not proceed;

27 the Department of Defence give serious consideration to purchasing its small, stand-alone computing systems through the DESINE period contracts so as to provide for the possible future need to interconnect these systems; and

28 the Department of Defence, in consultation with the Department of Local Government and Administrative Services, determine the most appropriate alternative means of procuring any further small, stand-alone computer systems it requires.

APPENDIX 1

DEFENCE SUBMISSION - 23 APRIL 1986

Vol I	Executive Summary
Vol II	Acquisition and Standardisation Strategy Overview
Vol III	Supply Systems Redevelopment Project Overview
Vol IV	Manpower Systems Redevelopment Project Overview
Vol V	Office of Defence Production Acquisition

A SUBMISSION TO
THE JOINT PARLIAMENTARY COMMITTEE
OF PUBLIC ACCOUNTS
ON
THE PROJECT 'DESINE'
REQUEST FOR TENDER

3 April 1986

TABLE OF CONTENTS

Enclosures:

1. Defence Computing Infrastructure Study Working Party Report - Executive Summary.

2. DESINE Implementation Study Report.

3. DESINE Overseas Visit Report (Vol 1).

4A. Defence Administrative Computing Strategic Plan - 1985.

4B. ODP ADP Strategic Plan.

5. FASCS Letter OMS 85/24799 of 6 November 1985.

6. Brief on Long Term Administrative Computing Strategies in Defence With Special Reference to DESINE, for the Defence Consultative Council.

7. DI(G) PERS 18-1

8. Draft Replacement Instruction for DI(G)PERS 18-1.

9. Draft Instruction on 'Consultation on Civilian Establishment Changes'.

10. Draft Safety Instruction P-SI-105 'Screen Based Equipment (SBE)'.

11. Draft Safety Instruction P-SI-106 'Prevention and Management of Repetition Strain Injuries'.

12. Draft Safety Recommendation P-SR-501 'Eyesight Testing For Screen Based Equipment (SBE) Staff'.

13. Draft Safety Recommendation P-SR-502 'Checklist for SBE Workstations'.

14. DOLGAS Purchasing Manual (Extract).

15. Extracts from Comments by The Department of the Prime Minister and Cabinet, Department of Finance and the Office of the Public Service Board.

16. Department of Industry, Technology and Commerce Letter dated 20 September 1985.

17. CSIRO Report by Dr. P. Claringbold - Chief of Division of Computing Research.

18. University of NSW Report by Professor C.H.P. Brookes - Head of Department of Information Systems.

19. Report of the SSRP Business Review Working Group.

20. SSRP - Proposed Schedule of Activity.

21. Details of SSRP Equipment Configurations.

22. SSRP - Revised Total Estimated Project Cost.

23. SSRP - Revised Manpower Requirements.

24. SSRP Depot/Base Indicative Implementation Plan.

25. Report of the Supply Mini-Computer Network Review Working Group.

26. Report Of the Auditor General - 1981/82, pages 14-16.

27. Report Of the Auditor General - 1983/84, pages 59-60.

28. Report Of the Auditor General - 1984/85, page 45.

29. Report Of the Auditor General - 1982/83, pages 44-46.

30. Defence Audit 23/82.

31. Defence Audit 37/82.

32. Defence Audit 25/83.

33. Defence Audit 24/81.

34. Defence Audit 1/83.

35. Defence Audit 45/85.

36. Defence Audit 34/83.

37. Depot/Base Development - Concept and Scope.

38. Executive Project.

39. Policy and Resources Project.

40. GMSSR Minute SS84/10617 of 20 November 1984.

41. MSRP Major Equipment Submission.

42. MSRP Report (2nd Draft).

43. Report of the Auditor-General - 1984/85, pages 21-25.

44. Report of the Auditor-General - 1983/84, pages 41-46.

45. Report of the Auditor-General - 1981/82, pages 41-44.

46. Defence Audit 24/82.

47. Defence Audit 35/83.

48. Defence Audit 23/83.

49. Defence Audit 20/83.

50. Defence Audit 14/84.

51. Defence Audit 32/83.

52. Defence Audit 85/84.

53. Defence Audit 19/85.

54. Defence Audit 5/83.

55. Defence Audit 88/84.

56. COMR Letter 769/85 of 26 November 1985.

57. PSB Minute 84/1514 of 22 January 1986.

58. Review of the Proposed Upgrade of the Manufacturing Computing Bureau.

59. ODP Business Plan.

60. Report of the Auditor-General 1984/85.

61. ODP Letter EDB 75/86 to ACOA of 27 February 1986.

62. ODP Letter EDB 75/86 to APSA of 27 February 1986.

VOLUME I

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Introduction

1. This Executive Summary covers the succeeding four volumes of this Submission. Volume II covers the acquisition and standardization strategy. Volumes III, IV and V cover particular projects for initial implementation within that strategy. In essence, the strategy involves standardization on a range of hardware and software products through the use of up to three, five-year period contracts, each with a prime contractor. The strategy is the result of detailed investigation over several years, including extensive consultation with other Commonwealth Government departments, private consultants and a number of significant overseas suppliers, users and standards organizations. The particular projects are the Supply Systems Revelopment Project (SSRP) the Manpower Systems Redevelopment Project (MSRP) and the acquisition of additional computer equipment for the Office of Defence Production (ODP). This Executive Summary is structured to cover each of the four volumes separately.

SUMMARY OF THE ACQUISITION AND STANDARDIZATION STRATEGY (VOLUME II)

Nature of and Justification for the Strategy

2. Description of the Strategy The essence of the strategy is the establishment of up to three period contracts under which all Defence administrative computing requirements for hardware and software should be purchased over the next five years. Prime contractors will be sought in three areas, categorized as follows:

a. Category 'A'. The requirement for a network architecture, which includes support for international communications standards, encompassing a full range of products from basic terminals and micro-computers through to mainframes, including associated software and an interface to existing Sperry mainframes. These products will be used to replace existing equipment, for the new supply and manpower systems redevelopment projects and for other small, medium and large administrative computing systems.

b. Category 'B'. The requirements are for IBM compatible equipment for those areas with existing large investments in that architecture.

c. Category 'C'. The requirements are for stand-alone micro-computers and small office systems.

SSRP and MSRP will be procured under Category 'A' and the ODP acquisition will be procured under Category 'B'.

3. Justification for the Strategy. The Defence Computing Infrastructure Working Party (DCISWP) Report of October 1981 recommended that Defence should proceed towards cautious and phased decentralization of its administrative computing function conditional upon the following two principal caveats:

a. A standardized computing environment referred to as the Defence EDP Systems Integrated Network Environment (DESINE), was to be a prerequisite for effective decentralization.

b. Improved strategic planning of administrative computing development.

Following further study on standardization aspects, this policy was subsequently endorsed by the Department's Computing Services Policy Committee (CSPC) and the Defence Force Development Committee (DFDC) which emphasized the need for central control of computing standards and policy. The practicality of the approach was subsequently validated in visits to computer suppliers and users overseas. Subsequently, this original strategy was broadened to cover the particular IBM compatibility requirements of the previous Department of Defence Support, following its incorporation in Defence as ODP, and to accommodate the need for stand-alone micro-computers and small office systems. Against this background, the strategy is justified by the need to facilitate interconnection by reducing the number of suppliers and hence the variety of equipment. Advantages of the strategy include interoperability, lower cost through economies of scale, more efficient training and more effective maintenance and "back up" against equipment failure.

ADP Objectives

4. The strategic objective for administrative computing is to provide efficient computer based administrative systems at all levels of Defence Force and Departmental operations.

Corporate Plan

5. The Defence Force is dependent upon computer support to sustain a high level of preparedness and responsiveness in the implementation of Australian Defence Policy.

ADP Strategic Plan

6. The long-term strategy is transition to DESINE, while in the shorter term maintaining the viability of existing central systems and facilitating the implementation of user developed systems. The Defence Administrative Computing Strategic Plan (DACSP), including an executive summary, is contained in Enclosure 4A. The recent incorporation of ODP within Defence has prevented the inclusion of its strategy in the DACSP. Consequently, for the last time, ODP has issued its own strategic plan. The 1986/87 - 1988/89 ODP ADP Strategic Plan is to implement management information systems and systems supporting

the production process which are capable of furthering major production projects and the objectives of increasing commercialization for ODP establishments.

Post Implementation Review

7. Administrative computing systems are subject to review by Computing Services Division (CSD), Defence Internal Audit and the Auditor-General. Details of particular reviews are contained in later sections of this Submission.

System Proposals

8. As stated in the Introduction, the particular projects for implementation within the strategy are summarized separately.

Other Options Considered

9. The alternatives to functional decentralization considered were either to remain centralised or pursue organizational (single Service) decentralization. Neither of these alternatives, when analysed, are compatible with or capable of supporting the present and future needs of the integrated structure and operations of the Australian Defence Force (ADF). The alternative acquisition strategy is the current arrangement of separate, multi-tender action for each new equipment requirement. This would not produce the resource rationalization and cost benefits offered by the DESINE strategy.

Cost Effectiveness

10. Although the strategy incurs no specific cost in itself, it minimizes the number of costly conversions and also offers significant cost savings through economies of scale, more efficient training, maintenance and 'back-up' against equipment failure.

Technical Considerations

11. The DCISWP, the DESINE Implementation Study and overseas visit considered various technical issues. The major issue is the feasibility of compatibility and exchange of data in a distributed environment. The conclusion reached was that this would be impractical without the adoption of a common network architecture. Particularly, such a standard network architecture, IBM's Systems Network Architecture (SNA), is already the technical basis for the ODP strategy to provide a cost effective communications network for use throughout ODP.

Policy Constraints

12. There are no policy constraints on the acquisition strategy.

Action Plan

13. The plan is for issue of a Request For Tender (RFT) in October 1986, with contracts in place by December 1987.

Industrial Issues

14. The strategy of standardization through period contracts is not an industrial issue in itself and is not expected to create any industrial problems. Consultations with staff associations and a briefing of the Defence Consultative Council have already been undertaken to ensure continued industrial involvement in and awareness on the subject. Defence also has a long-standing involvement in industrial safety and occupational health matters relating to screen based equipment. Details of initiatives in these areas are covered in detail in Section (xii) of Volume II.

Australian Industry Participation

15. Australian industry will be favoured by normal Government procurement procedures. The computers being sought are essentially commercial machines which do not have characteristics that render their local manufacture specially desirable on Defence strategic grounds. Briefings have been given to local industry and joint arrangements between international and local manufacturers would be welcomed.

Proposed Method Of Acquisition

16. The strategy is for the establishment of up to three, five-year period contracts through an open tender process.

Consultation

17. Consultation on this strategy has been extensive. In the first instance the DCISWP consulted extensively with both private and public sectors in formulating the strategy. Subsequently, Defence undertook extensive consultation both at home and abroad. Volume II to this Submission lists those Government Departments, independent Australian consultants and overseas organizations and commercial concerns consulted.

Consequences Of Not Proceeding

18. Functional decentralization of Defence administrative computing will not be possible without the proposed acquisition strategy. Other options considered (paragraph 9), would not meet the needs of the Department of Defence and the ADF, as presently structured. Nor would they provide the resource economies of the proposed strategy.

Advanced Technology

19. The DCISWP Report, DESINE Study and the Overseas Visit Report all warned of the dangers of adopting the leading edge of computing technology. The prudent course was perceived to be in the adoption of only proven products and standards where these exist. Defence is firmly committed to that course.

SUMMARY OF THE SSRP ACQUISITION (VOLUME III)

Nature and Justification for the Proposal

20. Description of the Acquisition. SSRP has been established to provide redeveloped computer systems for the supply functions of the Navy, Army, RAAF and Defence Central. The supply functions are those Defence activities which deal with the acquisition, storage, movement, distribution, evacuation and disposal of material and the acquisition of services. SSRP proposes further automation and inter-Service compatibility of supply functions at four organizational levels:

a. Corporate Level. (Defence Central and Service Offices in Canberra).

b. Executive Level. (RAAF and Army Command Headquarters in Melbourne and Navy Command Headquarters in Sydney).

c. Depot Level. (20 stores depots located throughout Australia).

d. Base and Unit Level. (In excess of 100 bases and units located throughout Australia and overseas locations and 22 Naval ships).

In addition to the above, priority enhancements to improve the present Executive Level systems will be undertaken until redeveloped systems become available in the mid-1990s.

21. Justification for the Proposal. The justification of SSRP is based on the need to overcome deficiencies in the existing systems and computers and the requirement to develop essentially common systems. The preferred redevelopment option offers the potential for savings in development, support costs and operating compatibility.

Post Implementation Review

22. Numerous reviews have been conducted on systems to be subsumed by SSRP and on SSRP itself. The principal reviews were as follows:

a. the 1982 SSRP Business Review;

b. Auditor-General reviews of two, major, Army and RAAF systems;

c. Defence Internal Audit Reviews of four systems (Two Army, one RAAF and one Navy); and

d. the 1985 review of the Mini-computer Network.

System Proposals

23. SSRP systems are currently in the systems definition phase, but the proposed systems characteristics provide for:

a. supply requirements determination and prediction;

b. automated procurement;

c. stock control and distribution;

d. cataloguing;

e. supply and technical systems interface;

f. flexibility which provides responsiveness to changes in user requirements;

g. ability to function at an acceptable level after suffering damage or interruption to normal operations;

h. commonality, compatibility and interoperability between Services; and

i. security.

Other Options Considered

24. Thirteen supply systems redevelopment options, spanning conversion of existing systems, a variety of single-Service developments and redevelopment under central Defence management were considered by the 1982 SSRP Business Review Working Group. The present SSRP option was considered the most cost effective means to realize organizational goals.

Cost Effectiveness

25. In the absence of completed systems definition, detailed cost analyses have yet to be made. However, indicative cost benefit calculations estimated that the present approach would be considerably less expensive, in the long-term, than alternatives.

Technical Considerations

26. A complete evaluation of all technical risks, constraints and opportunities has not yet been undertaken for SSRP, but the major technical considerations associated with maximizing commonality between the three Services supply systems has been the subject of several studies. The results of these studies,

reinforced by considerable experience in running single-Service supply systems and progress towards a substantially common cataloguing system, support the technical feasibility of SSRP within DESINE. Interfaces with existing systems will be phased, starting with the site-by-site introduction of the Depot/Base system. Work on the necessary interface software is being undertaken as part of the systems definition tasks.

Policy Constraints

27. There are no known policy constraints on the introduction of SSRP.

Action Plan

28. The action plan is to introduce SSRP in two phases:

a. Phase 1. Develop and implement the Depot/Base system into Service installations on DESINE equipment between 1990 and 1993, introduce an interim Policy and Resource system into Defence Canberra and complete priority enhancements to current Executive Level systems.

b. Phase 2. Develop and implement the new Executive System and mature Policy and Resource System in the mid-1990s.

Industrial Issues

29. Apart from the general industrial issues covered in Volume II, specific issues relating to the introduction of SSRP will be discussed with staff associations concerned before system definition, design and development are finalized. Extensive consultations with staff associations have already been held in relation to the definition and development of the On-line Enquiry enhancement to existing systems.

Consultation

30. All necessary extra-departmental consultation with Government bodies such as the PSB and Department of Finance will be undertaken as the need is identified. Consultation with overseas defence logistics organizations facing similar systems development tasks is ongoing. External consultants will also be engaged, as necessary, for systems development work.

Consequences of Not Proceeding

31. If SSRP is not to proceed, the need for new hardware would remain. There would be considerable pressure to convert present single Service systems with very little improvement. Such systems would not provide necessary higher level support for an increasingly complex management enviornment, would lag behind the needs of single Service organizations at all levels and would

inhibit/prohibit development of the common logistics support systems required for modern Defence Force operations.

SUMMARY OF THE MSRP ACQUISITION (VOLUME IV)

Nature and Justification of the Proposal

32. Description of the Acquisition. The objective of MSRP is to provide a common approach to systems supporting the presently separate manpower systems of the three Services, the Service pay system, the civilian personnel system and the Department's organization and establishment systems.

33. Justification for the Proposal. MSRP is consistent with current policy on decentralization and justified on the basis of deficiencies in existing systems and computers.

Post Implementation Review

34. Numerous reviews have been conducted on systems to subsumed by MSRP. The principal reviews were as follows:

a. Auditor-General reviews of the major Army and RAAF manpower systems and the Navy interim pay system; and

b. Defence Internal Audit reviews of 11 Army, Navy, RAAF and Defence Central manpower, pay, establishments and married quarter allotment systems.

System Proposals

35. MSRP will incorporate:

a. improved personnel systems for Navy, Army and Air Force;

b. an enhanced Services pay system with a common data base;

c. a new personnel system for civilian staff; and

d. a revised organization and establishment system.

Other Options Considered

36. Four alternatives to MSRP were considered, ranging through retaining the present systems, single user rationalization, conversion of present systems with minimal enhancement and commercial redevelopment and facilities management. All were dismissed for reasons of either a lack of cost effectiveness or inconsistency with the policy of functional decentralization.

Cost Effectiveness

37. Preliminary estimates on MSRP suggest a net saving of manpower and other resources, but the main benefits relate to improved capabilities to meet needs.

Technical Considerations

38. Technical risks in implementing MSRP within DESINE are considered to be low, but these risks are dependent on resource allocation to the continued development of the Project.

Policy Constraints

39. There are no known policy constraints on the introduction of MSRP.

Action Plan

40. MSRP has three implementation phases:

a. Phase 1. Pre-DESINE enhancement of existing systems.

b. Phase 2. Introduction of DESINE equipment to units and establishments.

c. Phase 3. Introduction of central site systems.

Industrial Issues

41. The relevant staff association has been briefed on MSRP and industrial aspects of the project identified as a subject for further study. Approved Defence policy will be followed on employment and health issues raised by the implementation of MSRP.

Consultation

42. Informal discussions on MSRP have been held with a number of Commonwealth Government departments and authorities. Consultations are also intended with overseas defence organizations on developments in Service personnel and pay management.

Consequences of Not Proceeding

43. One of the options referred to in paragraph 36 would have to be adopted if present plans for MSRP do not proceed. To continue with current systems would make the likelihood of equipment failure and a disruption of payroll services an increasing probability with time. Single Service development would be very inefficient of manpower and equipment and would preclude any central planning of manpower and pay issues. Conversion without substantial enhancement would have the

consequences of attempting to manage 1980s manpower tasks with 1960s systems - essential user requirements could not be met adequately. Commercial redevelopment would be a high cost option in the long term with unacceptable security and control.

SUMMARY OF THE ODP ACQUISITION (VOLUME V)

Nature and Justification for the Proposal

44. Description of the Acquisition. ODP proposes the acquisition of additional computing capacity for its Manufacturing Computing Bureau. The planned acquisition involves the purchase of $M6.1 of replacement processors, additional mass storage devices and communications equipment.

45. Justification for the Proposal. The proposal is justified by the need to meet planned growth in manufacturing systems throughout a number of ODP establishments.

ADP Objectives

46. The ADP objectives of ODP are to support the development of a more efficient and commercially oriented Defence production capability.

Corporate Plan

47. Continuation of a process of commercialization of ODP establishments is the policy basis for the ODP Business Plan.

ADP Strategic Plan

48. The ADP Strategic Plan for ODP is based on dispersed processing facilities for management systems and a central bureau service. The continued success of this system is dependent upon the compatibility of hardware and software based on IBM standards.

Post Implementation Review

49. Apart from an internal, annual, cyclical review of systems, the only major review undertaken in recent years was one by the Auditor-General's Office, in 1984, into system controls and operations.

System Proposals

50. The ODP proposal covers financial accounting, management accounting, manufacture control, project management and various administrative systems.

Other Options Considered

51. Other options considered involved greater and lesser centralized systems, the use of bureau services and curtailed development of data systems. None of the first three options presents a better balance between costs and flexibility than the proposed course of development. Curtailed development would jeopardize the achievement of corporate objectives.

Cost Effectiveness

52. ODP is promoting cost effectiveness through the planned introduction of full cost recovery for its bureau services.

Technical Considerations

53. Technical considerations on the practicality and risks associated with this acquisition strategy have been the subject of a 1985 study by an external consultant and ODP staff.

Policy Constraints

54. The proposal is not restricted by any Government policy.

Action Plan

55. ODP plans to place orders for its acquisition shortly after the establishment of the DESINE contracts, with an implementation completion date of mid 1991.

Industrial Issues

56. Staff Associations have been advised of the proposed upgrade of the Manufacturing Computing Bureau.

Consultation

57. The Department of Local Government and Administrative Services has been consulted and supported the acquisition strategy.

Consequences of Not Proceeding

58. The majority of current projects using the Manufacturing Computing Bureau are classified as either essential or strategic to corporate objectives. The consequences of not proceeding would have a direct effect on the ability of ODP to discharge its principal tasks.

VOLUME II

ACQUISITION AND STANDARDIZATION STRATEGY OVERVIEW

References

(i) Nature of and Justification For the Strategy.

a. Description of the Strategy.

(1) This volume is concerned with the strategy for acquisition and standardization. Volumes III, IV and V address individual projects for pursuit within the strategy. — Volumes III, IV and V.

(2) The essence of the strategy is the establishment of up to three period contracts under which all Defence administrative computing requirements for hardware and software should be purchased over the next five years. The strategy is to establish period con-tracts taking into account the investment in current systems, and the need for standardization. Prime contractors will be sought in three areas, categorized as follows:

(a) Category 'A'. The requirements for a network architecture, which includes support for international communications standards, encompassing a full range of products from basic terminals and micro-computers through to mainframes, including associated software and an interface to existing Sperry mainframes. This area is expected to attract strong competition. These products will be used to replace existing equipment, for the new supply and manpower systems redevelopment projects and for other small, medium and large administrative computing systems.

(b) Category 'B'. The requirements are for IBM compatible equipment for those areas with existing large investments in that architecture. A wide range of products will be required, from basic terminals and micro-computers through to mainframes and associated software. There are at least four major firms who could bid.

References

(c) Category 'C'. The requirements are for stand-alone micro-computers and small office systems.

(3) The three initial major projects which will be acquired under the contract are fully described and justified in suceeding volumes of this Submission, as follows:

(a) Supply Systems Redevelopment Project (SSRP) - Category 'A'. (See Vol. III)

(b) Manpower Systems Redevelopment Project (MSRP) - Category 'A'. (See Vol. IV)

(c) Office of Defence Production (ODP) Acquisition Project - Category 'B'. (See Vol. V)

(4) Systems other than the above which may require hardware and software purchases under the three categories over the next five years have not been identified specifically in this Submission. As they arise, they will be funded, justified and approved in accordance with normal procedures, including referral to the JPCPA where appropriate.

b. Justification for the Strategy.

(1) Justification is based upon the recommendations of the Defence Computing Infrastructure Study Working Party (DCISWP) in its report dated October 1981; viz, that Defence should proceed towards cautious and phased decentralization of its administrative computing function, conditional upon certain caveats, particularly regarding strategic planning and standardization. In endorsing the DCISWP recommendations, the Department's Computing Services Policy Committee (CSPC) stressed the need for central control of a decentralized environment and for further study on standardization aspects.

DCISWP Executive Summary, page 13, paragraph 7.7. (Enclosure 1)

DCISWP Executive Summary, page 57, paragraph 36.1. (Enclosure 1).

(2) The main DCISWP caveat involved the establishment of a standardized computing environment, to be known as DESINE (Defence EDP Systems Inte-

DESINE Study pages 41-50. (Enclosure 2).

References

grated Network Environment). A further study, known as the DESINE Implementation Study, reported in June 1982. That study endorsed the DCISWP recommendations, emphasizing the essentiality of standards and control as 'a prerequisite for effective decentralization'.

(3) The other caveat concerned the need for improved strategic planning. The subject of strategic planning is covered at paragraph (iv) of this Submission. — DESINE Study, page 17, paragraph 3.1. (Enclosure 2)

(4) The recommendations of the DESINE Implementation Study were in turn endorsed by the CSPC and the Defence Force Development Committee (DFDC).

(5) Advantages inherent in DESINE include interoperability, lower cost, more efficient training and more effective maintenance and back-up against equipment failure. Validation of the practicality of this concept was subsequently sought by visiting and interviewing significant user organizations, both civil and military, as well as major computer suppliers in Europe, Japan and the US. The result was a qualified endorsement of the DESINE concept; the qualification largely relating to the already perceived need for strong central control. — DESINE Overseas Visit Report, (Vol 1), pages 7 & 8. (Enclosure 3).

(6) The reports of the DCISWP, the DESINE Implementation Study and the 1983 DESINE Overseas Visit constitute the principal references on current strategy for Defence Administrative Computing.

(7) Against this background, the acquisition strategy is justified by the need to:

(a) reduce the variety of different equipments and move towards standardization;

(b) facilitate compatibility, interoperability and control;

References

(c) simplify the acquisition process in a decentralized environment; and

(d) obtain the additional benefits which will accrue from the creation of the DESINE environment.

DCISWP Executive Summary, pages 47-50, paragraphs 12-20.3. (Enclosure 1)

(8) *Original strategy had been for the* establishment of one period contract to cover all administrative computing requirements. With incorporation of Department of Defence Support in the Department of Defence as ODP, the strategy was extended to a second period contract to accommodate ODP's commitment to IBM compatible hardware, software and network *architecture within its own establishments* and at the Manufacturing Computing Bureau.

1985 Department of Defence Administrative Computing Strategic Plan (DACSP), page 1, paragraph 3. (Enclosure 4A).

ODP ADP Strategic Plan, paragraph 302. (Enclosure 4B)

(9) Subsequently, the need for a third period contract for stand-alone micro-computers and small office systems was identified.

(ii) ADP Objectives. The Department of Defence strategic objective for administrative computing is to provide efficient computer based administrative systems at all levels of Defence Force and Departmental operations. It aims at making the technology available throughout the organization subject to cost-effectiveness and funding constraints.

1985 DACSP, page i, paragraphs 1-4.

(iii) Corporate Plan (Summary). The Department of Defence 'Corporate' Plan is, per se, the implementation of Australia's Defence Policy which comprises the three essential elements of:

a. the direct defence of the mainland and its maritime approaches,

b. *the maintenance of a commitment* to the US alliance through the ANZUS treaty, and

c. deterring attack by demonstrating that aggression would be too costly.

References

The Defence Force is dependent upon computer support to sustain a high level of preparedness and responsiveness in the pursuit of these goals. Military equipment must be maintained and personnel supported in a continuing state of readiness and this requires an interactive logistics network and an effective and efficient Defence production capability. The efficient management of manning levels and other non-personnel resources in a peace-time Defence Force also requires a sophisticated level of computer support.

(iv) ADP Strategic Plan (Summary).

a. The Department of Defence Administrative Computing Strategic Plan (DACSP) is based on a long and a short-term strategy. The long-term strategy is to facilitate transition to a standardized computing environment under DESINE. The short-term strategy is to: 1985 DACSP pages i - iv. (Enclosure 4A).

(1) maintain the viability of central computing systems,

(2) enhance the central systems within the bounds of limited funds and consistent with the policy of functional decentralisation and the migration to DESINE, and

(3) facilitate the introduction and effective implementation of user developed computing systems, again within the limits of available funds.

b. An Executive Summary is provided in the 1985 DACSP. DESINE strategy has been a prime feature of administrative computing strategic plans for several years and has been endorsed by the relevant authorities. As this proposal is central to the Strategic Plan, the two are mutually consistent.

c. The 1986/87 - 1988/89 ODP ADP Strategic Plan is to implement management information systems and systems supporting the production process which are capable of furthering major production projects and the objectives of increasing commercialization for ODP establishments.

References

(v) Post Implementation Review.

a. Outcome of Present System Reviews. The Department's Computing Services Division (CSD), on behalf of the CSPC, conducts an annual programme of computer system reviews in conjunction with user management. The 1985 DACSP summarizes the aims of these reviews and those aspects they examine specifically. The outcomes of these post implementation reviews and specific systems reviews by the Auditor General and Defence (Internal) Audit, are summarized in the relevant section (v) of Volumes III, IV and V of this Submission.

1985 DACSP, paragraphs 123-124. (Enclosure 4A)

Volumes III, IV and V.

(vi) System Proposals. Not applicable - see sub-paragraph (i) (3) of this Volume.

(vii) Other Options Considered.

a. Alternatives To Functional Decentralization. The DCISWP considered the following:

DCISWP Executive Summary, pages 10-12, paragraphs 4-6. (Enclosure 1)

(1) Remaining Centralized. The option to remain centralized was dismissed essentially because of the scale and difficulty of managing a large centralized organization, the resulting widespread user dissatisfaction with present arrangements and the trend to decentralization stemming from both technological development and user demand.

(2) Single Service Management. Single-Service management was seen as still heavily centralized and unworkable in the now functionally structured Department.

b. Alternative Acquisition Strategies. The DCISWP and subsequent studies concluded that standardization on proprietary or plug-compatible products was the only means of minimizing or avoiding the problems, cost and user service disruption associated with future systems conversion. The alternative was to remain with the current, unacceptable acquisition strategy of separate, multi-tender action for each new equipment requirement. The alternative to establishing period contracts would be to call for tenders

DCISWP Executive Summary pages 47-50 paragraphs 12-20.3 (Enclosure 1).

DESINE Study page 56-63, paragraphs 8.1-8.33. (Enclosure 2)

References

each time equipment is required. The latter arrangement has been discarded as it:

(1) is less efficient administratively; and — DESINE Overseas Visit Report (Vol 1), page 24, paragraph 10.4. (Enclosure 3)

(2) would not attract the supplier discounts expected through period contracts.

(viii) Cost Effectiveness.

a. The adoption of the DESINE concept incurs no specific cost in itself; tangible costs are related only to the costs of equipment purchases for specific systems. However, there are significant cost savings to be realized through economies of scale, more efficient training, maintenance and back-up against equipment failure. Additionally, the issue of a single RFT for the three categorized requirements avoids the added administrative cost of issuing multiple RFTs. — (Vols. III, IV & V).

b. The fiscal cost of not proceeding with this strategy can be judged by examination of the costs attributed to the conversion of the current Sperry computers - estimated at $M40 in resource expenditure alone. The DESINE concept inherent in this proposal seeks to minimize the number of conversions required in the future as the Defence computing base continues to expand. — DCISWP Executive Summary, pages 47-48, para. 13 (Enclosure 1)

c. Significant reductions in list prices for hardware and software will be realized through the establishment of period contracts.

(ix) Technical Considerations.

a. The DCISWP examined the question of 'The Future/Technological Trends', under the following headings: — DCISWP Executive Summary, pages 4-7. (Enclosure 1)

(1) The Management of Change.

(2) Command Relationships.

(3) Vulnerability.

(4) Technological Awareness.

		References
	b. Further, the DESINE Implementation Study considered the technical viability of the proposal.	DESINE Study pages 37-40, paragraphs 5.1-5.16 (Enclosure 2)
	c. A Computing Services Division Team visited overseas agencies, suppliers and users in March/April 1984 and sought technical advice on the feasibility of the DESINE concept. The views expressed are reflected in the Report of the Overseas Visit. Generally, the approach of functional decentralization was accepted as a sensible and even an inevitable trend, the success of which was dependent on central control, standardization and strategic planning. The DESINE concept was accepted as an essential prerequisite.	DESINE Overseas Visit Report (Vol 1), pages 7-8. (Enclosure 3)
	d. The question of compatibility between different equipment lies at the very heart of this strategy. The DESINE Implementation Study concluded that the exchange of data in a distributed environment would be impractical without the adoption of a common network architecture.	DESINE Study, page 20, paragraph 4.5. (Enclosure 2)
	e. ODP, in particular, has already decided upon a network architecture, its existing IBM Systems Networking Architecture (SNA), to cover all management systems communications between ODP establishments. It has developed a strategy, involving private consultants, for introducing office automation, over a three year period, based on SNA and an already identified framework of guidelines, standards and procedures for hardware, software, data retention and communications.	ODP ADP Strategic Plan, paragraphs 816, 826 & 832. (Enclosure 4B)
(x)	Policy Constraints. Government policy imposes no restriction upon the concept of DESINE. Period contracts are an accepted method of acquisition for computing equipment.	
(xi)	Action Plan. The significant issues regarding the action plan relate to the specific projects. Insofar as the acquisition and standardization strategy is concerned, the main points are the planned issue of a Request for Tender (RFT) in October 1986, with contracts in place by December 1987. External consultants have been engaged to review the RFT. The Action Plan for this strategy is broken down as follows:	(Vols. III, IV & V).

References

a. Indicative Plan. The indicative plan is detailed in the Department of Defence 1985 Administrative Computing Strategic Plan. — 1985 DACSP, Annex I. (Enclosure 4A).

b. Financial Considerations. Individual projects which use the period contract(s) will be funded, justified and approved in accordance with normal procedures, including reference to the JPCPA where appropriate. Over the five years of the contracts, expenditure is expected to be about $100m at 1985 prices.

(xii) Industrial Issues. The strategy of standardization through period contracts is not an industrial issue in itself and is not expected to create any industrial problems. Consultations with Public Service Unions will follow PSB guidelines. The ACOA has already been invited to participate in consideration of the hardware section of the RFT and the Defence Consultative Council (DCC) has been briefed on the long-term administrative computing strategy in Defence with special reference to DESINE. Those computer systems which are developed under DESINE will require consultation with relevant staff associations on an individual basis, as is presently the requirement under Defence Instruction (General) PERS 18-1. Updates to this instruction and a new instruction relating to union consultation on establishment changes, are currently in draft form. Matters of occupational health relating to screen base equipment (SBE) have also received considerable attention within Defence over recent years. A summary of SBE occupational health initiatives undertaken by Defence since 1982 is listed at Annex A. Studies in these areas have generated a number of Safety Instructions and Recommendations, all of which are currently still in draft form but have been enclosed to provide an indication of the direction being taken by Defence on the issue

FASCS letter OMS 85/24799 of 6 November 1985. (Enclosure 5)

Brief on Long Term Administrative Computing Strategies in Defence With Special Reference To DESINE for the Defence Consultative Council. (Enclosure 6)

DI(G) PERS 18-1. (Enclosure 7)

Draft revision of DI(G) PERS 18-1. (Enclosure 8)

Draft instruction on 'Consultation On Civilial Establishment Changes'. (Enclosure 9)

References

of SBE industrial safety and occupational health. Specific industrial aspects of SSRP, MSRP and ODP systems are covered in the project submissions at Volumes III, IV and V.

RSI Report - Acquisition of Defence Administrative Computers Referral to JPCPA - OHS Issues. (Annex A)

Draft Safety Instruction P-SI-105, 'Screen Based Equipment (SBE)'. (Enclosure 10)

Draft Safety Instruction P-SI-106 'Prevention and Management of Repetition Strain Injuries'. (Enclosure 11)

Safety Recommendation P-SR-501 'Eyesight Testing For Screen Based Equipment (SBE) Staff'. (Enclosure 12)

Safety Recommendation P-SR-502 'Checklist For SBE Workstations'. (Enclosure 13)

(xiii) Australian Industry Participation.

Local industry will be favoured by recently announced provisions for support of research and development and bounties on local production, by the purchasing preference accorded Australian/New Zealand content and by high technology offsets sought against any imported content over the relevant thresholds. However, the computers being sought are essentially standard commercial machines. They do not have charactaristics which render their local manufacture specially desirable on defence strategic grounds. Briefings have been given to individual suppliers and the Australian Computer Equipment Manufacturers Association.

References

Joint arrangements between international and local manufacturers appear to be favoured by some suppliers and would be welcomed by Defence.

(xiv) Proposed Method Of Acquisition. The strategy is for the establishment of up to three, five-year period contracts through an open tendering process, providing maximum opportunity for computer suppliers to participate. Use of period contracts simplifies Government purchases and is essential to the standardization strategy.

DOLGAS Purchasing Manual, paragraphs 10.1.1 & 13.5.1. (Enclosure 14)

(xv) Consultation. Consultation on this strategy has been extensive. In the first instance the DCISWP consulted extensively with both the private and public sectors in formulating the strategy. Subsequently, apart from consultation with Coordinating Authorities, two independent Australian consultants were asked to evaluate the DESINE concept. Additionally, an overseas visit was undertaken to investigate the approaches being taken in the administrative computing field by major foreign companies and organizations, and most recently, external consultants have been engaged to review the RFT before issue. There was widespread support for the DESINE concept from the individuals and organizations consulted. Defence discussed its proposed strategy fully with the relevant Departments in 1984 and a Cabinet Submission had been prepared seeking approval for the concept of standardization. The Prime Minister ruled that, since the submission dealt only with a concept, it need not be considered by Cabinet, providing the relevant Ministers were in agreement. Detailed comments appear in the References. The following is a list of Government Departments and private organizations consulted and countries visited for consultation with computer manufacturers and users, to date.

a. Government Departments.

(1) Department of Prime Minister and Cabinet.

(2) Department of Finance.

(3) Office of the Public Service Board

Extract of comments. (Enclosure 15)

(4) Department of Industry, Technology and Commerce.

DITAC Letter of 20 Sep 85. (Enclosure 16).

References

(5) Department of Local Government and Administrative Services (DOLGAS was consulted and gave oral agreement to the strategy).

b. Independent Australian Consultants.

(1) Dr P. Claringbold - Chief of Computing Research - CSIRO. — CSIRO Report (Enclosure 17).

(2) Professor C. Brookes - Head of Department of Information Systems - University of New South Wales. — UNSW Report (Enclosure 18).

(3) Mr R. C. Poole - Principal consultant, Bob Poole and Associates.

c. Overseas Organizations. — DESINE Overseas Visit Report (Vol 1), pages 5 & 6. (Enclosure 3).

(1) Japan.

(2) United Kingdom.

(3) France.

(4) United States of America.

The companies and firms visited in these countries are listed in the DESINE Overseas Visit Report.

(xvi) Consequences Of Not Proceeding. Functional decentralization of Defence administrative computing would not be possible without the proposed acquisition strategy. A decision to not proceed with the DESINE strategy would force the adoption of one of the undesirable alternative paths mapped out in the 'Other Options Considered' section (vii) of this Submission. The consequences to Defence of proceeding with these options would be as follows:

a. Remaining Centralized. Remaining centralized is essentially a theoretical option as the Department's size, diversity of operation and limited funding for large central systems have already forced a spontaneous and largely irreversible decentralization of computer resources. The widespread development of user developed systems to date would perpetuate with its attendant inefficiency in manpower usage, poor cost benefit and inability to network systems to share information resources. In summary, this option — DCISWP Executive Summary, pages 10-12, paragraph 4-6. (Enclosure 1)

References

would perpetuate an accelerating inefficiency in resource usage and a static level of data automation service to the ADF which is already in need of a more sophisiticated data automation service to support its operation.

b. Single Service Management. Reversion to single Service management of administrative computing would be the more likely evolution in a non-DESINE environment. Service Offices would probably still attempt to establish standard environment within their own organizations as they see the clear necessity to standardize to match computing support to their operational needs and to rationalize their cost benefits for computing funding. While this development could provide some improvement of single Service computer service, it would constitute an organizational regression in that it would not meet the needs of the present operational role of the ADF as an integrated force. Furthermore, the Services do not possess the technical manpower to manage large-scale systems and a reversion to total single Service Management would require manpower increases to an extent not necessary under the more economical functional control of large systems.

c. Alternative Acquisition Strategies. Abandonment of the DESINE acquisition strategy would, apart from prohibiting functional decentralization, have significant intrinsic penalties for Defence. Regardless of whether computing operations remained centralized or decentralized along organizational lines, the unaffordable cost in manpower, time, funds and user service disruption of repetitive major systems acquisitions and conversions would be revisited. Time, funds and manpower which could otherwise be spent on utilizing more advanced technology to the greater efficiency of the ADF. Particularly, the consequences of not proceding along an IBM compatible development path for areas such as ODP, would incur an equivalent degree of avoidable financial, manpower, training and service disruption penalties.

DCISWP Executive Summary pages 47-50 paragraphs 12-20.3 (Enclosure 1).

DESINE Study page 61-63, paras 8.25-8.33. (Enclosure 2)

References

(xvii) Advanced Technology.

a. The DCISWP Report emphasized severe penalties faced by organizations which adopted new technology before the establishment of firm engineering standards. As much of the leading edge of computing technology has and continues to develop ahead of any standards, the prudent course is to avoid following technological changes too closely and adopt only proven technology. — DCISWP Executive Summary pages 4-7. (Enclosure 1)

b. The subsequent DESINE Study examined the standardization concepts as they related to the specific technological issues of: — DESINE Study, pages 37-40. (Enclosure 2)

(1) hardware standardization,

(2) network architectures,

(3) packet-switched communications networks,

(4) communications networks for office machines, and

(5) distributed processing.

The DESINE report reaffirmed the dangers of adopting the 'leading edge' of technology in these areas, which has not been proven successful in independent customer installations. The Study also emphasized that the adoption of a prime contractor would significantly lessen the technological risks associated with networking and that DESINE standards would also facilitate the adoption of new technology.

c. All of the views on the matter of new technology were subsequently confirmed by the Overseas Visit Team which investigated the extent to which particular computing techniques (eg, distributed processing) had advanced throughout the world. — DESINE Overseas Visit Report, (Vol 1), pages 19-23. (Enclosure 3)

d. The use of commercial products constituting a network architecture, upon which the future Defence computing environment would be based, is normal

practice in both private and public sectors. Therefore, the DESINE strategy does not intrinsically involve the adoption of technology new to Australia.

VOLUME III

SUPPLY SYSTEMS REDEVELOPMENT PROJECT OVERVIEW

References

(i) Nature and Justification of the Proposal.

a. Background.

(1) The Supply Systems Redevelopment Project (SSRP) has been established to provide redeveloped computer systems for supply functions of Army, Navy, RAAF and Defence Central. The supply functions are those Defence activities which deal with:

(a) the acquisition, storage, movement distribution, evacuation and disposal of material (e.g. Weapon Systems, Transport, Equipment, Uniforms, etc); and

(b) the acquisition of services (e.g. Repair/Overhaul).

(2) There are more than 1.6 million categories of items of equipment in the Service inventories. These inventories are worth billions of dollars. Over 20,000 personnel (Service and civilian) are engaged in the management of the inventories and other supply functions at four organisational levels:

(a) Corporate Level. Defence Central and Service Offices in Canberra.

(b) Executive Level. RAAF and Army Commands in Melbourne and Navy Command in Sydney.

(c) Depot Level. 20 stores depots located in various places in Australia.

(d) Base and Unit Level. In excess of 100 bases and units

References

located in various places in Australia and overseas and 22 Naval ships.

(3) Currently, there are extensive computer systems employed to support supply functions at all of these levels. Three large Sperry mainframes (one dedicated and the other two shared with pay, personnel and other systems), 49 Perkin-Elmer minicomputers, 668 computer terminals and over 100 microcomputers are used for those systems. The minicomputers, which are located at Depot and Base Levels, are connected to Sperry mainframes in Canberra via an Australia-wide TELECOM communications network.

(4) In summary, the Supply Computer systems are one of the largest in Australia. They are an integral part of the Australian Defence Force (ADF). Their continuing operation is an essential requirement.

b. SSRP Objectives.

(1) A senior committee (one star and above), called the SSRP Business Review Working Group (BRWG) conducted a detailed examination of the supply systems in 1982 and concluded that there were major deficiencies in the systems and that their redevelopment is essential. SSRP was established after extensive reviews of the BRWG recommendations by senior Defence Committees. It has five basic objectives.

Business Review Working Group Report (Enclosure 19)

(a) Functionality. SSRP aims to overcome the deficiencies in the existing systems and computerise more supply functions which are manually intensive and costly at present. Noting that Service inventories contain more than

References

1.6m categories of items worth several billion dollars, there is considerable potential for improvements and financial savings.

(b) Commonality. The existing systems are single Service systems which are costly to maintain and operate. A key SSRP objective is to develop 'common' (i.e. tri-Service) systems, with unique-to-Service elements only where these are unavoidable for genuine differences in Service roles. The underlying supply activities are substantially similar for the different Services, eg procurement, receipts, issues etc. Common computer systems based on common supply policies, methods and procedures would be cheaper to develop, maintain and operate, than separate single Service systems.

(c) Compatibility and Interoperability. The supply systems at Service Offices, Commands, Depots and Base levels should be compatible with each other to ensure that data from one level is provided to another in an accurate and timely form. For example, consumption costing at Service Office level requires that data be provided from Depots, Bases and Commands in compatible forms. Such compatibility does not exist at present. Also, there is no interoperability betweem the Services. For example, Army personnel located close to a RAAF Base cannot use the RAAF supply system to raise a demand on the Army system. SSRP proposals are designed

References

to provide compatibility and interoperability which are essential for joint Service operations, flexibility, surge capacity and fast response in an emergency.

(d) Re-equipment. Given the long lead time, activities on the replacement of the ageing Perkin Elmer minicomputers on which the existing Depot and Base systems operate, and the Sperry mainframe computers of the Executive systems, needs to commence now so that the replacement can be completed by the early to mid 1990's. By then, most of these computers will be more than 15 years old and well past their design life.

(e) Cost Effectiveness. Several options for SSRP were considered and it was concluded that the most cost effective option was a Joint Service project under Defence Central management, as SSRP is currently structured. Section viii

c. SSRP Plan.

(1) The SSRP Plan is based within the framework of the above objectives and consists of four projects in two stages:

(a) Stage 1 - 1984 to 1993/4.

(1) Development of a Common Depot/Base system (with 'unique to Service' elements as appropriate) for Stores Depots (which manage wholesale stocks) and for Bases (which handle retail stocks);

(2) Development of an initial Policy and Resource system for Defence Central and

References

the Service Offices for the purpose of financial estimation, budgeting, management and control;

(3) Enhancements (i.e. improvements of the existing Executive systems of the Services to overcome costly deficiencies pending the development of a common Executive system in Stage 2.

(b) Stage 2 - 1987/88 to 1995/96.

(1) Development of a Common Executive Level system to serve RAAF Headquarters Support Command, Army Logistics Command and Navy Support Command.

(2) Development of a common Policy and Resource System based on experience gained from the initial development.

d. Present Status.

(1) The above SSRP plan together with estimated equipments, costs, manpower requirements mentioned below in paras e, f and g have been endorsed by senior Defence committees.

(2) Each of the SSRP projects mentioned in c.(1) is divided into a number of phases in accordance with the Defence standard systems development methodology, SPECTRUM. The three broad phases, System Definition, Design/ Programming and System Implementation are planned as shown at Enclosure 20, together with the project review points and milestones. At those review points, further endorsements will be sought as appropriate from Cabinet, Minister of Defence,

SSRP Proposed Schedule of Activity (Enclosure 20)

References

Defence Committees, PSB, Department of Finance and other agencies.

(3) The SSRP projects of Stage 1 are currently in the System Definition phase. The On-line Inquiry system of the Enhancements project is in the development and implementation phase. Equipment for this system (at a cost of $8.771m as indicated in the table below) has been acquired with Cabinet approval.

(4) A key task of the System Definition Phase is the assessment of the costs and benefits of each of the projects. These will be the major factors in the decision on the follow-on phases of system development and implementation and acquisition of equipment. However, for planning purposes, the proposed Schedule of Activity, Equipment Quantities, Estimated Project Costs, Manpower Requirements and Depot/Base Implementation Plan, are as at Enclosures 20, 21, 22, 23 and 24 respectively.

SSRP Proposed Schedule of Activity (Enclosure 20). Details of Equipment Configuration (Enclosure 21). Estimated Project Costs (Enclosure 22). Manpower Requirements (Enclosure 23). Depot/Base Implementation Plan (Enclosure 24).

e. Equipment.

As best as possible at this stage of SSRP planning, the estimated equipment quantities and their costs (at April 1985 prices) for the various sites are shown in Enclosure 21. These are summarised below:

Details of Equipment Configuration (Enclosure 21)

SYSTEM	CPU'S	DISC DRIVES	TERMINALS	LINE PRINTERS	CHARACTER PRINTERS	COST $m (April 1985 prices)
Stage 1						
Development						
Hardware/Software						1.3[illegible]
Depot/Base	86(minis)	155	[illegible]	64	917	[illegible]1.537
Policy and Resources	1	8	26	1	13	0.731
Enhancements	Sperry					
On-line Inquiry	Upgrade		[illegible]72		217	8.771
Stage 2						
Executive Development	3(main frames)	112	[illegible]85	4	191	[illegible].915
Policy & Resources	[illegible](minis)	[illegible]	[illegible]	4	[illegible]	[illegible]
					GRAND TOTAL	[illegible]6.270

References

f. Costs.

The estimated project costs (exclusive of manpower costs) are shown at Enclosure 22. The total cost of $133.979m is comprised as shown below:

Estimated Project Costs (Enclosure22)

April 1985 prices ($m)

	Approved		Endorsed FYDP	Post FYDP	Total
Facilities		.040	4.834	17.138	22.012
Training	.124	.047	.270	.055	0.496
Travel	.216	.184	1.305	1.280	2.985
Services		.090			0.090
Computers		9.794	15.747	50.360	75.901
Communications			1.646	.181	1.827
Ergonomic Furniture		.031	.248		0 279
Contractors		.100	4.389	25.900	30.389
	.340	10.286	28.439	94.914	133.979

g. Manpower.

(1) The estimates of the manpower required for system definition, system development, maintenance, user areas, etc are shown at Enclosure 23. These are summarised below:

Manpower Requirements (Enclosure 23)

Stage 1.	Manyears
Admin	122
Computer systems officers	394
Service Personnel	271
Contractors	55
	842

The average is about 84 staff over the 10 year period 1984-94 of Stage 1.

Stage 2.	
Admin	62
Computer systems officers	449
Service Personnel	238
Contractors	370
	1119

References

The average is about 120 staff over the ten year period 1987-96.

(2) In addition to the above requirements about 50 staff per year are required for the maintenance of the existing systems until these are replaced by the SSRP system. Also, 428 manyears for Stage 1 and 169 manyears for Stage 2 are required in the Service User areas for user requirements, data capture, system implementation, training etc.

(3) Except for contractors, the above manpower is planned to be provided from the existing departmental resources. As regards contractors, it is proposed that computer companies, as opposed to contract programmers, will be used for some parts of system development and other tasks which require specialist expertise.

h. Justification of the Proposal.

(1) The justification of the redevelopment of supply systems is based on four major factors. First, there are many deficiencies in the existing systems which are impacting on the efficient performance of the supply functions. Second, there is an urgent need to plan and commence the replacement of the ageing computers of the present systems. Third, the need to develop essentially common systems with potential for savings in development, support costs and operating compatibility. Fourth, Defence Corporate Objectives require supply systems to be redeveloped in the standard computing environment, DESINE, described in Volume II. Each of these factors have been investigated over the past three to four years and it has been concluded that re-equipment and

References

redevelopment of supply systems are essential.

(2) System Deficiencies. The BRWG review concluded (Enclosure 19) that there were major deficiencies in these systems for the present and future requirements. Broadly, the deficiencies identified were as follows: Business Review Working Group Report, Chapter 2, (Enclosure 19)

(a) Little system support existed for policy and resource management at Defence Central and Service Office level. Specifically, there was not the capability to support FYDP/budgetary processes, manage obligation/ expenditure, cost activities of force element groups and weapons systems, determine the inventory impact of supply/technical/operation decisions, or to monitor supply performance. Generally, the need for better quality management information, analytical capability and decision support systems was seen as essential because of the growing complexity and cost of Service inventories.

(b) Service Commands have responsibility for day-to-day management of supply support and Service-wide inventory control. Service-wide asset (i.e. stock) visibility for efficient and speedy access to the material was not available or was insufficient, depending on the Service, to effect economies by asset redistribution. Inadequate linkages with technical (i.e. engineering and maintenance) systems also inhibited a logistics approach to management of high cost

References

equipment spares, weapons systems management, maintenance, etc. Procurement activities are manpower intensive, and automated (i.e computer initiated) procurement of items was required to relieve pressure on manpower. Financial management support was inadequate and did not provide the ability to monitor obligation or forecast obligation/ expenditure. Management information generally did not meet changing organisational needs.

(c) Depot and Base Level systems did not provide adequate local asset visibility or information, management information, minor account maintenance, adequate provisioning support, or customer demand monitoring facilities.

(d) Inter-Service support was inadequate for Single Service Logistics Management (i.e. one Service to perform supply functions for some items for the other services) and mutual operational assistance between the Services.

The above and other deficiencies in the present supply systems are described in more detail in the BRWG Report.

Business Review Working Group Report and Annexes C,D,E, (Enclosure 19).

(3) Re-equipment. The Perkin Elmer minicomputers on which the present Depot and Base supply systems operate, are nearing the end of their design life. Several reviews (Enclosures 19 and 25) have concluded that serious difficulties are being experienced in the maintenance and operation of these minicomputers and that these

Business Review Working Group Report (Enclosure 19).

Report of the Supply Mini Computer Network Review Working Party (Enclosure 25).

References

computers must be replaced with new equipment by the early 1990's. By then most of these computers will be more than 15 years old, their maintenance will become too difficult and costly and there will be serious risks to Service operations. For technical and cost considerations, the existing software of the Depot and Base systems cannot be transferred to new equipment. A fresh redevelopment of these systems on new equipment is necessary. Problems similar to those of the minicomputers would be faced with the Sperry computers on which the present Executive systems operate, by the mid 1990's. A redevelopment of these systems is necessary, inter alia, to inter-operate with the new Depot/ Base system. There are long lead times involved in the redevelopment and implementation of the systems because of technical complexities of the systems and the large number of sites involved. Redevelopment was considered in the early 80's during conversion from Honeywell to Sperry but was postponed due to resource constraints. It cannot be deferred again.

(4) Security. The present supply systems use the TELECOM network for data communications between the mini computer sites and the Sperry mainframes. These arrangements are suitable for 'unclassified' supply data. The 'classified' data is at present being handled through special arrangements. Whilst these arrangements are satisfactory at present, it is planned that the security of the supply systems be enhanced by using the Defence communication network, DISCON. For these purposes, special hardware and software are required to be incorporated in the supply systems. This incorporation cannot be accomplished without a

References

redevelopment and re-equipment of the supply systems.

(5) Summary. The redevelopment of the systems to overcome their present deficiencies, the replacement of the computers, security enhancement and the implementation of the Defence policy and objectives of the standard computing environment, DESINE, must all coincide for technical and economic reasons.

(ii) ADP Objectives. The key SSRP objectives are summarised in Section(i)b . The departmental ADP objectives are referred to at Section (ii) of Volume II. — Volume II Section (ii)

(iii) Corporate Objectives (Summary). See Section (iii) to Volume II. — Volume II Section(iii)

(iv) ADP Strategic Plan (Summary). The Departmental Strategic Plan is referred to at Section (iv) Volume II. The broad elements of the SSRP Plan are shown at Enclosures 20 to 24. — Volume II Section(iv)

(v) Post Implementation Review (Summary). Several post implementation reviews of the existing Supply systems have been conducted. The major reviews are mentioned below:

a. SSRP Business Review Working Group in 1982. This Group consisted of the Chief of Supply, the Director-Generals of Supply of Army, Navy and RAAF, and representatives of Computing Services Division, Programs and Budget Division and Defence Internal Audit. — Business Review Working Group Report (Enclosure 19)

b. The reviews conducted by Computing Services Division are summarised at Annex B to this submission.

c. During the last five years, the Auditor General conducted the following reviews: — Reports of the Auditor-General 1981/82 pp 14-16 1983/84 pp 59/60 1984/85 p 45 (Enclosures 26, 27 and 28).

(1) The Army Stock Control Usage Based — Report of the Auditor-General 1982/83 pp 44-46 (Enclosure 29).

References

Army System (SCUBA) was audited at the Department's Computing Services Division, Canberra in March 1982.A further review was conducted in 1983.

(2) The RAAF Defence Supply Retail Minicomputer System (DSRMS) was reviewed over the specified period.

The results of these reviews are at Enclosures 26, 27, 28 and 29.

d. Defence Internal Audit conducted the following reviews:

(1) Principle Items Stock Control and Entitlement System (PISCES) (Army). — Defence Audits 23/82 and 37/82 (Enclosures 30 and 31).

(2) Stock Control Usage Based Army System Workshops Account (SCUBAWA). — Defence Audit 25/83 (Enclosure 32).

(3) RAAF Supply Depot System (RSDS). — Defence Audits 24/81, 1/83 and 45/85 (Enclosures 33, 34, 35).

(4) Navy Depot System (NAVDEP). — Defence Audit 34/83 (Enclosure 36).

The results of these reviews are at enclosures 30 to 36.

e. Review of the Minicomputer Network - 1985 (Enclosure 25). — (Enclosure 25)

These reviews have identified many deficiencies in the existing systems and have confirmed the urgency of the replacement of the ageing computers and the need for redevelopment of the supply systems.

(vi) System Proposal.

a. As mentioned in Section (i)d.(3) SSRP projects are currently in the System

References

Definition phase. The major output of this phase will be the identification of the user requirements, options for systems design, costs and benefits. The system proposals on the functions of the systems, hardware, software, operating environment, etc can only be formalised after the completion of this phase. However, a number of preparatory studies have been undertaken and broad functional characteristics of the systems mentioned in Section (i)c.(1) have been identified.

b. The system definitions are being undertaken within the framework of these studies, the future requirements stated by the Services at Annexes F, G and H of the BRWG Report, and the Concept and Scope papers for individual projects.

Business Review Working Group Report (Enclosure 19). Executive Level Systems Scope (Enclosure 38). Depot/Base Development Concept and Scope (Enclosure 37). Policy and Resource Scope (Enclosure 39).

c. Briefly, the proposed characteristics of the systems will provide for:

(1) Requirements Determination. Greater accuracy, flexibility and responsiveness in the processes by which material and financial requirements are estimated and managed. The systems will provide sophisticated modelling and simulation capabilities to take best advantage of available financial resources, ensure system performance within management variable parameters and provide the ability to assess the impact of decisions on funds allocations between Service operations and maintenance effort.

(2) Automated Procurement. A major redevelopment of the equipment procurement policies methods and procedures is planned. To support these, the systems would provide automated procurement (i.e. computer initiated) facilities. About 3000 staff (out of the 20,000 mentioned in Section (i)a.(2)) are engaged in procurement. With

References

automation, considerable savings are expected.

(3) Stock Control and Distribution. Improved asset visibility, issues and demands, etc would be provided for cost centre budgetting and stock funding.

(4) Cataloguing. Improvements would be made in the areas of catalogue amendment, comprehensive relationships of items to components, and equipment interchangeability/ substitution.

(5) Technical Interface. Automatic linkages (computer to computer) between supply and technical systems would be provided.

(6) Flexibility. Systems would be responsive to changes in user requirements.

(7) Survivability. Systems would be able to function at an acceptable level after suffering damage or interruption to normal operations.

(8) Commonality, Compatibility and Interoperability. As explained at Section (i)b.(1) these characteristics would be provided between the Services.

(9) Security. Security of supply systems would be enhanced.

d. The hardware/software aspects of the system proposal e.g. Data Base Schemes, Transaction Definitions, On-line Characteristics etc, are presently under study as part of the definition work. These would be determined on the basis of technical feasibility and cost effectiveness.

(vii) Other Options Considered.

a. Thirteen options were considered. These were derived from four basic courses of

References

action available:

(1) Retain the existing supply systems; carry out routine maintenance/ improvement of these systems. (This would overcome some of the minor deficiencies but not the major ones because of the constraints of information content and system design of the existing systems). — Business Review Working Group Chapter 7 (Enclosure 19)

(2) Convert the existing systems to new equipment without significant redevelopment. (This would overcome the problem of the replacement of the ageing computers but not the deficiencies in the systems).

(3) Redevelop the existing systems as single Service systems to overcome their deficiencies, and to achieve the replacement of the ageing computers. (This is too costly).

(4) Redevelop the existing systems with substantial 'common' elements and unique-to-Service elements where these are unavoidable.

b. The thirteen options were reduced to three after several studies described in Chapters 7 and 8 and Annex J of the BRWG Report,(Enclosure 19). — Business Review Working Group (Enclosure 19)

(v-ii) Cost Effectiveness.

a. Option C mentioned below was selected on the basis of cost and other advantages:

(1) Option A. - Conversion of the Existing Systems. This was estimated to cost $100m (June 1982 prices). However, the deficiencies of the existing systems would have remained.

(2) Option B. - Redevelopment as Single Service Systems. This was estimated to cost $339m (June 1982 prices) and was more expensive than Option C.

References

(3) Option C -Redevelopment to produce a common core system and essential unique-to-Service elements. This was estimated to cost $190m (June 1982 prices), would overcome the deficiencies of the existing systems, achieve all SSRP objectives and would provide savings to more than offset the extra cost of $90m compared to Option A.

b. As mentioned earlier, the Stage 1 projects are in the Systems Definition phase at present and a key task of this phase is to estimate the costs and benefits in accordance with Defence standard system development methodology, SPECTRUM. The costs given at Sections (i) e, f. and (viii) a, are best estimates possible at this stage and these must be treated as indicative only.

c. Following the completion of the System Definition phase, system proposals including their cost effectiveness will be considered by the Defence senior Committees and other approving authorities (e.g. Cabinet, Department of Finance)as appropriate. The equipment acquisitions and system development will be undertaken in accordance with the decisions of these committees and authorities.

d. It is noted, however, that a substantial part (more than $100m) of the costs of option C is related to the equipment for the replacement of the existing computers and the manpower requirements to transfer the existing supply systems to new equipment. These costs are unavoidable. The extra costs of Option C mentioned at (viii) a. (3) are expected to yield considerable savings on the rationale that common systems would be cheaper to develop, maintain and operate than the present three separate single Service systems. Also, common supply policies, methods and procedures would enable rationalisation of Service

References

inventories and supply functions e.g. procurement activities, cataloguing, etc.

e. The following savings have been estimated by some of the preparatory studies carried out to date:

(1) Enhancements. There are 31 enhancements proposed to the existing Executive systems. Two of these, the On-Line Inquiry System and a computer initiated equipment disposal facility for RAAF, have been progressed past the system definition phase and net savings of about $22m over the 10 year life of the systems have been estimated (after deducting the manpower, equipment used and other costs).

(2) Bar-Coding. A study on the of Bar-Coding equipment in the Depots and Bases has estimated a potential net saving of $39m over 10 years. Consultation with relevant users and staff associations will be conducted when the results of a more detailed examination are known.

(3) Indicative calculations covering only a narrow spectrum of supply activities of the Services that are basically manually supported (Executive level procurement, technical access to the supply data base and depot level automation) have indicated potential savings with SSRP of some $76m over 10 years in these areas alone.

(4) Considerable savings additional to those mentioned above are expected from the other enhancements of the existing Executive systems, computerisation of the presently manually intensive supply activities in the Depots and Bases and rationalisation of the supply policies, procedures, methods and service inventories. These savings and those mentioned in (1), (2) and

(3) above are being estimated and refined as part of the work on System definition.

(ix) Technical Considerations.

a. As mentioned at Section (vi).d the hardware/software aspects of SSRP proposals are under study at present. The appropriate evaluation of the technical risks and constraints are being undertaken as part of these studies.

b. The major technical considerations which have influenced the SSRP approach to-date are those related to the decision to proceed on the basis of common systems for the three services with unique-to-Service elements where these are unavoidable. This decision was made after several studies and extensive experience with the present supply systems. The conclusions drawn from these studies (summarised in BRWG Report Annex I) and experience are: Business Review Working Group (Enclosure 19)

(1) There is between 70 to 80% commonality of supply functions between the Services as explained at Annexes I and J of the BRWG Report, Enclosure 19.

(2) Presently, there is a successful substantially common cataloguing system being used by RAAF and Navy at the Executive Level. Army is proposing to use the same system from late 1986; and

(3) Navy and RAAF are using a substantially common system DSRMS, at the Base level successfully.

c. The system definition work conducted since the BRWG Report has confirmed that there is a much greater potential for common systems than those indicated in para b (2) and (3) above and that common systems are essential to provide compatibility and interoperability between the Services for joint Service

References

operations and other objectives.

d. Regarding compatibility between the new and existing equipment for transfer and inter-communication the proposed strategy, in broad terms, is to introduce new systems and new equipment in two stages mentioned at Section (i) c. (1). In Stage 1, the new Depot/Base system will be introduced progressively at different sites with the aid of a special interface between the new Depot/Base system and the existing Executive systems. The necessary enhancements of the Executive systems will be carried out (as part of the Enhancement Project) to accommodate the new features of the Depot/Base systems. The work on the interface and the enhancements is being undertaken as part of the System Definition tasks of Stage 1 projects. There are no technical difficulties identified to-date or expected.

e. The new Executive systems will be introduced in Stage 2 after all the new Depot/Base systems have been introduced and the existing Depot and Base systems in the Perkin-Elmer equipment have been replaced.

(x) Policy Constraints. This volume is concerned with supply applications system redevelopment. There are no known policy constraints applying to this area. Policy considerations relating to equipment acquisition are covered in Volume II.

Volume II

(xi) Action Plan.

a. The basis for the Action plan is the SPECTRUM Project management methodology which divides a project into three phases - systems definition, design/programming and implementation. Also taken into account are the Departmental and governmental lead times associated with project endorsement and funding approval, facilities planning and equipment acquisition test and acceptance. The overall strategic plan for SSRP development is at Enclosure 20.

SSRP Proposed Schedule of Activity (Enclosure 20). Estimated Project Cost (Enclosure 22). Manpower Requirements (Enclosure 23). Depot/Base Implementation Plan (Enclosure 24).

References

Supporting this overall plan are financial and manpower estimates at Enclosures 22 and 23 and the implementation plan at Enclosure 24.

b. Project development is divided into two stages. Stage 1 projects are currently being undertaken. The system methodologies used for definition of user requirements, system design, costs and benefits are:

(1) Depot/Base Project. Information Engineering (Aust) data modelling and procedure formation.

(2) Policy and Resource Project. Prototyping in accordance with SPECTRUM Manual 6 - Prototyping Life Cycle (SPECTRUM 2 Version) is the basis for management.

(3) Enhancements Project. Structured analysis within the context of the SPECTRUM Project management methodology.

c. The Navy, Army and RAAF are consulted through an interactive processs based on formal consultations, specialist joint committees and joint Project/Service meetings. The underlying concept is that conjoint participation and progressive agreement to proposals is undertaken during the systems definition phase and beyond. Defence Audit is represented on all SSRP Committees, and all SSRP proposals are referred to it.

d. Financial processes are in accordance with Departmental FYDP/budgetary procedures. Management arrangements for project review and endorsement, are that the Defence Supply EDP Steering Committee (DSESC) oversights the project with regular meetings, and the Computing Services Policy Committee (CSPC) and the Defence Force Development Committee (DFDC) review SSRP progress and financial arrangements at least annually.

e. Schedule of Activity. The planned

References

completion dates for the main activities shown in Enclosure 20 are below. The achievability of these dates is critically dependent on the availability of resources, particularly manpower. Currently, there are considerable shortfalls in the Computer Systems Officers (CSOs) available to the project due to a general shortage of CSOs in Defence. A number of steps are in train in Defence to recruit more CSOs and to train other staff to carry out some of the work normally undertaken by CSOs.

SSRP Proposed Schedule of Activity (Enclosure 20)

Stage 1.

Depot/Base - Proposal October 1986
- Design/Programming June, 1990
- Implementation December 1993

Policy/Resource (Initial) - Proposal June, 1986
- Design/Programming December, 1986
- Implementation June, 1987

Enhancements to the existing Executive systems (which is the third project of Stage 1) will be developed and implemented progressively after completion of their system definition and are scheduled to be completed by June 1990.

Stage 2.

New Executive - Proposal June, 1990
- Design/Programming December, 1994
- Implementation June 1995

Policy/Resource - Proposal June, 1991
- Design/Programming June, 1995

References

- Implementation
March, 1996

f. Implementation Plan. The implementation plan for the Depot/Base system is as at Enclosure 24. The detailed plans for the Enhancements and Policy and Resource Projects are under development at present. — Depot/Base Implementation Plan (Enclosure 24).

(xii) Industrial Issues.

a. Consultations with staff associations are proposed to be handled in accordance with Defence Instruction (General) Personnel 18-1 (Enclosure 5). Initial advice has been provided to Industrial Division (copy at Enclosure 40). Additional comments from the staff associations will be sought before system definition and system design and development are finalised. In this regard, extensive consultations with the associations have been held in relation to the On-line Inquiry system which has been defined and developed and is scheduled for implementation in mid 1986. As a result of these consultations (and PSB Guidelines), ergonomic furniture, eye-testing, environment testing, etc are being arranged. Also, the On-line Inquiry terminals were selected with the participation of the staff associations. — (Enclosure 5) (Enclosure 40)

b. Job impact studies on classifications and health, safety, etc aspects will be undertaken as part of system definition, design and development.

c. Users are involved in all SSR projects as members of SSRP teams, system proposal review groups, Defence Supply EDP Steering Group. All SSRP proposals are submitted to the users for comment and endorsement.

(xiii) Australian Industry Participation. Covered in Section (xiii) of Volume II.

(xiv) Proposed Method of Acquisition. Covered in Section (xiv) of Volume II.

(xv) Consultation. Consultation on DESINE strategy is covered in Volume II. PSB, Department of Finance and other authorities will be consulted as appropriate in the approval of the SSRP proposals, and External Consultant support will be sought to assist with system developments which require special expertise.

(xvi) Consequences of Not Proceeding. The consequences of not proceeding are that:

a. The supply systems will lag behind the Service organisations they serve. Service organizations are moving towards logistics and other approved management approaches, whereas existing supply systems are designed primarily to support supply functions. This situation will generate pressures for stand-alone systems, with attendant costs for hardware and other resources which SSRP is intended to pre-empt with a preferred solution in terms of cost benefit.

b. There will be pressures either to re-equip the existing Perkin-Elmer computers with new Perkin- Elmer equipment which will have to be acquired without open tenders or cease redevelopment and proceed to convert existing single Service systems to new hardware under DESINE without any improvements.

c. Urgently required enhancements at the Executive level already deferred during the Honeywell/Sperry conversion, and on which substantial effort has already been expended, would not be undertaken and their potential benefits will be lost.

d. Computer support for Policy and Resource areas, essential for an increasingly complex management environment, will not be provided.

e. A primary Defence Force requirement established in the Defence Force Capabilities 1981 paper, which noted

References

"that major expansion of the Defence Force would require the capability to utilize common computing systems and a family of compatible computers to ensure maximum flexibility surge capacity and fast response", could not be met.

f. Introduction of Defence standard computing environment, DESINE project, might be delayed with the consequential impact on other Defence computer projects which plan to use DESINE equipment.

(xii) Advanced Technology. Covered in Section (xvii) of Volume II .

VOLUME IV

MANPOWER SYSTEMS REDEVELOPMENT PROJECT OVERVIEW

References

(i) Nature of and Justification For the System.

a. Description of the System. The Manpower Systems Redevelopment Project (MSRP) was established with the aim of developing a common approach to the next generation of manpower systems, including computing support, using procedures to ensure compatibility between functional users. The manpower systems to be incorporated in the MSRP are those managed by the three Service Offices and the areas of Service Pay, Civilian Personnel and Organization and Establishments. The project is to be undertaken in three phases which will involve:

1985 DACSP page iii, paragraph 13. (Enclosure 4A)

(1) enhancement of present systems;

(2) introduction of a network linking terminals at units and establishments with the Central mainframe(s); and

MSRP Major Equipment Submission, pages 8, 9 & 10. (Enclosure 41)

(3) ultimately, replacement of the Central mainframe computer(s).

b. Justification for the System. Development of the MSRP system is justified, conceptually, as a direct application of the DFDC endorsed initiative to functionally decentralize Defence administrative computing. This aspect is itself justified in Volume II of this Submission. The principal references used in this volume of the Submission, are the MSRP Report (2nd Draft) and the MSRP Major Equipment Submission. In most instances, the latter document will be cited first to provide a summary reference, while the subsequent reference to the MSRP Report will provide considerably greater detail. The necessity for manpower systems to be redeveloped is caused by:

MSRP Report (2nd Draft), pages 1 & 2, paras 3-8. (Enclosure 42)

(1) unavoidable replacement of Perkin-Elmer and Sperry hardware owing to scheduled end of life of these systems;

References

(2) the limited capacity to modify current systems to provide the capabilities to take full advantage of computerized manpower management at all levels; and

(3) inefficiencies in current procedures and vulnerability to errors in the total Defence pay and personnel systems.

Under the current mode of operation, i.e. limited central site computing power and access, the Defence Force could not meet the additional requirements of a war-time or contingency surge situation. A major expansion of the Defence Force would require the capability to utilize common computing systems and a family of compatible computers to ensure maximum flexibility, surge capacity and fast response. New systems will need to be designed with the flexibility to expand easily if the need arises.

MSRP Major Equipment Submission, page 1, para 3. (Enclosure 41)

(ii) ADP Objectives. Not applicable to this system - covered in Section (ii) of Volume II.

Volume II

(iii) Corporate Plan (Summary). Not applicable to this system - covered in Section (iii) of Volume II.

Volume II

(iv) ADP Strategic Plan (Summary). Not applicable to this system - covered in Section (iv) of Volume II.

Volume II

(v) Post Implementation Review.

a. Manpower Systems To Be Subsumed By MSRP. The following current manpower and pay systems will be subsumed by MSRP:

(1) RAAF Manpower (AFMAN) - which includes both personnel and pay systems.

(2) Army Manpower (AMAN) - which also includes both personnel and pay systems.

(3) Navy Manpower (NMAN).

(4) Army Establishments (ARMESTABS).

(5) Services Overseas Salaries (SEROSSAL).

References

(6) RAAF Airmen's Evaluation Reporting (AFAERS).

(7) Navy Allotments and Married Quarters (NAVALMAQ).

(8) RAAF Officers' Personal Evaluation (SCOER).

(9) RAAF Personnel Management (AFPEMS).

(10) *Navy Personnel and Establishment* Management (NPEMS).

(11) Army Personnel Recording and Information Systems for Management (PRISM).

(12) Navy Interim Pay (NAVIMPS).

(13) Army Computer Support for CARO (ARMREC).

(14) Centralized Reserve Pay (CENRESPAY).

(15) Discharge Pay (DISPAY).

(16) Standard Personnel and Establishments Control (SPECS).

b. Outcome of Present System Reviews. The outcome of Post Implementation Reviews conducted by Computing Services Division staff on existing Manpower systems, is summarized at Annex *C* to this Submission. *Annex C.*

c. Manpower System Audits By The Auditor-General. Of the Manpower systems listed at sub-paragraph (v) a, the following have been audited by the Auditor-General in the last five years:

(1) AFMAN. The Auditor-General's Report of September 1984 concluded that "...AFMAN was meeting its pay processing role. However, as program documentation was *inadequate and as satisfactory* evidence of program testing was not available, Audit has reservations about the continued reliability and accuracy of the system." The Department "...considered that there were specific controls within AFMAN to recognize problems." Report of the Auditor-General - 1984/85, pp 21-25. (Enclosure 43)

Enclosure

(2) AMAN. The September 1983 Report of the Auditor-General concluded that the AMAN system was fulfilling its role and that its performance could be considered satisfactory. The report indicated some reservations in the areas of personnel data accuracy, system financial integrity and the level of contingency planning.

Report of the Auditor-General - 1983/84, pp 41-46. (Enclosure 44)

(3) NAVIMPS. In the conclusion of the March 1982 Auditor-General's Report on what was then titled the INPS system, the Office of the Auditor-General considered that "the level of accuracy, timeliness and reliability of the system and the considerable administrative effort involved in reconciliation give cause for concern. However, "...positive action has been taken by the Department to overcome the difficulties experienced with INPS in its first year of operation."

Report of the Auditor-General - 1981/82, pp 41-44. (Enclosure 45)

d. Manpower System Internal (Defence) Audits. The following Manpower systems have been subjected to Internal (Defence) Audit in the last five years:

(1) CENRESPAY. The 1982 Defence Audit Report of this system criticized its effectiveness and efficiency.

Defence Audit 24/82. (Enclosure 46)

(2) ARMREC. A Defence Audit Review of this system in 1982 recommended that firm lines of communication be established between the system and AMAN sooner than was planned.

Defence Audit 35/83. (Enclosure 47)

(3) DISPAY. A Defence Audit Review of this system in 1983 expressed concern that, although the system might be implemented on time, the quality of the final system could be threatened by programming slippages.

Defence Audit 23/83. (Enclosure 49)

(4) AMAN. The 1983 Defence Audit of the AMAN system concluded that, although adequate controls existed in most areas, controls over input transactions within DEFPAC were not always applied. Better

Defence Audit 20/83. (Enclosure 49)

References

liaison between major participants was recommended to enhance overall effectiveness of the system.

(5) SEROSSAL. A 1984 Defence Audit of this system concluded that controls and accounting procedures were in place and functioning satisfactorily. — Defence Audit 14/84. (Enclosure 50)

(6) INPS. Defence Audit of this system was mentioned in the Auditor-General's Report of March 1982 as described at sub-para v(f)(3) of this Submission. — Report of the Auditor-General - 1981/82, pp 43-44. (Enclosure 45)

(7) NPEMS. A 1983 Defence Audit raised doubts as to the effectiveness of the system and the extent to which it met the approved proposal. — Defence Audit 32/83. (Enclosure 51)

(8) SPECS. A 1984 Defence Audit concluded that this system was afflicted with an inaccurate data base and a general lack of user awareness. — Defence Audit 85/84. (Enclosure 52)

(9) AFMAN. A Defence Audit conducted in 1985 concluded that AFMAN did not comply with FR45A(3)(b)(ii). — Defence Audit 19/85. (Enclosure 53)

(10) NMAN. A Defence Audit of 1982 stated that the system was not fully effective and that a comprehensive review was required to assess overall system requirements and the future direction of the Navy Personnel System. — Defence Audit 5/83. (Enclosure 54)

(11) NAVALMAQ. This system was subject to Defence Audit in 1984. Although the application system was considered to have good controls and processing appeared adequate, the user's description of the system and the standard of specifying requirements to programmers were considered inadequate. — Defence Audit 88/84. (Enclosure 55)

e. Manpower System Status - Post Audit Reviews. The shortcomings highlighted by the audits have all been corrected by the Department, where appropriate. Certificates of accountability pursuant to FR45A (3) (b) (ii) have been issued for the relevant systems; eg AMAN, AFMAN.

References

(vi) System Proposals. The existing manpower and pay systems which are to be subsumed by MSRP are listed at paragraph (v)a. of this Volume. The status of the various Defence manpower systems varies considerably. Army and RAAF both have integrated Pay and Personnel systems, with a mini computer at Central Office level to assist with interactive use of personnel data extracted from the Sperry system. Navy has separate pay and personnel systems and Civil Personnel has an extremely limited personnel only system. The near term objectives are to improve Army (particularly Reserve) and Navy personnel systems, with corresponding pay enhancements, which include establishing a common pay data base. The Perkin-Elmer mini computer network, which supports all data traffic to and from Sperry for the RAAF and provides the input medium for Navy and Army, will be subject to replacement commencing 1987/88. Accordingly, alternative processing arrangements will be required. Migration to DESINE hardware from 1987/88 through to closure of Sperry in 1993 carries with it the need to examine, define, respecify and modify existing and proposed systems.

MSRP Major Equipment Submission, page 4, paras 13-17. (Enclosure 41)

MSRP Report (2nd Draft), Chapter 11. (Enclosure 42)

(vii) Other Options Considered. The following alternative approaches to redeveloping manpower systems were considered but rejected on the grounds that they either were not cost effective, did not allow for functional decentralization along the lines of Volume II to this Submission or increased system vulnerability to an unacceptable level:

MSRP Major Equipment Submission, pages 11 & 12. (Enclosure 41)

MSRP Report (2nd Draft), Chapter 8. (Enclosure 42)

a. Continue with current systems hardware and defer redevelopment work for the foreseeable future.

b. Proceed with single user development, with Service personnel systems providing an interface with Service Pay

c. Replace the Sperry mainframe hardware with DESINE equipment and convert existing systems with minimal enhancements.

d. Utilize commercial consulting organizations to develop systems and to implement and maintain them.

(viii) Cost Effectiveness. Preliminary estimates on the MSRP suggest a net saving of manpower and other resources. The principal advan-

1985 DACSP, page 21, paragraph 104.

		References
	tages are expected to flow from more responsive systems in such areas as shorter lead times, better management information and greater ability to meet unforeseen expansions.	(Enclosure 4A) MSRP Report, paragraph 13.8. (Enclosure 42)
(ix)	Technical Considerations. The technical risks inherent in the change over from one computer system to another are assessed as low when related to the experience gained by the Department during other system development and conversion projects (such as the Honeywell to Univac conversion). The risks will, however, increase if development timeframes are varied from those assessed or if manpower and financial resource allocations are reduced or deferred during the course of the project.	MSRP Major Equipment Submission, paras 39-41. (Enclosure 41) MSRP Report (2nd Draft), Chapter 15. (Enclosure 42)
(x)	Policy Constraints. The MSRP is being developed under a Departmental policy of functional decentralization within the context of a standardized administrative computing environment, as detailed in Volume II of this Submission.	Volume II
(xi)	Action Plan. The action plan for the MSRP allows for a phased approach to development with the final objective being the implementation of all manpower systems under the DESINE philosophy. The tasking to achieve the objective has been split into three phases, as follows: a. Enhance existing systems, mostly on Sperry equipment, to introduce as many improvements as possible prior to the scheduled introduction of DESINE. b. Introduce DESINE standard equipment at units and establishments with appropriate communications networks. c. Introduce DESINE standard hardware at the central site to replace Sperry equipment.	MSRP Major Equipment Submission, pages 15-18, paras 45-68. (Enclosure 41) MSRP Report (2nd Draft), Chapters 9-11. (Enclosure 42)
(xii)	Industrial Issues. There has only been limited contact with staff associations to date. The ACOA has been provided with a copy of the MSRP Working Party Report which documents the studies undertaken. In that Report, industrial relations has been identified as a subject for a separate study during development of the project. In accordance with normal Defence policy, staff savings generated by this project would lead	MSRP Report (2nd Draft) paragraph 16.16. (Enclosure 42) COMR Letter 769/85 of 26 Nov 85. (Enclosure 56)

References

to redeployment rather than retrenchment. Industrial health issues would be taken into account as part of the studies identified above. The need for upgraded standards of working environments has been recognized by the DACSP.

1985 DACSP page 22, paragraphs 107-109. (Enclosure 4A)

(xiii) Australian Industry Participation. Not applicable to this system - covered in Section (xiii) of Volume II.

(xiv) Proposed Method Of Acquisition. Not applicable to this system - covered in Section (xiv) of Volume II.

(xv) Consultation. The project is intended to meet the requirements of both Service and civilian managers. The Service requirements are unique and there are no organizations within Australia that perform relevant activities for comparison. The civilian activities do have counterparts in other Government departments. Consequently, informal discussions have taken place with the following departments and offices:

a. Public Service Board,

b. Finance,

c. Customs,

d. Resources and Energy,

e. Science,

f. Ombudsman,

g. Australian Audit Office, and

h. Aviation.

There is no documentation of the informal discussions held with these bodies; however, the minutes of an inter-departmental seminar conducted by the Public Service Board, at which Defence was represented, are enclosed. Consultations are also intended with authorities of the Defence organizations in the US, Canada and the UK to gain the benefits of developments in Service personnel and pay management in these countries.

PSB Minute 84/1514 of 22 Jan 86. (Enclosure 57)

References

(xvi) Consequences Of Not Proceeding. The consequences of not proceeding with the project in its proposed form are that one of the alternatives detailed at Section (vii) of this Volume, would need to be adopted. The consequences of these paths of action would be:

MSRP Report (2nd Draft) paragraphs 13.8 - 13.11 & 17.12 - 17.13. (Enclosure 42).

a. Continue with current systems hardware and defer redevelopment work for the foreseeable future. Some hardware is approaching its end of life in the next two years and will become increasingly unreliable with an increasing risk of failure. Equipment failure would prevent the provision of payroll services, particularly for variations and prevent the provision of amending and managing of entitlements and information services. The opportunity to achieve manpower savings in the manually operated sections of systems would be foregone and, indeed, would require increases in manpower support, particularly in civilian systems.

b. Proceed with single-user development, with Service personnel systems providing an interface with Service pay. This is the most expensive option and would require duplication of effort and some equipment. While providing the facilities required by users, it would forego the opportunities for rationalization and could lead to incompatibility between systems. This would make back-up more difficult and deny central authorities the opportunity to make best use of information for central planning, coordination and management systems.

c. Replace the Sperry mainframe hardware with DESINE equipment and convert existing systems with minimal enhancements. This option does not allow the improvement of systems to meet the requirements of the '80s and into the future. Present systems were designed in the '60s and are outdated. It would forego potential savings as in sub-paragraph a. above.

d. Utilize commercial consulting organizations to develop systems and to implement and maintain them. This option will not realize a hardware asset for Defence and would require long-term commitment of expenses for leasing equipment. While

References

initial costing indicate that this would be a feasible option, experience has shown that the cost of enhancements escalates rapidly. This option would present problems of security and control and would be unlikely to meet expansion requirements. It is doubtful whether a commercial organization could take on a project of this magnitude.

(xvii) Advanced Technology. Not applicable to this system - covered in Section (xvii) of Volume II to this Submission.

VOLUME V

OFFICE OF DEFENCE PRODUCTION ACQUISITION

References

(i) Nature of, and Justification for the Proposal

The Office of Defence Production proposes the acquisition of additional computing capacity in the Manufacturing Computing Bureau. This additional capacity is required to meet the planned growth in manufacturing systems across ODP establishments covering:

a. manufacturing control;
b. financial and management accounting;
c. project management; and
d. administration.

The Manufacturing Computing Bureau provides a service to meet the demand for:

a. major establishments for entry level capacity pending acquisition of their own facility and for supplementary capacity;
b. other establishments requiring a complete facility;
c. corporate systems;
d. systems development; and
e. focus of corporate networks.

Forecasts of the growth in demand on the Manufacturing Computing Bureau show that the equipment presently installed and on order will run out of capacity before December 1987. During 1987/88 therefore, additional capacity must be provided in the form of replacement processors, additional disc storage and further communications equipment, at an estimated cost of $4.1m in 1987/88. Subsequently, 1988/89 - $0.1m, 1989/90 - $0.7m and 1990/91 - $1.2m.

Review of the Proposed Upgrade of the Manufacturing Computing Bureau, paragraph 7.4 (Enclosure 5B)

The role of the Manufacturing Computing Bureau is central to the computing processing strategy of the Office of Defence Production. It provides interim and ongoing processing capability for establishments and for corporate systems. It will become the hub of the ODP computing network and the

ODP ADP Strategic Plan 1986/87-1988/89, paragraph 805 (Enclosure 4B)

References

repository for corporate information as well as providing the gateway to other Defence systems.

It provides a system development and technical support facility in support of ODP's policies of common application software and standard systems software.

The ongoing provision of responsive processing capacity is necessary to the implementation and operation of systems which play an increasingly vital role in the establishment of an economic, efficient and commercially viable defence production capability. These systems are making a contribution to the difficult task of managing ODP's factories and dockyards by providing:

ODP ADP Strategic Plan 1986/87-1988/89, paragraphs 602,603 (Enclosure 4B)

a. more timely and accurate information;

b. more complete and economic storage and retrieval of information;

c. improved financial and administrative control of operations;

d. improved technical control, performance and capability;

e. better production planning and scheduling;

f. improved delivery performance; and

g. better control of production quality.

(ii) ADP Objectives

The central task of ODP is the management of Government defence factories and dockyards with the goal of more commercial orientation and the injection of realistic market perspectives into planning and production. As part of the process of commercialisation modern computer based systems are being introduced. These systems are playing an increasingly

ODP ADP Strategic Plan 1986/87-1988/89, paragraph 601 (Enclosure 4B)

References

vital role in the establishment of an economic, efficient and commercially viable defence production capability.

(iii) Corporate Plan (Summary)

The continuation of the process of commercialisation of ODP establishments is a policy basis for the ODP Business Plan.

ODP Business Plan 1985/86, paragraph 1.2 (Enclosure 59)

Commercialisation includes the introduction of full costing and progressive extension of trust account financing to all establishments. It also requires the installation of modern computer based production control, inventory, project management and cost accounting systems in the establishments. Costing and trust account financing depend on computer based systems for effective and efficient operation.

The management information and manufacturing support systems being introduced throughout the production establishments will ultimately converge to encompass the concepts of Computer Integrated Manufacturing.

(iv) ADP Strategic Plan (Summary)

The Office of Defence Production ADP Strategic Plan 1986/87 - 1988/89 outlines the major systems directions and the computing infrastructure of the Office of Defence Production as well as detailing strategies and plans.

The Office of Defence Production has an approved processing strategy for management systems based on dispersed facilities in establishments and a central bureau. Integral to the approved processing strategy is a standard approach of compatible hardware, standard systems software and common applications software. The standard approach is based on an IBM orientation requiring adherence to strategy of full IBM compatibility in ODP computing acquisitions for establishment management information systems.

ODP ADP Strategic Plan 1986/87-1988/89, paragraphs 801-804 (Enclosure 4B)

References

The processing environment comprises the Manufacturing Computing Bureau, establishment in-house facilities, office management systems and a central office administrative facility.

An effective and efficient Manufacturing Computing Bureau is critical to the success of the computing processing strategy. It provides both interim and ongoing assistance to establishments, provides a facility for corporate systems and information and is the hub of the ODP wide communications network and a gateway to Defence systems of the future.

ODP ADP Strategic Plan 1986/87-1988/89, paragraph 805 (Enclosure 4B)

Several major establishments have acquired IBM compatible facilities for manufacturing management systems. A continuing programme of acquiring medium sized in-house facilities at major factories is proposed as well as small multi user systems for other establishments, provided each can be justified on economic and technical grounds.

ODP ADP Strategic Plan 1986/87-1988/89, paragraphs 810-815 (Enclosure 4B)

The processing environment provides for the requirements of financial, manufacturing management and administrative systems throughout the Office of Defence Production. The disposition of systems on computers is presented in detail in Annex 6 of the Strategic Plan together with an implementation timetable.

ODP ADP Strategic Plan 1986/87-1988/89, Annex 6, (Enclosure 4B)

(v) Post Implementation Review

As part of the annual planning cycle a review of systems achievements is carried out. Details of achievement against planned 1984/85 milestones for each establishment system is at Annex 5 to the ODP ADP Strategic Plan.

ODP ADP Strategic Plan 1986/87-1988/89, Annex 5, (Enclosure 4B)

References

An audit by the Auditor-General of general ADP controls and operations in the then Department of Defence Support was completed in late 1984. It focused on the adequacy of relevant internal controls as set down in the Public Service Board Guidelines on Internal Controls for ADP Systems and reviewed compliance with the Audit Act and Finance Regulations. In conclusion Audit noted that while the former Department of Defence Support was endeavouring to enhance its ADP planning, weaknesses in the planning and management of ADP development and in the acquisition of computer facilities over several years may have prevented it from ensuring that the most effective solutions to its ADP needs were obtained.

Report of the Auditor-General 1984/85 (Enclosure 60)

Steps taken to remedy areas of criticism since the creation of the Office of Defence Production include:

a. institution of a strengthened management infrastructure;

b. creation of a Policy and Planning Section in the Computing and Systems Branch;

c. improvement of procedures for preparation of the ADP Strategic Plan to ensure its integration with the Five Year Defence Program, Corporate Planning, financial estimates and human resource planning;

d. improvement of procedures for preparation of tender specifications, cost benefit analysis and tender evaluation;

e. improvement of deficiencies in systems and operational controls; and

f. remedial action to overcome shortcomings in computer operations and security.

References

(vi) System Proposals

The Manufacturing Computing Bureau supports the following systems in various factories and dockyards:

a. Financial Accounting: — ODP ADP Strategic Plan 1986/87-1988/89, paragraph 706 (Enclosure 4B)

(1) general ledger;
(2) accounts payable;
(3) fixed assets;
(4) forecasting and modelling;
(5) budgetting; and
(6) accounts receivable.

b. Management Accounting: — ODP ADP Strategic Plan 1986/87-1988/89, paragraph 706 (Enclosure 4B)

(1) job costing;
(2) standard costing; and
(3) project accounting.

c. Manufacturing Control: — ODP ADP Strategic Plan 1986/87-1988/89, paragraphs 707-709 (Enclosure 4B)

(1) inventory control;
(2) bill of material;
(3) material planning;
(4) master production scheduling;
(5) capacity planning;
(6) shop floor scheduling and control; and
(7) purchasing.

d. Project Management: — ODP ADP Strategic Plan 1986/87-1988/89, paragraph 711 (Enclosure 4B)

(1) activity scheduling;
(2) resource scheduling; and
(3) cost allocation.

e. Various Administrative Systems.

(vii) Other Options Considered

Alternative strategies for consideration in developing the computing environment in the Office of Defence Production include:

a. Greater Decentralisation

This strategy involves providing more processing capacity at factories and dockyards and

References

reduced capability at the Manufacturing Computing Bureau. This strategy is not as supportive of the common applications software, standard systems software and compatible hardware strategies that the present well balanced strategy provides which combines centralised and decentralised facilities linked in a network. Corporate systems and information policies are not readily catered for. It is also a more expensive option in terms of financial and staffing resources.

b. Greater Centralisation

Greater Centralisation involves increasing the capacity of the Manufacturing Computing Bureau and reducing the factory and dockyard facilities to nodes in a network with limited local processing capability. It is the least cost option through the benefits of scale and reduced software costs. While this option requires greater emphasis on contingency planning, it also provides more flexibility in responding to changing processing requirements which could result from Government initiatives.

c. External Bureau

External bureau processing, while it provides many of the benefits of centralisation, is a much more expensive option.

d. Curtailed Development

ADP systems are being developed in support of ODP corporate objectives. Curtailed development would jeopardise the achievement of those objectives.

References

(viii) Cost Effectiveness

The costs of acquiring the equipment to implement the proposed computing processing environment in the Office of Defence Production as follows ($'000):

ODP ADP Strategic Plan 1986/87-1988/89, paragraph 807 (Enclosure 4B)

1987/88	88/89	89/90	90/91
Manufacturing Computing Bureau			
4100	100	700	1200

In accordance with Department of Finance directives, users of the Manufacturing Computing Bureau are charged for the service. While this charging is currently notional, it is planned to move to full cost recovery over time. It is estimated that charging for services will generate revenues of approximately $1.7m p.a.

(ix) Technical Considerations

A review of the proposed upgrade of the Manufacturing Computing Bureau and associated ADP strategies was undertaken in 1985 by a consultant and a seconded officer from the Computing and Systems Branch in the Office of Defence Production. Conclusions relevant to this proposal are included in the Review of the Proposed Upgrade of the Manufacturing Computing Bureau.

Review of the Proposed Upgrade of the Manufacturing Computing Bureau, paragraphs 7.1 - 7.10 (Enclosure 5B)

(x) Policy Constraints

The proposal is within Government policy and is not restricted by it.

(xi) Action Plan

a. Prepare Request for Tenders, June 1986;

b. Issue Request for Tenders, October 1986;

References

c. Evaluate tenders, January 1987 - June 1987; and

d. Establish contracts, December 1987.

(xii) Industrial Issues

Staff associations have been advised of the proposed upgrade of the Manufacturing Computing Bureau.

ODP letter EDB 75/86 of 27 Feb 1986 (Enclosure 61). ODP letter EDB 75/86 to ASPSA of 27 Feb 86 (Enclosure 62).

(xiii) Australian Industry Participation

Covered in Section (xiii) of the Overview to the Strategy (Volume II).

(xiv) Proposed Method of Acquisition

Covered in Section (xiv) of the Overview to the Strategy (Volume II).

(xv) Consultation

The Department of Local Government and Administrative Services was consulted by the review team and was supportive of the approach.

(xvi) Consequences of not Proceeding

ODP ADP Strategic Plan 1986/87-1988/89, Annex 3b. (Enclosure 4B).

All defined systems in the Office of Defence Production, whether implemented, under development or proposed are allocated a priority category as follows:

Category A - Essential to corporate objectives;

Category B - Strategic to corporate objectives, for immediate attention;

Category C - Strategic to corporate objectives, for development as soon as possible within available resources;

Category D - Cost effective, for development within user's resources;

Category E - Development for research, pilot or exploratory projects, limited resources should be committed.

The majority of current projects using the Manufacturing Computing Bureau are defined as Category A or B.

(xvii) Advanced Technology

Covered in Section (xvii) of the Overview to the Strategy (Volume II).

A SUBMISSION TO
THE JOINT PARLIAMENTARY COMMITTEE OF PUBLIC ACCOUNTS
ON THE PROJECT 'DESINE' REQUEST FOR TENDER

GLOSSARY OF ACRONYMS

A	
ACOA	Australian Clerical Officers' Association
ADF	Australian Defence Force
ADP	Automated Data Processing
AFAERS	Air Force Airman Evaluation Reporting System
AFMAN	Air Force Manpower System
AFPEMS	Air Force Personnel and Establishments Management System
AMAN	Army Manpower System
APSA	Australian Public Service Association
ARMESTABS	Army Establishments System
ARMREC	Army Records System
ASPSA	Acting State Secretary Australian Public Service Association
B	
BRWG	Business Review Working Group (SSRP)
C	
CARO	Central Army Records Office
CENRESPAY	Central Reserve Pay System
COMR	Controller, Organization and Manpower Resources
CSD	Computing Services Division
CSIRO	Commonwealth Scientific Industrial Research Organization
CSO	Computing Systems Officer
CSPC	Computing Services Policy Committee
CPU	Central Processing Unit
D	
DACSP	Defence Administrative Computing Strategic Plan
DCC	Defence Consultative Council
DCISWP	Defence Computing Infrastructure Study Working Party
DESINE	Defence EDP Systems Integrated Network Environment
DFDC	Defence Force Development Committee
DI(G) PERS	Defence Instruction (General) Personnel
DISCON	Defence Integrated Secure Communications Network
DISPAY	Discharge Pay System
DITAC	Department of Industry, Trade and Commerce
DOLGAS	Department of Local Government and Administrative Services
DSESC	Defence Supply EDP Steering Committee
DSRMS	Defence Supply Retail Mini-computer System (RAAF)
E	
EDP	Electronic Data Processing
F	
FASCS	First Assistant Secretary Computing Services
FYDP	Five Year Defence Programme

C

GMSSR	General Manager Supply Systems Redevelopment

I

IBM	International Business Machines
INPS	Interim Navy Pay System

J

JPCPA	Joint Parliamentary Committee of Public Accounts

M

MSRP	Manpower Systems Redevelopment Project

N

NAVALMQ	Naval Allotments and Married Quarter System
NAVDEP	Navy Depot System
NAVIMPS	Navy Interim Pay System
NMAN	Navy Manpower System
NPEMS	Navy Personnel and Establishments Management System

O

ODP	Office of Defence Production
OHS	Occupational Health and Safety

P

PSB	Public Service Board
PRISM	Personnel Recording and Information System for Management (Army)
PISCES	Principal Items Stock Control Entitlements System

R

RFT	Request For Tender
RSI	Repetition Strain Injury
RSDS	RAAF Supply Depot System

S

SBE	Screen Based Equipment
SCOER	Officer Evaluation Reports Scoring System (RAAF)
SEROSSAL	Services Overseas Allowances System
SNA	System Network Architecture
SPECS	Standard Personnel and Establishment Control System
SPECTRUM	Proprietary systems development methodology used within Defence.
SSRP	Supply Systems Redevelopment Project
SCUBA	Stock Control Usage Based - Army
SCUBAWA	Stock Control Usage Based - Army Workshop Account

U

UNSW	University of New South Wales

APPENDIX 2

GUIDELINES FOR ADP ACQUISITION SUBMISSIONS

TO COMMITTEE - 21 MAY 1985

COMMONWEALTH OF AUSTRALIA
JOINT PARLIAMENTARY COMMITTEE OF PUBLIC ACCOUNTS

PARLIAMENT HOUSE
CANBERRA, A.C.T.
TEL 72 7455

Dear

INVOLVEMENT OF THE JOINT COMMITTEE OF PUBLIC ACCOUNTS IN THE ACQUISITION OF ADP FACILITIES

1. The Joint Committee of Public Accounts has been given a standing reference by Parliament to investigate and report on proposed major acquisitions of ADP facilities by the Commonwealth.

2. This instruction sets out the information requirements of, and procedures to be followed by, the Public Accounts Committee in discharging its duty to investigate and report on proposed acquisitions of ADP facilities by the Commonwealth.

3. The following motion was moved by the Leader of the House in the House of Representatives on 8 May 1985:

> (1) That, in accordance with paragraph 8 (1) (d) of the Public Accounts Committee Act 1951, this House refers to the Joint Committee of Public Accounts for investigation and report as necessary from time to time, the proposed acquisition of automatic data processing facilities by any Commonwealth department or authority of the Commonwealth staffed under the Public Service Act 1922; notification of intention of which is to be conveyed to the committee by the Minister responsible for the department or authority intending to acquire the facilities.
>
> (2) That this resolution will continue in force unless and until amended or rescinded by the Senate or the House of Representatives in this or a subsequent Parliament.
>
> (3) That a message be sent to the Senate acquainting it of the resolution and requesting its concurrence.

This motion was subsequently passed by both Houses of Parliament. A copy of the relevant extracts from Hansard is attached.

4. The motion reflects the Government's concern that major ADP acquisition proposals are often of such complexity and raise such important related issues that they cannot be dealt with adequately under the severe pressures imposed by the Budget timetable. It is intended that the Committee's scrutiny of ADP acquisition proposals will occur outside the annual budget process and will precede any Cabinet approval for the commencement of the tendering and acquisition process.

5. *Responsible Ministers are therefore invited to submit major ADP acquisition proposals to Cabinet for 'in principle' approval at the earliest opportunity and well in advance of any submission seeking commitment of funds.*

6. ADP acquisition proposals (as defined in Finance Circular 1984/7) will normally be referred to the Committee for examination and report where the purchase cost over three years of hardware, related software and specific site preparation; and/or the cost of leasing or renting the same over four years exceeds $5 million. Referrals to the Committee will be at the discretion of Cabinet.

7. The Committee will look to the proponent department/authority and other agencies currently involved in the ADP planning and acquisition process to demonstrate inter alia that the proposal makes good economic sense and will stand up to public scrutiny, that it is in accord with corporate and ADP strategic objectives and represents the most effective means of achieving these, that industrial relations and employment issues have been fully considered and that the proposal provides maximum benefit for Australia's industrial development.

8. Proponent departments/authorities should provide the Committee with three categories of documents; viz an Executive Summary, Proposal Overview Document and Supporting Documentation.

9. EXECUTIVE SUMMARY - a succinct statement of approximately 5 pages length which summarises in non-technical language the crucial information presented in the Proposal Overview Document.

10. PROPOSAL OVERVIEW DOCUMENT - this should provide description, explanation and argument of a more detailed nature. The document should specifically address issues under the following headings, and may include additional information as deemed necessary by the department/authority or as requested by the Committee. It is not the Committee's intention that information already contained in other documentation should be unnecessarily duplicated here. However, where the information requested under these headings is contained in supporting documentation and reports (eg the Strategic Plan), this should be clearly identified and cross-referenced.

(i) Nature of, and justification for the proposal - a description of the proposed acquisition, and a clear statement of the justification for the proposal in terms of its benefits and costs, including the specific needs which the proposal is intended to satisfy.

(ii) ADP objectives - an overview of approved ADP objectives together with their relationship to authorised departmental/authority objectives and work programmes.

(iii) Corporate Plan (Summary) - a statement of the corporate objectives and plans of the organisation with emphasis on management information systems which are planned or in operation.

(iv) ADP Strategic Plan (Summary) - a description of the present ADP facilities and the major systems operating on them. It should cover future plans, a risk analysis, contingency planning and the involvement of internal audit in the planning process. Comments from the Public Service Board on the ADP Strategic Plan should be included. Any significant differences between the ADP Strategic Plan and the acquisition now proposed should be highlighted.

(v) Post Implementation Review - the outcome of the review carried out on the present ADP systems. Relevant comments made by the Auditor-General and/or internal audit should also be included.

(vi) System proposals - details of the proposed systems that will run on the computing environment being acquired and how these relate to existing systems. This information should include a conceptual description of each system proposed.

(vii) Other options considered - a description of the alternative development strategies and acquisition options considered together with an explanation as to why other options have been eliminated.

(viii) Cost effectiveness - a cost analysis of each option with a detailed benefit/cost analysis of the most promising of these. (It is accepted that in some instances it may prove difficult to attribute definitive dollar amounts to qualitative or intangible benefits.)

(ix) Technical considerations - summary of technical issues including risks and constraints associated with each of the most promising options and how these have influenced the

selection of the preferred option. The question of the compatability of new and existing equipment in terms of both intercommunication and systems transfer should be addressed.

(x) Policy constraints - a statement on the extent to which Government policy considerations restrict or influence the determination of available options. Specific justification should be given for a recommended option where it appears to be in conflict with such policies.

(xi) Action Plan - a statement on the planning processes and systems methodologies to be used. This should detail the expected timetable for implementation together with staff required, including contracted staff or consultants, classifications and costs. It should also explain in detail the financial processes in relation to the annual budget.

(xii) Industrial issues - details should be provided of consultation arrangements with users and their staff associations on the proposal, and of industrial relations issues which have, or are expected, to arise. The results of a job impact study showing, inter alia, the effect the system is expected to have on staff levels and classifications and on occupational health and safety should also be included. The study should have been developed in consultation with the appropriate staff associations.

(xiii) Australian Industry Participation - an outline of the hardware, software and services that could be supplied by Australian industry with particular reference to offsets and government purchasing preference. If no such participation is thought possible, reasons should be given.

(xiv) Proposed Method of Acquisition - by public tender or Certificate of Exemption. If the latter is used the reasons should be stated and if they are commercially sensitive the Committee should be informed. A statement should also be made about the proposed method of acquisition, e.g. by lease, rent or outright purchase and justification given for the preferred option.

(xv) Consultation - a copy of any relevant comments submitted by the Public Service Board, Department of Finance, CSIRO, Department of Employment and Industrial Relations, Department of Local Government and Administrative Services and the Australian Audit Office, private consultants and staff associations.

(xvi) Consequence of not proceeding - an assessment of the consequences and risks incurred in the event that the proposal does not proceed.

(xvii) Advanced technology - an assessment of the extent to which the proposal involves the use of advanced technological facilities not yet in common use within the private sector and/or the public sector.

11. SUPPORTING DOCUMENTATION - departments/authorities should also include in their submission to the Committee copies of pertinent supporting documentation including:

- the most recent version of their ADP Strategic Plan
- the current Corporate Plan
- a Job Impact Study Report
- any independent consultant's reports on the proposal

12. It will be the Committee's policy to avoid delaying the tender and acquisition processes unduly. It is in the department's/authority's interests to ensure that it provides the Committee with the information outlined above as soon as possible so that the Committee's investigations are progressed in an orderly and timely manner.

13. It is expected that the head of the department or authority concerned will attend the Committee hearings to explain the need for the acquisition and their personal commitment to its success.

14. The Committee will make its recommendations in reports to Parliament from time to time. Should the Committee's report be completed and the Parliament not be sitting, alternative arrangements will be made to release the report. Changes to the Committee's requirements will be advised as appropriate.

15. Should you require clarification of any of these requests or wish to offer constructive comment on them, I would be pleased to discuss the matter with you.

M J Talberg
Secretary
21 May 1985

APPENDIX 3

JPCPA REQUEST FOR FURTHER INFORMATION TO THE
DEPARTMENT OF DEFENCE
13 MAY 1986

COMMONWEALTH OF AUSTRALIA
JOINT PARLIAMENTARY COMMITTEE OF PUBLIC ACCOUNTS

PARLIAMENT HOUSE
CANBERRA, A.C.T.
TEL. 72 7455
TELEX AA61689
FAX 727689

Mr F R Harvey
FAS Financial Services and Internal
Audit Division
Department of Defence
Campbell Park Offices
CANBERRA ACT

DEPARTMENT OF DEFENCE ADP ACQUISITION

Under the terms of its standing reference to report to the Parliament on proposed major acquisitions of ADP facilities by the Commonwealth, the Joint Committee of Public Accounts is presently reviewing your recent submission on Project DESINE and the three related procurements included therein. The Committee has scheduled a public hearing for Thursday, 5 June 1986. An invitation has been forwarded to your Secretary to attend these hearings (copy attached).

I am now writing to seek clarification and amplification on several points which have arisen from an intial review of the submission and subsequently through informal discussion with some of your officers. In particular, responses to the attached questions will greatly assist the Committee to reach conclusions upon which to base its report to the Parliament.

The Committee would also appreciate further detail on the process of approval leading up to this reference being made to the Committee. The Committee is raising this matter in relation to all future referrals directly with the Minister for Finance. However in the interim it requests your advice specifically on Cabinet submissions and decisions concerning this proposal and in particular, the terms of the Cabinet decision of 16 December 1985 which resulted in the referral of this proposal to the Committee. You will appreciate that the terms of any 'in principle' approval given by Cabinet in making such a reference will determine exactly what proposal or proposals the Committee is required to review.

In addition, this may be an appropriate opportunity for your Department to elaborate or reinforce the following matters:

- the precise timing envisaged for the initiation and conduct of procurement action (a table which summarises the timing of the major events and approvals envisaged for the establishment of contracts and subsequent project acquisitions would be helpful);

- the implications of this for the timing of the Committee's report to Parliament;
- the necessity or otherwise for further references to Cabinet and to this Committee at the time funds are requested for:
  - the SSRP, MSRP and ODP project acquisitions referred to in your submission;
  - any other projects or extensions of the above projects; and
- any other matter you may wish to clarify about the sequence and nature of the approvals which you expect to follow the Committee's report to Parliament.

It will assist the Committee's consideration of your proposal greatly if you could provide replies to the matters above as soon as possible. A reply to the attached questions is requested by Wednesday 21 May. If you require any further clarification of these requests please do not hesitate to contact myself or Dr Capp in the Secretariat.

M J Talberg
Secretary
13 May 1986

1) COST-EFFECTIVENESS

The absence of current cost analyses and detailed benefit/cost analyses for all of the proposed major procurements as specified in the criteria for submissions to the JPCPA is noted, although subsequent discussions with your officers have made it clear that in some areas these studies are still in train. Nonetheless, some of the information which is contained in the submission relating to procurements proposed for 1987 and beyond is based on cost data prior to 1984-85. In some other areas cost-effectiveness is not mentioned at all.

The Committee's enquiry will be facilitated by having your views on the issues and questions below:

a) The proposed use of DISCON to provide the communications required by the decentralised DESINE concept involves a point related to cost-effectiveness. Your submission states that a packet-switching capability will be a requirement and that DISCON, as it is presently being procured, does not include packet switching. The submission does not contain any cost provisions for upgrading DISCON to the required capability. Further the submission acknowledges that the vast majority of administrative computing involves unclassified material. Inasmuch as packet switching already exists in Telecom, which in fact is now used for Defence administrative computer communications, two questions arise:

i) What will be the cost and schedule factors in the DESINE Project if DISCON must be upgraded to provide the packet switching capability?

ii) How will the DISCON upgrade costs and thereafter the ongoing maintenance and operations outgoings compare in a cost-effectiveness analysis with the lease costs for existing Telecom facilities?

b) In the areas of the Supply and Manpower Systems redevelopments, much of the comparative cost data upon which the evaluations were based stemmed from studies performed as early as 1982. Recognising that significant variations in exchange rates and unit prices have occurred over recent years, and also the better appreciation of the detailed requirements which have emerged through ongoing studies:

i) What are the current cost-effectiveness positions of the various options considered for SSRP and MSRP, and how would they be affected by phased or partial approvals for expenditure (perhaps due to financial constraints) as envisaged by the submission in several places?

2) MANPOWER

The absence of the Job Impact Study Reports as specified in the criteria for submissions to the JPCPA is noted, although the documents did cover well the included aspects of occupational health and safety and consultations with staff associations about pending changes.

The background analyses of the DESINE concept persuasively present the conclusion that decentralisation inevitably requires greater numbers of staff, particularly technical computing staff, than does the equivalent capability operated centrally. Nonetheless these analyses also persuasively conclude that the overall improvements outweigh the effects of the strain on manpower resources.

Other sections of the submission acknowledge that for the present, at least, technical computing staff resources are already strained by a severe supply/demand mismatch. Finally, in other sections, the submission describes a scenario over the next several years in which the existing Defence Central computer systems will continue to be maintained and operated, and the existing mini-computer communications network will carry on to the end of their useful lives. It suggests that the first projects within the DESINE system will be implemented progressively using an overlapping schedule. While the plans to increase the use of uniformed staff in the area of ADP are noted, it is recognised that most of the technical computing staff needed for initial development and commissioning inevitably will be civilian.

These statements lead to several questions about manpower resources:

a) What detailed plans for staff utilisation have been prepared to show the total requirements for net new staff, especially as they will be phased over the buildup period? Can you provide these plans, or summaries of them, to the Committee?

b) Where shortfalls have been identified, what plans exist to make up the required differences through training, additional recruitment, transfers, etc.? What will be the timing of such actions, and how will they mesh with the proposed project implementation plans? What assurance can there be that the present staff shortages will not be materially aggravated, perhaps Service-wide?

c) In the case of the planned re-deployment of staff from the presently centralised operation to a future decentralised one, have consultations been held with the staff likely to be directly affected? Have such consultations led to the conclusion that no significant defections will ensue, thereby placing a further strain on a situation already said to be a difficult one?

3) ACQUISITION STRATEGY

a) The submission describes the proposed acquisition strategy as comprising three categories of 5-year period contracts. In respect of category 'A', that for procurement of DESINE-related projects, the statements describing your plan to adopt a standard network architecture seemed somewhat ambiguous. In some places the desired system was described as one which would be an 'international standard'. Other places seemed to emphasise the desirability of using only tried and proven technology. Further there were discussions of the need ultimately to embrace the so-called "Open Systems Interconnection" Finally, informal discussions with your officers suggested that the forthcoming request for tenders will permit any responsive offer but will ask proposing vendors to indicate their intentions for accommodating international standards as such might emerge in the future.

i) In light of this perceived ambiguity, could you please state directly your intended acquisition strategy for a standard network architecture in a way which will give confidence to the Committee that no subsequent, expensive conversion will have to be undertaken part way through the planned life of the DESINE regime?

ii) How may the Committee assure itself that any

category 'A' contract which may result will not preclude effective competition at the time of planned renewal?

iii) If the network architecture that is selected is to be 'standard', why cannot other suppliers participate? What is the need for a 5-year period contract with a single prime contractor only?

b) The proposed category 'C' of the procurement plans envisages a 5-year period contract for the acquisition of 'stand-alone micro-computers and small office systems'. The submission goes on to state that, "Subsequently, the need for a third [additional to those two for categories 'A' and 'B'] period contract ... was identified." From this the Committee would infer that a single contractor for category 'C' is contemplated, not a panel of contractors. This observation leads to two questions:

i) What is the justification for giving all the business of the largest Department of the Commonwealth to one vendor in an area which essentially involves what is becoming a commonplace item of ordinary business equipment produced by many suppliers, both Australian and foreign?

ii) What difficulties are involved in the continued use of the existing panel period contract (which involves several eligible and acceptable suppliers) for this class of supply?

APPENDIX 4

JPCPA REQUEST TO THE DEPARTMENT OF LOCAL GOVERNMENT AND ADMINISTRATIVE SERVICES - 14 MAY 1986

COMMONWEALTH OF AUSTRALIA
JOINT PARLIAMENTARY COMMITTEE OF PUBLIC ACCOUNTS

PARLIAMENT HOUSE
CANBERRA, A.C.T
TEL. 72 7455
TELEX AA61689
FAX 727689

First Assistant Secretary
Purchasing and Disposals Division
Department of Local Government
and Administrative Services
Administrative Building
PARKES ACT 2602

DEPARTMENT OF DEFENCE ADP ACQUISITION PROJECT DESINE AND RELATED PROCUREMENTS

Under the terms of its standing reference to report to the Parliament on proposed major acquisitions of ADP facilities by the Commonwealth, the Joint Committee of Public Accounts is presently reviewing a submission by the Department of Defence relating to project DESINE and three related procurements.

The Committee will be holding public hearings on Thursday, 5 June at 9.30 am in the House of Representatives Meeting Room No 1. The Committee requests the attendance of a representative from your Department at this hearing. Could you please advise the full name(s) and designation(s) of the officer(s) who will be attending.

I am enclosing copies of the Executive Summary and the four overview documents which have been provided by Defence. There are two or three issues which you might wish to review closely, so the Committee might have the benefit of your advice on these matters:

1) The Defence submission contemplates, among other things, awarding three five-year period contracts following initial tenders. Each contract would cover a separate category of supply and there would be a single prime contractor for each. All together it appears that several hundreds of millions of dollars of equipment and services would then be acquired using these three period contracts. Period contract A alone appears likely to involve more than $200 million. The Committee wisnes to assure

itself that such a mechanism is the most appropriate vehicle for a series of procurments of this type, and that such a course complies with stated policies of the Government? The Committee requests your advice on these matters.

2) Period Contract A would also result in the successful initial tenderer suppling systems and equipments that conform to a 'network architecture' which thereafter would form a standard for use in the Department far into the future. The Committee wishes to assure itself that such a course will not materially diminish the Commonwealth's ability to reap the ongoing benefits of competitive purchasing in subsequent years? Your comments are invited on this question.

3) Period Contract C proposes that a single prime contractor be charged with the ongoing supply of stand-alone mocro-computers and small office systems for five years. No specific requirement for any purchases in this category is identified in the submission. Would such an arrangement, not involving any particular 'deliverable', constitute a valid contract? Does it comply with existing purchasing policies? Given existing period contracts, which are currently in place, is the establishment of such a contract justified? Discussions with Defence officers suggest that, in the interests of standardisation, use of the Defence period contract will be mandatory for all Defence purchases in this category. Your comments are requested on these proposals.

There may be other issues that you wish to canvass, and if so I shall be pleased to arrange for other parts of the entire submission to be made available to you, although it is a weighty document, comprising 63 enclosures and more than 2000 pages in total.

I would be grateful if you would reply to this preliminary enquiry by Friday 23 June 1986.

M J Talberg
Secretary
14 May 1986

APPENDIX 5

JPCPA REQUEST TO THE PUBLIC SERVICE BOARD - 14 MAY 1986

COMMONWEALTH OF AUSTRALIA
JOINT PARLIAMENTARY COMMITTEE OF PUBLIC ACCOUNTS

PARLIAMENT HOUSE
CANBERRA, A.C.T
TEL. 72 7455
TELEX AA61689
FAX 727689

The Secretary
Public Service Board
McLachlan Offices
National Circuit
BARTON ACT 2600

Attention: Mr Warren Lang

DEPARTMENT OF DEFENCE ADP ACQUISITION PROJECT DESINE AND RELATED PROCUREMENTS

Under the terms of its standing reference to report to the Parliament on proposed major acquisitions of ADP facilities by the Commonwealth, the Joint Committee of Public Accounts is presently reviewing a submission by the Department of Defence relating to project DESINE and three related procurements.

The Committee will be holding public hearings on Thursday, 5 June at 9.30 am in the House of Representatives Meeting Room No 1. The Committee requests the attendance of a representative from your organisation at this hearing. Could you please advise the full name(s) and designation(s) of the officer(s) who will be attending.

I am enclosing copies of the Executive Summary and the four overview documents which have been provided by Defence. There are two or three issues which you might wish to review closely, so the Committee might have the benefit of your advice on these matters:

1) The Defence submission contemplates, among other things, the functional decentralisation of its administrative computing. That is, over time it contemplates devolving many of the computing activities in support of such areas as supply, technical services, manpower, pay and personnel record-keeping, etc., away from the day-to-day control hitherto strongly centralised at Defence Central. The submission explains at length the

ramifications of this strategy on the demand for increased numbers of technical computing staff. It concludes, however, that the ultimate benefits will outweigh the intitials staffing strains. If, as the submission implies, there is already a severe strain on the overall availability of qualified computer staff in the public service, the timing of such a shift might have an impact beyond the Defence Department. The Board's specific advice is requested on what action is being taken or planned to deal with the perservering difficulties with recruiting and retaining qualified computer personnel in Commonwealth Government employment given the existing classification and salary scales of CSO'S and the strong demand for computer personnel in private enterprise. What is the Board's attitude to the use of contract programmers to ease staff shortages?

2) A concomitant of the strategy of decentralisation proposed by Defence would be the need to transfer many of its existing Defence Central computing technical staff to other locations and organisations. If the availability of staff is as important to the success of the undertaking as it is said to be, the Committee would wish to satisfy itself that no significant deleterious effects will arise from the planned implementation due to industrial relations problems? For example, the PSB may recommend in view of the likely displacement and relocation of staff, that a formal agreement be negotiated with staff associations at an early stage setting out the precise conditions which would apply for staff relocation. The Board's views on this matter and others including occupational health and safety issues are invited. Your specific advice on the Board's attitude to requests by staff associations for the compulsory radiation testing of individual VDU'S is requested.

There may be other issues that you will wish to canvass, and if so I shall be pleased to arrange for other parts of the entire submission to be made available to you, although it is a weighty document, comprising 63 enclosures and more than 2000 pages in total.

I would be grateful if you would reply to this preliminary enquiry by Friday 23 May 1986.

M J Talberg
Secretary
14 May 1986

APPENDIX 6

SUPPLEMENTARY INFORMATION FROM THE DEPARTMENT OF DEFENCE
21 MAY 1986

DEPARTMENT OF DEFENCE

RUSSELL OFFICES
CANBERRA, A.C.T. 2600

IN REPLY QUOTE:

86/525

21 May 1986

Mr M.J. Talberg
Secretary
Joint Parliamentary Committee of
Public Accounts
Parliament House
CANBERRA ACT 2600

Dear Mr Talberg

PROPOSED COMPUTER ACQUISITION

Thank you for your letter of 13 May 1986 on JPCPA consideration of this Department's ADP acquisition strategy and projects.

I understand that you have arranged for the Chairman of the JPCPA to write to my Minister regarding the Cabinet submission and decision which resulted in reference of the Department of Defence's proposal for the acquisition of administrative computers to the JPCPA. I can however assure you that the submission to the JPCPA is completely consistent with the Government's decision. The answer to your other questions follow.

As requested, a table which summarises the planned timing of major events and approvals is at Annex A. For the time-table to be achieved the approval to proceed is required by the end of August 1986.

The procedures for reference to Cabinet and the JPCPA are set out in Finance Circular No. 1984/7 and Public Service Board Memorandum No. 81/1792. In essence, for proposals estimated to cost more than $M5 the procedures are that following in-principle approval by Cabinet and dependent upon a satisfactory report from the JPCPA, proposals will be funded in the budget context. Using SSRP as an example, this means that funding for various stages of that project will be sought progressively through budget Cabinets having regard to the JPCPA report. The same procedures apply to MSRP and the ODP acquisition.

Any other projects, or extensions of those referred to above, not identified in the current submission, will be expected to follow the Department's acquisition and standardisation strategy, and will be submitted to Cabinet (and to the JPCPA if recommended by Cabinet) in accordance with the prescribed procedures.

Annexes B to D contain responses to matters raised in the attachments to your letter.

F.R. HARVEY
First Assistant Secretary
Financial Services and Internal Audit Division

ANNEX A

PLANNED APPROVAL AND PROCUREMENT ACTION AS AT 21 MAY 86

Notes:

1. All projects and expenditures are subject to Defence approval and Government budgetary processes and procedures.

2. All expenditures are estimates and based on April 86 equipment prices and dollar values.

Apr 83	SSRP.	DFDC agreed to commence project.
May 84		Government agreement to the acquisition strategy proposed for DESINE.
Dec 85		Government agreement to referral to the JPCPA.
Jun 86		JPCPA DESINE hearing.
Jun 86	MSRP.	DFDC approval Phase 2 (Phase 1 nil procurement)
Aug 86		JPCPA Report on DESINE.
Oct 86	SSRP.	DFDC approval Depot/Base project.
Oct 86		Issue DESINE RFT.
FY 87/88		
May 87	SSRP.	Approval of funds in Budget context for Depot Base Development machine.($0.6M)
	MSRP.	Approval of funds in Budget context for Phase 2 Canberra development and sector equipment. ($2.8M)
	ODP.	Approval of funds in Budget context for Manufacturing Computing Bureau (MCB) and supporting equipment.($4.1M)
Dec 87		Establish DESINE Period Contracts.
Dec 87	SSRP.	Place order for Development machine Depot/Base system.
Dec 87	MSRP.	Place orders for Phase 2 requirements.
Dec 87	ODP	Place orders Manufacturing Computing Bureau(MCB) and supporting equipment.
Mar 88	SSRP.	Delivery of Development machine.
Mar 88	MSRP.	Delivery of Phase 2 Canberra development and sector equipment.
Mar 88	ODP.	Delivery of MCB and supporting equipment.
FY 88/89		
May 88	MSRP.	Approval of funds in Budget context for Phase 2 Melbourne sector, Pay Systems, Army Systems and base and sector equipment (part procurement). ($10.4M)
	ODP.	Approval of funds in Budget context for MCB supporting equipment.($0.1M)
Sep 88	ODP.	Place orders for MCB supporting equipment.
Oct 88	SSRP.	DFDC approval Executive project.

Dec 88	MSRP.	Delivery of Melbourne sector and Pay Systems and Army Systems equipment.
	ODP.	Delivery of MCB supporting equipment.
FY 88/89	MSRP.	Progressive deliveries of part procurement of base and sector equipment.

FY 89/90

May 89	SSRP.	Approval of funds in Budget context for three Depot/Base sites and Executive system development machine.($7.7M)
	MSRP.	Approval of funds in Budget context for base and sector equipment (balance of procurement). ($12.7M)
	ODP.	Approval of funds in Budget context for MCB supporting equipment.($0.7M)
Jul 89	SSRP.	Place orders for three sites Depot/Base system and Executive system development machine.
FY 89/90	SSRP.	Progressive deliveries three sites Depot/Base system and the Executive system development machine with the first delivery in Dec 89 operational in Jun 90.
	MSRP.	Progressive deliveries of base level and sector equipment continues.
Sep 89	ODP.	Place orders for MCB supporting equipment.
Oct 89	SSRP.	DFDC approval of Policy and Resources project.
Dec 89	ODP.	Delivery of MCB supporting equipment.
Mar 90	MSRP.	DFDC approval of Phase 3.(Canberra Central System)

FY 90/91

May 90	SSRP.	Approval of funds in Budget context for 20 Depot Base sites and Policy and Resources development machine.($8.5M)
	MSRP.	Approval of funds in Budget context for Phase 3 Canberra Central System (part procurement) ($6.1M).
	ODP.	Approval of funds for MCB processor upgrade and supporting equipment.($1.2M)
Jul 90	SSRP.	Place orders for 20 sites Depot Base system and Policy and Resources development machine.
Sep 90	ODP.	Place orders for MCB processor upgrade and supporting equipment.
Dec 90	MSRP.	Place orders for Phase 3 Canberra Central System
	ODP.	Delivery of MCB processor upgrade and supporting equipment.
FY 90/91	SSRP.	Progressive deliveries of 20 sites Depot/Base system with the delivery of the Policy and Resources development machine in Dec 90.
	MSRP.	Progressive delivery of base level and sector equipment continues and concludes Dec 90.
Apr 91	MSRP.	Delivery of Phase 3 Central system.

FY 91/92		
May 91	SSRP.	Approval of funds in Budget context for 33 sites Depot/Base system.($7.6M)
	MSRP.	Approval of funds in Budget context for balance of procurement of Phase 3 Central System.($3.9M)
Jul 91	SSRP.	Place orders for 33 sites Depot/Base system.
Dec 91	MSRP.	MSRP fully implemented and operational.
FY 91/92	SSRP.	Progressive deliveries of 33 sites Depot/Base system.
FY 92/93		
May 92	SSRP.	Approval of funds in Budget context for 14 Depot /Base sites.($3.1M)
Jul 92	SSRP.	Place orders for 14 sites Depot/Base system.
FY 92/93	SSRP.	Progressive deliveries of 14 sites Depot/Base system(To Dec 92 only).

ANNEX B

COST-EFFECTIVENESS

DISCON Issues (Question 1(a))

1. Some clarification of the current relationship between DESINE and DISCON is appropriate, the numerous references to the latter in the JPCPA Submission Enclosures having been made over a considerable span of time. An understanding of the current situation may be obtained from paragraphs 74 and 75 of the 1985 Defence Administrative Computing Strategic Plan (DACSP) (Enclosure 4A to the JPCPA Submission) which state:

> "Present indications are that in the long-term most data communications needs for administrative computing will be provided via the Defence Strategic Communications Network. The key element of this network is the planned and approved Defence Integrated Secure Communications Network (DISCON) which will be introduced progressively between 1986" (now 1987) "and 1990. The initial DISCON implementation will provide non-switched data communications services. The provision of packet switching services for classified and non-classified data communications is planned as a further development."
>
> "The move from the existing situation to reliance upon the Defence Strategic Communications Network will involve various transition arrangements, each with different combinations of TELECOM (possibly both Digital Data Service and Austpac) and Defence owned facilities. The precise nature of these arrangements will evolve as planning for DESINE, SSRP, MSRP, DISCON and related projects progresses."

2. Defence Strategic Communications Network (DSCN) plans cover requirements for secure and non-secure data communications. As its title suggests, the Defence Integrated Secure Communications Network (DISCON) Project covers requirements for secure communications. Planning for both non-secure and secure (DISCON) elements of DSCN to incorporate packet switching is proceeding on the basis that it is a cost-effective network solution.

3. A recent classified report on Defence data communications options identified six options for Defence data traffic. An unclassified diagram of these options, derived from that report, is attached as Appendix 1. Decisions on which options will be used for particular systems under DESINE will be made as detailed requirements for these systems are specified. Those decisions will be based on various factors, including national security requirements, network capacity and cost-effectiveness.

4. On the basis of the above, while the strategy remains the transition to the Defence Strategic Communications Network in the long-term, it is not possible to answer the specific questions raised at this stage other than to confirm that cost and scheduling factors for systems developed under DESINE will be considered against communications and security needs of specific applications.

SSRP Cost Effectiveness (Question 1(b))

5 The JPCPA submission (Volume 3, Section viii) provides information on cost effectiveness related to the selection of the approach to be adopted to SSRP development. Since hardware costs against each of the options are more or less equal, relativity over time for the remaining costs will be proportional to the programming effort involved. Cost savings in dollar terms must increase over time for the two development options (B & C) in comparison with the conversion option (A). The costs of the SSRP options at April 1986 prices are as follows:

(Prices) $M	June 1982	April 1986
Option A	100	121
Option B	339	395
Option C	190	229

6 Appendix 2 provides details, together with the current project cost estimate ($M236.00). The current estimate includes real increases for additional sites for implementation of SSRP systems and communication requirements for DISCON (total additional cost $M5 700) which were not forecast in 1982. The estimates for Options A, B and C above do not reflect these additional requirements, but their inclusion would result in a uniform dollar increase across all options. Based on cost updating from June 1982 to April 1986, Option C would still be the preferred option.

7. While the JPCPA Submission provided costs at June 1982 prices, this was only for comparison purposes. Equipment and other costs have been progressively updated since selection of Option C (Volume 3, Section viii) in accordance with Departmental financial requirements. The estimates provided at Enclosure 22 to the submission are at April 1986 prices and will be reviewed annually, or at the time that firm equipment requirements are established as a basis for procurement.

8. The intention is to seek total financial approval at the completion of systems definition for each sub-project. This will involve seeking Departmental approval, endorsement by various committees, and inclusion of requirements in the annual budget submission to Cabinet. Departmental review prior to endorsement includes consideration of Defence-wide priorities and financial guidance. If financial constraints occur, then the

severity in terms of project impact would need to be assessed and project replanning undertaken. Potential impact under such circumstances could be the following:

a The timing of the Depot Base system is predicated on and constrained by the need to replace Perkin Elmer equipment and introduce the system into some 118 land sites by December 1993. To achieve this timing, resource inputs and/or functionality may need to be varied, and significant constraints on resources as well as time could well dictate reduced functionality for initial implementation.

b The Executive Project has already been extended because of manpower constraints. Constraints in equipment acquisition related to development or production equipment could result in further extension.

9. The Department's review of each project at least annually, and at the completion of systems definition, for each element of SSRP will consider the impact of financial constraints. If project replanning is required, then it will be undertaken after close review and balancing of priorities.

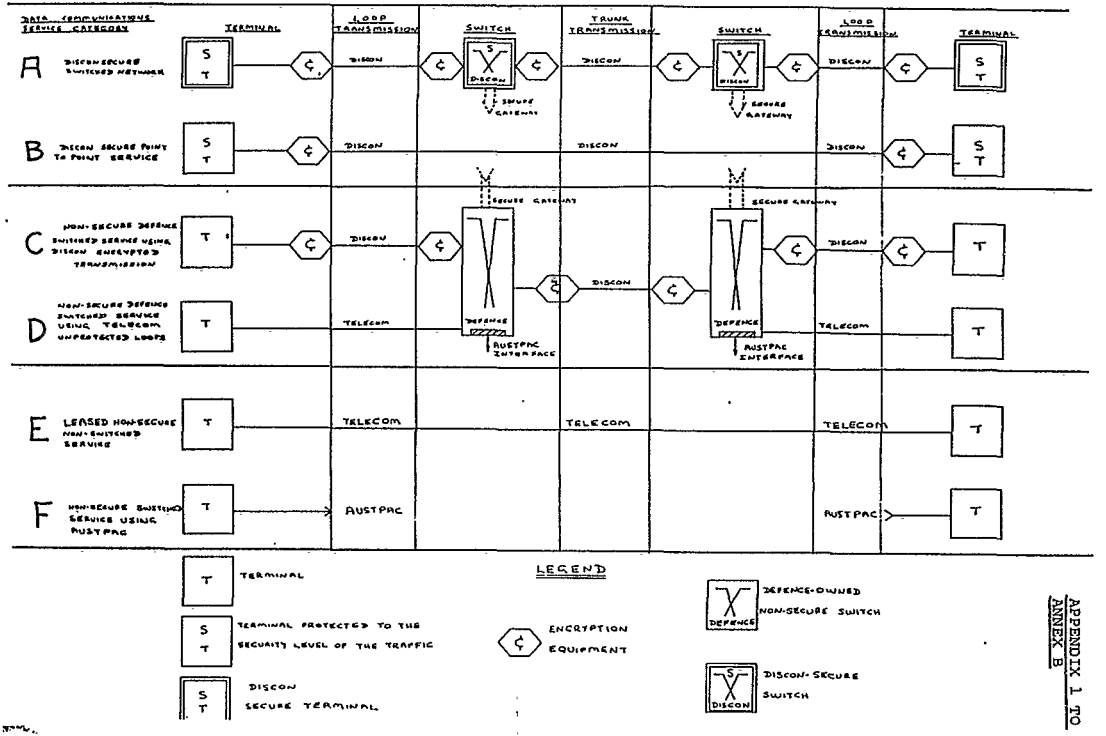
MSRP Cost Effectiveness (Question 1(b))

10 Comparative cost data upon which MSRP evaluations were made were collated in February 1985. The costs of the various options have been updated to December 1985 prices in the attached table at Appendix 3. Only one option (4A) is less costly than the preferred option. However, as explained in paragraph 8.22 of the MSRP Working Group Report, this option was not considered to meet the requirements of the project.

11. The current cost-effectiveness positions will not be affected by phased or partial approvals for expenditure. There are three phases to MSRP. In the first phase, enhancements will be made to existing systems. This work will be undertaken with existing resources. Phase 2 involves expenditure on the network required for MSRP and is the subject for major variations between the options - this phase requires early approval. Phase 3 is common to all feasible solutions and will not affect relative cost effectiveness.

12. The hardware solution offered in Option 4B is indicative only at this stage of project development. It is a feasible solution justified on cost-effectiveness arguments. However, studies are continuing and a firm hardware solution is still to be determined. It can be stated that the final hardware solution will be at least as cost-effective as that recommended in the report.

DEFENCE DATA COMMUNICATIONS OPTIONS



13. Slippage in Phase 2 will delay realization of manpower savings to be made but slippage of Phase 3 will cause major diseconomies only as reliability of equipment degrades.

Appendices:

1. Defence Data Communications Options.

2. SSRP - Project Cost Comparison

3. MSRP - Project Cost Comparison.

COST COMPARISON - SSRP $M (1)

ITEM	SINGLE SERVICE CONVERSION (OPTION A) (2)				SINGLE SERVICE REDEVELOPMENT (OPTION B)		JOINT SERVICE REDEVELOPMENT (OPTION C)		DFDC ENDORSED Plan-Feb
	CENTRALISED		DECENTRALISED						
	1982	1986	1982	1986	1982	1986	1982	1986	1986
Hardware	42.576	60.884	50.589	72.342	50.589	72.342	50.589	72.342	75.901
Training	-	-	-	-	.383	.494	.383	.494	.494
Travel	1.234	1.493	1.234	1.493	1.645	1.990	2.468	2.986	2.985
Facilities	.500	.720	14.971	21.558	14.971	21.558	14.971	21.558	22.012
Comms	.219	.278	.219	.278	.219	.278	.219	.278	1.827
Ergonomic furniture	-	-	-	-	-	-	-	-	.279
Software	-	-	-	-	-	-	-	-	.090
Manpower/ contractors	51.383	57.549	51.383	57.549	265.806	297.703	118.136	132.312	132.410
Totals	95.912	120.924	118.396	153.220	333.613	394.365	186.766	229.970	236.000
Manyears	1000				5760		2560		2558

Note 1: Price Bases are Dec 82 and Apr 86.

Note 2: The BRWG Report (Executive Summary) stated a range of $M96 to $M118 depending on network arrangements. For paper as the estimated cost of $M100 (Volume 3 Section viii of the submission) was used as comparison.

APPENDIX 3 TO
ANNEX B

MSRP - PROJECT COST COMPARISON

April 1986 Prices ($M)

	Option 2	Option 3A	Option 3B	Option 4A	Option 4B	Option 4C	Option 5
1986/87	1.99	0.35	0.72	0.74	-0.72	0.74	0.74
1987/88	1.1	0.77	-0.84	-0.72	1.03	-0.5	-0.72
1988/89	3.21	-0.05	-1.93	0.95	6.46	1.11	-1.18
1989/90	9.24	3.1	6.11	4.49	12.28	5.26	-1.36
1990/91	15.15	7.53	11.89	9.12	3.06	11.97	3.51
1991/92	5.95	2.88	6.46	2.06	-0.03	2.64	-3.91
1992/93	2.66	3.81	7.6	-1.36	-3.87	1.05	1.21
1993/94	-1.24	-1.01	0.32	-5.2	-4.63	-2.79	1.03
1994/95	-2.35	-1.11	-1.22	-5.98	-4.94	-3.57	0.25
1995/96	-2.84	-1.02	-1.3	-6.28	-5.27	-3.87	-5.16
1996/97	-3.17	-1.02	-1.3	-6.61	-5.54	-4.21	-5.17
1997/98	-3.44	-1.02	-1.3	-6.88	-6.34	-4.48	-5.17
1998/99	-4.79	-1.23	-1.57	-7.69	-6.61	-5.29	-5.17
1999/20	-5.06	-1.23	-1.57	-7.96	-6.61	-5.56	-5.17
2000/01	-5.06	-1.23	-1.57	-7.96	-6.61	-5.56	-5.17
2001/02	-5.06	-1.23	-1.57	-7.96	-6.61	-5.56	-5.17
2002/03	-5.06	-1.23	-1.57	-7.96	-6.61	-5.56	-5.17
2003/04	-5.06	-1.23	-1.57	-7.96	-6.61	-5.56	-5.17
2004/05	-5.06	-1.23	-1.57	-7.96	-6.61	-5.56	-5.17
2005/06	-5.06	-1.23	-1.57	-7.96	-6.61	-5.56	-5.17
Total	-13.95	-1.37	12.85	-79.08	-61.39	-40.86	-57.27

ANNEX C

QUESTION 2 MANPOWER ASPECTS

Manpower Resources

As stated in the question from the JPCPA Secretariat the case for decentralisation had been persuasively argued as part of the DESINE studies, with overall improvements outweighing the short-term effects on manpower resources.

With the size and variety of the computing systems which the Department has or is developing there are strong reasons for decentralised computing support. There are already, and have been for some time, large computing systems which are decentralised, with over 30% of current CSO positions located outside the central computing division.

The general situation concerning the tight market place for computing staff as well as the staffing levels associated with decentralisation have been recognised by the Department for some time and a wide range of initiatives have been taken to address the problems. These initiatives have been on both a broad basis as well as specific to individual major projects.

Internal Recruitment and Training - A scheme has started for the selection of suitable staff from within the Department and to give them in-house computing training. The initial response to this programme has been excellent with over 300 applications. From these applicants 60 have been selected and the first two courses of 20 students each have already commenced training. This scheme will be repeated as necessary if the recruitment through the normal channels does not provide sufficient resources.

Recruitment and Retention of Staff - The recruitment campaign for CSOIs from the tertiary institutions has been stepped up, with increased publicity and regular visits to campuses. Personnel consultants have been used to assist in both the recruitment and retention of new CSOI's.

Productivity Tools - The potential savings from the use of productivity tools have been recognised and the DESINE tender will call for a wide range of software facilities which will be used by both programmers and users.

Other productivity improvements which have been initiated include better workstation terminal equipment for programmer access to computing resources.

External Resources - External manpower will be used in a number of areas including consultancy, contractor effort, and technical support from the DESINE contractors.

DESINE Strategy - One of the important aims of the DESINE strategy is to make the most efficient use of human resources by the use of a prime contractor, proven and standardised products and a standard network architecture.

Phased Planning - Each of the major projects has been planned on a phased basis with the aim of spreading any peaks in demand for human resources. As new systems or parts of systems are brought into production old systems will be phased out.

Staff Consultation on Decentralisation - There has been continuing consultation with staff directly affected by the planned split of Computing Services Division. They have been kept informed of the details of the plans and their advice sought on many aspects of the split. This split is proceeding on the basis of no increase in manpower resources.

SSRP Manpower Resources - The forward manpower estimates for SSRP (by project) are at Enclosure 23 to the submission.

While the man-years involved are large by computing project standards the SSRP is a large task to be undertaken through to the mid 1990's. Projected manpower availability has been a major factor in developing the two phased strategic planning approach (Enclosure 20 to the submission). In recognition of manpower availability as a key factor in successful development, the strategic plan was developed to reduce the annual levels of manpower requirements to more achievable targets, and still meet the end objective for redeveloped compatible and interoperable systems.

Manpower to support SSRP development comprises Service, clerical administrative and CSO technical staff.

Service Manpower. Service manpower is provided by the Navy, Army and Air Force for employment in two areas:

a. the Supply Systems Redevelopment Branch (formed in 1984) where staff are employed in Project development (509 man years), the annual average is 39 man years with a maximum of 48 man years in any one year; and

b. in user group areas within each Service to provide the interface between the project development area and the Services, these staff provide user requirements, review project proposals and participate in joint specification of common requirements (597 man years) - the annual average is 54 manyears with a maximum of 108 man years in any one year.

The Services have accorded high priority to the project, and committment to meet manpower requirements was affirmed at the Defence Force Development Committee meeting of April 1986. Service manpower is provided from within current ceilings. There are some shortfalls, however priority is being given to SSRP.

CSO Technical Staff - While efforts have been made to reduce demand for CSO Technical staff on an annual basis, the potential for problems in this area is recognised. There are currently shortfalls against required manpower levels. The project plan requires 45 man years of CSO effort in 1985-86 with an increase to 84 man years of CSO effort in 1986-87. Currently there is a strength of 29 CSOs with a need to obtain up to an additional 55 man years of CSO effort in 1986-87 to maintain activity as planned. A recent Departmental trawl and other recruiting initiatives have resulted in an estimated increase to 35-40 technical staff in FY 1986-87. To meet the shortfall of between 44 and 49 man years of CSO effort, further recruitment of CSO's is envisaged, combined with the employment of significant contractor effort and maximum use of fourth generation technology. In addition to recruiting CSO technical staff, a number of initatives are being taken to reduce demand:

- Development productivity software is being used, and investigation is being undertaken to expand the use of such aids.

- Fourth generation language (4GL) software is also being used to support development.

- Contractor effort is assumed to be available to bridge the gap between demand and supply of CSOs (and to lessen the displacement effect after project completion).

MSRP Manpower Resources

Detailed plans for staff utilisation have been included in the MSRP Working Group report. (Enclosure 42 to the submission) Table 14 to Chapter 13 shows the total numbers of staff (broken down into civilians and Servicemen) required to develop and operate MSRP systems. The figures for particular functional areas are also shown:

Functional Area	Table
Service Pay	14A to Chap 13
Navy	14C to Chap 13
Army	14E to Chap 13
Air Force	14G to Chap 13
Civil Personnel	14I to Chap 13
Organisation and Establishments	14K to Chap 13
Computing Services	14M to Chap 13
Project Team	14O to Chap 13

The estimated requirements show only a small increase in staff requirements and are estimated to be outweighed by manpower savings by 1988/89. The net increase in computing staff is nine personnel throughout the life of the project.

Shortfalls in computer staff are not large and are expected to be met through recruitment action. Initiatives such as the recent Departmental 'trawl' of administrative areas to attract and train potential staff are seen as helpful in meeting manpower resource targets. Such recruitment will be timed in accordance with the requirements in the tables referred to above.

ODP Manpower Resources

The move to functional decentralisation does not impact ODP since ODP will continue to maintain its existing separate computing organisation. This is consistent with the general direction of decentralisation within Defence. ODP does not currently use and has no plans to use uniformed personnel in support of ADP operations.

ANNEX D

ACQUISITION STRATEGY

Preamble For Question 3(a)

1. Some clarification is necessary on intentions regarding the acquisition and standardization strategy for Category 'A'.

2. The Defence Computing Infrastructure Study, the report of which is Enclosure 1 to the JPCPA Submission, concluded that Defence should proceed towards cautious and phased decentralization of its administrative computing function, conditional upon the following two principal caveats:

a. A standardized computing environment, referred to as the Defence EDP Systems Integrated Network Environment (DESINE), was to be a prerequisite for effective decentralization.

b Improved strategic planning of administrative computing development would be necessary.

3. The DESINE Implementation Study, the report of which is Enclosure 2 to the JPCPA Submission, further defined the concept of DESINE in terms of what is generally known in the computer industry as a "network architecture". This term has been defined as a set of rules or protocols which enables the interoperation of distributed computer systems. When implemented, a network architecture is a range of hardware and software products which specify the relationships between different elements of the network (computers and terminals basically) and provide communications, control and related facilities.

4. There is widespread and growing agreement in the computer industry that compliance with a specific network architecture is necessary for efficient decentralized computing if interoperation and the ability to progressively add computers to the network is a requirement.

5. The conclusion reached and subsequently supported by higher Defence committees was that Defence must standardize on a "network architecture". The advantages of doing so include:

a. interoperability (distributed systems, interaction between systems);

b. compatibility (system portability, common operational procedures, back-up/contingency arrangements);

c. staff savings (lower requirements for scarce networking expertise, common skills, staff mobility, less diverse training requirements);

d. efficient acquisition; and

e. economies of scale.

6. The question facing Defence was how to select and obtain a network architecture. Each of the major computer suppliers claims to have a proprietary network architecture which enables interoperation across its range of hardware and software products and in some cases accommodates the products of other suppliers. Further, the International Standards Organization has for some years been developing network architecture standards intended to permit interoperation regardless of supplier. These standards are identified by the term Open Systems Interconnection (OSI). The most important questions for pursuit on the 1984 overseas visit were on the status of proprietary network architectures and OSI standards and the extent of user and supplier commitment to OSI. Basically, the decision to be made was whether Defence should select and standardize on a proprietary network architecture or rely on OSI standards

7. *The report of the 1984 visit is at Enclosure 3 to the* JPCPA Submission. The conclusions on this subject can be summarized as:

a. A network architecture is necessary.

b. Proprietary network architectures are available.

c. OSI standards and related products were not sufficiently advanced to enable a commitment to an OSI based network architecture, *a decision to pursue an OSI solution* would inevitably mean unproven products and problems Defence is specifically seeking to avoid.

8. Defence decided to specify its requirements for a network architecture and call tenders against those specifications in accordance with normal Government acquisition procedures. Regarding OSI, the Request For Tender (RFT) will state support for the philosophy of OSI, indicate a long-term intention to move in that direction if possible and seek interoperability *with some existing OSI based standards*. *As stated at paragraph* 66 of the 1985 Defence Administrative Computing Strategic Plan (DACSP) (Enclosure 4A to the JPCPA Submission):

> "In practice this is likely to mean that the selected network architecture will in fact be the proprietary architecture of the selected supplier. Defence will not pursue its goal of use of international standards to the extent of adopting unproven products or using its own resources to plug the gaps."

9. It is appropriate at this point to refer briefly to the need for proven products and a prime contractor, at least initially. Defence has been engaged in administrative computing for more than twenty years, involving numerous suppliers and a

greater number of hardware and software products of varying stability. Most particularly, for its current network of mainframe computers from one supplier, mini-computers from another and limited "off the shelf" software to enable interoperability, Defence undertook the role of systems integrator. While Defence achieved a great deal in a complex technical environment, that role proved difficult and expensive. It involved the development of considerable and complex in-house software and liaison between the two suppliers. Not only was that in-house software expensive to develop and difficult to support in an environment of extremely mobile techical specialists, but it also constrains evolution of the network with either of the suppliers' standard products

10. Defence has decided that in the future it will not attempt to implement networks with unproven products, develop special purpose system software or accept responsibility for establishing and maintaining interoperability between two or more suppliers.

11. The purpose of the preceding was to remove the ambiguity referred to in the first question on this subject. A key point is that the Defence intention is not to select a "standard network architecture", because no such thing exists in the formal standards sense. Rather, the intention is to select a proprietary network architecture which utilizes formal standards to the maximum extent practical and then standardize on that architecture. Responses to specific questions follow:

Question 3(a)(i)

12. The avoidance of ". .expensive conversions..." in the future is one of the principal reasons for DESINE. In fact, as stated repeatedly in documents on the subject and most recently in Section (viii), Volume II of the JPCPA Submission, "The DESINE concept inherent in this proposal seeks to minimize the number of conversions required in the future as the Defence computing base, continues to expand."

13. How this will be achieved is specifically covered at paragraphs 13.5 to 13.7, Section 7 of the Defence Computing Infrastructure Working Party (DCISWP) Report (Vol I)(Enclosure 1 to the JPCPA Submission). The essence of the argument is summed up in paragraph 13.5 which states:

> "Adopting the DESINE concept will reduce the problems and costs of conversion because individual systems could be upgraded progressively within a supplier line. Each of the major suppliers now ensures relatively smooth upward mobility and many computer users have reached the conclusion that it is the only practical solution to the problem of conversions."

14. The current approach is that system upgrades will not necessarily occur within a particular supplier line after the initial five year period contract, but they will occur within a standard environment. The response to the next question provides further relevant information.

Question 3(a)(ii)

15. The DESINE Implementation Study (Enclosure 2 to the JPCPA Submission) states at paragraph 8.10:

> "At each five year interval, the Department would review its position to determine if the DESINE requirements are best met by the selection of either a prime contractor or a panel period contract. Onward compatibility of successive standard environments is a mandatory requirement. These recurring arrangements are aimed at ensuring that Defence enjoys the benefits of plug compatibility and/or newer technology, and that there is evolutionary progress in its standard computing environment which reduces disruptions. At the same time, the approach provides scope for hardware and software vendors to participate in and compete for DESINE tenders on a regular basis."

Question 3(a)(iii)

16 The need for a prime contractor was addressed in the preamble and in answer to the previous question. As should now be clear from the preamble, the network architecture to be selected will not be a formal standard in the sense inferred by this question. Rather, it will be a proprietary network architecture, utilizing some formal standards and possibly incorporating products from more than one supplier.

17. For Category 'A' in particular, tendering is completely open and the results unpredictable, to some extent, particularly as far as supplier combinations are concerned. If more than one supplier is involved, the interfaces are potentially extremely complex and Defence is convinced these must be the responsibility of a prime contractor. That possibility was recognized in the DESINE Implementation Study (Enclosure 2 to the JPCPA Submission) at paragraph 4.17, where it states:

> "The network architecture software within each computing system must be compatible with that in any other system with which it requires, or is likely to require, to communicate. The facilities provided by this software cover the total requirements from the user interface through to and including the communications software necessary to interface with the data communications transport facility. We have concluded that the importance of the function of this software is sufficient to require that it be provided by one of the

major suppliers. Under no circumstances must Defence again commit itself to the development of its own architecture. The requirement for a complete network architecture may mean that this software might be provided under a prime contractor arrangement."

18. Since the above, Defence has determined that a prime contractor is essential for Category 'A', at least initially. As identified in the answer to 3(a)(ii), the situation following the first five years is potentially quite different. In some respects, ODP are already in that situation, having selected a particular proprietary network architecture.

Preamble For Question 3(b)

19. To recapitulate, after considerable investigation and consultation, Defence decided standardization was essential for effective decentralization of its administrative computing.

20. As stated in the JPCPA Submission and restated in your questions, the proposed Category 'C' of the procurement plan envisages a five year period contract for the acquisition of stand-alone micro-computers and small office systems. As correctly concluded in your question preamble, a prime contractor will also be sought for Category 'C'.

21. Basically Category 'C' was identified separately with the aim of potentially increasing Australian industry participation. This category, which will cover small stand-alone systems is seen as an area in which Australian firms could bid in their own right, whereas they are not able to manufacture the wide range of equipment needed in Categories 'A' and 'B'. They could, of course, be joint suppliers in these categories.

Question 3(b)(i)

22. Defence agrees that Category 'C' covers what has become a "...commonplace item of ordinary business equipment...". However, the Defence experience is that in the absence of formal standards, the acquisition of many such items from a variety of suppliers produces diverse solutions to similar problems, incompatibilities in hardware, software and user skills, and inefficient use of resources in general. The arguments for standardization are compelling. With the exception of "interoperability", (because, by definition Category 'C' covers stand-alone devices) the advantages of standardization are as articulated for Category 'A', at paragraph 5 of this Annex.

Question 3(b)(ii)

23. Like DESINE, the existing panel period contract was initiated by the recommendations of the DCISWP. It was always seen as an interim arrangement pending the introduction of DESINE. The existing panel period contract expires at the end of 1987, at which time on current planning, it will be replaced with DESINE. Further, it involves seven different suppliers and a range of incompatible equipment and does not provide the degree of standardization sought by Defence.

APPENDIX 7

FURTHER INFORMATION FROM THE DEPARTMENT OF DEFENCE
13 JUNE 1986

DEPARTMENT OF DEFENCE

RUSSELL OFFICES
CANBERRA, A.C.T. 2600

IN REPLY QUOTE

FSA 452/86
86/525

13 June 1986

Mr M.J. Talberg
Secretary
Joint Parliamentary Committee of
Public Accounts
Parliament House
CANBERRA ACT 2600

Dear Mr Talberg

PROPOSED COMPUTER ACQUISITION

At the public hearing on the 5th June 1985, the JPCPA requested additional information on cost-benefits for the major projects. Further information on this aspect of the SSRP and ODP acquisition projects is attached as Annexes A and B respectively. There has been no further cost benefit analysis for MSRP to that contained in my letter dated 21 May 1986.

Some of the issues raised at the hearing were only discussed briefly and for this reason I would like to clarify some of the key points and references to them in the material which accompanied out submission.

Australian Industry Involvement

All three modules of the RFT would, as a matter of course, carry with the the need for tenderers to meet the Government's policies on Australian industry involvement. These policies include support of research and development and bounties on local production; the purchasing preference accorded Australian/New Zealand content; and high technology offsets. (See Volume II page 10 paragraph (XIII) of our submission). In evaluating tenders Defence will follow the Government's "Australia and New Zealand Preference Guidelines" which in effect means a notional reduction of prices for comparison purposes of 20% of the Australian and New Zealand content. In addition the Government's offsets policy will be requiring approved work to the value of 30% of the imported component of a successful tender to be placed in Australia. The potential for Australian industry involvement resulting from these policies is significant for all three modules of the RFT.

Prime Contractor

The concept of a prime contractor has always been seen as a fundamental part of the original DESINE strategy. The reason for this is the need for interoperability, compatibility and standardisation in the form of a network architecture. This standardisation is necessary as Defence moves to a future where most information on which decisions depend is held in electronic form. In addition, standardisation should bring with it substantial cost savings in the form of staff savings, efficient acquisition and economies of scale. The case for a single prime contractor for module B is not as strong since ODP has already standardised on a proprietary network architecture, and therefore one contractor for each major section of ODP's requirement may turn out to be a more practical and cost effective approach.

See Annex D to my letter 86/525 dated 21 May 1986 for further details.

Five Year Period Contracts

The advantages of a period of five years for the contracts are considerable and include potentially large cost savings through lower tendered prices and through economies in the acquisition process. We believe that the reduction for a five year contract could be approximately 30% compared to a one year contract. Further to this the major projects which will be using the contracts are planned to purchase equipment over an extended period with significant purchases towards the end of the first five years and will require compatability of that equipment to meet their design requirements. Indeed, five years represents a compromise downwards from the 8-10 years advocated by major project authorities. It was surprising that the ACEMA representative should suggest one year contracts as beneficial to local industry. One year contracts would potentially allow more local firms to compete, but would not provide the volume and continuity of orders which would allow the successful local firms to build on their success. One year period contracts are quite unacceptable for Defence - they could give no promise of standardisation, and would be as administratively expensive as individual tendering.

See enclosure 2 paragraph 8.8 to 8.12 of our submission for further details.

Possible Pilot Arrangement

The arguments against a pilot approach for module A of the RFT are closely linked to those which support the prime contractor and five year period contract strategy which are set out above. The following are some of these arguments:

a) Defence has long experience in data networks, and is confident that new networks can be soundly evaluated and made to work;

b) the risks associated with the general strategy are not sufficient to warrant a pilot arrangement particularly when the potential additional costs of such an approach are taken into account;

c) the effects of delay in terms of unachieved benefits and deferral of substantial essential systems implementation work;

d) the impact on total project costs and on resource requirements:

e) that Defence is not intending to implement unproven products but will be moving towards industry standards along a path of proven available products; and

f) the role of the prime contractor would include ensuring the viability of the chosen products.

Additional Background Information on ODP's Interim Capacity Requirements

In order to update the background information provided to the Committee, information is included at Annex C on ODP's intention to bid for surplus Commonwealth computing equipment as the most cost effective approach to meeting interim capacity requirements at the Manufacturing Computing Bureau between now and 1988 when replacement equipment could be expected to be installed from the DESINE contracts. The equipment conforms to ODP's approach of IBM compatibility and is only of sufficient capacity to meet requirements until mid 1988. The Department of Local government and Administrative Services advised Departments of the availability of this surplus equipment in May, after the lodgement of the Defence submission with the Committee. If ODP is successful in acquiring this equipment there would be no impact on strategy or on acquisitions proposed under the DESINE contract.

F.R. HARVEY
First Assistant Secretary
Financial Services
and Audit Division

COST - BENEFIT INFORMATION - SUPPLY SYSTEMS REDEVELOPMENT PROJECT

1. Initial consideration of costs and benefits for Supply Systems Redevelopment concerned mainly the broad choice of the redevelopment path. Full documentation of the relevant analysis and assessment has been provided to the JPCPA in the 1982 Report of the SSRP Business Review Working Group (Enclosure 19 to the Departmental submission, with Chapter 13 and Annex J being particularly relevant). Departmental letter 86/525 of 21 May 1986 (paras 5 to 9 and Appendix 2 to Annex B) provided comparitive costing of the redevelopment options in April 1986 prices and an assessment of the effect of phased or partial approvals for expenditure. The choice of the most cost-effective redevelopment path has been made, and approved by Government, on the basis of this fully documented cost benefit analysis.

2. In summary, the least cost option of converting existing systems to new equipment without redevelopment would have retained unacceptable system deficiencies in functionality and commonality; redevelopment as single Service systems was considerably more expensive than other options and would not have achieved enhanced interoperability; while the preferred option of redevelopment to maximise tri-Service commonality - the intermediate cost option - was also the only choice which would have met Defence requirements. The fundamental requirement was most recently supported in the March 1986 Review of Australia's Defence Capabilities (Dibb Report) as "the need to integrate the three single-Service supply and support systems, to allow better judgements to be made on readiness and sustainability levels." (page 146)

3. Assessment of costs and benefits for individual projects within SSRP is undertaken as an essential part of the system definition process which precedes any Departmental decision on whether and how to recommend to Government that Defence should proceed with a specfic project.

4. Early results of cost benefit assessments for individual elements of SSRP were advised to the JPCPA in Volume III Section (viii) of the Departmental submission. As system definitions proceed, these initial estimates can be refined and formalised considerably, and this process is now being undertaken for the Depot/Base Project.

5. To ensure maximum objectivity in the analysis, a

team of consultants has been commissioned to undertake a review of the technological options available and to identify the costs and benefits associated with the inclusion of recommended options in redeveloped Depot/Base supply systems. The initial consultant's report, presently in draft, has identified a potential for benefits of some $30m per annum in manyear savings which could result from the expanded and redeveloped Depot/Base supply systems if these incorporated the cost-effective technology options of bar-coding, digitised pads and portable data entry terminals. Although the results of this assessment will have to be refined by more comprehensive case studies and analyses conducted in accordance with PSB/DOF guidelines, the consultant's global cost estimates of manyear savings achievable by new Depot/Base systems are as follows:

(a)	Receipts transactions	$21.7m	annually
(b)	Procurement and claims processing	$ 5.4m	annually
(c)	Demand processing and issues	$ 1.3m	annually
(d)	Warehousing	$ 1.8m	annually
	Total	$30.2m	per annum.

6. It should be noted that these estimates are based on manyear savings which do not necessarily translate directly into manpower savings since portions of individual's workloads are involved. Also, initial estimates indicate that inclusion of the recommended technology options would increase unavoidable equipment replacement costs (presently estimated at a total of $101.74m in April 1986 prices for hardware, facilities and communications in a total project cost of $236m) by some $30m.

7. Considerable additional savings are expected from other elements of SSRP, particularly the redeveloped Executive System. But using the table provided as Appendix 2 to Annex B of Departmental letter 86/525 of 21 May 1986, and the expected savings above, if unavoidable equipment replacement and conversion costs for SSRP as a whole ($153.2m) are regarded as sunk costs, and the net cost of redevelopment ($82.8m) plus additional hardware ($30m) is used for the cost comparison, the prognosis is that the Depot/Base project alone would recover in full the additional cost of all supply systems redevelopment projects in a maximum of four years. If unavoidable hardware costs only are regarded as sunk costs, the payback period is less than six years, and even if no sunk costs are assumed at all, the payback period is less than nine years.

8. The Department is seeking written confirmation of oral agreement from the consultants to the release of their final report, which will be classified as Commercial-in-Confidence, to the JPCPA.

ANNEX B

COSTS AND BENEFITS OF ODP'S PROPOSED UPGRADE TO THE MANUFACTURING COMPUTING BUREAU

1. The 1986/87 ODP ADP Strategic Plan outlines Establishment plans to implement systems on the Manufacturing Computing Bureau (MCB). Based on these systems plans two independent capacity planning exercises have recently been undertaken to determine the capacity required to meet the systems needs of ODP Establishments using or planning to use this facility. These were carried out by Amdahl and IBM. The Amdahl exercise produced predicted growth paths based on the growth in workload currently being experienced, and on industry standard growth.

2. In summary the predicted capacity requirements in MIPS are:

	April 86	April 87	April 88	April 89	April 90
Amdahl (current growth)	5	12	19	24	27
Amdahl (industry standard)	5	7	11	17	24
IBM	4	8	14	17	22

The graphs of these three growth paths show a convergent trend by 1990.

Proposal to Meet Capacity Requirements

3. In order to meet these capacity requirement it is proposed to upgrade the Manufacturing Computing Bureau in line with ODP's approved computing processing strategy. The estimated costs of this upgrade are:

1987/88	1988/89	1989/90	1990/91
$4.1M	$0.1M	$0.7M	$1.2M

4. Alternatives for meeting projected capacity requirements are significantly more costly. For example, use of an external bureau service is conservatively estimated to cost the following:

1986/87	1987/88	1988/89	1989/90
$4M	$7.6M	$11.2M	$19.2M

These estimates are based on quotations, obtained from two private organisations operating external bureau services, for charges to operate a range of existing ODP systems currently running on the Manufacturing Computing Bureau.

5. A decentralised alternative where all processing is done on in house facilities is more expensive in terms of hardware costs, but is substantially more costly in terms of operational and technical support staff, multiple copies of systems and application software and accommodation requirements.

Charging

6. Charging occurs for use of the Manufacturing Computing Bureau by Establishments. Currently this is notional but ODP is moving to full recovery of direct costs through actual charges in a phased manner. Charging is in accordance with the relevant Department of Finance direction. Current charges would total $1.7M per year. As additional or replacement equipment is acquired the charges are amended accordingly.

Systems Benefits

7. As individual systems are implemented on the Manufacturing Computing Bureau, each is subject to a cost benefit analysis which indicates the benefits that will accrue from the costs incurred in implementing the system, including Manufacturing Computing Bureau charges.

8. ODP's 1986/87 ADP Strategic Plan includes at Attachments A and B indications of the costs and savings associated with the implementation of systems in ODP. In summary the increase in expenditure over the 1985/86 level is as follows:

1986/87	1987/88	1988/89
$8.249M	$8.680M	$5.629M

Establishments expect this expenditure to yeild the following benefits:

1986/87	1987/88	1988/89
$9.697M	$15.885M	$16.437M

9. These costs and benefits relate to all computing-based systems, both management and technical, not merely systems being implemented on the Manufacturing Computing Bureau. A copy of the relevant extracts from ODP's 1986/87 ADP Strategic Plan are attached.

ATTACHMENT A

OVERALL EXPENDITURE ON COMPUTING RELATED ACTIVITIES

ITEM	BUDGET YEAR 84/85	85/86	86/87	87/88	88/89
1. HARDWARE	6802	4270	8495	8956	6847
2. SOFTWARE	2608	2915	3674	2846	2807
3. TELECOMMUNICATION CHARGES	790	667	752	759	688
4. MAINTENANCE	1745	1632	2279	2576	3172
5. ENVIRONMENT	1392	1243	660	2093	480
6. CONSUMABLES	411	548	727	734	795
7. BUREAU SERVICE	644	1461	2025	2238	1882
8. CONSULTANTS AND CONTRACT SERVICES	873	1782	1559	1152	999
9. STAFF	9344	8696	11291	10540	11173
TOTAL ITEMS 1-9	24609	23214	31463	31894	28843

The above table represents total expenditure on computing related activities irrespective of the source of funds, be it appropriations or trust accounts.

ATTACHMENT B

SAVINGS AND BENEFITS FROM NEW DEVELOPMENTS OR THE EXPANSION OF PRESENT SYSTEMS

PART 1 QUANTIFIABLE SAVINGS AND REVENUE ($000's)

ITEM	BUDGET YEAR 86/87	87/88	88/89
STAFF SAVINGS	2571	5385	4262
OTHER SAVINGS	6615	9571	10931
REVENUE	511	929	1244
TOTAL	9697	15885	16437

ANNEX C

PROPOSED ACQUISITION OF SURPLUS COMMONWEALTH COMPUTING EQUIPMENT TO MEET INTERIM CAPACITY REQUIREMENTS OF THE OFFICE OF DEFENCE PRODUCTION'S MANUFACTURING COMPUTING BUREAU

1. The MCB is currently based on an Amdahl V8. This will meet requirements until the end of 1986. If the V8 could then be supplemented by ODP's Amdahl V6 then requirements could be met until the end of 1987. However the Amdahl V6 can not be recommissioned within existing computer room accommodation in Jensen House. ODP plan to move to improved computer accommodation in the Atrium building in South Melbourne, however a suitable computer environment could not be constructed before mid 1987 at the earliest, and, based on Department of Housing and Construction advice, possibly not until early 1988. ODP's capacity requirements from 1986 to 1990 were summarised in Annex C.

2. Various options were investigated for meeting ODP's interim capacity requirements between mid 1986 and 1988 when equipment could be installed from the DESINE contracts. The three basic options were:

a. Amdahl V8, supplemented by the Amdahl V6 in mid 87, the most optimistic date for the availability of suitable accommodation. Any shortfalls in capacity would be met by use of an external bureau service;
b. Amdahl V8, with all shortfalls in capacity met by use of an external bureau service. This represents the worst case for the availability of suitable accommodation; and
c. Amdahl V8 replaced at the end of 1986 by surplus Commonwealth computing equipment of suitable capacity. This does not depend on the availability of new accommodation since the equipment could be installed in existing accommodation.

3. Consideration of option c was prompted by a Department of Local Government and Administrative Services Circular of 14 May 1986 notifying Departments and Authorities of IBM computing equipment expected to become surplus to requirements late in 1986. The equipment has a capacity of approximately 14 MIPS which would meet ODP's interim requirements well into 1988.

4. A cost effectiveness analysis was prepared for the three options over the period 1986 to 1988. Option c was the least cost option by a considerable margin. In terms of base year costs option c represents a cost saving of $3.742M over option a and a saving of $5.807M over option b.

5. Therefore on the basis of the significant savings to be achieved ODP are submitting a bid to DOLGAS to acquire suitable surplus Commonwealth equipment to meet the projected growth on the MCB in the interim period prior to the acquisition from the DESINE Contracts of replacement equipment in 1988. The success of ODP's bid will not be known until late June.

APPENDIX 8

PROPOSAL BY THE DEPARTMENT OF DEFENCE TO ACQUIRE A SURPLUS COMPUTER FOR THE OFFICE OF DEFENCE PRODUCTION - 24 JUNE 1986

URGENT

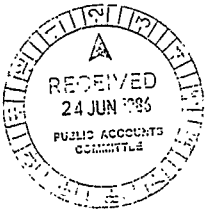
DEPARTMENT OF DEFENCE

RUSSELL OFFICES
CANBERRA, A.C.T. 2600

IN REPLY QUOTE:

FSA 503/86
RFP 86/3221

24 June 1986



Mr M.J. Talberg
Secretary
Joint Parliamentary Committee
of Public Accounts
Parliament House
CANBERRA ACT 2600

ACQUISITION OF SURPLUS COMPUTER EQUIPMENT FOR OFFICE OF DEFENCE PRODUCTION

I refer to recent discussions between this Department and yourself regarding the above matter and the correspondence from DOLGAS to the Office of Defence Production. It is understood that you have been provided with a copy of that correspondence.

From the outset the Department would like to make quite clear that the acquisition of surplus computing equipment has been under consideration as an option to meet interim capacity requirements of the Office of Defence Production Manufacturing Computing Bureau. At the time of the JPCPA hearing of 5 June 1986 the proposal was not sufficiently developed that it could have been properly incorporated in the submission to the Committee, although during the hearing, the Chief of Defence Production advised the Committee of the capacity planning studies and offered further information. This was not taken up at that point of time by the Committee.

I have attached for the Committee's information a copy of the Office of Defence Production proposal to DOLGAS. The proposal provides a clear indication of need and the obvious cost benefits which must accrue in meeting interim capacity requirements. Additionally, as evidence to the Committee, attached is a copy of the Ministerial submission which was approved by the Minister Assisting on 23 June 1986.

The proposal to acquire surplus Commonwealth computing equipment was only developed in its final form subsequent to the public hearing of 5 June 1986 and the cost benefit study which supported the submission to DOLGAS for the acquisition was not completed until 11 June 1986. The proposal as such was advised to the Committee in this Department's correspondence of 13 June 1986.

It is recognised that the timings involved were somewhat compressed in positively identifying the capacity required and availability of the surplus equipment. The fact that they clashed with the Committee's hearings and requirements for submissions in no way diminishes or changes ODP's future requirements as expressed in its submission.

I trust that the above information and attachments will allay any consideration by the Committee that the Department acted outside the scope of its submission and that the concerns expressed by DOLGAS in its correspondence should not inhibit the purchase proceeding in this financial year.

F.R. HARVEY
First Assistant Secretary
Financial Services
and Audit Division

AO 180-1
Introduced Jan 85

Department of Defence

Reference CDP 192/86

FOR CONSIDERATION BY MINISTER ASSISTING ....MR. DUFFY.....

SUBJECT

ACQUISITION OF SURPLUS COMPUTER EQUIPMENT FOR OFFICE OF DEFENCE PRODUCTION.

PURPOSE

To obtain approval for expenditure of $1.85 Million to acquire computer equipment.

CONSIDERATIONS

The Manufacturing Computing Bureau (MCB) has been established within the Office of Defence Production (ODP) for three years. Its use by Establishments supports the corporate objective of increasing commercialisation of ODP Establishments and provides a facility for implementing systems essential to major projects, such as the Australian Frigate Project.

The Department currently has a submission before the Joint Parliamentary Committee on Public Accounts (JPCPA) for the acquisition of administrative computing through open tendering; ODP requirements comprise one module of this submission. The timetable for placement of orders associated with this submission indicates installation of equipment could not be achieved before mid 1988.

Growth in the Bureau's use supported by recent capacity planning studies have shown that if the MCB is to continue to provide an effective service additional capacity will need to be acquired before the end of 1986.

Three options for acquiring additional capacity have been considered and are described in the Attachment. The least cost option is Option 3, which involves the replacement of the present computer equipment with equipment that is surplus to the requirements to the Commonwealth Bank of Australia, which is currently available through Department of Local Government and Administrative Services (DOLGAS). While this option requires the expenditure of $1.85 million, it represents a saving of $3.742 million over Option 1 and of $5.807 million over Option 2, for the two year period until finalisation of the Department's acquisition, currently under consideration by the JPCPA.

RESOURCE ASPECTS

An offer of $1.85 million for the surplus equipment has been made to DOLGAS. Associated installation expenditure of $65,000 is anticipated. The Department has been informed that its offer is likely to be accepted. However, in the event that it is not, this expenditure would not be incurred.

CONSULTATION (Including FM aspects)

As detailed above an offer has been made to DOLGAS for the surplus equipment.

RECOMMENDATION

That you approve expenditure of $1.85 million for acquisition of the surplus computing equipment.

DISTRIBUTION		APPROVED/NOT APPROVED
Minister Secretary CDF DEPSEC FASCIM [illegible]	[signature] CDP L. B. WOODWARD [illegible] [illegible]	

PROPOSAL TO ACQUIRE SURPLUS COMMONWEALTH COMPUTING EQUIPMENT TO MEET INTERIM CAPACITY REQUIREMENTS OF THE OFFICE OF DEFENCE PRODUCTION'S MANUFACTURING COMPUTING BUREAU

CONTENTS

PROPOSAL TO ACQUIRE SURPLUS COMMONWEALTH COMPUTING EQUIPMENT TO MEET INTERIM CAPACITY REQUIREMENTS OF ODP'S MANUFACTURING COMPUTING BUREAU

SUMMARY

1. The attached background paper describes the role and users of the Manufacturing Computing Bureau (MCB). The 1986/87 ADP Strategic Plan outlines Establishment plans to implement systems on the MCB. Based on these systems plans two independent capacity planning exercises have recently been undertaken to determine the capacity required at the MCB to meet the systems needs of ODP Establishments using or planning to use this facility. These were undertaken by Amdahl and IBM.

2. The results of the Amdahl capacity plan are summarised at Attachment A. Three possible growth paths were determined for the timeframe April 1986 to April 1990:

a. worst case which is currently being experienced;
b. industry standard; and
c. best case.

3. The IBM capacity plan resulted in a projected growth path from 3 MIPS in January 1986 to 16 MIPS in January 1989. This is consistent with the industry standard path of the Amdahl capacity plan and has been used as a conservative planning basis.

4. The MCB is currently based on a Amdahl V8 which could meet projected capacity requirements until the end of 1986. The MCB equipment is scheduled for replacement in 1988. ODP requirements comprise one module of the RFT currently being prepared for the acquisition of administrative computers in the Department of Defence. It is planned that contracts be in place by December 1987 which would allow the placing of orders early in 1988 for installation by mid 1988. However there is some probability of slippages occurring to this timetable and a realistic planning date for installation of replacement equipment appears to be end 1988.

5. The MCB could be supplemented by recommissioning ODP's Amdahl V6, however this cannot be done within existing computer room accommodation in Jensen House. ODP plan to move to improved computer accommodation in the Atrium building, South Melbourne, however a suitable computer environment could not be constructed before mid 1987 at the earliest, and, based on Department of Housing and Construction advice, possibly not until 1988.

6. Three options have been investigated and costed for meeting capacity requirements between the end of 1986 and the end of 1988. The assumptions under which these options were developed are outlined in Attachment B. The three options are:

Option 1: Use of the Amdahl V8 supplemented by the recommissioned Amdahl V6 in mid 1987, with shortfalls in capacity met by use of an external bureau. This represents the most optimistic timing for accommodation availability.

Option 2: Use of the Amdahl V8 with all shortfalls in capacity met by use of an external bureau. This represents the worst case for accommodation availability.

Option 3: Use of the Amdahl V8 until surplus Commonwealth equipment of increased capacity could be acquired. This option is not dependent on accommodation availability since the equipment can be installed in existing accommodation.

7. These options are more fully described in Attachment C. A graphical representation of how capacity requirements would be met under each option is provided at Attachment D.

8. A cost effectiveness analysis has been prepared for the three options. This has been included at Attachment E. The base year costs were adjusted for price movement factors and discounted at 10% over the two and a half year period in accordance with the relevant PSB guidelines.

9. The least cost option is Option 3, followed by Option 1, then Option 2. In terms of base year costs, Option 3 represents a saving of $3,742,000 over Option 1 and a saving of $5,807,000 over Option 2. In terms of discounted costs, the cost effectivenss ratio of Option 3 to Option 1 is 1.41:1, and of Option 3 to Option 2 is 1.63:1. In addition, unquantified benefits accruing to each option are outlined in Attachment F. Option 3 provides more intangible benefits than either of the other options.

10. If nothing is done to increase capacity and the MCB continues to be comprised only of the Amdahl V8 then by the end of 1988 only a small subset of systems needs could be satisfied. For example if WD and AFF needs were met by the MCB, no other Establishment would be able to use the MCB. While in the longer term (1989 onwards) certain Establishments may move some systems from the MCB to inhouse facilities, this would not be an option in the interim timeframe being considered since:

a. period contracts would not be in place prior to 1988 to allow the appropriate equipment to be purchased without long lead times; and

b. Establishments would not have developed the necessary computing management and technical expertise to facilitate the operation of inhouse computing equipment of the size required.

11. On the basis of the significant savings to be achieved and the favourable cost effectiveness ratio it is proposed to pursue the acquisition of the surplus IBM in order to meet the projected growth on the MCB in the interim period prior to the acquistion of replacement equipment in 1988.

BACKGROUND

ODP Processing Strategy

1. ODP's approved computing processing strategy depends on the operation of the Manufacturing Computing Bureau (MCB) which provides:

a. entry level facilities where an establishment plans later to install its own equipment;
b. complete facilities for establishments not planning to install their own equipment;
c. special purpose facilities offering special software;
d. a base for ODP corporate data; and
e. a focus for ODP corporate networks.

2. The processing strategy is based around an IBM-orientation and is supported by the three pillars of:

a. compatible hardware;
b. standard systems software; and
c. common applications software.

Common Applications Software on the MCB

3. The following common applications software is available on the MCB for use by all ODP establishments;

a. MSA financial accounting software for general ledger, accounts payable, fixed assets and forecasting and modelling;
b. Cincom manufacturing control software; and
c. PSDI project management and project accounting software.

4. It is planned to continue this strategy through the acquisition in 86/87 of further common applications software including:

a. purchasing;
b. inventory;
c. costing; and
d. accounts receivable.

Establishments using the MCB

5. Current users of the MCB are:

a. WD for financial accounting, manufacturing control, costing and project accounting;
b. AGCF for manufacturing control;
c. OFM for manufacturing control;

d. MFF for financial accounting;
e. EFM for financial accounting; and
f. OFB for financial accounting.

6. Planned additional users of the MCB for 86/87 are:

a. AFF for manufacturing control;
b. all establishments with the exception of GAF and GID for general ledger;
c. phased implementation of further financial accounting packages by a range of establishments;
d. EFM and AGCF for purchasing;
e. initial implementations of stand-alone inventory at selected establishments; and
f. costing systems at a number of establishments.

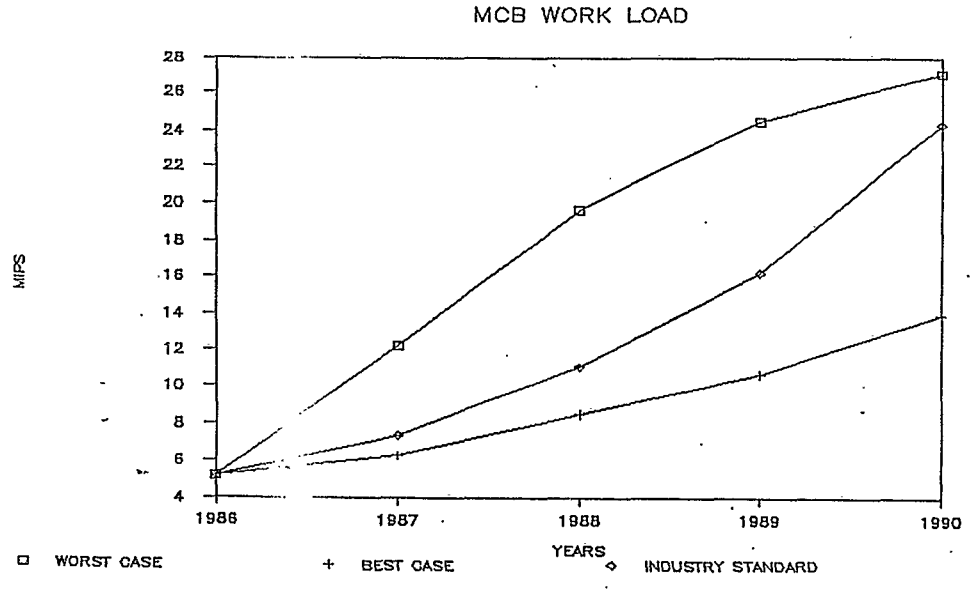
7. Use of the MCB by establishments supports the corporate objective of increasing commercialisation of ODP establishments and provides a facility for implementing systems essential to major projects such as the Australian Frigate Project.

Capacity Requirements

8. The MCB which was initially based on an Amdahl V6 experienced substantial capacity problems during 1985 which resulted in severe disruptions to response time and the inability to provide access for all approved priority systems. An independent capacity planning exercise agreed that the V6 would not be able to meet requirements beyond late 1985. Therefore an Amdahl V8 was acquired ex Department of Finance and installed in December 1985. The V6 was de-commissioned and stored. It was estimated, based on the capacity planning exercise, that the V8 alone would meet requirements until the third quarter 1986 at which time the V6 would need to be recommissioned. The V8 and V6 should meet requirements until the end of 1987 when a major upgrade to the MCB is planned.

9. In order to commission to Amdahl V6 a significant upgrade to computer accommodation is required. This is addressed under Item 3.1. It is apparent however that the accommodation requirement will not be met in a timeframe that would enable the V6 to be commissioned in time to meet planned systems implementation. Therefore to meet planned capacity requirements alternatives must be investigated.

ATTACHMENT A



ATTACHMENT B

ASSUMPTIONS

The following assumptions were made in defining the three options:

1. That costing would cover the period from mid 1986 to end 1988. If the placing of the DESINE contracts runs to schedule, orders could be placed early in 1988 for delivery and installation of replacement equipment for the MCB in mid 1988. However, it seems likely that some slippage will occur. The costing model conservatively estimates a six months slippage and incorporates this likely contingency.

2. That the MCB will move from Jensen House to new accommodation in the Atrium Building in mid 1987. Costs under all options for this accommodation and the move are substantially the same. Existing accommodation in Jensen House would be adequate for either the Amdahl V8 or the IBM 3081K until mid 1987. It could not accommodate both the V8 and the V6.

3. As a contingency a link from the MCB to an external bureau is being set up prior to mid 1986. This will enable access to a back-up facility in the event of a disaster and rapid transfer of systems from the MCB to an External Bureau should such a course of action become necessary. Costs are minimal and would occur prior to 1986/87.

4. ODP network costs are similar under all options and are not part of the costing model.

5. The MCB required capacity growth has been obtained from two independent capacity planning exercises undertaken for ODP by IBM and Amdahl. The figures used in defining each option (3 MIPS in January 1986 to 16 MIPS in January 1989) are taken from IBM's capacity plan. These figures are confirmed as a reasonable estimate by Amdahl's capacity plan. This derived a growth pattern based on worst case, best case and industry standard. The industry standard path is consistent with the IBM projected growth. The actual growth currently being experienced corresponds to the worst case path.

6. External bureau charges were estimated as follows:
   a. two bureaus were asked to provide charges for running a range of actual ODP systems. The charges were very similar and an average was taken;
   b. a profile of systems which would fill a 3 MIP machine was determined based on likely systems to either use the Amdahl V6 or to be shed to an external bureau;
   c. based on the actual charges referred to in a. these systems were costed and an estimate of $2.38M obtained to run 3 MIPS of processing for a year on an external bureau; and
   d. the figure of $2.38M for 3 MIPS for a year was applied to the shortfall in capacity under each option.

ATTACHMENT C

DESCRIPTION OF OPTIONS

OPTION 1: V8/V6/External Bureau

This option involves continued operation of the Amdahl V8 until the replacement equipment is acquired from the DESINE RFT in 1988. The V8 would be supplemented with the recommissioned Amdahl V6 once the new accommodation in the Atrium is available. The machines will be run as loosely coupled dual processors with one designated a production machine, the other for test and development. Shortfalls in capacity would be met by use of an external bureau. Two external bureaus have been identified which could potentially meet requirements since they run ODP's common applications software.

The commissioning of the Amdahl V6 requires an additional copy of systems software and of the major common applications software. A second copy of IBM systems software must be leased at full cost, a second copy of the MSA software must be acquired at a discounted purchase cost with full maintenance payable, a second copy of the Cincom software will be made available with only maintenance being charged.

Additional peripheral equipment would be required as follows:

a. 5 gigabytes of disk storage as systems disks for the Amdahl V6;
b. an upgrade to a tape controller to allow back-up to both the V6 and the V8; and
c. additional communications controller and terminals to operate the V6.

In addition the Amdahl V6 will use extra power and airconditioning.

The dual processor environment is more complex to operate and would require an additional half of a systems programmer and two additional operators, one per shift.

The use of an external bureau increases the complexity of management of the network and of control of systems in production. An additional half of a systems programmer and one production services staff would be required.

By the end of 1988 the Amdahl V6 and V8 will have no residual value.

OPTION 2: V8/External Bureau

This option involves continued operation of the Amdahl V8 as the basis of the MCB until the replacement equipment is acquired from the DESINE RFT in 1988. The Amdahl V8 will be installed in Jensen House until the new computer room accommodation is available at which time it will be transferred to the Atrium. This option caters for the contingency of new computer accommodation not becoming available in the expected timeframe.

Shortfalls in capacity will be met by use of an external bureau. The use of an external bureau increases the complexity of management of the network and of control of systems in production. An additional half of a systems programmer and one production services staff would be required.

The Amdahl V6 would have no residual value by the end of 1986, the Amdahl V8 would have no residual value by the end of 1988.

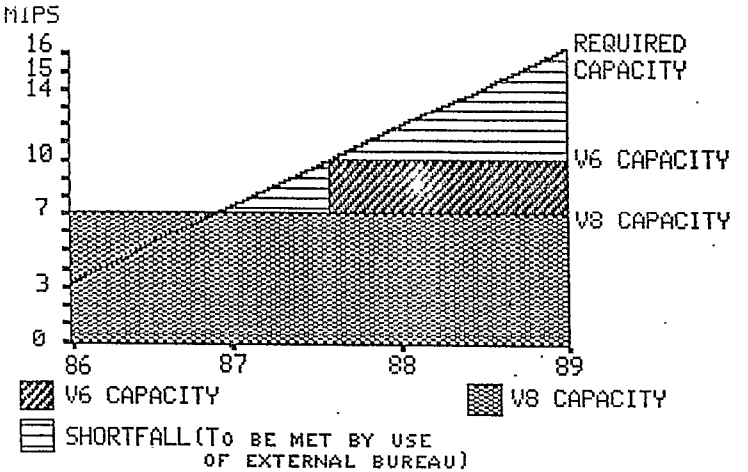
OPTION 3: SURPLUS IBM

This option involves operation of the Amdahl V8 until December 1986 at which time it would be fully loaded. In the meantime ODP would attempt to acquire a surplus IBM 3081K from the Commonwealth Bank, through DOLGAS. The machine would be available by October 1986 and could be installed in existing accommodation in Jensen House by the end of the year as the MCB. When the new accommodation is available the IBM 3081K would be transferred to the Atrium.

The IBM 3081K would run the existing software and peripherals. No additional software or hardware would be required. It would require no additional staff to operate over those needed for the Amdahl V8.

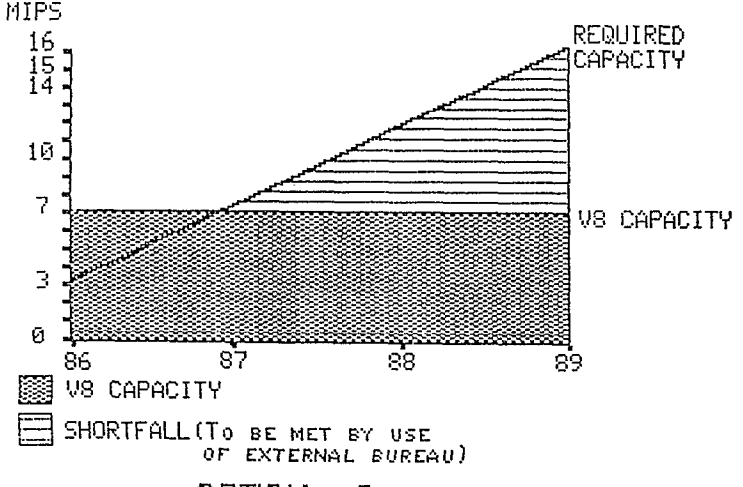
A small upgrade to capacity of 1MIP could be acquired at a cost of $30,000. It is estimated that this would be required by mid-1988.

A small shortfall in capacity would exist late in 1988 if the replacement equipment had not been acquired from the DESINE RFT. This would be met by use of an external bureau with its associated costs as per the other options.

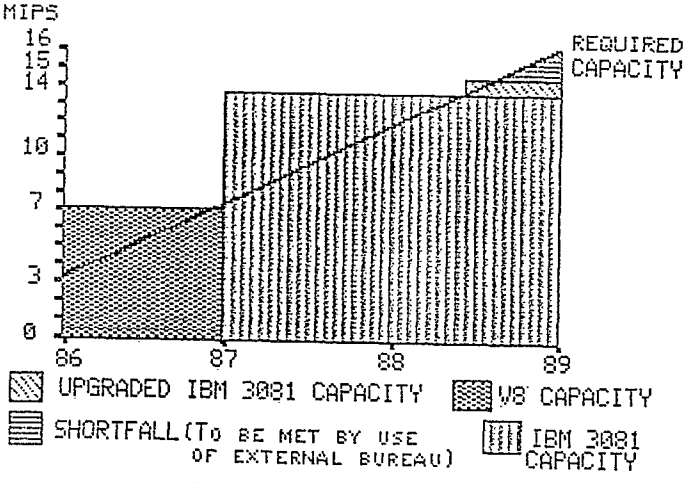


OPTION 1

ATTACHMENT D


MIPS
16
15
14
10
7
3
0
REQUIRED CAPACITY
V8 CAPACITY
86
87
88
89
V8 CAPACITY
SHORTFALL (To BE MET BY USE OF EXTERNAL BUREAU)

OPTION 2


MIPS
16
15
14
10
7
3
0
86
87
88
89
REQUIRED CAPACITY
UPGRADED IBM 3081 CAPACITY
V8 CAPACITY
SHORTFALL (To BE MET BY USE OF EXTERNAL BUREAU)
IBM 3081 CAPACITY

OPTION 3

ATTACHMENT E

COST COMPARISON OF OPTIONS

COST OF OPTIONS BASED ON BASE YEAR COSTS

BASE YEAR COSTS	2ND HALF 1986	1ST HALF 1987	2ND HALF 1987	1ST HALF 1988	2ND HALF 1988	TOTAL
OPTION 1	$1,079,800	$3,487,800	$1,664,800	$2,529,800	$3,399,800	$12,162,000
OPTION 2	$1,079,800	$2,912,800	$2,519,800	$3,424,800	$4,289,800	$14,227,000
OPTION 3	$2,944,800	$2,118,800	$1,068,800	$1,068,800	$1,218,800	$8,420,000

COST OF OPTIONS BASED ON BASE YEAR COSTS ADJUSTED FOR PRICE MOVEMENT FACTORS

ADJUSTED COSTS	2ND HALF 1986	1ST HALF 1987	2ND HALF 1987	1ST HALF 1988	2ND HALF 1988	TOTAL
OPTION 1	$1,079,800	$3,503,317	$1,738,544	$2,669,331	$3,629,748	$12,620,740
OPTION 2	$1,079,800	$2,937,892	$2,594,194	$3,580,501	$4,549,038	$14,741,425
OPTION 3	$2,944,800	$2,130,722	$1,099,664	$1,116,125	$1,285,217	$8,576,528

COST OF OPTIONS BASED ON ADJUSTED COSTS DISCOUNTED AT 10% P.A.

DISCOUNTED COSTS (at 10%)	2ND HALF 1986	1ST HALF 1987	2ND HALF 1987	1ST HALF 1988	2ND HALF 1988	TOTAL
OPTION 1	$1,079,800	$3,336,559	$1,576,859	$2,305,768	$2,986,194	$11,285,180
OPTION 2	$1,079,800	$2,798,048	$2,352,934	$3,092,837	$3,742,493	$13,066,112
OPTION 3	$2,944,800	$2,029,300	$997,395	$964,109	$1,057,348	$7,992,951

EQUIPMENT DESCRIPTION OR MAINTENANCE BASIS	BASE YEAR $ 1986					ADJUSTED $ CALCULATED ON BASE YEAR					
	2ND HALF 1986	1ST HALF 1987	2ND HALF 1987	1ST HALF 1988	2ND HALF 1988	PRICE MOVE. FACTOR (%)	2ND HALF 1986	1ST HALF 1987	2ND HALF 1987	1ST HALF 1988	2ND HALF 1988
SPECIFIC COSTS											
HARDWARE											
MAINTENANCE V8	$65,000	$65,000	$65,000	$65,000	$65,000	3	$65,000	$65,975	$66,950	$67,990	$68,965
RECONNISSION V6		$10,000				3		$10,150	$0	$0	$0
MAINTENANCE V6			$46,000	$46,000	$46,000	3		$0	$47,380	$48,116	$48,806
ADDITIONAL SYSTEMS DISKS FOR V6		$240,000				-10		$228,000	$0	$0	$0
MAINTENANCE FOR ADDITIONAL DISKS			$13,000	$13,000	$13,000	3		$0	$13,390	$13,598	$13,793
UPGRADE TAPE CONTROLLER (to connect to V6 & V8)		$10,000				-10		$9,500	$0	$0	$0
ADDITIONAL COMMUNICATIONS CONTROLLER AND TERMINALS		$30,000				-10		$28,500	$0	$0	$0
SOFTWARE											
SYSTEMS S/W MAINT. & MISC V8	$96,000	$96,000	$96,000	$96,000	$96,000	3	$96,000	$97,440	$98,880	$100,416	$101,856
V6			$96,000	$96,000	$96,000	3		$0	$98,880	$100,416	$101,856
ACQUISITION OF ADDITIONAL COPY OF MSA(Fin. Account)		$165,000				3		$167,475	$0	$0	$0
ACQUISITION OF ADDITIONAL COPY OF MSA(Purch. & Inventory)		$120,000				3		$121,800	$0	$0	$0
MAINT. ADDITIONAL COPY MSA(Fin. Account)			$19,000	$19,000	$19,000	3		$0	$19,570	$19,874	$20,159
MAINT. ADDITIONAL COPY MSA(Purch. & Inventory)			$21,000	$21,000	$21,000	3		$0	$21,630	$21,966	$22,281
MAINT. ADDITIONAL COPY CINCOM			$40,000	$40,000	$40,000	3		$0	$41,200	$41,840	$42,440
EXTERNAL BUREAU USAGE											
BUREAU CHARGES		$578,000	$220,000	$1,080,000	$1,950,000	3		$556,670	$226,600	$1,129,680	$2,068,950
COMMUNICATIONS - ADDITIONAL REQ. FOR BUREAU USAGE		$5,000	$5,000	$10,000	$10,000	3		$5,075	$5,150	$10,460	$10,610
STAFF (CONTRACTORS)											
COMPLEXITY OF OPERATIONS (External Bureau .5 x sys prog + 1 x prod services)		$50,000	$50,000	$50,000	$50,000	3		$50,750	$51,500	$52,300	$53,050
COMPLEXITY OF OPERATIONS (Dual Processors .5 x sys prog + 2 x operators)			$75,000	$75,000	$75,000	3		$0	$77,250	$78,450	$79,575
ACCOMODATION											
EXTRA POWER & A/C TO RUN V6			$25,000	$25,000	$25,000	0		$0	$25,000	$25,000	$25,000
SUB TOTAL	$161,000	$1,349,000	$771,000	$1,636,000	$2,506,000		$161,000	$1,371,335	$793,360	$1,710,106	$2,657,341
ONGOING OPERATIONAL COSTS											
HARDWARE											
MAINT. ON PERIPHERALS	$63,000	$63,000	$63,000	$63,000	$63,000	3	$63,000	$63,945	$64,890	$65,898	$66,843
SOFTWARE											
MAINT. ON FIRST COPY CINCOM	$40,000	$40,000	$40,000	$40,000	$40,000	3	$40,000	$40,600	$41,200	$41,840	$42,440
MAINT. ON FIRST COPY MSA (Fin. Account)	$19,000	$19,000	$19,000	$19,000	$19,000	3	$19,000	$19,285	$19,570	$19,874	$20,159
MAINT. ON FIRST COPY MSA (Purch. & Inventory)	$21,000	$21,000	$21,000	$21,000	$21,000	3	$21,000	$21,315	$21,630	$21,966	$22,281
MAINT. ON PSDI	$18,000	$18,000	$18,000	$18,000	$18,000	3	$18,000	$18,270	$18,540	$18,828	$19,098
STAFF											
SALARIES OF STAFF DIRECTLY SUPPORTING MCB (Inc. overhead of 85%)	$717,600	$717,600	$717,600	$717,600	$717,600	3	$717,600	$728,567	$739,334	$750,819	$761,586
CONSUMABLES	$40,000	$40,000	$40,000	$40,000	$40,000	0	$40,000	$40,000	$40,000	$40,000	$40,000
ACCOMODATION											
NEW COMPUTER ROOM		$1,200,000				0		$1,200,000	$0	$0	$0
SUB TOTAL	$918,600	$2,118,600	$918,600	$918,600	$918,600		$918,600	$2,131,982	$945,164	$959,225	$972,407
TOTAL COSTS	$1,079,600	$3,467,600	$1,689,600	$2,554,600	$3,424,600		$1,079,600	$3,503,317	$1,738,544	$2,669,331	$3,629,748
SAVINGS											
RESIDUAL VALUE V8					$0						$0
RESIDUAL VALUE V6					$0						$0
TOTAL SAVINGS	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
TOTAL [illegible]	$1079600	-$1467600	-$468600	-$2554600	-$3424600		+$1079600	-$3503317	-$1738544	$669331	-$3629748

OPTION 2 : VOLKSKERNEL BUREAU

EQUIPMENT DESCRIPTION OR MAINTENANCE BASIS	BASE YEAR 3 1986						ADJUSTED & CALCULATED ON BASE YEAR				
	2ND HALF 1986	1ST HALF 1987	2ND HALF 1987	1ST HALF 1988	2ND HALF 1988	PRICE MOVE. FACTOR (%)	2ND HALF 1986	1ST HALF 1987	2ND HALF 1987	1ST HALF 1988	2ND HALF 1988
SPECIFIC COSTS											
HARDWARE											
MAINTENANCE VS	$65,000	$65,000	$65,000	$65,000	$65,000	3	$65,000	$65,975	$66,950	$67,990	$68,965
SOFTWARE											
SYSTEMS S/W MAINT. & MISC VB	$96,000	$96,000	$96,000	$96,000	$96,000	3	$96,000	$97,440	$98,880	$100,416	$101,856
EXTERNAL BUREAU USAGE											
BUREAU CHARGES		$578,000	$1,380,000	$2,280,000	$3,140,000	3		$586,670	$1,421,400	$2,384,880	$3,331,540
COMMUNICATIONS - ADDITIONAL REQ. FOR BUREAU USAGE		$5,000	$10,000	$15,000	$20,000	3		$5,075	$10,300	$15,690	$21,220
STAFF (CONTRACTORS)											
COMPLEXITY OF OPERATIONS (External Bureau .5 x sys prog + 1 x prod services)		$50,000	$50,000	$50,000	$50,000	3		$50,750	$51,500	$52,300	$53,050
SUB TOTAL	$161,000	$794,000	$1,601,000	$2,506,000	$3,371,000		$161,000	$805,910	$1,649,010	$2,621,276	$3,576,631
ONGOING OPERATIONAL COSTS											
HARDWARE											
MAINT. ON PERIPHERALS	$63,000	$63,000	$63,000	$63,000	$63,000	3	$63,000	$63,945	$64,890	$65,898	$66,843
SOFTWARE											
MAINT. ON FIRST COPY CINCOM	$40,000	$40,000	$40,000	$40,000	$40,000	3	$40,000	$40,600	$41,200	$41,840	$42,440
MAINT. ON FIRST COPY MSA (Fin. Account)	$19,000	$19,000	$19,000	$19,000	$19,000	3	$19,000	$19,285	$19,570	$19,874	$20,159
MAINT. ON FIRST COPY MSA (Purch. & Inventory)	$21,000	$21,000	$21,000	$21,000	$21,000	3	$21,000	$21,315	$21,630	$21,966	$22,281
MAINT. ON PSDI	$18,000	$18,000	$18,000	$18,000	$18,000	3	$18,000	$18,270	$18,540	$18,828	$19,098
STAFF											
SALARIES OF STAFF DIRECTLY SUPPORTING MCB (inc. overhead of 85%)	$717,800	$717,800	$717,800	$717,800	$717,800	3	$717,800	$728,567	$739,334	$750,819	$761,586
CONSUMABLES	$40,000	$40,000	$40,000	$40,000	$40,000	0	$40,000	$40,000	$40,000	$40,000	$40,000
ACCOMODATION											
NEW COMPUTER ROOM		$1,200,000				0		$1,200,000	$0	$0	$0
SUB TOTAL	$918,800	$2,118,800	$918,800	$918,800	$918,800		$918,800	$2,131,982	$945,164	$959,225	$972,607
TOTAL COSTS	$1,079,800	$2,912,800	$2,519,800	$3,424,800	$4,289,800		$1,079,800	$2,937,892	$2,594,194	$3,580,501	$4,549,238
SAVINGS											
RESIDUAL VALUE V6	$0						$0				
RESIDUAL VALUE V8					$0						$0
TOTAL SAVINGS	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
TOTAL (TOTAL SAVINGS TOTAL COSTS)	1079800	2912800	2519800	3424800	4289800		1079800	2937892	2594194	3580500.8	4549037.8

	BASE YEAR $ 1986						ADJUSTED $ CALCULATED ON BASE YEAR				
EQUIPMENT DESCRIPTION OR MAINTENANCE BASIS	2ND HALF 1986	1ST HALF 1987	2ND HALF 1987	1ST HALF 1988	2ND HALF 1988	PRICE INCR. FACTOR (%)	2ND HALF 1986	1ST HALF 1987	2ND HALF 1987	1ST HALF 1988	2ND HALF 1988
SPECIFIC COSTS											
HARDWARE											
MAINTENANCE VS	$65,000						$65,000	$0	$0	$0	$0
PURCHASE IBM 3081	$1,800,000						$1,800,000	$0	$0	$0	$0
FREIGHT PROCESSOR TO MELB	$10,000						$10,000	$0	$0	$0	$0
INSTALL IBM	$10,000						$10,000	$0	$0	$0	$0
DECOMMISSION VS	$5,000						$5,000	$0	$0	$0	$0
MAINTENANCE IBM 3081			$54,000	$54,000	$54,000	3		$51,300	$55,620	$56,484	$57,294
HARDWARE UPGRADE IBM (16-15MIPS)					$30,000	-10		$0	$0	$0	$31,850
SOFTWARE											
SYSTEMS S/W MAINT. & HIRE VS	$96,000						$96,000	$0	$0	$0	$0
IBM 3081			$96,000	$96,000	$96,000	3		$97,440	$98,856	$100,416	$101,856
EXTERNAL BUREAU USAGE											
BUREAU CHARGES					$90,000	0		$0	$0	$0	$90,000
COMMUNICATIONS - ADDITIONAL REQ. FOR BUREAU USAGE					$5,000	3		$0	$0	$0	$5,305
STAFF (CONTRACTORS)											
COMPLEXITY OF OPERATIONS (External Bureau .5 x sys prog + 1 x prod services)					$25,000	3		$0	$0	$0	$26,525
ACCOMODATION											
BUILDING WORKS JENSEN HOUSE (Chilled water & Elec.)	$40,000						$40,000	$0	$0	$0	$0
SUB TOTAL	$2,026,000	$150,000	$150,000	$150,000	$300,000		$2,026,000	$148,740	$154,500	$156,900	$312,830
ONGOING OPERATIONAL COSTS											
HARDWARE											
MAINT. ON PERIPHERALS	$63,000	$63,000	$63,000	$63,000	$63,000	3	$63,000	$63,945	$64,890	$65,898	$66,843
SOFTWARE											
MAINT. ON FIRST COPY CINCOM	$40,000	$40,000	$40,000	$40,000	$40,000	3	$40,000	$40,600	$41,200	$41,860	$42,440
MAINT. ON FIRST COPY NSA (Fin. Account)	$19,000	$19,000	$19,000	$19,000	$19,000	3	$19,000	$19,285	$19,570	$19,874	$20,159
MAINT. ON FIRST COPY NSA (Purch. & Inventory)	$21,000	$21,000	$21,000	$21,000	$21,000	3	$21,000	$21,315	$21,630	$21,966	$22,281
MAINT. ON PSDI	$18,000	$18,000	$18,000	$18,000	$18,000	3	$18,000	$18,270	$18,540	$18,828	$19,095
STAFF											
SALARIES OF STAFF DIRECTLY SUPPORTING MCB (Inc. overhead of 61%)	$717,800	$717,800	$717,800	$717,800	$717,800	3	$717,800	$728,567	$739,334	$750,819	$761,586
CONSUMABLES	$40,000	$40,000	$40,000	$40,000	$40,000	0	$40,000	$40,000	$40,000	$40,000	$40,000
ACCOMODATION											
NEW COMPUTER ROOM		$1,200,000				0		$1,200,000	$0	$0	$0
SUB TOTAL	$918,800	$2,118,800	$918,800	$918,800	$918,800		$918,800	$2,131,982	$945,164	$959,225	$972,407
TOTAL COSTS	$2,944,800	$2,268,800	$1,068,800	$1,068,800	$1,218,800		$2,944,800	$2,280,722	$1,099,664	$1,116,125	$1,285,237
SAVINGS											
RESIDUAL VALUE VS		$130,000			$0			$150,000			$0
TOTAL SAVINGS	$0	$130,000	$0	$0	$0		$0	$150,000	$0	$0	$0
TOTAL (TOTAL SAVINGS - TOTAL COSTS)	-2944800	-2138800	-1068800	-1068800	-1218800		-2944800	-2130722	-1099664	-1116125	-1285237

ATTACHMENT F

UNQUANTIFIED BENEFITS

OPTION 1: V8/V6/External Bureau

- Provides a measure of internal back-up through dual processors.
- Though costly, provides a guaranteed level of service to users of the external bureau.

OPTION 2: V8/External Bureau

- Though costly, provides a guaranteed level of service to users of the external bureau.
- Would have the ability to remain longer in existing accommodation in Jensen House if problems occurred with the completion of the new accommodation in the Atrium. This could be achieved through an increased utilisation of disk storage on the External Bureau at a cost, rather than acquisition of disk storage to connect to the MCB, a cheaper option, but requiring additional computer room accommodation space and air conditioning than would be available in Jensen House.

OPTION 3: Surplus IBM 3081 K

- Opportunity to redeploy Amdahl V8 to other areas of the Department with a requirement.
- Savings in overtime in first half of 1987.
- Simplifies management as well as operation of the MCB.
- Simplifies the charging formula and its application.
- Provides an opportunity to assess the quality of IBM support.
- Provides the opportunity to move to the more advanced MVS/XA operating system at an earlier date.
- Does not involve attracting additional scarce skilled staff resources.

APPENDIX 9

SUPPLEMENTARY INFORMATION FROM THE DEPARTMENT OF DEFENCE ON THE OFFICE OF DEFENCE PRODUCTION PROPOSALS - 11 JULY 1986

DEPARTMENT OF DEFENCE

RUSSELL OFFICES
CANBERRA, A.C.T. 2600

IN REPLY QUOTE:

RFP 86/3221
FSA 577/86

'/ July 1986

Mr M.J. Talberg
Secretary
Joint Parliamentary Committee
of Public Accounts
Parliament House
CANBERRA ACT 2600

ACQUISITION OF SURPLUS COMPUTER EQUIPMENT FOR
OFFICE OF DEFENCE PRODUCTION

In your correspondence of 2 July 1986 you sought information on certain matters regarding the proposed acquisition of surplus computer equipment by ODP. The information which you have sought has been obtained and is attached to this minute. I would appreciate your advice of any other matters which you consider necessary.

F.R. HARVEY
First Assistant Secretary
Financial Services
and Audit Division

SUPPLEMENTARY SUBMISSION TO JPCPA

CURRENT STRATEGY AND ACQUISITION PLANS
OF THE OFFICE OF DEFENCE PRODUCTION

Summary

The original proposal before the Committee addressed ODP's computing requirements from 1988 onwards which would be met from the DESINE contracts. ODP's capacity requirements before this date could not be met as part of the DESINE proposal and therefore were not considered to form part of the proposal referred to the Committee.

At the time that the proposal to the Committee was being developed it had been anticipated that ODP's capacity requirements to 1988 would be met by existing equipment, the Amdahl V6 and V8 processors, supplemented where necessary for short periods by use of an external bureau. It was recognised that this would depend on the availability of computer room accommodation suitable to house both processors. Planning to upgrade computer room accommodation commenced in 1984 but has been subject to delays due to circumstances beyond the control of the Department. However, when the V8 was installed in late 1985 it was still anticipated that upgraded accommodation would be available by the end of 1986 to enable the V6 to also be installed in response to growth in workload. This would have minimised reliance on an external bureau prior to 1988.

Subsequent to the submission of the proposal to the Committee it became apparent that a more likely date for the availability of suitable accommodation was end 1987. This would have entailed either heavy reliance on an external bureau at major cost or the inability to implement financial accounting and manufacturing control systems required by Establishments to support major projects and corporate objectives.

On 14 May 1986 a further option of meeting interim capacity requirements became available for Departmental consideration when DOLGAS informed Departments of the coming availability of surplus Commonwealth computing equipment. A detailed analysis of this option revealed substantial cost savings and a solution to ODP's capacity requirements which would be independent of accommodation problems. The capacity of the surplus equipment was such that it would only meet ODP's requirements until mid 1988 and therefore was considered to have no impact on the original proposal to the Committee which addressed requirements from 1988 onwards. At the time of the JPCPA public hearing on 5 June 1986 the proposal was still under investigation. The study was completed and submitted to ODP management for consideration on 11 June 1986. A bid for the equipment was submitted to DOLGAS on 12 June 1986 and the Committee informed on 13 June 1986. The Committee was subsequently provided with a copy of the detailed internal proposal which supported the bid.

Responses to the detailed questions forwarded by the Committee on 3 July 1986 follow.

1. CAPACITY PLANNING

A. Given that both IBM and Amdahl have an expectation of computer sales to ODP how has the ODP satisfied itself that the capacity planning studies undertaken are 'independent' and accurate estimates of its requirement?

Initial investigations by ODP indicated that the only organisations able to provide a service to undertake capacity planning studies in the IBM/MVS environment were associated with vendor organisations. When commissioned to undertake this work, those involved from both IBM and Amdahl worked closely with ODP personnel to ensure that only relevant information in terms of usage and proposed new systems, was taken into account. In particular, the Amdahl capacity plan was developed under the close supervision of a senior ODP computing officer and an independent external consultant. The terms of reference of the studies and the methodologies to be used were developed prior to the studies. They were closely monitored during the conduct of the studies and were adhered to.

It is considered that the close similarity in the results of the two independent and professional studies is to some extent a measure of their accuracy. The results are also supported by their close correlation to industry standard growth rates.

B. What are the details of these studies and by what method were the estimates made?

The methodology employed in the Amdahl capacity plan was the Baseline Model which was used to build an analytical model of a known set of workloads which were then used to project future resource requirements. This comprised:

a. using Williamstown Dockyard as a focus of the Baseline Model since Williamstown was the most extensive and advanced user;

b. a worst case/best case/industry standard analytical modelling approach;

c. the Williamstown Dockyard models were factored to provide projections for other ODP Establishments;

d. the scaling factor used was current terminal base and planned terminal growth over the specified period against a Williamstown base of 1.

The Baseline Model consists of the following steps:

a. determine workloads and peaks;

b. capture current workload performance measurement data;

c. build a Baseline Model representing only the Williamstown Dockyard workloads running on the MCB;

d. project the workload growth to the end of 1990; and

e. using the scaling factors extrapolate the Williamstown workload scenarios to other Establishments to obtain a total capacity requirement for MCB users.

The tools employed in the study were:

a. BEST/1;
b. CAPTURE MVS; and
c. SAS.

The study was based on actual MCB usage statistics [obtained from Resource Monitor Facility (RMF), System Monitor Facility (SMF) and CICS Monitor Facility (CMF)], gathered from the operation of the Amdahl V6 processor over the six month period, March to August 1985.

The IBM study was similarly based on actual usage statistics, collected from the operation of the Amdahl V8 processor during February 1986. The methodology used for the study the "USAGE Methodology." In this methodology usage statistics are processed by the "ESP" product to forecast resource requirements.

C.) What systems are currently operating on MCB equipment?
D.) What are their individual CPU consumptions?

A graph of prime time CPU usage for the last week in June is provided at Annex A. The table below lists the major systems which use the CPU and their average daily actual CPU usage in minutes.

Establishement	System	CPU time (average actual CPU minutes per day)
AGCF	Manufacturing Control	17.5
OFM	Debtors/Creditors	33.0
	Manufacturing Control	33.5
WD	Financial Management	23.4
	Manufacturing Control	107.3
	Purchase Tracking	12.8
	Costing	7.8*

MFF	Financial Management	4.2 *
CO	Management	14.9
MCB	Systems Support	132.7

* These systems are still in development mode, scheduled to come into production in July 1986.

E. What size characteristics do the systems have?

All of the major systems provided by the Bureau are proprietary software products. Their overall sizes are as follows:

Project/2	(Project Management)	- 2,300,000 bytes
MRPS	(Manufacturing Control)	- 10,000,000 bytes
MSA	(Financial Management)	- 4,500,000 bytes

These systems operate concurrently in an on-line environment under either CICS (Customer Information Control Services) or TSO (Time Sharing Option), utilising the virtual memory features of the MVS operating system. Depending on the architecture of the different products, one copy may be able to be used to service several users (e.g. MSA). Alternatively, as is the case with MRPS and Project/2 at least one copy of the product is required to be resident on the computer for each user Establishment. All systems have both on-line and batch components.

F. What new systems are planned, when will they enter production and what are their size characteristics?

A list of new systems planned to use the MCB and the dates they are expected to enter production is provided at Annex B. This list is based on information in the ODP ADP Strategic Plan updated to reflect current planning.

2. ORIGINAL ODP PROPOSAL TO COMMITTEE

A. What is the impact of the proposal before the Committee if the interim acquisition proceeds?

The proposed acquisition of interim computing capacity for the Manufacturing Computing Bureau has no impact on the proposal before the Committee.

The proposed acquisition before the Committee is for equipment to satisfy requirements for processing power from 1988 onwards. The interim acquisition is intended to satisfy an expected shortfall in power between the end of 1986 and 1988 when the equipment in the proposal before the Committee can be acquired. The equipment proposed for installation in 1988 will have a processing capacity in excess of 15 MIPS and will replace fully the interim processor.

B. What is the expected life of the computer to be acquired?

Expectations are that the interim equipment will meet requirements for the Manufacturing Computing Bureau until mid 1988. At that time the equipment will be 5 years old, will have some residual value and could be disposed of to the advantage of the Commonwealth. Given a life expectancy of seven years for current equipment the equipment could be operated for another 2 years after 1988, however it would not be of sufficient capacity to meet ODP's requirements.

C. How will the second hand computer be attached to any new equipment subsequently acquired post 1987/88?

The interim equipment will be disposed of when the new equipment is installed in 1988. Retention of the interim equipment is considered not to be justified on operational and cost effectiveness grounds.

Operation of dual processors would entail:

a. additional hardware maintenance ($108,000 p.a.);

b. additional software lease and maintenance ($352,000 p.a.);

c. additional software acquisition ($285,000);

d. engagement of additional operational staff ($250,000 p.a.); and

e. additional air conditioning and power costs ($50,000 p.a.).

The costs of this over a 2 year period, corresponding to the remaining 2 year lifetime of the interim equipment, are estimated to be $1,805,000. Additionally there is no guarantee that there will be sufficient computer accommodation to install dual processors. The greater complexity of operation is a further undesirable aspect of dual processors. In fact similar considerations would apply as apply to the dual Amdahl V8/V6 option which have already been supplied to the Committee.

A further implication of the introduction of dual processor operation in 1988 is the need to acquire a major replacement 2 years further on when the interim processor is no longer viable. At that time it would be necessary to either replace equipment which is only 2 years old or bear the continuing costs of dual processor operations.

D. How will the nature and size of the ODP proposal be altered as a result of this interim acquisition?

The nature and size of the ODP proposal before the Committee will not be altered in any way as a result of the acquisition of interim processing capacity for the Manufacturing Computing Bureau.

3. COST EFFECTIVENESS

A. Are there any alternatives to the purchase of a second hand computer, other than the use of an external bureau?

As detailed in ODP'S proposal the Amdahl V8 computer has only sufficient processor power to meet the Office's requirements through to December 1986. Within this time constraint there are no alternatives. Outside this time constraint tenders could be called for either an interim second hand or new IBM-compatible processor. However such acquisition action, especially for new equipment could be seen as pre-empting the proposal currently before the Committee.

The time required to acquire equipment through open tendering would necessitate the use of an external bureau, as an interim measure, to supplement current capacity at substantial cost and with a resultant complex computer operations environment for ODP processing. Also such acquisition action could not be completed in a timeframe significantly less than that planned for the proposed acquisition currently under consideration by the Committee. This, in effect, would result in either the V8/External Bureau or the V8/V6/External Bureau option being adopted.

No alternative surplus Commonwealth Government equipment is available.

B. What is the relative cost effectiveness of these alternatives?

The acquisition of the proposed interim equipment leads to cost savings over a two year period of $3,742,000 and of $5,807,000 over the other options available to ODP, ie the V8/V6/External Bureau option and the V8/External Bureau option respectively. As will be seen from the response to 4B. below, problems with computer room accommodation seem likely to prohibit the commissioning of the V6 before 1988 and therefore ODP will be forced to adopt the most expensive option. Acquisition of other second hand equipment through a tendering process would result in a similar capital outlay since market value is being bid for the surplus

Commonwealth equipment. The longer timeframe required to acquire such equipment would however incur cost penalties in the form of external bureau charges and support costs. These charges have been estimated on a monthly basis for 1987 and included at Annex C. For the first half of 1987 these additional costs amount to $591,000 , for all of 1987 they total $2,088,000. In addition, tendering action would involve additional adminstrative overheads in the preparation and evaluation of tenders.

C. Can the acquisition of new equipment as envisaged in the original submission be brought forward?

The timetable for acquisition of the overall Defence requirement for administrative computing, of which ODP's requirements comprise one module, is possible but has no allowance for slippage.

D. What systems would not be implemented and what are the consequences of not implementing these systems if only the V8 or the V8 and V6 options, without external bureaux were utilized?

On current estimates and plans, if supplementary capacity is not acquired for the MCB by January 1987 no new systems could access the MCB. Between July and December 1986 the following systems will enter production:

a. Financial

MFF General Ledger
OFB General Ledger
EFM General Ledger
OFM Fixed Assets
WD Costing
MFF Forecasting and Modelling

b. Manufacturing Control

AFF Bill of Material/Capacity Planning
OFM Bill of Material/Material Planning
OFM Purchasing
AGCF Purchasing

c. Project Management

WD Project Management.

The following systems needs, planned to be met in 1987 and 1988 could not be satisfied:

a. Financial

General Ledger: AFF, AGCF, MEF, OFM, SAF
Accounts Payable: AFF, AGCF, EFM, OFB, OFM

Accounts Receivable: AFF, OFM, WD
Fixed Assets: AGCF, EFM, OFM
Forecasting and Modelling: EFM
Budgetry Control: WD
Costing: AFF.

b. Manufacturing Control

Inventory: AFF, EFM, OFB, OFM
Purchasing: AFF, EFM, OFB
Master Production Scheduling: AFF, OFM
Capacity Planning: OFM
Shop Floor Scheduling: OFM.

c. Corporate Management

Personnel
Occupational Health and Safety
Materials Management.

In addition, as the workload of existing systems using the MCB grows it is highly likely that some users would need to be shed from the MCB over the timeframe to ensure the continued operation of the highest priority systems.

As stated in the original submission to the Committee, the majority of users of the MCB have either Category A or B priority. They are either essential or strategic to ODP's documented corporate objectives as follows:

a. the introduction of financial accounting systems are essential to the establishment of financial structures and capabilities consistent with commercial operations;

b. the introduction of manufacturing control systems based on computerised production and inventory management techniques improve the technological capability within ODP's Establishments enabling the evolution of these capabilities to meet Defence requirements. Such systems are required to support the management of major Defence production projects; and

c. the establishment of operational data bases based on common financial, manufacturing and corporate management systems allow the development of management information systems needed to improve the management and commercial orientation of ODP's Establishments.

(Volume V (iii) and (xvi) of the original submission refers)

E. What has the ODP done to assess the efficiency and cost effectiveness of its existing systems and to reduce their CPU usage?

The bulk of major systems operating on the MCB use common application software which comprise third party propriety products. They are packaged solutions and do not readily lend themselves to modification to minimise CPU usage. However, within the constraints imposed by the operating system (MVS), the architecture of the products themselves and availability of disk storage capacity, all possible steps have been taken to optimise overall performance.

Where appropriate, software has been installed to minimise processor overheads. Where possible single CICS regions have been used for multiple applications. Operating system tuning and data placement have also been undertaken to remove processing bottlenecks.

As part of a standard approach to systems implementation ODP is introducing systems effectiveness studies which cover technical review to monitor operational running, user satisfaction and achievement of benefits. A formal systems effectiveness measurement approach is in place for one major systems project and will be extended across ODP. Pending this, cost effectiveness of systems is monitored by the Production Computing Committee through the ADP Strategic Plan and periodic reports on major systems.

F. What charging and cost recovery measures currently operate for services provided by the MCB to ODP factories?

A charging formula for the use of MCB services was developed based on Department of Finance guidelines. Currently a notional charging system is used. Under this system accounts for usage are issued and users must take into account these charges in preparing system cost effectiveness analyses. It has been agreed by the ODP Production Computing Committee that the MCB will move to actual charging with full cost recovery in a phased manner.

G. What measures have been taken to ensure the level of demand for such services reflects the cost of providing them and to ensure their use is cost justified?

Demand for services provided by the MCB is controlled and monitored through the Office's ADP Strategic Planning process, which is oversighted by the ODP Production Computing Committee. Input to the ODP ADP Strategic Plan is via individual Establishment computing plans. For

each major system all Establishments are required to complete a project portfolio detailing costs, quantifiable benefits, current MCB usage and proposed MCB usage. All use of the MCB must be based on cost/benefit issues, with costs including notional as well as actual bureau charges.

4. COMPUTER ACCOMMODATION

A. Why is it not possible to house the V8 and V6 together, as it was planned to do so in the 3rd Quarter 1986, when the V8 was acquired?

Existing accommodation in Jensen House is capable of housing either the V8 or V6 but not both simultaneously. When the V8 was acquired late in 1985 plans were in hand to provide by late 1986 accommodation suitable to house both machines.

B. Why did ODP's planning not provide for a computer room expansion early enough to have it ready for the 3rd Quarter of 1986?

Planning for the upgrade to MCB computer accommodation commenced in 1984. Design briefs were provided to DH&C for the refurbishment of existing computing accommodation within Jensen House, late in 1984. This work would have upgraded and expanded the Jensen House computer room and was expected to be completed by late 1985.

In early 1985 the Victorian State Government announced plans for the 'Victoria Project'. These plans included the Jensen House site and the demolition of the building. Following this announcement neither DOLGAS nor the Department of Finance would support expenditure on refurbishment work in Jensen House when its likely future was sale and demolition. The decision to withdraw support from the Jensen House refurbishment was made known to the Department of Defence in May 1985. At that time planning then commenced for the construction of a suitable computer room in alternative Department of Defence accommodation at 350 St Kilda Road. The expected start date for work was November 1985 with a completion date of March 1986.

When the V8 was acquired in September 1985, DH&C had called tenders for the refurbishment of the Plaza building, 350 St Kilda Road. In this building approximately 500 Sqm of adequately air conditioned computer accommodation was to be provided which would have allowed both the V8 and V6 processors to be installed and operated simultaneously. However in November 1985 the Department was informed that the floor

loading capacity of the Plaza building was inadequate to house modern computing equipment.

Following the decision not to proceed with the Plaza building, DOLGAS sought alternative suitable accommodation for the MCB. Because of the urgency of the requirement fully fitted or purpose built accommodation was initially sought, however this could not be found and appropriate leased accommodation requiring fit out was then sought. Suitable premises were identified in March 1986 and a lease is being negotiated. Detailed planning for fit out by DH&C will commence when a lease has been negotiated. Current estimates by DH&C are that occupancy of the identified premises would not be available before November 1987.

C. Why can't the ODP operate the V8 and V6 in stand alone mode?

The current Jensen House environment will not allow both processors to operate concurrently. When the V8 processor was installed in December 1985, the V6 processor was dismantled and removed before work could commence. There is only sufficient floor space within the Jensen House computer room environment to support one air cooled processor the size of either the V6 or V8.

The use of a separate site either within Jensen House or external to it was also considered, but determined to be non viable because:

a) approval for expenditure on additional works within Jensen House could not be obtained due to the Victoria Project plans (Refer 4B above);

b) no external purpose built accommodation could be located (Refer 4B above); and

c) the staffing implications and costs of supporting a separate site precluded this option from serious consideration.

D. Why can't the ODP secure separate accommodation for the V6 prior to December 1986?

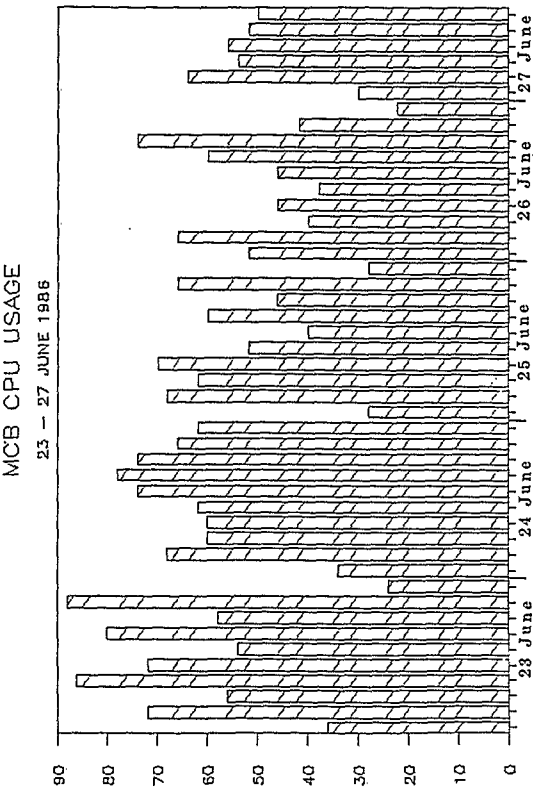
ODP has sought to locate separate accommodation suitable for the V6 both through DOLGAS and private enquiries, but no suitable accommodation has been located.

E. If the current computer room will not house a V8 and a V6, how will ODP cut over from the V8 to the 3081 prior to the availability of the new computer room and still provide an ongoing service?

As occurred in the case of the changeover from the V6 to the V8, decommissioning and installation will take place

over the Christmas/New Year period when ODP Establishments commence their annual close down. This approach was successful and resulted in minimal disruption to production systems.

ANNEX F


MCB CPU USAGE
23 – 27 JUNE 1986
CPU PERCENTAGE BUSY
90
80
70
60
50
40
30
20
10
0
23 June
24 June
25 June
26 June
27 June
HOURLY ACTIVITY – 9am to 5pm

ANNEX B

Expected production dates for new systems planned to use the MCB are:

System	Establishment	Date
General Ledger	OFB	October 1986
" "	EFM	October 1986
" "	AGCF	January 1987
" "	AFF	July 1987
" "	MEF	July 1987
" "	OFM	July 1987
" "	SAF	July 1987
Accounts Payable	OFB	February 1987
" "	EFM	February 1987
" "	AGCF	May 1987
" "	OFM	October 1987
" "	AFF	June 1988
Accounts Receivable	WD	December 1987
" "	OFM	February 1988
" "	AFF	December 1988
Fixed Assets	EFM	June 1987
" "	OFM	June 1987
" "	AGCF	July 1987
Forecasting and Modelling	MFF	July 1986
" " "	EFF	March 1987
Budgetary Control	WD	March 1987
Standard Costing	AFF	June 1988
Inventory	AFF	December 1987
"	OFM	December 1987
"	EFM	June 1988
"	OFB	June 1988
Purchasing	AGCF	December 1986
"	EFM	March 1987
"	OFB	June 1987
"	OFM	October 1987
"	AFF	June 1988
Bill of Material	AFF	December 1986
" "	OFM	December 1986
Material Planning	OFM	December 1986
Master Production Scheduling	AFF	December 1988
" " "	OFM	December 1988

System	Establishment	Date
Capacity Planning	AFF	December 1986
" "	OFM	December 1988
Shopfloor Scheduling	OFM	December 1987
Project Management	WD	December 1986
Personnel	Corporate	December 1987
Occupational Health & Safety	Corporate	December 1987
Materials Management	Corporate	March 1987

ANNEX C

MONTHLY COSTS OF USING AN EXTERNAL BUREAU TO SUPPLEMENT THE MCB DURING 1987

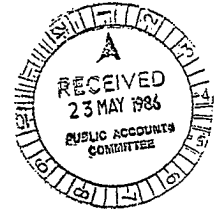
Month	Bureau Charges	Staff	Comms.	Cumulative Costs
Jan.87	$25,000	$10,000	$1,000	$36,000
Feb.87	$50,000	$10,000	$1,000	$97,000
Mar.87	$75,000	$10,000	$1,000	$183,000
Apr.87	$100,000	$10,000	$1,000	$294,000
May 87	$125,000	$10,000	$1,000	$430,000
Jun.87	$150,000	$10,000	$1,000	$591,000
Jul.87	$175,000	$10,000	$2,000	$778,000
Aug.87	$200,000	$10,000	$2,000	$990,000
Sep.87	$225,000	$10,000	$2,000	$1,227,000
Oct.87.	$250,000	$10,000	$2,000	$1,489,000
Nov.87	$275,000	$10,000	$2,000	$1,776,000
Dec.87	$300,000	$10,000	$2,000	$2,088,000

APPENDIX 10

RESPONSE FROM THE DEPARTMENT OF LOCAL GOVERNMENT AND ADMINISTRATIVE SERVICES - 23 MAY 1986

DEPARTMENT OF LOCAL GOVERNMENT AND ADMINISTRATIVE SERVICES

PURCHASING AND DISPOSALS DIVISION
GPO BOX 1920
CANBERRA ACT 2601



23 May 1986

The Secretary
Joint Parliamentary Committee of
Public Accounts
Parliament House
CANBERRA ACT 2600

DEPARTMENT OF DEFENCE ADP ACQUISITION PROJECT DESINE AND RELATED PROCUREMENTS

I refer to your letter of 14 May 1986 concerning the Committee's review of a submission by the Department of Defence.

This Department will be represented at the public hearings on 5 June by Mr R D Rubie, Assistant Secretary, Major Purchasing Branch.

The Committee has sought our advice on three issues. The following comments are offered -

(1) Five-year period contracts: In terms of compliance with the stated policies of the Government, provided the Request for Tender sets out clearly the proposed strategy, then all tenderers have the opportunity to structure their bids accordingly. Period Contracts can be set up in such a manner as to be not binding on the Commonwealth. It is considered the mechanism proposed could be adapted for the larger computers particularly, in that it could provide an orderly process for acquisition together with the flexibility to fit in with the availability of funds during the five-year period. Most of the proposed acquisitions involve gradual replacement of extensive installations of existing equipment, a long-term program in itself, even without the additional workload which would be involved in inviting and evaluating new tenders should a shorter period be recommended. A complementary method of handling this type of requirement would be for Defence to standardise on the architecture for the period in question which may have the advantage of added flexibility in more fully accommodating technological developments over the period. Under this arrangement the Department can satisfy its ongoing requirements via specific purchases during the period without the necessity to refer to a period contract. The recommendation for single prime contractors for each category does not preclude involvement by part-tenderers who would become sub-contractors and this strategy provides scope for local suppliers to be involved.

(2) Period Contract A - Standard 'network architecture': Any arrangement of this kind must diminish to some extent the Commonwealth's ability to reap the ongoing benefits of competitive purchasing in subsequent years, although use of a standardisation arrangement would overcome this problem somewhat. The extent to which this arrangement might effect future competition will be dependent upon the architecture chosen. If it is a recognised industry standard then there is every likelihood that there will be a significant number of alternative suppliers which would meet standardisation requirements.

(3) Period Contract C - Microcomputers and small office systems: A five-year period contract with a single prime contractor would not be a viable proposition in the absence of identification of specific requirements, from the point of view of specifications, estimated quantities and usage of this equipment. Deliverables must be identified and priced to constitute a valid contract. Departures from these principles would contravene existing purchasing policies including equal opportunity and due economy. Existing period contracts, which were based on a Defence specification originally, involve a panel of suppliers giving a choice of equipment, an option which would not be available under the proposed Period Contract C arrangement. It was anticipated that Period Contract C would replace the existing panel contracts when they expired. DOLGAS is currently arranging a new panel contract with a wide choice of suppliers and equipment in the micro and small office systems categories. This will involve firm price contracts renewable every 12 months. It will provide an attractive alternative to the proposed Period Contract C, as the latter would involve variable prices with no alternatives to ensure competition. Whilst the strategy of standardisation and mandatory use of Period Contract C for all Defence purchases are matters for Defence to determine, the rapid developments which are taking place in this segment of the market would seem to militate against the overall viability of a five-year standardisation strategy. For this reason we would prefer to see Defence utilise the upcoming Small Systems Period Contract as much as possible.

(R D RUBIE)
for FIRST ASSISTANT SECRETARY

APPENDIX 11

INFORMATION FROM THE DEPARTMENT OF FINANCE ON PROJECT COST-BENEFIT ANALYSIS - 14 AUGUST 1986

DEPARTMENT OF FINANCE
Newlands Street Parkes ACT 2600
Telephone Canberra 63 2222

RECEIVED
14 AUG 1986
PUBLIC ACCOUNTS COMMITTEE

Reference: 86/1811
Contact Officer:
Telephone:

Mr M.J. Talberg
Secretary
Joint Parliamentary Committee
of Public Accounts
Parliament House
CANBERRA ACT 2600

DEPARTMENT OF DEFENCE ADP ACQUISITION: PROJECT DESINE AND RELATED PROCUREMENTS

I refer to Mr Whalley's memorandum of 27 May 1986 on the above matter and the Committee's public hearing on 5 June 1986.

The purpose of this memorandum is to add to this Department's earlier comments on the major projects involved in the light of an examination of the detailed information lent to the Department of Finance by the Committee. In summary, the Department of Finance stands by its earlier comments that there is not a fully acceptable cost benefit analysis on the Supply Systems Redevelopment Project (SSRP), nor on the Manpower Systems Redevelopment Project (MSRP), included in the material provided. It is noted that the Department of Defence is continuing work on cost benefit analyses and Finance would be willing to examine any additional reports on this aspect as they become available. More detailed comments on the data presented are set out below.

The Committee also sought Finance's view on the relative merits of using staff or contractors to provide necessary computer expertise. This is a rather complex question which requires careful consideration. We will provide a response on this aspect in due course but in the meantime are responding in regard to the cost analysis aspect.

SSRP

The Defence Submission on SSRP states that "in the absence of completed systems definition, detailed cost analyses have yet to be made". (Vol I, para 25). The costs shown in the Submission are thus indicative only (Vol III, p 17, sub para (b)). Nevertheless, Defence contends that 'indicative cost benefit calculations' have estimated that the preferred option would be considerably less expensive than alternatives.

Some thirteen options were put forward in the submission, but most of these were different ways of organising and managing the redevelopment to produce the same result in the user's eyes. The thirteen options appear to involve only three substantially different approaches. The thirteen options were assessed against the perceived requirements of Defence and three options were selected for detailed costing. These three options provide substantially the same outcome (ie level of benefits) but are organisationally different. There is a range of outcomes which could be aimed at providing different levels of benefit at different costs. It is our view that Defence should have included an appraisal of options with different outcomes in its Submission to provide more substantive justification of its preferred option.

In essence, Defence is claiming that by spending some $90 million more than a simple conversion would cost, a number of benefits of uncertain magnitude would accrue (Executive Summary viii). Some benefits are mentioned, for example, a saving of $39 million over ten years with the use of bar coding in depots and bases. However, it is not made plain how the particular benefits relate to specific new functions and their costs.

As a general comment, it is noted that the methodology applied in the cost analysis carried out appears not to be of a type generally considered appropriate in cost benefit or in cost effectiveness analysis. With both types of analysis, it is generally accepted that discounted cash flow techniques should be employed (Refer: A Guide to Cost Effectiveness Analysis of ADP Systems by the Public Service Board, 1981). The constant price, non-discounted approach utilised by Defence would seem appropriate for it to use in programming projects within its overall financial plan, but is not an acceptable basis for evaluating different options, particularly where both costs and benefits are spread over long time periods.

MSRP

Finance has doubts as to the adequacy of the costing of the computer equipment and site preparation and about the achievability of staff savings given (which are the main source of benefit which has been quantified).

It is not clear why five central processing units are required for the central site (Enclosure 42, page 14-2, paragraph 14.10). This is probably more expensive than having, say, two or three larger machines, which could provide the power needed and first line back-up if required. The estimates for site preparation costs

(enclosure 42, chapter 13, table 12) appear to be conservative for sector level machines considering that they are placed in new sites, and having regard to a total preparation being required viz. false floor, airconditioning, perhaps power smoothing, lighting, extra power requirements, physical security and fire alarm systems.

A comparison of the hardware cost estimates (Enclosure 42, Chap 13, Table 10) and the hardware requirements for the recommended system (Enclosure 42, Chap 14, para 14.55; repeated at Enclosure 41, para 30) indicates that a substantial quantity of equipment may not have been included in the cost estimates:

- front end communications processors (nature/numbers undetermined);
- tape drives for central sites (number to be determined);
- disc storage for central sites and sector level (not yet specified);
- 5 minicomputers for central offices;
- 80 microcomputers for establishment level systems; and
- 18 printers for sector level systems.

We have some doubts as to the achieveability of the staff savings given. With the distributive approach being considered, more staff will probably be required for the management and control of site, network, processing etc at decentralised locations. It is not clear whether this has been taken into account as the proposed Computer Services Division staff savings are substantial (Enclosure 42, Chapter 13, Table 14m) and do not appear to reflect the approach taken with the hardware configuration.

The life of the proposed system (Enclosure 42, paragraph 13.5) appears to be extremely optimistic as it means that network hardware would be in use for 16-19 years and mainframe hardware for 14-16 years. It is noted that one of the present Defence SPERRYs will be replaced after 10-11 years. In addition, it would not be unusual for there to be substantial changes to user expectations over a twenty year period, with consequent expenditure on software modification.

In relation to cost benefit aspects the raw cost estimates provided would seem to be subject to a high degree of uncertainty. Whilst Defence has used discounting techniques in its comparison of the options examined, it should be noted that the results of such a comparison can only be as accurate as the estimates on which they are based.

OVERALL COMMENTS

Some general comments which the Committee might wish to bear in mind in considering this matter are set out below:

- given the size and the time period of the two redevelopments being proposed it would be well nigh impossible to get a full assessment of all aspects at the outset;

- it might be useful to suggest to Defence that it divide the total projects into smaller sections and that it carry out cost effectiveness analyses in accordance with the PSB Guidelines on a step by step basis;

- given the size of the re-developments proposed and the uncertainty flowing from the rate of change in the technology involved, a conservative approach should be taken in the development of the proposals with continuation of the redevelopments being considered in the light of an evaluation of the preceding stage; and

- given the uncertainty attached to some of the estimate of benefits which have been identified, less costly and less radical options should not be ruled out and should be part of any final evaluation of alternatives.

Finance notes that Defence has indicated that it is currently carrying out comprehensive cost benefit analyses which will be made available when completed. Finance notes that such analyses would be more likely to be acceptable if they conformed with the PSB Guidelines and include alternatives which provided a range of benefits.

Based on the information provided to date, Finance has reservations that adequate systematic justification of the proposals has been provided in the documentation so far.

E.R. Thorn
First Assistant Secretary
Defence and Government Division
14 August 1986

APPENDIX 12

RESPONSE FROM THE PUBLIC SERVICE BOARD - 26 MAY 1986

OFFICE OF THE PUBLIC SERVICE BOARD
McLACHLAN OFFICES
National Circuit, Canberra, A C T 2600
Telephone 72 3977

Reference 2616

Mr Michael Talberg
Secretary
Joint Parliamentary Committee
of Public Accounts
Parliament House
CANBERRA ACT 2600

DEPARTMENT OF DEFENCE ADP ACQUISITION PROJECT DESINE AND RELATED PROCUREMENTS

I refer to your memorandum of 14 May 1986 concerning the Committee's review of a submission by the Department of Defence relating to project DESINE and three related procurements.

2. Ms Anne Roberts, Director, Research and Secretariat Section, will be the Board's observer at the Committee's public hearing on 5 June 1986.

3. Attached is a response to the issues raised in your memorandum. Attachment A deals with action being taken to deal with problems in recruiting and retaining qualified computer staff in the Service. Attachment B deals with the industrial relations aspects and occupational health and safety issues associated with Defence's strategy of decentralisation.

Anne Buttsworth
Secretary

26 May 1986

ATTACHMENT A

SUPPLY OF QUALIFIED COMPUTER PERSONNEL

The Public Service Board is concerned at the present difficulties being experienced in the recruitment of Computer Systems Officers in the Australian Public Service.

2. It should be pointed out, of course, that the Public Service is apparently not the only employer currently experiencing difficulties in recruiting staff in this category. Indeed, it would seem that the overall supply of computing staff is not able to meet the increasing demand for them that is coming from other public services, the private sector and the Australian Public Service. A recent report by the Institute of Labour Studies in Adelaide has estimated that Australian industry is likely to experience a shortage of up to 268,000 computing personnel over the next twenty years.

3. The following table sets out the demand and supply position for Computer Systems Officers in the Service over the last five years.

	Number required	Number recruited
1981/82	250	220
1982/83	331	299
1983/84	416	337
1984/85	350	249
1985/86	416	194

In consultation with departments the Board has taken a number of steps in an attempt to assist with these problems.

4. First, it has conducted a Program Management Performance Review of all graduate recruitment, including Computer Systems Officers. A copy of the Review's report is attached. The Board has accepted all of the report's recommendations. The changes that will be made to promotional and assessment procedures as a result will improve the competitive position of the Service for Computer Systems Officers by:

- bringing forward interview dates and simplifying the interview selection arrangements
- making earlier offers of employment and trying to match the practices in particular of private employers who are able to offer positions virtually on the spot, and

- better advertising and promotion of opportunities especially through closer liaison with careers advisers in tertiary institutions.

5. Second, the Board is looking at existing qualification requirements for Computer Systems Officers to see if these can be relaxed in a way that would recruitment from a wider pool of applicants.

6. Third, the Board is conducting a survey of rates paid by other employers for computing staff; it will take what action it can within National Wage Case guidelines if this survey suggests that rates in the Service need to be adjusted.

7. Fourth, departments are being encouraged to provide training to clerical/administrative staff with a view to transferring them to Computer Systems Officer positions. The Department of Defence has developed such a scheme. The Board understands that some 60 staff will join the program this year. These efforts are consistent with views expressed in an article in the March 1986 issue of the Australian Bulletin of Labour which said that:

> "To keep pace with the skill requirements of developing information technology, to increase skill-supply flexibility, and to meet the skill packages sought by employers, both institutional and workplace components of training are important to the delivery of effective, high-level, data processing skills. In the present climate, it would seem especially important that more be done to provide incentives to shift the balance towards on-the-job skill acquisition".

8. Fifth, in consultation with departments, the Board is looking at what reasonable steps can be taken to minimise the problems caused by the loss of Computer Systems Officers who are attracted to contract programming organisations.

9. While the Board hopes that these and other measures it and departments might take will go some way towards ameliorating present difficulties, it needs to be recognised that, given the community-wide shortage of computing staff (of which, of course, the Tertiary Education Commission is aware), problems will be likely to persist in this area for some time to come.

INDUSTRIAL RELATIONS IMPLICATIONS

Mr Talberg's memorandum of 14 May notes that 'the Committee would wish to satisfy itself that no significant deleterious effects will arise from the planned implementation of the Department of Defence's decentralisation strategy due to Industrial Relations problems'.

2. The Board cannot give any assurance that implication of the Department's proposal will not give rise to significant industrial relations problems. The personnel management issues surrounding the project are industrially sensitive and all that can be done is to ensure that the unions are fully consulted and that their views are taken into account, with issues being negotiated when there is room to do so. It appears that the Department is doing this.

3. On the question of negotiating at an early stage a formal agreement setting out the conditions which would apply for staff relocation, there are several aspects including, for example, redeployment within one location, geographic redeployment and the actual conditions of employment which will apply to staff who are redeployed/relocated. Insofar as conditions of employment for relocated staff are concerned, they are covered by Board Determination 1983/10. Procedures for redeployment are provided by the Commonwealth Employees (Redeployment and Retirement) Act and relevant industrial awards.

4. It is too early for the Board to advise the Committee whether the best interests of the project would be served by entering into an early agreement with the unions, given that as yet the Board has no details as to the likely parameters of staff relocations and therefore is not in a position to advise on the content of any agreement which might in some respects depart from the standard conditions. Enhancement of standard conditions is likely to be an objective of the unions.

5. The Committee may be aware that, with the implementation of Stratplan in the Department of Social Security, an agreement was entered into by that Department, the Board, ACOA and APSA by consent. This agreement contained specific provisions relating to voluntary redeployment and compulsory redeployments, as well as spelling out certain redeployment entitlements.

6. As a result of recent activity involving a meeting of ACTU and management principals it is likely that agreed procedures for consultation on technological change will go to Joint Council for endorsement in June. While such endorsement, if received, will result in the unions ceasing their approaches to individual departments to seek formal

agreements covering general technological change procedures, it is fair to say that the possibility of further formal agreements in relation to particular technological changes has not been ruled out.

7. The Department of Defence and the Board would examine the need for such an agreement as the Defence exercise progresses against the background of the CE(RR) Act Award and the Board's conditions of employment determination (all of which provide significant protection) while stressing the continued need for consultation.

8. The Board's inclination would be not to make any commitment to an agreement at this stage and to assess the need for one in the light of the circumstances as they emerge.

OCCUPATIONAL HEALTH AND SAFETY

9. There are already Service-wide guidelines on eyesight testing. In relation to radiation testing, on which the Board's comments were specifically sought, it is the Board's view that in the light of Australian Radiation Laboratory opinion, and given recent experience of the Department of Social Security under Stratplan, the expense involved in radiation testing of individual VDUs (about $60-$80 per unit) cannot be justified.

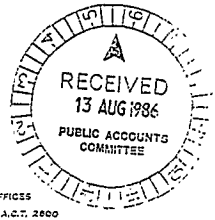
10. In a statement provided to the Board in 1985, the ARL concluded that 'emission of ionising and non-ionising electromagnetic radiation by VDTs proses no threat to the health of operators. Advice from the Department of Social Security concerning the outcome of the Stratplan testing program indicates that some 5000 terminals have now been tested (some 400 for the second time, after 12 months); that detectable radiation levels have only been evident in 5 cases and that these have been well within accepted standards. It is understood that the Australian Telecommunications Commission, which has had a similar testing program in place for over 12 months, has discontinued on-site testing because the results were uniformly negative.

11. Board enquiries indicate that no APS employer other than the Department of Social Security has instituted a program of on-site testing. However, agencies contacted generally have well developed quality assurance and acceptance testing procedures including 'one-of-type' testing through the Australian Radiation Laboratory where performance data supplied by manufacturers is not regarded as adequate. The Board has no problem with such an arrangement where it is considered appropriate.

APPENDIX 13 .

FURTHER INFORMATION FROM THE DEPARTMENT OF DEFENCE ON ACQUISITION COSTINGS - 13 AUGUST 1986

DEPARTMENT OF DEFENCE



RUSSELL OFFICES
CANBERRA, A.C.T. 2600

IN REPLY QUOTE

FSA 697/86
RFP 86/3221

13 August 1986

Mr M.J. Talberg
Secretary
Joint Parliamentary Committee
of Public Accounts
Parliament House
CANBERRA ACT 2600

Dear Mr Talberg

DATA ON DEFENCE ADP PROPOSAL

I refer to your letter of 7 August 1986 in which you sought additional information on the Defence ADP proposal. Specifically costing details.

I attach broadsheets which set out costs for SSRP and MSRP which incorporate latest estimated costs. It should be noted, though, that some of the details shown in respect of SSRP differ slightly from those given to Ms Cronin on 8 August: the amounts in the attached table are correct.

In respect of the MSRP, factors used in establishing the costs at the nominated dates are:

. Hardware/Software	3.1%
. Facilities	4%
. Staff	3.8% at March 1986 prices plus 2.3% to reflect August 1986 prices

The Department is currently reviewing the index for Facilities in conjunction with the Department of Housing and Construction. The effect of exchange rate variations on overseas sourced items has precluded the establishment of firm figures for Hardware and Software items: future reviews of project costs will take exchange rate fluctuations into account together with the results of the review being conducted with the Department of Housing and Construction.

F.R. HARVEY
First Assistant Secretary
Financial Services
and Audit Division

SSRP RESOURCE COSTS

ITEM	82/83	83/84	84/85	85/86	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	94/95	95/96	TOTAL
	$M (Apr 1985 prices)														
Hardware	-	-	.536	4.288	3.267	1.703	-	4.941	10.806	7.307	6.116	4.222	31.108	1.607	75.901
Software	-	-	.090												0.090
Site Preparation															
. Facilities	-	-	-	.040	-	2.461	1.189	.537	.647	.578	4.275	9.106	3.169	.010	22.012
. Ergonomic Furniture	-	-	-	.031	.248	-	-	-	-	-	-	-	-	-	0.279
. Communications	-	-	-	-	-	.014	.500	.547	.585	.062	.045	.017	.052	.005	1.827
Administrative															
. Travel	-	.016	.200	.184	.129	.135	.277	.314	.450	.526	.276	.157	.306	.015	2.985
. Training	-	.042	.082	.047	.082	.109	.025	.036	.018	.018	.018	.006	.007	.006	0.496
Contractors	-	-	-	.100	.700	1.540	1.610	.539	-	4.900	7.000	7.000	7.000	-	30.389
TOTAL	-	.058	.818	4.780	4.426	5.962	3.601	6.914	12.506	13.391	17.730	20.508	41.642	1.603	133.979 Note 1

MANYEARS

Technical ADP - . CSO			18	45	74	~~82~~	~~82~~	99	83	91	78	~~77~~	76	~~48~~	843
Other															
. Civilian	3	4	14	20	20	17	15.5	17.5	13.5	13.5	14.5	14.5	14.5	3	184.5
. Service	9	16	36	37	37	42.5	40	48	46	46	47	40.5	34	30	509
TOTAL	12	20	68	102	131	141.5	137.5	164.5	142.5	140.5	139.5	132	124.5	81	1536.5 Note 2

Notes 1. JPCPA Submission - Volume III, Page 7.
2. JPCPA Submission - Enclosure 23.

STAFF COSTS $m (Aug 1986 prices)

Technical ADP - CSO	-	-	.807	1.995	3.258	3.614	3.614	4.363	3.657	3.571	3.442	3.399	3.357	2.125	37.202
Other															
.Civilian	.143	.189	.529	.809	.809	.692	.630	.708	.569	.569	.608	.608	.608	.153	7.624
.Service	.511	.882	2.042	2.098	2.098	2.418	2.277	2.734	2.621	2.621	2.678	2.305	1.964	1.751	29.000
TOTAL	.654	1.071	3.378	4.902	6.165	6.724	6.521	7.805	6.847	6.761	6.728	6.312	5.929	4.029	73.826

DERA RESOURCE COST

ITEM	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	TOTAL
	£M (April 1985 prices)								
Hardware	-	2.25	7.00	7.00	9.20	2.02	-	-	28.67
Software	-	0.40	1.25	1.25	1.70	0.49	-	-	5.09
Site Preparation									
. Facilities	0.16	0.11	0.22	2.43	0.77	0.75	-	-	4.46
Ergonomic Furniture	-	-	-	-	-	-	-	-	-
. Communications	-	-	1.00	1.00	0.50	0.50	-	-	3.00
Contractors	0.38	0.18	-	-	-	-	-	-	0.54
TOTAL	0.54	2.94	10.07	12.28	12.17	3.76	-	-	41.76

MANYEARS

Technical ADP									
. CSO	30	40	56	60	60	57	55	55	413
Other									
. Civilian	26	28	29	27	28	27	27	20	212
. Service	9	10	14	15	15	12	12	7	94
TOTAL	65	78	99	102	103	96	94	82	719

STAFF COSTS £M (August 1986 prices)

Technical ADP									
. CSO	0.838	1.105	1.555	1.657	1.657	1.575	1.524	1.524	11.436
Other									
Civilian	0.716	0.777	0.799	0.747	0.777	0.747	0.747	0.552	5.861
Service	0.317	0.348	0.491	0.532	0.532	0.429	0.429	0.246	3.314
TOTAL	1.872	2.230	2.844	2.936	2.966	2.751	2.700	2.322	20.611

APPENDIX 14

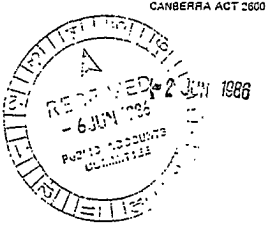
ADVICE FROM THE MINISTER FOR FINANCE ON THE DEFENCE REFERENCE
2 JUNE 1986

MINISTER FOR FINANCE

PARLIAMENT HOUSE
CANBERRA ACT 2600

3/6

Senator George Georges
Chairman
Joint Parliamentary Committee
of Public Accounts
Parliament House
CANBERRA ACT 2600



Dear Senator Georges

Thank you for your letter of 22 May 1986 concerning the enquiry the Committee has under way on a computer acquisition proposal referred to the Committee by the Minister for Defence.

I confirm that the Minister's reference of the matters under discussion to the Committee is in accord with a Cabinet decision specifically calling for such reference.

You are basically correct in stating the specific matters referred to the Committee, ie that the matters are:

- the ADP development strategy (DESINE) proposed for Defence administrative computing, including both the period contracts proposed in relation to it and the maximisation of the contribution of Australian industry to the acquisitions (consistent with approved Government policies); and

- the first three major projects proposed to be undertaken pursuant to the strategy and period contracts, namely the Supply Systems Redevelopment, Manpower Systems Redevelopment, and Office of Defence Production (ODP) Manufacturing Computer Bureau projects.

There are three separate areas in which period contracts are proposed, namely:

- network replacement and medium to large administrative computers (broadly replacing the current Perkin Elmer minicomputer equipment, but also including provision for mainframe computers);

- the ODP Manufacturing Computer Bureau and manufacturing and office systems; and

- stand-alone microcomputers and small office systems.

It is envisaged that, if practical and cost effective, not more than three contractors (one for each area) will be selected.

Decisions on the actual funding of these three projects will be subject to consideration by Cabinet in the Budget context, and in the light of the Committee's report on them. In addition it was clearly envisaged that any further projects would be handled separately in accord with approved procedures, including separate reference to the Committee where necessary. I appreciate that the inclusion of all of the current items together contributes to a very complex enquiry, but the issues are in fact related in a common strategic approach and the potential savings appear to be considerable.

I have forwarded a copy of this letter to the Minister for Defence for his information.

Yours sincerely

PETER WALSH

APPENDIX 15

LIST OF WITNESSES AND OBSERVERS

AT PUBLIC HEARING

5 JUNE 1986, CANBERRA

Department of Defence

Sir William Cole	Secretary
Mr M W Buckham	Deputy Secretary
Mr L B Woodward	Chief of Defence Production
Rear Admiral I Crawford	Chief of Supply
Mr F R Harvey	First Assistant Secretary, Financial Services and Internal Audit Division
Mr J Sewell	First Assistant Secretary, Computing Services Division
Mr D W Anderson	First Assistant Secretary, Technical Services and Logistic Development Division
Mr I H Maggs	General Manager, Defence Communications Systems Division
Mr D A Whitly	General Manager, Supply Systems Redevelopment Branch
Mr R H Englund	Assistant Secretary, Manpower Policy and Requirements Branch
Ms J McLeod	Assistant Secretary, Computing and Services Branch
Mr I P Brown	Assistant Secretary, Computer Support Branch

Department of Local Government and Administrative Services

Mr R D Rubie	Assistant Secretary, Major Purchasing Branch

Australian Audit Office

Mr D Lennie	Assistant Auditor-General

Department of Industry, Technology and Commerce

Mr J Belshaw	Assistant Secretary, Electronics Aerospace and Information Industries Branch

Department of Finance

Mr K Whally	Assistant Secretary, ADP Branch

Public Service Board

Ms A Roberts	Director, Research and Secretariat Section

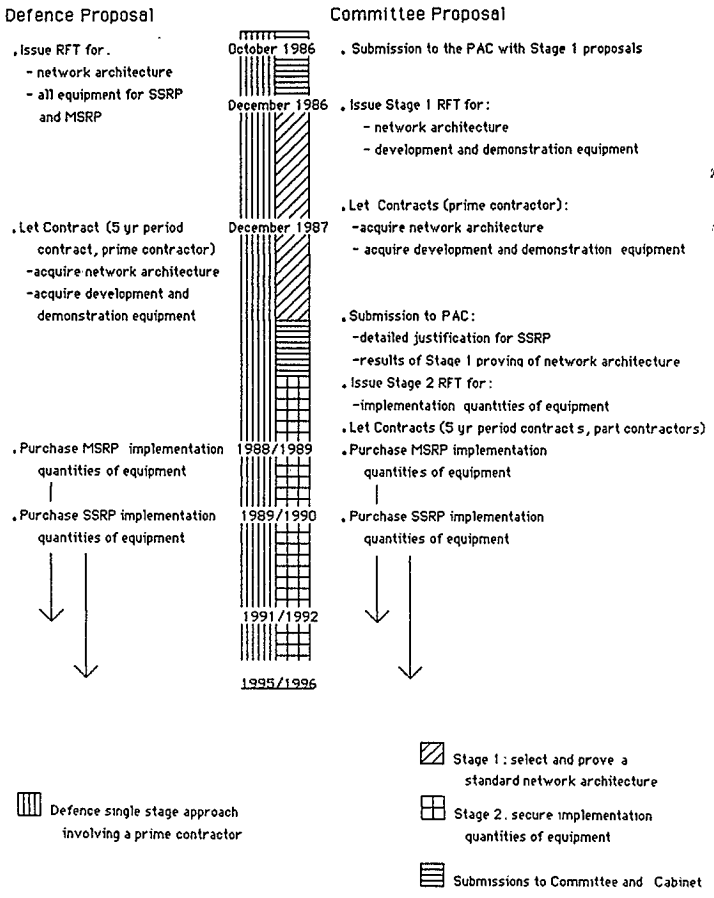
Australian Computer Equipment Manufacturers' Association

Mr R Trewin	Director

APPENDIX 16

PROPOSED PROCUREMENT AND IMPLEMENTAION STRATEGY FOR PROJECT DESINE

PROCUREMENT AND IMPLEMENTATION STRATEGY - PROJECT DESINE



The time scale and relationships between proposals are indicative only