Department of
Community Services
Proposal to Acquire
Computing Facilities

2 3 OCT 1986

Report

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Joint Committee of
Public Accounts

THE SENATE

2 3 OCT 1986

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PAPER

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

JOINT COMMITTEE OF PUBLIC ACCOUNTS

REPORT 259

DEPARTMENT OF COMMUNITY SERVICES -
PROPOSAL TO ACQUIRE COMPUTING FACILITIES

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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

On 19 June 1986, Senator Grimes, the Minister for Community Services, advised the Committee that the Government had given in principle agreement to his Department's proposed acquisition of a distributed computer capability, subject to examination and report by the Public Accounts Committee. The proposal was estimated to cost about $20 million for hardware and system software over 3 years and a further $6.1 million per annum for other costs.

The proposal was referred to the Committee under the terms of its standing reference (passed in the House of Representatives on 8 May 1985 and in the Senate on 10 May 1985) to investigate and report on proposed acquisitions of Automatic Data Processing (ADP) facilities by Commonwealth departments and authorities staffed under the Public Service Act 1922.

The Committee's initial review of the Department's submission identified several major areas of concern about the proposal. These were communicated to the Department which subsequently provided supplementary information to the Committee on these matters.

The Committee's primary concerns continue to relate to:

. definition of the system requirements;

. consideration of options for meeting system requirements; and

. estimates of costs.

The Committee concluded that the Department has not demonstrated that its preferred option for providing computing support to the Department is cost effective, and that there are several other less ambitious, less costly and potentially more cost effective options which the Department should seriously evaluate in greater detail before finalising its procurement proposals.

The Committee also decided not to proceed to any further process of inquiry, including the holding of a public hearing, unlike previous ADP acquisition proposals reviewed under the Committee's standing reference.

The Committee has in its review of previous ADP acquisition proposals found that repeated attempts by the Committee to elicit satisfactory answers and information from proponent departments have generally not justified the associated time and effort expended by the Committee. The Committee will in future be taking the view that if initial submissions to the Committee are not satisfactory, and the subsequent communication of the Committee's concerns to the proponent department does not elicit a satisfactory response, the Committee will report its views to Parliament without further delay.

In the case of the Department of Community Services' proposal, the Committee decided that it should state its outstanding concerns in a short report to Parliament to enable the Department to respond to these concerns in a further submission to Cabinet as soon as possible.

The Committee considers that Cabinet funding approval should not be given to the Department of Community Services to acquire computing facilities until the detailed studies recommended in this report have been completed, and the Department of Community Services has demonstrated to Cabinet that it is proposing the most cost effective means of meeting its information requirements.

For and on behalf of the Committee.

Senator George Georges
Chairman

M J Talberg
Secretary
Joint Committee of Public Accounts
Parliament House
CANBERRA   ACT
9 October 1986

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Overview

1.   The Committee's scrutiny of this proposal by the Department of Community Services (DCS) to acquire a computing capability has differed from the scrutiny given other proposals under the Committee's standing reference to investigate and report on proposed acquisitions of ADP facilities by Commonwealth departments and authorities in that it did not include a public hearing. The Committee identified several major areas of concern in the Department's initial submission and sought further information from the Department about these. The Committee's primary concerns were not allayed by the Department's supplementary submission.

2.   The Committee has therefore decided to present its views in a report to Parliament to enable the Department to respond promptly to the concerns raised by the Committee in a further submission to Cabinet. The Committee considers that funding approval should not be given to DCS to acquire computing facilities until the detailed studies recommended in this report have been completed, and the Department has demonstrated that it has selected the most cost effective means of meeting its information requirements.

3.   The Committee's primary concerns relate to:

.   the definition of the system requirements:

–   the individual computer applications proposed have not been examined for their cost effectiveness and have not been assigned priorities; and

–   the estimate of computer capacity requirements appears excessive;

.   options for meeting system requirements:

–   the Department has only given serious consideration to its preferred option of a distributed computing capability;

–   insufficient consideration has been given to a range of options intermediate between the centralised and distributed options considered by the Department which might meet the Department's requirements at less cost; and

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- no serious consideration has been given to less ambitious but potentially more cost effective options which do not include the computerisation of low priority applications; and

. option costs:

- costs appear to have been understated for all options, particularly for the preferred option of a distributed computing capability;

- the understated costs have biased the proposal in favour of a distributed system; and

- should the Department proceed to acquire a distributed computing capability of the capacity proposed there is a likelihood of cost over-runs.

4.   In summary, the option chosen by the Department has not been satisfactorily justified on cost effectiveness grounds.

The Proposal

5.   The Department submits that it requires strategic information systems to allow it to move from essentially program administration to both program administration and policy development. It claims that this will enable it to anticipate the needs of the community rather than react to specific welfare issues. Currently the Department relies on the Departments of Social Security (DSS) and Health (DOH) for ADP support of some programs. The Department considers this support inadequate and proposes to replace its existing computer applications with a wide range of new applications supporting community program, corporate service and administrative functions.

6.   The Department proposes to acquire a distributed computing network comprising minicomputer processors for each State and Territory Office linked to a moderately sized mainframe or two minicomputer processors in Central Office. Microcomputer workstations would be linked to the host computer in the State or Territory to provide access for staff.

7.   The Department estimates the costs for acquisition and installation of hardware and system software at $19.68 million, to be spent over three years, commencing in 1987-88. 108 staff are estimated to be necessary to carry out implementation and support functions, of whom 60 would be additional to existing staff. The recurring costs associated with maintenance, systems development, training and extra support staff are estimated at $6.07 million per annum.

8.   The Department proposes to conduct an open public tender during the 1986-87 financial year for the acquisition and installation of distributed computing facilities.

Corporate Planning

9.   In support of its submission, the Department provided the report of the Information Services Consultancy which was commissioned to define and develop corporate and program goals and objectives, and identify essential information and systems strategies to achieve them. The Department's proposal for the acquisition of computing capability is based on the results of this consultancy. The important role of the Information Consultancy in the development of the proposal made to this Committee can be seen from the following statement by the Department:[1]

> The Department ... deliberately commissioned a significant study whose first phase was to define and document the goals and objectives of the Department. The study then proceeded to define the required information strategy to support those objectives. The ADP plan itself was founded on that strategy.

10.   The Committee finds much to commend in the consultancy report, especially in the definition of the Department's corporate and information strategies, but finds the translation of the information strategy into a systems strategy unsatisfactory. The Committee has fundamental questions about system size, costs and the cost effectiveness of proposed applications which are raised in later sections of this report.

11.   The Committee concludes that:

- the corporate and information strategies proposed by the Information Services Consultancy commissioned by the Department of Community Services appear soundly based; but

- the systems strategy proposed by the consultants, while consistent with the corporate and information strategies, has not been demonstrated to be the most cost effective strategy for meeting the Department's information needs.

12.   The Committee recommends that:

1.   the Department of Community Services review the cost effectiveness of the systems strategy proposed by its consultants in relation to its information priorities; and

2.   the Department of Community Services undertake a cost effectiveness analysis of each of its proposed computer applications, and assign priorities to each.

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1. Department of Community Services Supplementary Submission, Appendix 3, p. 188

System Sizing

13.   The Department is seeking 26.75 MIPS (millions of instructions per second) of processing power and 30,000 megabytes of data storage. The computing system is to comprise minicomputers located at each State Office networked to a moderately sized mainframe or preferably two minicomputers in Central Office. Access is to be provided by 500 microcomputers linked to the minicomputers.

14.   The Committee is concerned about the assumptions underlying the estimates of transaction rates and applications requirements and the methods by which estimated transaction rates and applications requirements have been translated into estimates for processing power and data storage. The detailed basis for these concerns about the Department's estimates for processing power and data storage is given in Appendix 4.

15.   The Committee concludes that:

- the Department of Community Services has not adequately justified its stated requirement for computer processing power and data storage for its preferred option of a distributed computing capability; and

- the assumptions and methodology underlying the estimate of computer processing power requirements for both the options of a centralised computing capability and a distributed computing capability appear to inflate the estimates to a considerable degree.

16.   The Committee recommends that:

3.   the Department of Community Services undertake detailed studies to substantiate its capacity estimates for computer processing power and data storage for centralised, distributed and intermediate processing options based on:

-   cost effective applications, including appropriate use of on-line and batch processing;

-   appropriate and cost effective use of 'dumb' and 'intelligent' terminals to suit the needs of particular system users;

-   estimates of transaction rates for each proposed application derived directly from current systems, whether computer or manual; and

-   assumptions for rates of conversion from logical transactions to machine instructions based on current systems.

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Costs

17.   The Committee is unable to reconcile the expected substantial cost advantages of a centralised computing system compared to a distributed computing system with the very small difference between the Department's costings for a centralised computing system ($19.67 million) and a distributed computing system ($19.68 million). A discussion of the Department's cost estimates for these options is at Appendix 5.

18.   The Committee concludes that:

- the Department of Community Services appears to have underestimated initial and on-going costs for all the options considered by it;

- the costs of the preferred option of a distributed computing capability appear to have been underestimated in comparison with a centralised computing capability; and

- in consequence, should approval be given to the Department of Community Services for the expenditure of $19.68 million to acquire a distributed computing capability, there is a likelihood that cost over-runs would occur.

Options

19.   The Department of Community Services has argued that only its preferred option of a distributed computing system will meet its key corporate management strategy of devolution of decision making outwards through the State Offices and to the managers of various program areas.

20.   The Committee considers that while it is essential for State Managers to have effective access to and some control over computing resources, this does not necessarily require the physical location of computing facilities in each State or Territory. A review of the Department's consideration of options for the provision of a computing capability is at Appendix 6.

21.   The Committee concludes that:

- the Department of Community Services has not given sufficient consideration to alternative options for the provision of computing capability which may meet its strategic requirements for information systems more cost effectively than the Department's preferred option; and

- the Department of Community Services has not considered less ambitious but potentially more cost effective options for the provision of computing capability which do not include lower priority applications.

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22.   The Committee recommends that:

4.   the Department of Community Services review the cost effectiveness of alternative options for the provision of computing capability, including partially decentralised facilities, the use of some external facilities such as those operated by commercial bureaux, and the expanded use of upgraded facilities operated by the Departments of Health and Social Security; and

5.   the Department of Community Services review the cost effectiveness of a range of options which would exclude the computerisation of some of its lower priority and less cost effective systems.

Cost/Benefit Analysis

23.   The Department undertook a cost/benefit analysis of its preferred option, ie   Option B (to acquire a distributed computing capability) against Option A (to continue with existing levels of support provided by the Departments of Social Security and Health). Two other options, to upgrade existing DSS or DOH capabilities and to acquire a centralised computing capability, were rejected as not meeting the Department's key corporate management strategy of devolving decision making to State Managers.

24.   A review of the Department's cost/benefit analysis is at Appendix 7. The Committee considers that the Department's cost/benefit analysis contains a technical error such that, when the analysis is corrected, the cost effective course of action is Option A and not Option B.

25.   Moreover, should the proposed acquisition proceed, the Committee questions whether the computer capacity in the DOH and DSS computers currently used by DCS would be put to cost effective use. The Department's cost/benefit analysis contains no examination of external effects of this type resulting from the proposed acquisition of its own computing facilities.

26.   The Committee concludes that:

.   the cost effectiveness analysis undertaken by the Department of Community Services does not show the Department's preferred option of a distributed computing capability to be cost effective in comparison with the option of improving existing administrative procedures;

.   the cost/benefit analysis carried out by the Department of Community Services does not include discussion of whether the capacity in the Department of Health and Department of Social Security computers which is currently used by the Department of Community Services will be put to cost effective alternative use.

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27.   The Committee recommends that:

6.   the Department of Community Services review the cost effectiveness of its Options A and B and undertake serious cost effectiveness examinations of other options for meeting its information requirements; and

7.   the Department of Finance examine the external effects of the Department of Community Services no longer using computing capacity in the Departments of Social Security and Health.

Fourth Generation Languages

28.   The Department has indicated that it intends to develop all its systems in a high level fourth generation programming language. The Committee understands that the extensive use of fourth generation languages in larger computing systems is often not cost effective in comparison with the use of third generation languages. The Department has provided no argument about the advantages of using a fourth generation language, or the nature of the benefit of the convenience of a fourth generation language against its costs. A review of the Department's proposal to use a fourth generation language is at Appendix 8.

29.   The Committee concludes that:

.   the Department of Community Services has not considered the cost effectiveness of its intention to develop all its applications in a high level fourth generation computing language;

.   the use of a fourth generation language for small-scale applications and ad hoc enquiries as proposed by the Department of Community Services is likely to be cost effective; however

.   the use of a fourth generation language may not be cost effective for the development of larger scale on-line applications proposed by the Department of Community Services.

30.   The Committee recommends that:

8.   the Department of Community Services examine thoroughly the various categories of computing applications proposed, including their complexity and frequency of use, in order to determine for which applications the use of a fourth generation language will be cost effective.

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Australian Industry Participation

31.   The Department proposes to conduct an open public tender during 1986-87 for the acquisition and installation of distributed computing facilities. The Department claims that Australian industry will have an excellent chance of satisfying tender requirements because the Department is seeking to acquire mini and microcomputers and Australian industry is most competitive in this sector of the market.

32.   The Department has used for its cost estimates of a proposed distributed computing capability, machine prices for Digital Equipment Corporation VAX computers[2]. The Committee understands that these computers range in capacity from 1 MIPS to 4 MIPS and that computers of this size exhibit all the characteristics of mainframes. The Committee is concerned that Australian industry may not be able to compete effectively in supplying these larger machines as is claimed by the Department.

33.   The Committee considers Australian industry participation to be of major concern in all Government procurements, but particularly in the acquisition of computing capability because of the opportunities for contributing to the development of Australia's computing industry. The Committee is concerned that the Department has not formulated a strategy for maximising Australian industry participation in its acquisition of computing facilities, other than to conduct an open public tender. In view of its reservations about the definition of system requirements by the Department, the Committee considers that it would be premature to comment further on the Australian industry participation aspects of the proposal at this stage, except to suggest that the Department give consideration to a two stage tendering process, and to part tendering for the supply of some items.

34.   The Committee concludes that:

- it is not possible to determine a strategy for maximising Australian industry participation in the acquisition of a computing capability by the Department of Community Services before the Department has undertaken further review of alternative options as recommended in this report.

35.   The Committee recommends that:

9. following a review of its system requirements and of alternative options for meeting these requirements, the Department of Community Services consult with the Departments of Local Government and Administrative Services and Industry, Technology and Commerce to determine a strategy for maximising Australian industry participation.

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2. Proposal to Acquire Computing Facilities for the Department of Community Services, Submission to the Joint Parliamentary Committee of Public Accounts, Appendix 1, p 71

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General Issues

36.   The Committee has concerns about a general presumption in the Department of Community Services' submission that it has a right to an 'autonomous' computing capability simply by virtue of its existence as a department. The proliferation of separate departmental systems could lead to increasing effort, cost and frustration in transferring computing equipment and software from one departmental system to another. Such a situation would arise, for example following a decision by Government to reallocate departmental responsibilities. There may also be substantial continuing costs associated with the transfer of computer-based information between departments and agencies with common or related information needs.

37.   These costs could be reduced by departments with closely related functions and/or the need to exchange substantial amounts of computer-based information, agreeing to establish a common computing 'environment' or computing architecture. There would of course be other important considerations and costs associated with such an initiative including the consequent restriction of choice on open tendering in subsequent computing acquisitions by these departments.

38.   The Committee notes that the Department of Community Services has commissioned an Information Sharing Feasibility Study, the results of which are not yet available. The purpose of the study is to determine the viability of sharing common data holdings between DCS and other Commonwealth, State and Local Government and non-Government organisations. The Committee understands that the study commenced with an examination of the program objectives, strategies and data requirements of Victorian Government departments. Compatibility with Commonwealth Government departments appears not to have been accorded a high priority.

39.   The Committee concludes that:

- there may be benefit in departments with related responsibilities and information needs having computing facilities with a common computing 'environment' or systems architecture;

- the Department of Community Services is examining the feasibility of sharing information with other Commonwealth, State and Local Government organisations, but appears to have accorded a higher priority to compatibility with State and Local Government organisations rather than related Commonwealth Government departments and agencies.

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40.   The Committee recommends that:

10.   the Public Service Board, in consultation with the
        Departments of Finance and Local Government and
        Administrative Services undertake an examination
        of the cost effectiveness of establishing a common
        computing 'environment' or systems architecture to
        enable a high degree of systems compatibility
        between departments and agencies with closely
        related responsibilities and information
        requirements; and

11.   future submissions by departments to the Committee
        for computing capability should take account of
        the need for arrangements to facilitate systems
        compatibility with the computer systems of related
        departments.

APPENDIX 1

Submission to Joint Parliamentary Committee of
Public Accounts - Proposal to Acquire Computing
Facilities for Department of Community Services,
8 July 1986.

DEPARTMENT OF COMMUNITY SERVICES

sharing community care

SUBMISSION

TO

JOINT PARLIAMENTARY COMMITTEE
OF
PUBLIC ACCOUNTS

PROPOSAL

TO

ACQUIRE COMPUTING FACILITIES

FOR

DEPARTMENT OF COMMUNITY SERVICES

JULY 1986

FOREWORD TO SUBMISSION

This Submission has been prepared in accordance with the current Joint Parliamentary Committee of Public Accounts Guidelines on the acquisition of ADP facilities.

It details the Department's case for acquiring its own computing capability and provides a definitive description of the proposed acquisition, together with the specific needs that the proposal intends to satisfy and the costs and benefits involved.

A D Rose
Secretary

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EXECUTIVE SUMMARY

1. ### Background

    The Department of Community Services was, in December 1984, established out of functional units of the Departments of Social Security and Health to:

    .   develop and coordinate policy and planning in the social policy field, and,

    .   deliver a range of community programs to areas of greatest need for the aged, people with disabilities, families with children, the homeless and others in special need of support.

    From its inception the Department recognised that, to achieve these goals, it needed a comprehensive and integrated information base which would enable it to provide rational and timely advice to Government and to make sound policy and planning decisions. In addition, the Department was keenly aware of the need to quickly improve program administration and internal planning and control mechanisms.

2. ### Information Services Consultancy

    To assist the Department to satisfy these needs external consultants were engaged during 1985/86 to, inter alia:

    .   define and develop corporate and program goals, objectives and strategies, and,

    .   identify essential information and systems strategies to achieve them.

    This corporate modelling approach was undertaken through a comprehensive, top down analytical process which involved all levels of the Department from the Minister and Secretary down.

    The Information Consultancy was monitored by a Steering Committee chaired by a Deputy Secretary and comprising senior Departmental managers, representatives from the Public Service Board, the Department of Finance and the Victorian State Government Departments of Community Services and Health.

    The Consultancy confirmed the Department's view that its current computer applications which run on Department of Social Security and Department of Health computing facilities –

    .   are of a limited and inadequate nature,

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.   lack the facilities to enable effective management control over the Department's annual portfolio expenditure of some $1.9 billion,

.   support only part of the Department's overall program administration responsibilities,

.   are incapable of integration to provide a basis for sound policy development and planning, and,

.   are constrained by the DOH and DSS system architectures and the limited computing capacity available on this 'bureau' basis to support DCS.

3. ### The Department's Requirements for Strategic Information Systems

    The Department has a charter to manage its programs within a proactive 'needs based planning' framework instead of the reactive 'submission based' approach which has been used in the past. This demands the development of a comprehensive and integrated information base to enable sound policy and planning decisions to be made.

    To provide this the Department, through the Information Consultancy, has identified strategic systems required to enable it to:

    .   identify areas of highest need and better target programs to address those needs,

    .   integrate policy and planning information and operational systems,

    .   develop programs in line with specific Commonwealth/State agreements,

    .   share information between Federal and State Government Departments and other agencies,

    .   make program administration efficent and effective with a better standard of service to the community, and

    .   impose proper control over the program related $1.9 billion expenditure.

    These strategic systems are essential for the Department to achieve its goals. Acquisition of a viable computing capability for the development and implementation of these systems is the primary reason for this Submission.

4. ### Options for Computing Capability

    The Department has considered the options:

    .   (a) to do nothing and persist with the existing inadequate systems,

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(b) to seek to have the computing facilities of DSS and DOH significantly upgraded to meet the Department's requirements,

(c) to acquire its own centralized computing capability, or

(d) to acquire a distributed computing capability.

5.   The Supported Option

The Department has, through the detailed analyses of the Information Consultancy, thoroughly considered all options and strongly supports option (d). This option most fully satisfies the requirements for computing capability while also:

- reflecting the Departmental management strategy of devolution of responsibility to State Offices where most processing occurs,

- being more conducive to changes in Departmental requirements, State differences and client needs,

- facilitating localised sharing of information between DCS and other levels of Government/Service Providers which will assist in the move to needs based planning,

- allowing local managers to set operational priorities to match specific local requirements,

- being less susceptible to operational failure and operational close down,

- facilitating and simplifying a phased implementation, and

- giving Australian Industry a greater chance of participation.

The Department acknowledges that there are risks associated with any implementation of computer facilities. Accordingly, it has adopted appropriate management structures and control measures to lessen the exposure to risks that may be associated with the implementation of the preferred option. Refer to Section 5.11 for further discussion on this matter.

The Government has given approval-in-principle for the Department to proceed with the proposed acquisition of a distributed computer capability pending the outcome of JPCPA considerations.

6.   Cost Benefit Analysis

The Department has analysed and compared the costs and benefits of options (a) and (d) outlined in Sub-section 4 above and has determined that option (d) is cost effective.

7.   Required Funds for the Acquisition

The following level of funds has been estimated as necessary to finance the acquisition of the required hardware and software to proceed with the supported option (d).

1987-88	1988-89	1989-90	TOTAL
7.60	6.04	6.04	$19.68M

It should be noted that no expenditure on these hardware or software acquisitions is incurred in the 1986/87 financial year.

8.   Timing for the Acquisition

Given the endorsement of the Committee, and subsequent approval from Cabinet to proceed with the acquisition, it is proposed to issue a Request for Tender to the computing industry in the last quarter of 1986. Allowing for response time and the tender evaluation process, planning for the first installation is targeted at the 3rd quarter 1987.

1. PROPOSAL OVERVIEW

1.1   Background

The Department of Community Services (DCS) was, in December 1984, established out of functional units of the Departments of Social Security and Health to:

- develop and co-ordinate policy and planning in the social policy field; and

- deliver a range of community programs to areas of greatest need.

The Department had an average staffing level of 2674 for 1985/86, and is structured as follows:

- a Central Office of:

    - four Program Divisions,
    - a Corporate Services Division, and
    - three small outrider organisations:
        - the Policy Co-ordination Unit,
        - Office for the Aged, and
        - Office of Disability;

- Offices in each State and Territory; and

- several Rehabilitation Centres and Units in suburbs and provincial towns.

In order to meet its charter the Department recognised the need to develop a comprehensive and integrated information base on which to make sound policy and planning decisions. In addition, it identified the urgent need to significantly improve program administration and internal planning and control mechanisms.

In 1985 a Information Services Consultancy was commissioned to define and develop corporate and program goals and objectives, identify essential information and systems strategies to achieve them and to investigate the feasibility of information sharing between Government and other organizations. This was to be achieved through a comprehensive top-down analytical process involving all levels of the organization from the Minister and the Secretary down. From this work, conclusions were drawn about the hardware and systems the Department requires and these were expressed in the Department's first ADP Strategic Plan. The Plan was endorsed by the Secretary on 4 April 1986.

The Consultancy team was drawn from the consultancy firms of Arthur Young and Koranya with -

- Arthur Young being responsible for the development and documenting of the Corporate Strategy within a corporate planning framework agreed with Koranya,

- Koranya being responsible for the development and documenting of the Information Strategy;

- Koranya being responsible for the development and documenting of the Systems Strategy (including the development of the ADP Strategic Plan); and

- Arthur Young being responsible for undertaking the Information Sharing Feasibility Study.

Koranya had project management responsibility for the total Consultancy.

The Report from the Consultancy details the conclusions reached with Departmental officers and provides a current statement of the goals, objectives and strategies agreed by management. It has also identified the Department's key information needs and the systems required to support and service those needs.

The Consultancy Report is appended to this Submission in the following manner:

- Volume 1 - Attachment C   - Corporate Strategy,
- Volume 2 - Attachment D   - Information Strategy,
- Volume 3 - Attachment E   - Systems Strategy,
            - Attachment F   - ADP Strategic Plan,
- Volume 4 - Attachment G   - Information Sharing
                                  Feasibility Study.

As noted above these Attachments represent the successive phases of the Information Consultancy. Attachment G, the Information Sharing Feasibility Study will be made available separately.

1.2   Current Computer Facilities

Currently the Department relies on the Department of Social Security (DSS) and the Department of Health (DOH) for limited ADP support. The Consultancy confirmed that:

- the existing DCS computer applications on these installations are of a limited operational nature and totally inadequate if this Department is to meet its stated charter (see 1.1);

- they do not provide the necessary facilities to effectively manage the Department's annual portfolio expenditure of approximately $1.9 billion;

- they support only part of the Department's overall program administration;

- the existing systems are not integrated and are totally inadequate for sound policy development and planning; and

- a major upgrade to the DOH or DSS systems architectures would be required as well as new strategic systems developed and implemented, if DCS were to be provided with sufficient long term computing support and the necessary integrated information systems.

1.3 Requirement for Improved Computing Facilities

The Department's charter to manage against a 'needs-based planning' criteria requires the development of a comprehensive and integrated information base from which to make sound policy and planning decisions.

In the absence of this information base the Department is unable to plan the balanced development of welfare policy against specific needs criteria, or measure and assess the effectiveness of its welfare expenditures on the community.

Specifically, without an improved information base and computing facilities to collect, analyse and use the diverse program and demographic data at the base of the welfare industry, the Department is not able to define, in terms of efficiency, effectiveness or appropriateness, the impact of welfare expenditure in the community. Hence, efforts at expenditure control will remain judgmental and open to criticism. Similarly, planning for services will remain subjective and lack robust targeting.

The Department needs strategic information systems to allow it to move from essentially program administration to both program and policy administration where it can be proactive to the needs of the community rather than reactive to specific welfare issues.

It is because the existing computing facilities cannot be used to develop and then run these integrated strategic information systems that the Consultancy recommended that the Department replace its existing applications with a wide range of new community program based, corporate service and administrative support systems. The proposed systems will enable the Department to:

- identify areas of highest need and better target programs to meet those needs;

- obtain basic service accountability information;

- integrate policy and planning information and operational systems;

- have access to accurate and timely information for policy analysis, senior management and the Minister;

- develop programs in line with specific Commonwealth/State agreements;

- share information with Federal and State Government Departments and other agencies;

- improve the efficiency and effectiveness of program administration, including the standard of service provided to the community; and

- improve control over program-related expenditure through the introduction of Financial Management Improvement Program initiatives.

In order to develop and implement these strategic information systems the Department must have a viable computing capability.

1.4 Options for a Viable Computing Capability

To provide the necessary information systems and computing capability, the Department considered the following options:

(a) persist with the existing inadequate levels of support provided on a limited bureau basis by DOH and DSS;

(b) seek to have the computing facilities of either DSS or DOH significantly upgraded to provide adequate consolidated computer support from a single host;

(c) acquire its own centralised computing capacity; or

(d) acquire a distributed computing capacity as outlined in the ADP Strategic Plan (See Attachment F).

1.5 Examination of Options

As outlined in 1.2 and 1.3 above, existing information systems support is totally inadequate, cannot be easily upgraded nor integrated and will not enable the Department to achieve its stated goals. Option (a), therefore, is not viable.

The Department does not support Option (b) - the upgrade of DOH or DSS computing facilities because both Departments have differing strategic directions to those adopted by DCS. These differing strategic directions would inevitably result in the potential for serious conflict with the host Department over competing priorities. Also, under Option (b), DCS would not be able to control either the management or operation of the essential computing resources affecting its policy and program administration responsibilities.

Option (b) would not provide the operational flexibility, essential to this Department's management practice of devolution of responsibility, that would enable local managers to run things their way and at the same time, be responsive to differing client needs across different localities within their particular sphere of responsibility.

DSS and DOH both have fundamentally different computing needs to those of DCS. These are reflected in their current hardware and software configurations which are tailored to the production of high volume payments processing (DSS and DOH), and the storage and retrieval of textual information (DOH).

On the other hand, the computing requirements for DCS centre around the provision of strategic information systems which support the ethos of needs based planning, devolution of responsibility for program administration to local managers and flexibility in responding to the changing needs of clients as well as directions in Government policy.

Implicit in this is the need for the provision of a computing capability that enables the processing, storage and flexible use of information (including shared access) as close to its source as possible. A centralised computing capability, Option (c), such as that provided by DOH, is incapable of meeting this requirement from a management and operational point of view.

Also, DSS, under its current arrangements, is incapable of meeting the needs of the Department because it lacks the storage and processing capacity to enable the development and operation of the Department's proposed strategic information systems. See DSS comments at Attachment H.

1.6   The Preferred Option - Acquisition of a Distributed Computing Capability

The Department, through the Consultancy process, has thoroughly examined all the available Options and strongly supports Option (d) (the distributed option).

This Option best accommodates the provision of strategic information systems to support the management, decision making and control of the Department's annual portfolio expenditure of $1.9 billion so that it has a much better understanding of where that money is going and, can target it to areas of highest need.

Compared with Option (c), the centralised option, Option (d) has the following advantages:

.   it provides a distribution of hardware which most closely fits the Department's administrative practice of devolving responsibilities to State Offices where most processing occurs;

.   its inherent flexibility is conducive to meeting changing Departmental requirements and client needs;

.   it better facilitates the localised sharing of information between DCS and other levels of Government and service providers - a key objective in the DCS plan to move to a needs based planning footing;

.   it allows local managers to set operational priorities according to differing client population needs in diverse localities;

.   it is less susceptible to operational close-down;

.   it has inbuilt contingency capacity if one site is out of operation for a long period and minimises communications dependencies;

.   it lends itself to phased implementation. Site preparation issues (such as cost, location and availability) are not as significant as for the centralised option; and

.   with the emphasis on a preferred systems architecture of mini and micro computers, it gives Australian Industry greater scope for participation than would be the case with a large centralised mainframe solution.

Comparing acquisition costs, the Department's preferred option of a distributed computing capability ($19.68 M) is only marginally more expensive than both the centralized option ($19.67 M) and the DOH/DSS upgrade option ($18.17 M). Given the significant benefits stemming from adopting the distributed computing option, there is no compelling incentive on a capital cost basis to embrace the other options.

The Department's intended systems architecture for a distributed computing capability would encompass mini-computer processors for each State Office networked to a moderately sized mainframe or preferably two mini-computer processors in Central Office. Each location will be provided with microcomputer workstations which will be linked to the host computer at their respective locations.

This will give users at each location terminal access, if authorised, to data held on that host processor as well as to data on the Central Office computer and on other State Office computers. Further, the network will be designed to be flexible in order to meet the changing needs of the Department. The range of hardware will conform to a consistent hardware architecture and be readily interchangeable.

It should be emphasised that the acquisition of a distributed computing capacity *does* not commit the Department to a large scale regionalisation program. The *preferred computing strategy* simply deals with the existing structure of the Department and notes, mainly as a *point of prudent* planning, that any new computing installation should ideally have the capacity *to cope cheaply* with future exigencies. Hence, the Department's proposal makes no provision for a *higher* level of processing power now, it simply keeps open the option of extending the computing *architecture* to the next level of decentralisation should such a decision be taken in future years.

1.6.1   Size Requirements for the Preferred Option

In the Department's *preferred* Option the processing capacity is distributed with equipment being sited in *Central Office* and each State Office. Central Office requires 8 MIPS (millions of instructions *per second*) of processing power provided by a modest mainframe or, preferably, two minicomputers. Each State Office will require a single minicomputer, ranging from 1 to 4 MIPS in size.

The Department currently requires 12 to 14 MIPS of processing power on a bureau basis to run its present systems. For costing purposes, based on the findings of the Information Consultancy, it is estimated that the Department's preferred option will require 26.75 MIPS of processing power.

On the basis of the preliminary sizing analysis performed as part of the Consultancy (See Attachment C of Volume 3) it is estimated that 40,000 daily logical transactions can be expected. However, more detailed analysis will be undertaken during formulation of the Request For Tender specifications.

In addition, data storage will be required for operating system and applications programs, transaction logging, program development, backup and local data.

It is estimated that if a centralised *approach is used* to implement the systems, 15 gigabytes of data storage would be required. If *distributed options* are used then it is estimated that 30 gigabytes of data storage will be required.

1.7   Financial Considerations

Approval is sought to obligate $19.68 million over three years to finance the acquisition and installation of hardware and system software for the preferred option. A detailed Cost Benefit Analysis of the proposal together with the costs of not proceeding, are contained in Attachment A to this document.

The proposed expenditure for acquisition and installation over a three year development period, commencing in 1987-88, is as follows:

1987-88	1988-89	1989-90	TOTAL
7.60	6.04	6.04	$19.68m

There is no direct expenditure on the acquisition and installation proposals set out in this Submission in the 1986-87 financial year. There is however, a specific funds requirement in the coming Budget (1986-87) to continue necessary preparatory development work. This amounts to $2.61 million which has been incorporated in the 1986-87 Agreed Estimates. This includes funds for research, consultants and contractors but not staff salaries, development of the corporate data model, systems analysis and design of the strategic systems, preparation of the Request for Tender and evaluation methodology documents and evaluation of Tender Responses.

The Information Services Consultancy has determined that a total of 108 staff are necessary to carry out the implementation and support functions for the acquisition proposal. See Section 5 of the ADP Strategic Plan at Attachment F. In considering this requirement, the Department has reviewed its current staffing situation and believes that 48 existing staff could be deployed in offset against the total requirement.

Therefore, additional technical and support staff of 60, phased in over 3 years (9 in 1986-87, 24 in 1987-88, 27 in 1988-89), will be required to implement the proposal.

The 9 staff required in 1986-87 will specifically assist in setting up and managing such aspects of the acquisition as preparing the Request for Tender and evaluating tender responses as well as the detailed implementation planning associated with an acquisition of this size. This group will also play a critical role in developing the broad systems philosophies and frameworks to be installed in the new environment. The additional 24 required in 1987-88 and the additional 27 in 1988-89 are essentially operations personnel who will be required to operate and maintain the computing systems.

The staff sought in 1986/87 will allow the Department to take full and firm control of the entire acquisition process as well as progressing the intensive systems development activity so vital to early implementation plans. It is therefore stressed that the provision of the additional staff is central to the implementation of the Strategic Plan in the desired timeframe.

Specifically, the nine staff sought in 1986/87 will be responsible for:

- Development of the Request for Tender documentation
- Development of the Tender Evaluation Methodology
- Hardware Evaluation and Acquisition
- Software Evaluation and Acquisition
- New Systems Design and Development
- Provision of a Systems Secretariat function (including the detailed financial analysis of tender responses)

The provision of these additional staff to implement the Department's proposal is subject to negotiations between the Minister for Finance and the Minister for Community Services.

It is estimated that $6.07 million will be required annually to cover the recurring costs associated with maintenance, systems development, training and extra support staff. This compares with a current annual cost of $4.23 million expended in supporting existing inadequate systems. A full breakdown of these recurrent costs is provided in the Cost Benefit Analysis at Attachment A.

1.8   Performance Monitoring of the Proposal

The Department is aware of the necessity to institute mechanisms to monitor the performance of the proposed systems in order to be able to demonstrate that it achieves the benefits resulting from the acquisition of its own ADP facilities.

To this end, the Department intends to establish a formal review process to closely monitor the implementation impact of the Acquisition Proposal on Program and Corporate Services' expenditure and effectiveness. This review process will take the form of an ongoing Post Implementation Review at strategic phases of the project.

The Department's information base will be used to gauge the level of benefits accruing from the Proposal through built-in performance indicators at the expenditure, service and client outcome levels. It should be noted that the Department, as part of implementing Program Budgeting, will be designing performance indicators for each of the major Program areas. Some of these indicators will also be used to gauge benefit levels.

2.   ADP OBJECTIVES

2.1   Overall ADP Objectives

The Department has concentrated on developing ways to deliver a more efficient, cohesive and caring welfare service within a tightly controlled budget. From a management perspective, the emphasis has been on streamlining the decision-making process through a policy of devolution of powers, reassessing and balancing budget priorities, efficiency in resource management, upgrading of financial management and improving the information bases on which the Department's framework of program management and policy co-ordination responsibilities rest.

To achieve these objectives, and at the same time target and define the impact of welfare expenditure in the community, requires a computing capability with the following broad ADP objectives:

- the use of common data standards which provide a high degree of flexibility in data usage and to meet changing requirements in the future.

- the proper delivery of information requirements to corporate and program management areas, to support the achievement of their stated goals, objectives and strategies;

- the provision of that information in the most effective and efficient manner, including the capability for shared access to data holdings by other government and voluntary agencies;

- to ensure that the Department's information is as accurate and up-to-date as possible and that risks to the integrity of the information are minimised;

- to determine and acquire the equipment, software and network infrastructure upon which automated systems can be developed and operated in the most appropriate, effective and efficient manner; and

- to assist in staff productivity increases and improve the overall performance of the Department.

The information requirements listed above for the Departments computing capability are based on the conclusions and recommendations of the Information Strategy phase of the Information Consultancy. See Attachment D.

2.2   Overall Systems Strategy

The Department's overall systems strategy is to determine and implement the information systems required to meet the Department's corporate and information goals.

The corporate and information goals and related strategies are described in Volumes 1 and 2 of the Information Consultancy Report. The systems derived to meet these goals and strategies are detailed in Volume 2 of that Report.

The proposed systems are functionally based and not program based. This will enable the Department to obtain a common view of the data across program and organisational boundaries. This is a particularly important element of the systems strategy because it provides the basis for a common set of data standards for the Department.

Integration of data and standardised definitions of similar data types are pre-requisites to effective management information systems. Program areas must share their data. Therefore, both standard data formats and standard terminology (some aliases may be necessary) are greatly needed. Any systems, computer applications or 'user written' extracts would be complicated to the point of being unmanageable if this discipline is not enforced.

Program Budgeting structures, identifiers and performance indicators will be built into the new systems so that program budgeting, in the context of this Department, becomes a specific strategy to ensure that the Departmental goals of efficiency, effectiveness and appropriateness are met.

It must be emphasised that proper and effective control over the expenditure of the current $1.9 billion budget is critical. This heightens the significance of program budgeting for the Department and creates the management and operating environments for ensuring that expenditure of such magnitude is efficient, effective and appropriate for community care needs.

3.   CORPORATE PLAN

3.1   Corporate Objectives

The Department was established :

.   to provide Commonwealth programs to assist the aged, people with disabilities, young children and families, the homeless and people in crisis and to ensure that programs of assistance are appropriate in terms of quality of care, targeted at priority needs, and delivered effectively and efficiently, and

.   to develop and co-ordinate broad social welfare policy and planning.

3.2   Services and Responsibilities

In particular the Department is responsible for providing the following services:

.   Planning and funding the delivery of:

–   services to families and children through the Childrens Services and Family Support Programs;

–   community support services through the Home and Community Care Program to enable the aged and younger people with disabilities to remain in their homes;

–   short term accommodation and support services for the permanently or temporarily homeless, and others in crisis, through the Supported Accommodation Assistance and Emergency Relief Programs;

–   residential care for elderly people through the Residential Services Program; and

–   services to people with disabilities through the Disabilities Services Program to assist them to maximise their individual potential and facilitate their integration into the general community. This includes planning and delivering rehabilitation services to people with disabilities in the working age group.

.   Providing policy research and analysis and the development of broad perspectives relevant to policy options encompassing health, income security and community services through the Policy Co-ordination Unit.

- Providing advice on the impact of programs delivered by government and non-government organisations to people with disabilities and the the aged through the Office of Disability and Office for the Aged respectively.

- Supporting the efficient and effective delivery of these programs by providing corporate advisory and support services through the Corporate Management and Support Program. Services include:

  - personnel, finance and other resource management,

  - Ministerial and Parliamentary liaison,

  - systems development and operations, including ADP,

  - staff training and development,

  - information and publicity,

  - audit requirements,

  - legal services,

  - industrial relations services,

  - longer term research and development,

  - WELSTAT and other statistical services, and

  - Grants In Aid and Management Support Scheme.

In providing these services the Department must consider a wide range of environmental pressures covering economic, Public Service Administration, political, technological and social issues.

3.3   Information Services Consultancy

The Department of Community Services was established only in late 1984, and staffed at senior levels in mid 1985, and has had limited time to develop a formal corporate planning framework and concise documentation of its policies and priorities. Nonetheless, significant progress has been achieved through the management of hired consultancy resources to deliver specific products that move the organization towards identified targets and objectives in a properly planned manner.

Two consulting firms, Koranya and Arthur Young, assisted DCS in this exhaustive analytical process with Koranya carrying broad project management responsibility for the total project at the operational level.

The Consultancy team, under the direction of an executive level Steering Committee, undertook the project in four major phases:

.   The development of the Corporate Strategy within a structured corporate modelling framework;

.   Information Systems analysis to define the data requirements of the organisation;

.   Development of a Systems Strategy (including the writing of the ADP Strategic Plan) to service the data and broader program management requirements of the organization; and

.   An Information Sharing Feasibility Study to determine the viability of sharing common data holdings between DCS and external government and service provider agencies.

The Consultancy was undertaken using a top down approach to derive the Department's needs for information systems and to determine the feasibility of being able to better share information with other Federal, State, Local Government and relevant external agencies.

The Consultancy Report records the conclusions reached with Departmental officers and provides a current statement of the goals, objectives and strategies of DCS management, together with the identification of key information needs and information flows to support them.

The Report has four volumes :

.   Volume 1 - the Corporate Strategy;
.   Volume 2 - the Information Strategy;
.   Volume 3 - the Systems Strategy (including the ADP Strategic Plan); and
.   Volume 4 - the Information Sharing Feasibility Study.

In each Volume, Section 1 is common in format to enable the volume to be a 'stand alone' document. Section 1 addresses:

- the requirements which the Department set for the Consultancy;
- the purpose and structure of the whole report; and
- the approaches taken by the Consultancy Team in the conduct of the Consultancy.

Volume 1 of the Consultancy documentation is made up of five parts:

- conclusions and recommendations as they relate to the Corporate strategy;
- statements of corporate goals and strategies;
- an agreed program structure with the rationale behind the established relationships; and
- the program documentation.

Volume 2 is made up of five parts in addition to Section 1:

- conclusions and recommendations as they relate to the Information Strategy;
- statements of information goals and strategies;
- information models for each of the Departmental Programs;
- a statement on data content and structure; and
- a statement of conceptual systems models which will be required to meet Departmental needs.

Volume 3 is made up of five parts in addition to Section 1:

- conclusions and Recommendations as they relate to the Systems strategy;
- statements of Systems goals and strategies;
- definition of Departmental Systems;
- definition of issues to be considered;
- a statement of options which the Department has for the implementation of systems; and
- an appended ADP Strategic Plan.

Volume 4 will also be made up of various parts in addition to Section 1. However, the detail of Volume 4 will be made available separately, as that part of the study will not be completed until late July 1986.

A schematic illustration of the implementation of the Consultancy is shown in Exhibit 1.

Exhibit 1

INFORMATION SERVICES CONSULTANCY IMPLEMENTATION

CORPORATE STRATEGY
(Volume 1)

Identifies broad corporate directions and program objectives and strategies

INFORMATION STRATEGY
(Volume 2)

Identifies the data required to satisfy those objectives and strategies

INFORMATION SHARING FEASIBILITY STUDY
(Volume 4)

Examines the feasibility of sharing information with other Federal and State Departments and Local Governments

SYSTEMS STRATEGY
(Volume 3)

Proposes the logical and physical systems necessary to provide this data

ADP STRATEGIC PLAN

Provides the overall strategic direction for providing ADP facilities for the Department

ACTION PLAN

Identifies the detailed tasks required for implementation of the ADP Strategic Plan through a rolling three year plan

3.3.1 Corporate Strategy

The Corporate Strategy phase of the Consultancy sets out
to identify the goals and objectives for the Department as
a whole as well as for each Program area. This phase has
been completed and the results reported in Volume 1 of the
Consultancy Report. The formulation of an initial
statement of Corporate Strategy has provided a firm
foundation upon which to plan the development of ADP
systems to support the Department. In addition, it has
laid the foundation for the development and introduction of
Program Budgeting.

3.3.2 Information Strategy

The Information Strategy provides a rationale and
description of the type of data holdings and computer
applications that the Department will have available to it
when the ADP Strategic Plan is fully implemented. Examples
of the conceptual systems identified are:

.   Service Provider Register which will provide
    integrated details about Service Providers across all
    Program areas,

.   Service Provider Application Processing System which
    will support the recording, processing, maintenance
    and tracking of applications and submissions for
    funding, and

.   Planning System which will support the assessment of
    needs and gaps in the provision of services and the
    planning to meet these needs.

In all, the Consultants have identified ten community based
systems and a large number of corporate and administrative
systems which will be put in place to support Departmental
activities. A major recommendation of the Consultancy and
a key feature of these systems is that they will be
integrated and support both management and operational
requirements.

3.3.3 Systems Strategy

The Systems Strategy is concerned with the hardware and
software required to support the computer applications
which have been identified. The Consultancy has
recommended a distributed computing architecture which
would mean that Central Office and each State and Territory
would be linked together by a communications network.
Authorised staff would be able to access the computer
systems through a number of micro-computer workstations
and, subject to security considerations, would be able to
access data held by other States and Central Office.

Appended to the Systems Strategy in Volume 3 of the
Consultancy Report is the Department's ADP Strategic Plan.
It forms Attachment F of this document.

3.3.4 Information Sharing Feasibility Study

The Information Sharing Feasibility Study phase of the
Consultancy is considering the possible value and
feasibility of a more co-ordinated approach to gathering
and sharing information within and between Federal, State
and Local Governments and non-governmental organisations.

The Study involves an examination of the program
objectives, strategies and data requirements of some
Victorian Government Departments as well as the city
Councils of Melbourne and Ballarat, Victoria. It will not
involve a highly detailed data modelling exercise. Its aim
will be to establish a framework at the corporate level
which will be capable of highlighting areas of common
interest and within which further study will be
concentrated.

The report on this phase will specifically identify and
analyse the issues affecting information sharing and will
evaluate the practicality of preferred options.

3.4 Conduct of the Corporate Strategy Phase of the
Consultancy

Volume 1 of the Report of the Information Services
Consultancy therefore proposed that the first phase in
developing an ADP Strategic Plan must be the formalising of
goals, objectives and strategies.

Consequently, Phase one of the Consultancy - the Corporate
Strategy, was designed to drive the successive development
of an Information and Systems Strategy (including an ADP
Strategic Plan) which would ensure that all levels of
management have access to data so as to assist:

.   the effective and efficient introduction of government
    policies;

- the development of responsive departmental objectives and strategies, and the monitoring of performance against these targets;

- the control of program expenditure in the order of $1.9 billion annually; and

- the introduction of program budgeting.

A major outcome of the Corporate Strategy phase of the Consultancy has been the identification of critical information needs for managers to plan and control the achievement of objectives and strategies for the planning period.

In addition, there have been three other significant outcomes from the Consultancy these being:

- the establishment of corporate planning documentation as the basis for the formal introduction of corporate planning and program budgeting concepts and practices into the Department;

- the development of strategic planning frameworks for each program which encourage managers to challenge the appropriateness of services being provided to clients or, as in the case of the Corporate Services Division, the appropriateness of support services provided to the Department; and

- the development of a framework for information sharing and enhancing the communication flows between different layers of Government and non-governmental organizations for efficient policy planning and program administration.

Whilst the major recommendation of the Corporate Strategy phase of the Consultancy is that this documentation be used to drive the ADP Strategic Plan, the majority of recommendations focus more specifically on what the Department must do to build on this initial corporate planning strategy. These recommendations, which have been adopted by the Department, concentrate on:

- ensuring that the basic initial documentation is now used by the Department not only to drive the ADP Strategic Plan, but also as the initial step for the introduction of corporate planning;

- ensuring that the documentation is reviewed critically and kept current; and

- using the documentation as a departure point for the introduction of Program Budgeting to the organization.

Documentation from the Consultancy has been produced at both the corporate and program levels of the Department, with the corporate level documentation designed to provide overarching direction to the development of responsive, and more detailed plans for each program.

In developing this documentation a three year planning period 1985/86 - 1987/88 was adopted. The Department requested that this planning period be utilised to ensure the documentation would reflect the major known changes that are planned to occur from the present time.

3.4.1   Corporate Level Documentation

Statements of key missions, goals and strategies for the planning period have been produced. The statements include a clear policy direction (goal) for each of the Department's programs and key strategies to be implemented over the planning period to give effect to those goals.

In producing this higher level documentation three tasks were undertaken:

- developing a situational analysis which outlined the Department's current status. Specifically it outlined the current programs that the Department delivers, together with the identification of policies and internal and external environmental pressures that impact on the delivery of services;

- establishing corporate operating policies and program specific goals. The goals were established in outcome terms and answer the question "what changes in controllable community conditions are desirable as a result of Departmental activity?"; and

- identifying priority strategies for the achievement of program specific goals (ie. what needs to occur over the planning period to aid the achievement of the goal). Because of the nature of some goals they will not be achievable over the planning period. In such instances strategies were determined that focus on only the three year planning period but tie into the longer term focus of the goal. To ensure that there is a linkage between the higher level statements of goals and strategies and the detailed program plans, strategies were specifically framed to reference each of the services provided by the program.

3.4.2   Program Level Documentation ·

The terms of reference for the Consultancy determined that the existing programs were to be utilised as the general analytical framework of the Consultancy. For that reason, the detailed program level documentation has been designed to support the following current programs:

.   Childrens Services,
.   Family Support Services,
.   Home and Community Care,
.   Supported Accommodation and Assistance,
.   Residential Programs for Aged People,
.   Disability and Rehabilitation Services,
.   Corporate Management and Support Services, and
.   Social Welfare Policy Development.

In developing objectives and strategies for each of the Department's programs, the principles and terminology adopted by the Government for the introduction of program budgeting were used.

The initial task undertaken for each of the Department's existing programs was the establishment of a program structure, that is, a hierarchy of related services (outputs) contributing to the major objectives of the program. These structures followed the program, sub program, component and sub component architecture of Program Budgeting.

The program structures are designed to enable:

.   the establishment of objectives and strategies for each program which meet the priorities of Government in servicing the needs of clients;

.   challenging of the appropriateness of services to meet client needs;

.   allocation of resources to services rather than organisational functions; and

.   focusing on outputs or services as a basis for measurement of performance.

Detailed supporting documentation has been produced for each program, and in a number of instances down to the sub program and component level of detail, and includes:

.   developing a situational analysis along the lines of the corporate level documentation;

.   establishing program level objectives for the planning period. The objectives have been established in output terms. These can be described as the level of service desired to be delivered and, for example, may consider service quality, responsiveness, accessibility and number of services; and

.   for each of the objectives, establishing strategies for their achievement.

The Department is currently refining this documentation as part of the process of moving to the implementation of Program Budgeting in 1987/88.

3.5   Key Recommendations of the Corporate Strategy Phase of the Consultancy

The major recommendation is that the documentation produced outlining objectives, strategies and critical information needs for each program be utilised to drive an ongoing strategic planning process that will co-ordinate and support the Department's current and planned operations. To give effect to this recommended strategy, as well as for other reasons of improved efficiency, a Planning and Development Branch has now been created from within existing departmental resources.

The following recommendations are designed to ensure that the Department builds on the work undertaken in the Corporate Strategy phase of the Consultancy to introduce formalised corporate planning systems, and to maintain and enhance the documentation and program structures.

3.5.1 Corporate Level Recommendations

These recommendations are mainly concerned with issues that impact across programs or with the introduction of systems to support corporate, program and operations level planning. They include;

.   the introduction of an interactive annual planning cycle, as schematically shown in Exhibit 2, to enhance the management of the organisation's programs and resources;

.   the establishment of an independent planning unit to facilitate and co-ordinate all planning, budget development and review activities that will be required to be undertaken in all program areas;

- developing performance indicators to monitor efficiency and effectiveness. This is a critical exercise to aid the successful introduction of program budgeting into the Department and is a follow on to the work completed in the Consultancy in determining the critical information needs of each program;

- developing flexible information systems to be responsive to changing corporate goals and objectives;

- introducing staff development programs to orientate managers to strategic planning;

- introducing program structures that are client/service related, that is, concentrating on what services are being delivered and not on the outlets that are delivering services; and

- evaluating the feasibility of rationalising existing programs to have more of a client focus to aid strategic thinking about alternative services to be provided to client types.

The Department has endorsed these recommendations and is actively pursuing their implementation.

Exhibit 2

THE INTERACTIVE ANNUAL PLANNING CYCLE

The diagram below shows the annual planning cycle, recommended by the Information Consultancy , to enhance the management of the Department's program and resources.

4. EXISTING SYSTEMS AND DEFICIENCIES

4.1 Current ADP Facilities

The Department currently has no ADP facilities on which to run its existing major applications. All DCS production systems are run on computer equipment operated by the Departments of Social Security (DSS) and Health (DOH).

However, the Department has implemented modest interim facilities to provide basic telecommunications and Wang word processing facilities which had previously been provided as part of the infrastructures of DOH and DSS.

The interim facilities called for the installation of 'stand-alone' Wang mini-computers and terminals in all States and Territories to provide word processing services. Action was also set in train to replace outdated Raytheon PTS 100 terminals used to access the computerised payment systems continuing to run on the mainframes at DOH and DSS.

These terminals were the subject of an industrial dispute in 1984, prior to the creation of this Department, and the Department of Community Services considered it was obliged to replace all Raytheon PTS 100 Terminals. The replacement terminals are Telex TC080 Terminals, which have been acquired under existing period contracts. The interim facilities in no way commit the Department to the long term use of this type of equipment and do not diminish the urgency attaching to the re-equiping of the Department.

4.2 Major Systems Operating on DOH and DSS Facilities

4.2.1 Subsidies Information Systems (SIS)

The Subsidies Information System (SIS) was introduced as a limited demonstration system in 1982 to record, monitor and maintain details of organisations which receive subsidies under various Acts, the services provided, the applications made for subsidies and grants, and details of the payments made. The system runs on computer equipment operated by DSS.

Programs, or components of programs, currently being serviced by the SIS are:

- services funded under the Homeless Persons Assistance Act (this Act is almost defunct),

- services funded under the Handicapped Persons Assistance Act,

- capital funding and recurrent subsidies for hostels under the Residential Care Program,

- Childrens Services Program, and

- services funded under Acts which are now subsumed in the Home and Community Care Program.

4.2.2 Nursing Home and Long Term Care Systems (NHLTC)

These systems are designed to assist in the following functions for the Residential Care Program:

- to pay government and participating nursing homes bed day subsidies;

- to process and settle payments to private nursing homes using deficit financed payment arrangements; and

- to provide management information.

They also pay domiciliary nursing care benefits.

These systems run on computer equipment operated by DOH.

The two systems referred to in 4.2.1 and 4.2.2 above, SIS and NHLTC, cannot be integrated under current arrangements because they are written in different computer languages and operate upon separate databases.

4.2.3 Other Applications

Other applications include:

- Case Analysis Statistical System – used by the Department's Rehabilitation Services for processing case details. It comprises SAS (a software package to support statistical applications) programs located on the DSS mainframe. Processing is done in batch mode with data forwarded on tape.

- Crisis Accommodation Program – used to hold information relating to organisations supplying services under the SAAP program. It is a stand alone, central office, WANG-based system written in SPEED II, a high level programming language.

- Handicapped Persons Welfare – used for cash flow monitoring. It is a SAS program running on the DSS mainframe.

- Correspondence Monitoring System – a small ADABAS/NATURAL system that is used for recording and tracking ministerial correspondence. (ADABAS is a Data Base Management System, and NATURAL is a high level programming language used with it).

- A number of other small special purpose user-written applications are used within some of the functional areas, and from time to time require support from the Systems Branch. These are typically written in SAS or ADABAS/NATURAL.

4.3   Auditor-General and/or Internal Audit Comments on
       Existing Systems

Audit, Post Implementation Review and Information
Consultancy findings have all highlighted the severe
inadequacies of the Department's existing systems.

In June 1985 the Australian Audit Office (AAO) reported the
outcome of an audit of the NHLTC systems conducted in the
Central Office of the Department. As well as identifying
some internal control and procedural weaknesses, the AAO
concluded that:

.   not enough emphasis in the current systems was placed
     on the targeting of services and appropriateness of
     patient care issues;

.   more effective client monitoring was required;

.   a systematic fees control system should be developed;
     and

.   current levels of service inspections were inadequate.

In January and February 1986, the Department's Internal
Audit Section conducted a high level review of all existing
systems. This review exposed a severe lack of internal
controls in the SIS system. Another finding was that the
SIS system supported only some aspects of management
information and was inadequate for ongoing operational
purposes.

4.4   Review of Existing Systems

In addition to the review of existing systems undertaken
during the Information Consultancy, a formal Post
Implementation Review (PIR) of the Nursing Homes Payment
System (NHPS) was recently conducted.

The Review team comprised representatives from the Public
Service Board, Systems Branch, and Central and State Office
users from this Department.

The major conclusions and recommendations of the PIR were
as follows:

.   staff in some State Offices and Central Office are not
     familiar with the systems capabilities;

.   training procedures for system operators are
     inadequate;

.   processing procedures are not nationally consistent;

.   computing facilities at the user level are completely
     inadequate in some States;

.   the manual processing procedures adopted by the States
     are wasteful of resources; and

.   the organisational support structure for the system is
     slow to respond to user needs.

The team recommended five major enhancements to the NHPS:

.   develop a client application registration sub-system
     to facilitate registration of applications,
     maintenance of client histories, automatic production
     of management information and automatic generation of
     advices;

.   develop a claims registration sub-system to facilitate
     registration of claims and automatic production of
     management information;

.   improve control procedures;

.   improve data integrity and correctness of processing;
     and

.   develop a deficit financing schedule of clients
     registration sub-system to facilitate registration of
     schedules and automatic production of management
     information.

4.5   Conclusions from PIR Comments

The SIS system has not been subjected to a formal Post
Implementation Review. However informal reviews have
demonstrated that this system has similar problems to those
identified by the Post Implementation Review of the Nursing
Homes Payment System.

Both the Audit comments and the Department's Post
Implementation Reviews of existing systems clearly indicate
that the existing systems are run down and incapable of
meeting the Department's objectives and goals efficiently
and effectively.

Specifically, not enough emphasis in the current systems is
placed on the targeting of services and appropriateness of
patient care issues. Secondly, the current systems are
either incapable of producing the required management
information to implement needs based planning or
alternatively, not sufficiently flexible to cater readily
for changing requirements.

5. INFORMATION AND SYSTEMS STRATEGIES

5.1 Derivation of the Strategies

The Information Services Consultancy was commissioned to
define and *develop* corporate and program goals and
objectives and to identify essential information and
systems strategies to achieve these. The Department's
Information and Systems Strategies are described in detail
in Volumes 2 and 3 of the Information Services Consultancy
Report and are summarised in the ADP Strategic Plan.

5.2 Information and Systems Strategies - Major Conclusions/Recommendations

The major conclusions and recommendations of the
Information and Systems Strategy phases of the Consultancy
were:

- The Department requires the development and
  introduction of appropriate information systems in
  order to meet its corporate goals and strategies. The
  present systems do not support the efficient and
  effective management of the Department's limited
  information holdings and expenditures and do not
  support senior managers and policy analysts in the
  carriage of their responsibilities.

- Insufficient attention has been paid in the past to
  the management of data, consequently inhibiting the
  usefulness of data holdings to policy and program
  areas and to senior management. Existing data is
  limited and is difficult to extract and manipulate.

- The Department should resolve its needs in the
  following areas prior to the development of its new
  information systems:

  - the transition from submission based planning to
    needs based planning, and

  - the impact of Program Budgeting and other reforms
    relating to the Financial Management Improvement
    Program.

- The concept of sharing information among Federal,
  State and Local Governments and non-Governmental
  organisations and the development of cost-shared
  programs with State Governments will necessitate a
  high degree of flexibility in future information
  systems and facilities.

- The conceptual systems which have been identified to
  meet the information needs of the Department fall into
  three categories: Community program based systems,
  Corporate services systems and Administrative support
  systems.

- The conceptual systems are functionally based, not
  program based, and will provide a useful vehicle for
  standardisation across Departmental programs,
  particularly in relation to the definition and use of
  data. They will also provide a high degree of
  flexibility and will be readily adaptable to reflect
  changing needs.

- The estimated development effort required to construct
  the identified conceptual systems is 95 person-years
  but it may be possible to reduce this by the
  acquisition of application software packages.

- As the existing systems of the Department do not meet
  the Department's information needs, are not integrated
  and do not provide efficiency, effectiveness or
  appropriateness information, they should be maintained
  only at a minimal level until the new systems are in
  place, and

- The data held on existing systems should be migrated,
  as far as possible, to the new systems.

The estimate of 95 person-years development effort to
construct the appropriate information systems is based on a
simplified SDM - 70 methodology and assumes that
experienced systems development staff will be used and that
development will take place in a high level fourth
generation language;

Estimates are based on the following five phases of the
SDM-70 protocol:

- SRD/SDA (System Requirements Definition/System Design
  Alternatives) involving boundary definition, systems
  analysis and preliminary data analysis.

- SES (System External Specifications) involving user
  definition of screens and reports and more detailed
  data analysis.

- SIS (System Internal Specifications) involving
  detailed specification of processing arrangements and
  data access.

- CODING/TESTING

- DATA CONVERSION/COLLECTION AND IMPLEMENTATION
  (includes migration from existing systems).

The resource estimates for each system will be more
accurately definable after the SRD step.

A detailed explanation of the derivation of the estimated
development costs for the new systems is contained in
Attachment E Volume 3 of the Information Consultancy Report.

5.3 Derivation of Proposed Information Systems

Volume 2 of the Information Consultancy Report identifies and describes the Information Systems needed by the Department.

The systems were derived from an analysis of the information required to support the objectives and functions of the Department at individual program level and from the analysis of the relationships between the various pieces of information. The commonality of information and functions were then examined on a Department-wide basis and conceptual systems were determined.

The systems are functionally based, not program based, as much of the data and its usage transcends traditional program boundaries. The advantage of functionally based systems is that they can operate from the one data base, thus reducing duplication of data storage and at the same time increasing standardization across programs of data retention and processing requirements throughout the Department.

This characteristic of functionally based systems is critical to the introduction of needs based planning into the Department because it provides the necessary access to the management information held across program areas needed to prioritise and target services against a criteria of greatest need.

5.4 Nature of Proposed Systems

A large number of conceptual community based systems and corporate and administrative systems have been identified. Volume 2 of the Information Consultancy Report describes the systems in detail, as well as their relationship within the Corporate Information Strategy. In defining these conceptual systems, the traditional distinction between management information systems and operational systems has not been made. In fact, each system has components that support both the management information and operational aspects.

The conceptual systems have been categorised into three broad areas, based on their audience within the Department. These areas are:

. Community program based systems,
. Corporate services systems, and
. Administrative support systems.

The systems identified within each broad category are:

. Community program based systems:

  – Policy and Procedures,
  – Planning,
  – Service Provider Application Processing,
  – Service Provider Register,
  – Capital Works Monitoring,
  – Service Monitoring,
  – Client Processing,
  – Client Register,
  – Payments Processing, and
  – Financial Management.

. Corporate services systems:

  – Human Resource Management,
  – Accounts Control,
  – Assets Control,
  – Library,
  – Document Monitoring,
  – Correspondence Monitoring,
  – Freedom of Information, and
  – Appeals Tracking.

. Administrative support systems:

  – Financial Management,
  – Project Management and Planning,
  – Problem and Change Control,
  – Decision Support Tools,
  – Office Automation, and
  – Computer Support Systems.

It is proposed that the conceptual systems will be developed and implemented as on-line systems. This is considered necessary given the critical nature of much of the Department's processing and because of the requirement for timely access to information across geographic locations and program boundaries.

5.5   Description of Proposed Systems

5.5.1   Community Program Based Systems

- #### Policy and Procedures System

This system will support the development and provision of information on policy, guidelines, legislation, procedures and awards.

- #### Planning System

The Planning System will support the assessment of needs and gaps in the provision of services, and the planning to meet these needs. Needs assessment will be centred around general community and statistical evaluation of gaps in service provision, using information from community groups and a variety of statistical indicators and collections. The system will make extensive use of decision support tools.

- #### Service Provider Application Processing System

The Service Provider Application Processing System will support the general recording, processing, maintenance and tracking of applications and/or submissions from service providers for funding. A rating function will be incorporated to assist management to allocate priorities and needs. Approvals and conditions will be recorded, with automatic notification of financial commitments, approvals and expenditure to the Payments Processing System and Financial Management System. Success rates, progress reports and workflow performance indicators will be produced.

- #### Service Provider Register System

The Service Provider Register will record details about service providers and will be integrated across all program areas of the Department. Processing will support the maintenance and reporting of service provider structure, services and details. Reports of services provided will be extracted on an area basis, together with summary statistics showing national comparisons, trends and service profiles.

- #### Service Monitoring System

The Service Monitoring system will be primarily concerned with recording details about ongoing service provision to aid the assessment of the quality of service. This information will relate to client outcomes and the quality of service, the standards for services, fee setting, unit costs and limits, national comparisons of service providers across these measures, budget scrutiny and inspection scheduling. Summary statistics will assist management to evaluate programs in terms of their appropriateness and effectiveness, and yield indicators for State Governments and service providers.

- #### Capital Works Monitoring System

This system will monitor and control service provider capital works projects. This will involve monitoring building progress, feeding cash flow information to the Payments Processing System and the Financial Management System, and assisting with overall budgeting of funds for the program areas.

- #### Client Processing System

The development and monitoring of individual programs for a client's rehabilitation will be the main focus of this system. Assessment of a client's eligibility under the Act, vetting against priorities and funding constraints, setting treatment goals and evaluating outcomes will be covered by this system. Summary statistics on outcome success, trends, budgets and expenditure, progress and work performance will be produced .

- #### Client Register System

The Client Register System will record information relating to the Department's clients, and the services and benefits received. This system will be integrated across all programs.

- #### Payments Processing System

The Payments Processing System will support the verification and payment of claims to service providers and State Governments. Calculations of amounts, summaries of expenditure and payment performance statistics will be produced. Interfaces with the Financial Management System and appropriate Department of Finance systems will be integral components.

5.5.2 Corporate Service Systems

• Human Resources Management System

The Human Resource Management System will deal with personnel, establishments, staff movements and training. Personal particulars, plus details on salaries, leave, qualifications and skills will be recorded and maintained for departmental personnel. Establishments data about the structure and position details of the Department, staff movements between these positions, recruitments and promotions into vacant positions, and appeals against promotions will all be recorded and maintained. Training data will be used to control and monitor the courses being provided and attendance at courses, and assess staff development requirements. Financial commitments, such as average staffing levels, will be notified to the Financial Management System.

• Accounts Control System

This system will maintain a ledger of accounts receivable and payable for Departmental expenditure other than that related directly to community programs. Contracts, purchases and expenditure will be registered and notified to the Financial Management system.

• Assets Control System

The Assets Control System will provide an inventory of all Commonwealth assets held by the Department, including those held as part of a community program such as buildings, cars and equipment; and those held by the Department, such as furniture and equipment. Commonwealth equity and the conditions pertaining to that equity, will be recorded for program assets. Equipment maintenance details and schedules will also be incorporated.

• Library System

This system will provide a record of the Department's library holdings, with subject and author catalogue providing indexes to these holdings. Library borrowings will be recorded, searches performed and access could possibly be provided to other libraries and bibliographies.

• Document Monitoring System

This system will be a registry system to record file movements in and around the Department, with subject index for keyword searches of information held in documents and files.

• Correspondence Monitoring System

This system will log and monitor response times for ministerials and other requests for information. A mailing list will be incorporated into this system.

• Freedom of Information System

This system will log FOI requests and produce quotes for providing information under the FOI Act. Charges will be recorded and notified to the Financial Management System.

• Appeals Tracking System

This system will record the progress and status of appeals.

5.5.3 Administrative Support Systems

• Financial Management System

The Financial Management System will be used by both program and corporate service areas to maintain and report on the estimates, approvals, commitments and expenditure across the different areas of the Department. Program budgeting and audit controls will both be incorporated into the system from the initial design stages, providing the ability to budget accurately across individual programs. The system will interface with appropriate Department of Finance systems.

• Project Planning and Management System

The Project Planning and Management System will support the scheduling and tracking of tasks and will record start dates and elapsed times, resource allocation and identification of critical paths. Network and resource allocation diagrams for individuals, projects, program areas, and the Department as a whole will be produced.

• Problem and Change Control System

This system will record and disseminate information on problems and likely fixes for all aspects of the computer systems and equipment. Problems, errors, requests for upgrades and revisions will be registered and reported. Prioritisation and scheduling of tasks will be supported, and likely estimates of timing for fixes, upgrades and releases will be reported. The system will control updates to production libraries and distribution of new releases. Management information on downtime, scheduling, resources and maintenance requirements will be produced.

· Decision Support Tools

Decision Support tools provide the foundation for the
development of advanced capabilities in the areas of
Financial Management, Needs Based Planning and access by
executives to the information held or available to the
Department.

Specific requirements in the area of Financial Management
include the ability to model Departmental financial
activities to carry out "what if", sensitivity, statistical
and other types of analyses using hierarchical and
multi-dimensional consolidations of data.

In the area of Needs-Based Planning, the decision support
tools would include the ability: to store and retrieve a
wide variety of time series and cross-sectional data; to
carry out a wide range of statistical analyses; and to
display that information in tabular and graphic form. A
specific requirement exists to manipulate and display the
data both within and across geographic boundaries.

Finally, to meet the needs of the executive of the
Department, tools will be required which permit queries to
be made against the Departmental data holdings with a
minimum of technical support or training for the executive.

· Office Automation

Office automation will cover facilities such as word
processing, electronic mail and time management. Word
processing will provide for storage, manipulation and
printing of text, including form letters and those
constructed from paragraph libraries. Electronic mail will
permit the distribution and notification of mail via the
network rather than by using paper copies. Time management
will provide diary and calendar facilities for scheduling
appointments, time allocations and providing reminders.

· Computer Support Systems

Computer Support Systems will include operating systems, a
Data Base Management System (DBMS), a Data Dictionary,
applications development tools, performance monitoring
systems, and network control and operations systems.

A DBMS will provide the facility to define, manipulate and
query data, and to administer its use. Data base
administration functions will cover security, data base
definition, backup and recovery, and performance monitoring.

A Data Dictionary will be used for administering data as a
corporate resource. It will be used to manage the
definition, use and distribution of the logical and
physical representations of data. Further information
specific to the DBMS in use will also be recorded and
maintained. If possible, data should be able to be accessed
from the DBMS via the Data Dictionary.

Applications development tools will include Fourth
Generation Languages, a screen painter, editors, compilers
and link editors, and program libraries to assist in the
development process.

Monitoring tools will be used to gauge the performance of
the hardware, software and network. Further systems such as
disk and tape management systems will be provided to
support network control and computer operations.

5.6   Users of the Proposed Systems

The inter-relationships among the various groups involved
in the provision of welfare services are complex. Without
special attention to their individual needs at the
conceptual stage of information systems development,
important requirements and vital links may well be missed.
In defining the conceptual systems, the Consultancy
identified and documented the broad requirements of the
following groups:

.   Executive
.   Line Management
.   Operational staff
.   Technical staff
.   Support staff
.   State and federal agencies
.   Service Providers
.   Clients

Executive includes the Secretary and Deputy Secretaries of
the Department together with Division Heads and State
Directors.

Line Management consists of Branch and Section Heads in
States and Central Office.

Operational Staff are those involved on a day to day basis
in the delivery of welfare programs.

Technical Staff refers to staff of the Department involved
in policy, corporate planning, legal affairs, finance and
ADP.

Support Staff refers to staff involved in the day to day
corporate services functions of Personnel, Finance, Staff
Development and Training and Secretariat.

State and Federal Agencies comprises departments and
agencies of government as well as for non-profit
organizations involved in the welfare sector.

Service Providers are those enterprises directly involved
in supplying welfare services to clients.

Finally, Clients refers to both potential and existing clients of the Department's welfare programs.

Section 6.5 of Volume 2 of the Information Consultancy Report describes how the conceptual systems will support each of these groups.

5.7 Proposed Computer Facilities

It is critical that the Department has a viable computing capacity to enable the development and operation of the strategic information systems required to achieve its stated objectives.

The Department, through the Consultancy, has examined a wide range of options and strongly supports the option to acquire a distributed, as against a centralised, computing capability for the following reasons:

. it provides a distribution of hardware which most closely fits the Department's decision to delegate responsibilities to State offices where most processing occurs;

. its inherent flexibility is conducive to meeting changing Departmental requirements;

. it is less susceptible to operational close-down;

. it has inbuilt contingency capacity if one site is out of operation for a long period and minimises communications dependencies; and

. it lends itself to phased implementation. Site preparation issues (such as cost, location and availability) are not as significant as for the centralised option;

. it better facilitates the localised sharing of information between DCS and other levels of Government and service providers - a key objective in the DCS plan to move to a needs based planning footing;

. it allows local managers to set operational priorities according to differing client population needs in diverse localities; and

. with the emphasis on a preferred systems architecture of mini and micro computers, it gives Australian Industry greater scope for participation than would be the case with a large centralised mainframe solution.

5.8 Interim Plans

The Department plans to implement some modest interim ADP applications for its currently unsupported program areas prior to the acquisition of long term computing facilities and systems.

The interim systems will be developed in the full knowledge of longer term plans and strategic directions, and with the aim of minimising duplication and inefficiencies. This means that while interim applications will be developed for discrete program areas, the structure of information that is common to more than one program will be standardised.

For the interim applications:

. the aim in development is to retain all of the systems analysis, data analysis, and as much as possible of the design; and then

. discard the computer programming component of these physical implementations. Hence, to minimise such costs, implementations will be undertaken in a Fourth Generation Language.

Interim systems are currently being developed for the:

. Home and Community Care Program,

. Supported Accommodation Assistance Program, and

. Office of Child Care.

The Subsidies Information Systems (SIS) and the Nursing Home and Long Term Care (NHLTC) Systems will be maintained to the extent that only unavoidable and essential changes will be made. It should be noted that there are significant risks attaching to freezing these critical production systems. They will quickly become irrelevant to the changing needs of the programs they support and this adds to the pressure to redevelop the systems within the new DCS environment.

5.9 Prioritised Implementation of Proposed Systems

All the Proposed Systems are considered essential. Their individual data and information dependencies are defined in Volume 2 of the Consultancy Report. The Department is currently considering its corporate priorities and needs. At this stage, based on concerns for controlling current expenditure, and the need to cope with likely significant program changes, the Department intends to support its Residential Programs first.

To ensure national standardisation of information and processing, all development, maintenance and enhancement of strategic systems will be centrally controlled.

5.10   Migration Strategy

As previously mentioned, there are a number of systems which are used to varying degrees by program areas within the Department. The major systems are SIS and NHLTC. They do not provide a viable model or solution to the Department's information strategy in that:

.   they are not integrated;

.   they only support a small part of the broader requirements of program areas; and

.   they do not provide efficiency, effectiveness and appropriateness information.

It is proposed that these existing inadequate applications will be phased out and replaced by the new integrated information systems.

Integrated information systems, which are functionally rather than program based, will avoid the current overlaps in the collection and use of information across program areas and allow that information to be directly derived from operational data, rather than collected separately from various non-integrated program based systems.

However, the existing systems have already collected large amounts of operational data relevant to the program areas they support. This data is significant and will not be lost in the migration strategy.

The following migration strategy was proposed by the Consultancy and endorsed by the Department:

.   Analyse and design all new applications down to the supplier-dependent phase of development. This involves performing:

-    Detailed System Requirements Analysis,
-    Full Functional Specifications, and
-    Data Analysis including Transaction Analysis.

.   Upon decision of the new hardware and software, develop the new application programs (and enhance the design where appropriate).

.   As enough applications are implemented to support a program area to a level compatible with the current level of support provided by the SIS or NHLTC systems, then:

-    migrate the existing data from the relevant existing system to the new application(s);

-    undertake a period of parallel running of both old and new systems to confirm viability; and

-    when the new system is accepted, terminate processing under the relevant DSS and/or DOH regime and fully run on the new DCS environment.

The benefits of this approach are:

.   no need for a large scale conversion of systems;

.   existing mixed systems will not inhibit the selection of proposed hardware, software and systems architectures.

.   allows for phased implementation on a prioritised program basis, allowing programs which need assistance most to get this assistance early in the acquisition/implementation process;

.   final applications products will be integrated; and

.   no useful existing data will be lost.

In migrating away from DSS and DOH, the Department is still concerned with maintaining ongoing links/compatibility with them, and indeed with other welfare Departments. To this end, the results of the Information Sharing Feasibility Study will be useful in providing a framework for gathering and sharing information between other Government and non-Government organizations.

5.11   Risk Analysis

The Department recognises that in opting for a distributed computing architecture, the level of risk exposure could be considered to be higher than that for a centralised computing architecture. This level of risk could manifest itself in increased cost pressures. However, due to the management structures and control mechanisms which the Department is implementing, it is considered that this level of risk will be minimised. See Section 10 of this document.

For example, the Department has adopted a strategy which incorporates proven technology which fits well together and is clearly manageable. It also has in hand the centralised management and co-ordination of the development, implementation and maintenance of information systems, the adequate training of staff to operate and use these systems and an information process to ensure the general acceptance by staff of these facilities. These measures will ensure that the necessary transitional period is kept to a minimum and is handled smoothly.

Risk minimisation in terms of user acceptance of the proposed information systems has been achieved through extensive consultation throughout this past year of analysis and review with staff from all areas of the Department. The Consultants and Departmental officers have travelled extensively around the State Offices as well as conducting workshops in Central Office to elicit the views and endorsement of users. Staff Associations have also been fully briefed through the Department's structured consultative arrangements, in particular, the Technological Change Sub-committee of the DCS/Unions Joint Consultative Council. It is therefore anticipated that the implementation of the conceptual systems from a user viewpoint will proceed smoothly.

Notwithstanding the above, a sensitivity analysis has been performed to determine the impact of an implementation period blowout from 3 years to 5 years. The analysis showed that the preferred option would still be cost effective if this blowout occurred. See Attachment A of this document.

Section 5 of Volume 3 of the Consultancy Report outlines further technical issues relating to risk containment.

5.12   Contingency Planning

The choice of the distributed option results in a system which is less vulnerable to disruption and failure conditions than the centralised system. Put simply, a distributed network minimises the impact on that network of the loss of one machine, whereas if the main processor in a centralised system goes down, then that whole network is out.

This, coupled with the nature of the Department's processing and the inherent reliability of most modern computer hardware, leads the Department to believe that no special provisions need be made at this stage for duplication of hardware. Nevertheless, the inherent contingency capacity in the distributed system will allow other State processors to provide back-up in case of a major disaster in any one site.

It should be noted that under normal circumstances hardware failure can usually be repaired inside 5 hours, which is often less time than it takes to invoke special back-up procedures for systems and data bases.

The Department is of the view that the management and maintenance of a distributed network will not present any more problems than those faced by a centralised system. The design and management of the network, including the production and distribution of software will be controlled from Central Office with the States being responsible for their own internal communications facilities. However, all operational policy and standards will be set by Central Office which will eliminate any fragmentation of approach between the States, but at the same time still allow them the flexibility to set their own priorities within their own operating environments.

5.13   Internal Audit Involvement

The Internal Audit Branch of the Department has been consulted during all aspects of the Information Consultancy and during the development of the ADP Strategic Plan as well as this Submission. Continued consultation will ensure that appropriate controls are built into the systems architecture during the systems analysis and design phases of the implementation.

In addition to this, the Internal Audit Branch will have access to the Systems Implementation Management Group (SIMG); which deals with the more immediate issues associated with the implementation of the ADP Strategic Plan and controls specific implementation tasks.

The Internal Audit Branch will also be involved in the development of the conceptual systems in accordance with the requirements of the Department's Systems Development Methodology.

5.14   Public Service Board (PSB) Comments

The PSB was represented on the Steering Committee for the Information Services Consultancy from which the Strategic Plan was derived. The PSB were also used as a consulting Department for comments on the Cabinet Submission detailing the ADP acquisition proposal. Those comments support the proposal and are contained in Attachment H of this document.

5.15   Differences Between Proposed Acquisition and ADP Strategic Plan

There are no differences between the proposed acquisition and the ADP Strategic Plan.

6. OTHER OPTIONS CONSIDERED BUT NOT SELECTED

6.1   Other Options

This section provides a description of the alternative computing acquisition options considered by the Department together with an explanation as to why they have been eliminated.

Options other than the distributed computing capability, considered by the Department were:

(a)   persist with the existing inadequate levels of support provided on a limited bureau basis by the Departments of Social Security (DSS) and Health (DOH);

(b)   seek to have the computing facilities of either DSS or DOH significantly upgraded to provide adequate consolidated computer support from a single host; and

(c)   the Department acquire its own centralised computing capability;

6.2   Option (a) - Do Nothing

This option assumes that the Department will persist with the existing systems which run on the DOH and DSS computer installations. These systems were largely put in place before the Department was created and have major shortcomings:

.   they do not support the efficient and effective management of the Department's information holdings and expenditures;

.   they are not integrated;

.   they are inflexible;

.   they do not fully support any program areas' requirements; and

.   they do not provide efficiency, effectiveness and appropriateness information.

The other major issue concerns the reasons for the Department's creation.

The Department was created in 1984 with a Government objective to ensure a more efficient targeting of welfare funding. The Department has given effect to this by directing its activities to policy co-ordination, to the rationalisation of programs and services, to reviewing welfare programs generally and to providing advice to Government on how gaps can be filled in the overall welfare umbrella. Behind these activities is a general thrust for greater efficiency and enhanced control over the program expenditures of approximately $1.9 billion per annum.

It is not possible to effectively control expenditure of this dimension without the use of appropriate computing facilities. Limited computerisation had been put in place for some programs before the Department was created. It is clear however, that these systems provide only a marginal level of support. The Information Strategy Report (Volume 2) of the Information Consultancy details the deficiencies in the current systems as does Section 4 of this document.

To meet the Government's objective for creating the Department it is essential to provide the holdings of information and systems to support effective and efficient Departmental management as quickly as possible.

The 'do nothing' option is not acceptable because the existing Departmental systems do not provide adequate support to the Department's operational areas nor do they provide sufficient management information to enable the Department to more effectively target welfare funding. New systems are required to assist the program, policy and management areas of the Department and to provide indicators of efficiency, effectiveness and appropriateness.

6.3   Option (b) - Upgrade of DOH or DSS Computing Facilities

The Department does not support the option of upgrading the existing computing facilities of either DOH or DSS, for three major reasons:

.   it will not provide the Department with adequate control over computing resources;

.   the computing facilities available under this option will not be specifically tailored to the Departments needs; and

.   there is no capital cost incentive to 'make do' with bureau services through either DOH or DSS. A DOH/DSS upgrade has been costed at $18.17 M against the Department's preferred option, a distributed computing capability, of $19.68 M. See Section 7 of this document for further costing details.

Specific management and control issues involved are:

.   The Department's ADP strategic direction is fundamentally different to those of DSS and DOH. DSS and DOH systems, in general, are oriented towards large volume payments processing, with DOH also geared towards information and text storage and retrieval. These system needs are reflected in their computer configurations. DCS has different objectives, organisational structures and job profiles. Its systems, in general, will be oriented towards needs-based planning, monitoring, financial management and decision-support. The Department requires computing facilities that are tailored to these specific systems needs.

The Department's computing facilities must provide
adequate support and flexibility for end-user
development and decision support systems.
Traditionally, DSS has placed only minor emphasis in
this area. End-user development in DOH is strictly
controlled and tends to be geared towards supporting
routine rather than 'one-off' user requirements.
Option (b) will not support end-user development and
decision support to the required level.

Option (b) has a high potential for serious conflict
with the host Department arising from operational
contention. Similarly, if Option (b) was implemented,
the Department would most probably be locked into the
host Department's standards, development methodologies
and hardware and software philosophies. This
Department must have adequate control over its ADP
strategic direction, scheduling, priority-setting and
operations. These issues of flexibility are all the
more important given the broad information sharing
strategy the Department needs to pursue.

The Department's policy on decentralisation and
devolution of authority is not yet finalised. As
such, the Department's computing facilities must be
responsive to changing organisational needs. Any
centralised option is not conducive to a flexible
management style or to further levels of
decentralisation of information storage or access.

6.4 Option (c) - Acquire a Centralised Computing Capacity

This option assumes that a central computer site would be
located in Canberra with a network extending computer
facilities to all States. The costing is based on a
requirement of 15 MIPS of processing power.

The major concerns involved with this option are :

Incompatibility with the logical processing model -
the logical processing model was determined from the
analysis of the Department's data, its usage and
volumes. The model shows a clear bias to the need for
data and systems at the State level. A centralised
option does not match this model.

Low adaptability to organisational change - this
option will not respond quickly or effectively to
major organisational change. In the future the
Department will devolve more of its administration and
decision-making to the regional level and its computer
facilities must be able to adapt accordingly.

Low adaptability to local priorities - this option
will not allow local managers to set operational
priorities. Under this option priorities would need to
be largely centrally controlled.

High security risk - this option has a very high risk
of accidental or deliberate disruption since only one
site has to be affected to disrupt the processing of
the entire Department.

Contingency difficulties - it is extremely difficult
to make appropriate contingency arrangements for a
large-scale on-line oriented centralised installation.

There is no capital cost incentive to acquire a
centralised computing capability ($19.67 M) when
compared with the preferred distributed computing
capability ($19.68 M). See Section 7 of this document
for more costing details.

Low user acceptance - given the inadequacies of the
existing systems available on the DOH and DSS
installations, it would be difficult to gain
wide-spread user support, acceptance and commitment
for a centralised replacement solution.

It gives Australian Industry less opportunity to
respond effectively and competitively to the Request
For Tender.

7   COST BENEFIT ANALYSIS OF PROPOSED ACQUISITION

7.1   Cost Benefit Analysis of Preferred Option - The Distributed Computing Capability

7.1.1   Options Costed

On the basis of an unadjusted capital cost comparison, the Department's preferred option of a distributed computing capability ($19.68 M) is only marginally more expensive than both the centralized option ($19.67 M) and the DOH/DSS upgrade option ($18.17 M). Given the significant benefits stemming from adopting the distributed computing option, there is no compelling incentive on a cost basis to embrace the other options.

7.1.2   Methodology

Consequently, a comprehensive benefit/cost analysis of only the distributed computing capability option (option d), as against the option of 'doing nothing', (option a), is provided at Attachment A. This approach conforms with the PSB publication - 'A Guide to Cost Effectiveness Analysis of ADP Systems' and the JPCPA guidelines on costing options. Only a detailed benefit/cost analysis on the preferred option is provided.

7.1.3   Scope of Analysis

The Department has conducted its benefit/cost analysis in some Corporate Services areas of Central Office and in all areas of the Victorian State Office and then extrapolated these findings to produce a nationwide figure.

7.1.4   Findings

The preferred option has a Net Present Value (NPV) of $34,185,000 compared to option (a)'s NPV of $-31,835,000.

This represents a cost/benefit ratio of 2.703 for the preferred option with a payback period of 4 years.

On the basis of these findings the preferred option is:

.   cost effective relative to option (a), and

.   economically sound in itself.

7.2   Cost Analysis of the Options Considered

The following Tables provide a cost analysis of the options considered by the Department.

7.3   Initial Acquisition and Installation Costs ($M)

COST COMPONENT	DOH/DSS UPGRADE OPTION (B)		CENTRALISED OPTION (C)		DISTRIBUTED TO STATE LEVEL OPTION (D)	
Computers	2(3090) Model 150	4.12	2(3090) Model 150	4.12	4(8600) 3(8300) 1(8200) 2(MVAXII)	5.18
Communications	Lines FEP Clusters	1.20 0.10 0.80	Lines FEP Clusters	1.20 0.10 0.80	Lines Servers ETHERNET LAN-LAN	1.20 0.85 0.05 0.22
Storage	20Gb	1.80	20Gb	1.80	30Gb	2.00
Tapes	4	0.25	4	0.25	6	0.25
Printers	2	0.20	2	0.20	10	0.30
Consoles	2	0.10	2	0.10	10	0.06
Network Control		0.10		0.10		0.10
Intel. Terms.	500	3.00		3.00		3.00
Consumables		0.50		0.50		0.50
Site Preparation		1.00		2.50		2.50
Hardware Total		13.17		14.67		16.21
Software - Mainframes - Micro		4.00 1.00		4.00 1.00		2.47 1.00
Software Total		5.00		5.00		3.47
TOTAL INITIAL COSTS		18.17		19.67		19.68

7.4   Average Annual Recurring Costs ($M)

COST COMPONENT	DOH/DSS UPGRADE OPTION (B)	CENTRALISED OPTION (C)	DISTRIBUTED TO STATE LEVEL OPTION (D)
Maintenance costs			
- Hardware	1.32	1.47	1.62
- Software	0.15	0.15	0.52
Total Maintenance Costs	1.47	1.62	2.14
Extra Staff Costs			
Number	43	49	60
Costs	2.09	2.38	2.90
Systems Development Effort (Man Years) Costs	95 0.62	95 0.62	95 0.62
Systems Maintenance	0.10	0.10	0.10
Training	0.31	0.31	0.31
TOTAL ANNUAL RECURRING COSTS	4.59	5.03	6.07

7.5   Cost Estimates for Options

7.5.1   Costing Assumptions

The following assumptions have been made in estimating costs for Options (b) to (d). These options are:

- Option (b) - seek to have the computing facilities of either DSS or DOH significantly upgraded to provide adequate consolidated computer support from a single host environment.

- Option (c) - DCS to acquire a centralised computing capacity.

- Option (d) - DCS to acquire a distributed computing capacity.

Option (a), continue with the existing inadequate situation, will not involve any significant additional cost.

7.5.2   General Assumptions

All options involve the acquisition of a national network of 500 intelligent workstations (microcomputers). These costs have been based on IBM XTs, with 10Mb hard disk storage and a small printer.

All options require a minimum of 8 MIPS of processing power in Central Office to support systems development and large volume enquiry and statistical analysis tasks.

Communication costs have been based on Telecom services.

Staff costs include an allowance of 85% for overheads as set down in the Public Service Board guidelines for costing projects.

Costings have been based on IBM and DEC equipment. However, this in no way implies that preference will be given to either of these suppliers during the tender process.

7.5.3   Specific Assumptions - Option (b)

This Option involves upgrading the DSS or DOH centralised installation by 15 MIPS of processing power. This additional 15 MIPS of processing power is required for development and operation of the new systems. During the development period, the existing systems would continue to operate in parallel on both the DSS and DOH facilities. Estimates have been based on upgrading the DOH installation by adding two IBM 3090 Model 150's.

7.5.4 Specific Assumptions – Option (c)

This Option involves supporting the DCS national network with a single centralised installation of 15 MIPS of processing power provided by one or two mainframes. Estimates have been based on two IBM 3090 Model 150's.

7.5.5 Specific Assumptions – Option (d)

In this Option processing capacity is distributed with equipment being sited in Central Office and each State Office. Central Office requires 8 MIPS of processing power provided by a modest mainframe or two minicomputers.

Each State Office will require a single minicomputer, ranging from 1 to 4 MIPS in size. Estimates have been based on DEC models 8600, 8300, 8200, and Micro Vax 2.

8. TECHNICAL CONSIDERATIONS

8.1 General Technical Requirements

The principles guiding the Department's technical strategy are described in detail in Section 5 of Volume 3 of the Information Consultancy Report.

At the highest level, the technical strategy is to determine and acquire the equipment, software and network infrastructure upon which automated systems can be developed and operated in the most appropriate, effective and efficient manner.

At the same time the Department is concerned that risks and exposures be kept to a minimum.

Major elements of the technical strategy are summarised below:

. Because of the time critical nature of much of the Department's processing and because of the requirement for timely access to information across geographic locations and program boundaries, it is considered that on-line systems best meet the Department's needs.

. Data should be recognised as a corporate resource and standards are required for the definition, access and movement of data and other forms of information.

. In order to minimise risks to the integrity of the Department's data, audit controls should be built into the systems during the analysis and design phase, and thorough strategic data back-up and recovery procedures should be developed. It is also proposed that the Department's corporate data should not be split across more than one computer in each State and Territory. This means that under any physical implementation of the systems only one computer in each State or Territory will control the access to corporate data. Corporate data is defined as data which is processed by more than one program area/user or more than one geographic location.

. The Department should avoid pioneering the development of new technologies. Accordingly, it will use proven technology which fits well together and is clearly manageable.

. The Department should adopt a network architecture standard which supports a full range of applications software, access devices and support software. It should use international standards which are in wide spread use. The network architecture should support a wide range of communications media.

- Whenever possible, preference should be given to the acquisition of suitable software packages rather than to an 'inhouse' software development strategy. That is, the Department does not wish to "reinvent the wheel" if suitable software is available in the market place.

- In order to streamline systems development, provide flexibility and for ease of maintenance it is proposed to develop the systems in a high level fourth generation language.

8.2 Technical Requirements of the Preferred Option

During the Information Consultancy, an assessment and comparison of the most appropriate hardware options was carried out.

A major technical issue considered during this comparison was the extent to which each option matched the Department's logical processing model which is detailed in Volume 2 of the Information Consultancy Report at Attachment D. After preliminary information analysis, the Consultants constructed an aggregated model showing the range and frequency of logical computer processes required by the users of the proposed systems.

The processes fell into the following categories:

- Personal processing – processing and information serving the needs of only one person;

- Local processing – processing and information serving the needs of a common interest group and/or common geographic location; and

- Corporate processing – processing and information which are of corporate interest, or which need to be shared among common interest groups and/or geographically dispersed locations.

This model indicated that the majority of data and processing in the Department is local or personal, and therefore data holdings should tend to be State-based.

The hardware option which most closely fits the aggregate model of logical processing requirements is the distributed hardware configuration.

In terms of future flexibility, further levels of decentralisation can be pursued under this option by the addition of small mini-computers in, say, Regional Offices if required. The Department has a philosophy of devolution of responsibility and decision making outwards through the State Offices and to the managers of various program areas. It is important that the systems architectures reflect and support this key corporate management strategy.

The distributed approach is also preferred on the basis of other technical and operational issues:

- it is flexible and allows local managers to set priorities;

- it permits most of the processing to continue if one site or piece of equipment has a serious malfunction;

- communication dependencies are minimised;

- it has inbuilt redundancy if one site is out of operation for a long period; and

- it better facilitates the sharing of information with external agencies at the local level.

The absolute degree of distribution warranted will be determined in the light of tender responses and the suitability of equipment available at the time.

At this stage, however, the most suitable options for distribution are considered to be:

- distributed to State level whereby a separate processor would be installed in each State and Territory with two moderate sized processors situated in Canberra for Central Office processing and development; or

- distributed to State level whereby a cluster of smaller processors would be installed in each State and Territory for processing at the major Program level. Under this option the Department's corporate data would reside on a single computer in each location.

Since it is proposed to only migrate the data from the existing systems (ie., most existing applications programs would be discarded), there is no pre-emptive requirement to place specific compatibility constraints with respect to the existing equipment in the acquisition tender.

More specific hardware, software, network and office automation requirements are detailed in Section 3 of the ADP Strategic Plan.

8.3 Ratio of Workstations to Staff for the Preferred Option

The Preferred Option, as well as all other Options, have the requirement for 500 intelligent workstations which is a ratio of approximately one workstation for every five staff based on the Department's 1985/86 AOSL.

This estimate of the number of workstations required is based in part on the current ratio of workstations to staff - one for every eight staff; and on the nature of the Department's work and the need for staff to be working simultaneously with documentation that is quite diverse in both content and source.

The current ratio of workstations to staff is considered deficient to cope with our existing needs and would be totally inadequate in terms of the new systems planned for the Department's preferred option.

Also, the following characteristics of the Proposal support the requirement for the proposed ratio of workstations to staff; that is:

. the use of real time on-line systems;

. the use of systems which are functionally and not program based - thereby attracting simultaneous use by a more diverse range of staff than would otherwise be the case with purely program based systems;

. the necessity for most members of the Department to have access to management information systems, either independently or concurrently, as a decision support tool; and

. greater use of office automation facilities.

The Department's requirement for 500 intelligent workstations is considered modest when compared with its current workstation/staff ratio and the workstation/staff ratio of DSS (1 : 1.7 staff when its computer acquisition program is complete) and DOH (1 : 3 staff).

9. POLICY CONSTRAINTS

9.1   Government Policy

The Department applies the following principles in giving effect to the Government's welfare policies:

Programs delivered by the Department should:

. be equitable in terms of service consistency;

. enable easy access to the Department's services;

. target services to areas of greatest need;

. be responsive to changing community needs and demands;

. provide as high a quality of care as possible given the resources available;

. enable the matching of individuals to appropriate services;

. provide support to community based service providers; and

. encourage users of a service to take part in the management of the service.

Policies concerning the management of the Public Service that impact on the Department and that are relevant to this proposal, are:

. the introduction of Financial Management Improvement Program initiatives including Program Budgeting,

. devolution of decision making,

. Industrial Democracy, and

. Occupational Health and Safety.

9.2   Impact of Policy Constraints on Options

None of the options considered contradict Government policy.

The preferred option, the acquisition of a distributed computing capability, best supports these policies and operating standards because it will enable the Department to target more effectively services to areas of highest need, improve program management, policy development and planning, provide better advice to Government and implement program budgeting.

The non-approval of the proposal would contradict
Government policy in terms of needs-based planning because
targeting the welfare dollar to areas of greatest need
implies realistic and adequate computer support which is
not available under the Department's present computing
arrangements.

10.   ACTION PLAN

10.1   Development of the Action Plan

In April 1986 the Department's Systems Branch conducted an
Intensive Planning Conference. The objectives of the
Conference were:

.   to identify the issues associated with implementing the
     ADP Strategic Plan;

.   to develop a broad plan for a three year period which
     addresses all major issues; and

.   to develop, within that three year plan, a detailed
     Action Plan addressing all the issues through until the
     end of the 1986/87 financial year. That Action Plan is
     at Attachment B of this document.

The detailed Action Plan will be reviewed and revised
regularly to reflect the most up to date information.

The Intensive Planning Conference also addressed the issue
of performance monitoring indicators for the successful and
timely implementation of the ADP Strategic Plan. To this
end, the Department has acquired and is using a project
management software package called Hornet and is also in
the process of implementing a standardised systems
development methodology.

The project management software will allow the Department
to use critical path analysis for the whole ADP Acquisition
process. The systems development methodology will be
critical to the timely and successful development of the
range of conceptual systems referred to in Volume 2 of the
Information Consultancy Report. See Attachment D.

10.2   Management/Control Mechanisms

The Department has established a number of management
committees to control its activities, including:

.   a Management Group,
.   Resources Committee,
.   an Information Consultancy Steering Committee, and
.   a Systems Implementation Management Group

The Management Group provides overarching strategic
direction to the Department and it's programs and policy.
It is chaired by the Secretary and membership includes the
Executive, all Division Heads and State Directors, Heads of
outrider agencies and representatives from the Minister's
Office. All other Committees underpin the Management Group
and provide it with specialised advice and periodic input
to discussion.

The Resources Committee is responsible for the allocation and monitoring of all Departmental resources and meets approximately six weekly. It is chaired by a Deputy Secretary and its membership consists of the Deputy Secretaries, all Division Heads, a rotational representation of three State Directors, the Assistant Secretaries, Resources and Systems, a representative from the Minister's Office and a representative from the Policy Co-ordination Unit. The Committee, inter alia, examines Systems Branch Work Programs and determines priorities and resource allocations.

The Information Consultancy Steering Committee was established to oversight and monitor the conduct and outputs of the Information Services Consultancy.

This Committee is chaired by a Deputy Secretary and includes senior representation from the Public Service Board, the Department of Finance and some Departments from the Victorian State Government.

The Systems Implementation Management Group is a new Committee which has been established to deal with the more immediate issues associated with implementation of the ADP Strategic Plan. It provides a tactical level focus for the project and controls specific implementation tasks. It is chaired by the First Assistant Secretary (Corporate Services), and has as its members representatives of all Division Heads, the Assistant Secretary (Systems), the Assistant Secretary (Resources), the Assistant Secretary (Planning and Development), two State Directors (or their delegates), plus other relevant officers who may be involved in particular key aspects of the project. It will meet at least fortnightly during the acquisition and implementation phases of the project.

10.3   Staff/Consultant Requirements

The Systems Branch was originally established and staffed on an interim basis pending a thorough investigation of requirements through the Information Consultancy.

The Consultancy determined that 108 staff will be required to carry out the implementation and support functions associated with the proposed acquisition. In considering this requirement, the Department reviewed its current staffing situation and considered that 48 existing staff could be deployed in offset against this total requirement. A remainder of 60 staff, therefore, must be recruited, subject to Government approval to increase the average staffing level of the Branch.

Given the planned phased nature of the implementation, the additional staff will be progressively required over a three year period. Nine will be required in 1986/87 to allow the Department to take immediate, full and firm control of the acquisition and systems development and implementation phases.

The provision of these nine staff is central to the successful implementation of the ADP Strategic Plan in the required timeframe. These staff will introduce the necessary levels of expert technical skills not currently available in the Department. The Department of Finance has agreed that the average staffing level of the Branch can be increased temporarily to enable recruitment of these staff.

A further 24 staff will be required in 1987/88 with an additional 27 in 1988/89. These will essentially be operations personnel who will be required to operate and maintain the computer facilities.

The Consultancy has estimated that 95 person years of effort will be required to develop and implement the recommended conceptual information systems. It is proposed to engage consultants and contractors to assist with this work because of the ongoing requirement for some existing applications programming personnel to maintain the Department's existing inadequate systems until the new systems are in place.

The Department is also aware of the current difficulties Departments have in recruiting sufficient numbers of Computer Systems Officers (CSOs) and retaining CSOs at higher levels. To this end it intends to participate in remedial measures with the Public Service Board and other Departments to address the problem.

The Department also intends, where possible, to integrate CSOs with contracting staff to encourage a spread of skills between the two so that when the contractors finish, necessary skills and knowledge are retained by the Department. It is also intended that the Department's ADP Training Strategy will involve a comprehensive training package for CSO's to improve their skills and encourage them to stay with the Department.

10.4   Proposed Expenditure

Section 7 and Attachment A of this document contain a detailed cost analysis of all aspects of the proposed acquisition.

Approval will be sought to obligate $19.68 million to finance the acquisition and installation of hardware and system software for the preferred option. Planned expenditure for the acquisition and installation over a three year implementation period, commencing in 1987-88, is as follows:

1987-88	1988-89	1989-90	TOTAL
7.60	6.04	6.04	$19.68m

There will be no direct expenditure on the acquisition and installation in the 1986-87 financial year. There is however, a specific funds requirement in the coming Budget (1986-87) to continue necessary preparatory development work. This amounts to $2.61 million and has been incorporated in the 1986-87 Agreed Estimates. This includes funds for research, consultants and contractors but not for staff salaries.

It is estimated that $6.07 million will be required annually to cover the recurring costs associated with maintenance, systems development, training and extra support staff. This compares with an annual cost of $4.23 million currently expended in supporting existing inadequate systems.

10.5   Proposed Implementation Schedule

A broad summary of the Department's proposed implementation schedule follows.

- 1986/87: –   Following JPCPA considerations, gain Cabinet approval for forward obligation of funds.

    –   Conduct an 'open' tender for the acquisition and installation of distributed computing facilities according to DOLGAS and DOF guidelines.

    –   Commence systems analysis and design of the new information systems.

    –   Conduct contract negotiations and place orders for new facilities.

- 1987/88: –   Commence phased installation of equipment.

    –   Continue systems development and commence implementation of the new information systems and migration of existing data.

- 1988/89: –   Continue phased installation of equipment.

    –   Continue systems development/implementation/ migration.

- 1989/90: –   Complete phased installation of equipment.

    –   Complete systems development/implementation/ migration.

11.   INDUSTRIAL ISSUES

11.1   The National Consultative Agreement

Pursuant to Section 22C of the Public Service Act, the Department has negotiated a National Consultative Agreement with all relevant Staff Associations for consultation on industrial relations issues.

This agreement is administered by the Joint National Consultative Council which meets at a minimum of three times a year and is chaired by a Deputy Secretary from the Department. The Agreement also provides for the creation of joint consultative forums in each State and Territory so that matters of particular interest at the local level can be discussed.

The Staff Associations represented on the council are as follows:

- .   Administrative and Clerical Officers Association (ACOA),

- .   Australian Public Service Association (APSA),

- .   Professional Officers Association (POA),

- .   Australian Medical Association (AMA), representing the Commonwealth Medical Officers' Association (CMOA),

- .   Royal Australian Nursing Federation (RANF), and

- .   Hospital Employees Federation of Australia (HEFA).

11.2   National Consultative Council Sub-Committees

The National Consultative Agreement provides for the establishment of Sub-Committees which report to the National Consultative Council. These Sub-Committees, comprised of both Departmental and Staff Association representatives, currently address the following subjects:

- .   Technological Change,

- .   Occupational Health and Safety,

- .   Industrial Democracy, and

- .   Equal Employment Opportunity.

The Technological Change Sub-Committee has a direct input to matters relating to the introduction of new equipment and systems. The Sub-Committee has formulated draft terms of reference and outlined its objectives as follows:

- .   to encourage an environment for technological change to occur within the Department and facilitate it in a manner acceptable to the Department, its staff and the organisations representing those staff; and

. to facilitate mutual understanding on issues associated
  with the introduction of technological change.

This Sub-Committee met for the first time on
17 December 1985 and has since considered and agreed,
prior to its issue, a policy statement on the use of word
processing technology in the Department. Meetings were
also held in February and May this year. The next meeting
is scheduled for September 1986.

The Sub-Committee on Occupational Health and Safety is
addressing, as one of its immediate objectives, the need
for a strategy on Repetitive Strain Injuries (RSI). Its
first meeting was on 19 February this year. The Committee
is also looking at other issues such as temperature
extremes and smoking in the workplace.

The Equal Employment Opportunity Sub-Committee first met on
the 27 November 1985. Subsequent meetings have dealt
principally with the development of an agreed EEO Plan and
strategies to give effect to the underlying objectives of
the Plan.

11.3   Job Impact Statements

The introduction of the new systems into the Department
will have an impact on the working practices of many
Departmental staff. Visual display units will be
progressively installed throughout the Department.

The Department is introducing this change in consultation
with Staff Associations and is bearing in mind issues
relating to Occupational Health and Safety.

The Department recognises the need for jobs to be designed
as complete jobs, wherever practicable, rather than
repetitious segments of jobs. This proposition is
generally in line with Staff Association policy.

Given the nature of the new systems, it is not expected
that there will be any significant change in the
classification structure or staffing profile of the
Department. Staff currently involved in routine manual
processing tasks will be freed for more versatile work in
such areas as planning, assessment, monitoring and
evaluation of services. More staff will be trained to use
visual display units for their day-to-day work. This is in
line with similar developments throughout the Public
Service.

The detailed impact of the planned new systems on
individual positions cannot be ascertained at this time.
However a methodology has been developed for assessing the
impact of new systems and equipment and, as architectural
details become clearer, analyses will be completed to
critically assess the job impact of proposed changes.

Guidelines under consideration by the Technological Change
Sub-Committee currently provide for a Job Impact Study to
be undertaken before implementation of all new systems,
major changes to existing systems and installation of new
equipment.

11.4   Eyesight Testing

Eyesight testing, in accordance with the guidelines laid
down for Stratplan in the Department of Social Security, is
already available to all staff who operate screen based
equipment for more than 25% of their time.

11.5   Radiation Testing

The Department has been conducting and will continue to
conduct Radiation Testing of terminals in accordance with
the standards laid down by the World Health Organisation.

12.   AUSTRALIAN INDUSTRY PARTICIPATION

In all matters associated with the proposed acquisition,
the Department will follow Government ADP acquisition
procedures including those associated with the requirement
for Australian Industry participation and the new offsets
arrangements.

It is anticipated that Australian Industry will have an
excellent chance of satisfying tender requirements because
·the tender is aimed at the mini and micro computer end of
the market where Australian Industry is most competitive.

13.   PROPOSED METHOD OF ACQUISITION

The Department proposes to conduct an open public tender
during the 1986/87 financial year for the acquisition and
installation of the distributed computing facilities. It
will adhere to the Department of Finance and DOLGAS
guidelines for ADP Acquisitions.

Since it is proposed to migrate only the data from existing
systems, no specific compatibility constraints will be
placed in the tender. However, the Department will be
conscious of the need to maintain the potential for access
to and sharing of data with other public sector
organizations at the Commonwealth, State and Local
Government levels.

14.   CONSULTATION

14.1   Other Departments' Comments

The Department has consulted the Departments of Finance,
Prime Minister and Cabinet, Local Government and
Administrative Services, Social Security, Health and the
Public Service Board for comments on the Cabinet Submission
detailing the ADP acquisition proposal. Comments received,
in confidence, are at Attachment H. There is a high level
of support for the Department's proposal.

The Department has also held a range of informal
discussions and consultations with other Government
Departments, with private sector organizations and with
manufacturers and vendors of ADP facilities. These
consultations were undertaken, without prejudice, in an
endeavour to improve the Department's understanding of what
facilities were available in the marketplace and what sorts
of options might best suit the Department's particular
policy objectives and management philosophy.

14.2   Private Consultants

As previously mentioned, in developing the acquisition
proposal the Department engaged private consultants from
the firms of Koranya and Arthur Young. Specific
conclusions concerning the hardware, software and systems
the Department requires were drawn from the Information
Consultancy and expressed in the Department's first ADP
Strategic Plan. This Plan and Volumes 1, 2 and 3 of the
Information Consultancy Report are attached as supporting
documentation to this Submission.

Additionally, Mr R Poole of R Poole and Associates, was
engaged by the Department to review the preparation of this
Submission and to assist in the preparation of the Cost
Benefit Analysis shown in Section 7 and Attachment A to
this Submission. Mr Poole also acted as facilitator at an
Intensive Planning Seminar conducted by the Department to
draw up an Action Plan for the implementation of the
Departments ADP Strategic Plan. That Action Plan is
appended to this document as Attachment B.

14.3   Staff Association Consultations

The Department has also been in regular contact with Staff
Associations over the proposal through the National
Consultative Council as well as its Technological Change
Sub-Committee. Refer to Section 11 for further details on
Staff Association consultations.

15. CONSEQUENCE OF NOT PROCEEDING

The major consequence of not proceeding with the ADP acquisition proposal is that the Department would have to persist with the existing inadequate levels of support provided, on a limited bureau basis, by the Departments of Social Security (DSS) and Health (DOH).

The Department, through the Information Consultancy, has confirmed that:

. the existing DCS computer applications resident on the DOH and DSS installations are of limited operational capability and are totally inadequate if DCS is to meet its stated goals for both program delivery and policy co-ordination;

. they do not provide the necessary facilities to effectively manage the Department's annual expenditure of approximately $1.9 billion;

. they support only a small part of the Department's overall program administration responsibilities; and

. the existing systems lack integration and are totally inadequate for sound policy development and planning.

The current economic environment of limited real growth in funding, with continuing high expectations from the community, places pressures on the Department to improve the efficiency and effectiveness of its programs, and to ensure that funding is targeted to areas of highest need. The current level of computing support does not enable the Department to meet these pressures.

In summary, the consequence of not proceeding with the ADP acquisition proposal would mean that the Department's requirement to manage welfare expenditure through implementation of the 'needs-based planning' philosophy would not be met. The Department would remain a purely program administration body unable to undertake effective policy development and planning, and unable to target community services to areas of greatest need.

16. ADVANCED TECHNOLOGY

The aim of the Department's Technical Strategy (see Section 8) is to provide a coherent set of technology-based tools which will meet its information requirements. Major tenets of this strategy included the decisions to avoid pioneering the development of new technology and to remain just behind the "leading edge" of technology.

Accordingly, the Department proposes to use only a proven technology architecture that has the twin benefits of reducing risk and also allowing the Department to concentrate on the people problems associated with implementing that technology.

SUBMISSION

TO

JOINT PARLIAMENTARY COMMITTEE OF PUBLIC ACCOUNTS

PROPOSAL TO ACQUIRE COMPUTING FACILITIES FOR
THE DEPARTMENT OF COMMUNITY SERVICES

ATTACHMENT A - COST/BENEFIT ANALYSIS

CONTENTS

DCS ADP ACQUISITION PROPOSAL - COST/BENEFIT ANALYSIS

1. EXECUTIVE SUMMARY

1.1   Objective

        The objective of this cost/benefit analysis is to
        determine which of the following two courses of action
        is the more cost-effective.

        .   the implementation of Government community
             services policy over a ten year period starting
             in 1986/87 using existing bureau ADP facilities
             (Option A); or

        .   the implementation of Government community
             services policy over a ten year period starting
             in 1986/87 using systems run by the Department of
             Community Services (DCS) on its own distributed
             computer facilities (Option B).

1.2   Methodology Used

        The methodology used in this analysis has been based
        on the Public Service Board (PSB) publication, 'A
        Guide to Cost Effectiveness Analysis of ADP Systems'.

        The efficiency of resource usage of Option B compared
        to Option A has been gauged in terms of the Net
        Present Value (NPV) of Option B compared to the Net
        Present Value of Option A. Whichever is the higher is
        the more cost effective. A positive Net Present Value
        for Option B would further indicate that Option B is,
        in itself, economically sound (i.e., benefits outweigh
        costs).

1.3   Scope of the Analysis

        This analysis was conducted in:

        .   the corporate and administrative services areas
             of DCS Central Office; and

        .   all areas of the Victorian State Office of DCS.

        The Victorian State Office is responsible for the
        expenditure of approximately 25% to 30% of the
        Department's annual expenditure of $1.9 billion.
        Benefits for Victoria are considered to be indicative
        of those for the other State Offices since all have
        similar management structures, services and client
        groups. A similar level of bureau computing services,
        provided by the Department of Social Security and the
        Department of Health, prevails across all States.

1.4   Summary of Results

        Of the two courses of action outlined above, Option B
        (i.e. the Department's own distributed computing
        facilities) is the more cost effective option (having
        the higher Net Present Value, see Summary Table
        overleaf).

        Option B is economically sound, having a Net Present
        Value of $34,185,000.

2 COST/BENEFIT ANALYSIS SUMMARY

This table summarises:
(a) the Present Value cash flow over the ten year analysis period of Option A
(b) the Present Value costs and benefits over the ten year analysis period of Option B
(c) indicators of the investment worth of Option B and the cost effectiveness of Option B relative to Option A.
All Present Values are derived from a discount rate of 10%.

	1986/87 (000'S)	1987/88 (000'S)	1988/89 (000'S)	1989/90 (000'S)	1990/91 (000'S)	1991/92 (000'S)	1992/93 (000'S)	1993/94 (000'S)	1994/95 (000'S)	1995/96 (000'S)	TOTAL (000'S)
PRESENT VALUES: OPTION A (@10%)	-4,228	-3,953	-3,696	-3,456	-3,231	-3,021	-2,826	-2,642	-2,471	-2,311	-31,835
PRESENT VALUE COSTS OPTION B (@10%)	-6,028	-13,343	-14,105	-9,589	-5,351	-4,817	-4,575	-4,385	-4,248	-4,169	-70,611
PRES VALUE BENEFITS OPTION B (@10%)				19,208	17,581	16,094	14,736	13,493	12,361	11,322	104,796
NET PRESENT VALUES: OPTION B (@10%)	-6,028	-13,343	-14,105	9,619	12,230	11,277	10,161	9,108	8,112	7,153	34,185
ANNUAL DIFFERENCES IN NPV (B-A)	-1,800	-9,390	-10,409	13,075	15,461	14,298	12,987	11,750	10,583	9,464	66,020
CUMULATIVE DIFFERENCES IN NPV	-1,800	-11,190	-21,599	-8,524	6,936	21,235	34,222	45,972	56,556	66,020	

NET PRESENT VALUE OF OPTION A: $ -11,835 000

NET PRESENT VALUE OF OPTION B: $ 34,185 000

THE DIFFERENCE BETWEEN THE NPV OF OPTION B AND NPV OF OPTION A IS $ 66,020 000

COST/BENEFIT RATIO (OPTION B)   2.703 (BENEFITS B/(COST B - COST A))

PAYBACK PERIOD: YEAR 4 (1990/91)
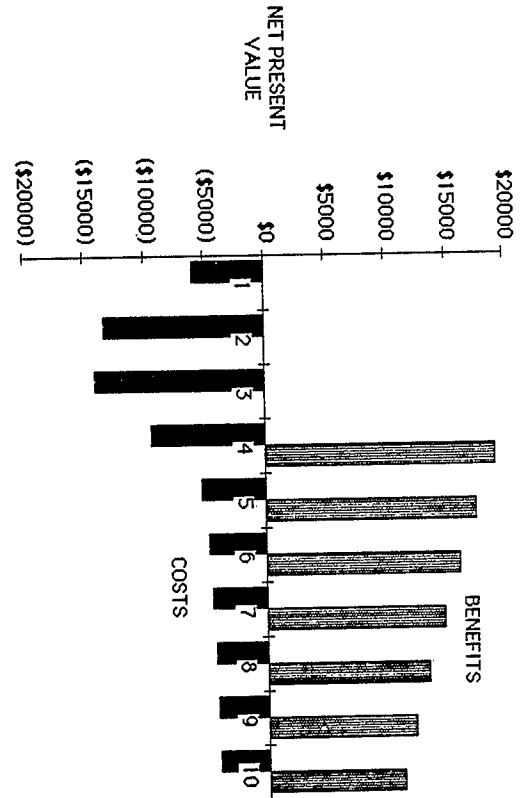
OPTION B CASH FLOWS: BENEFITS AND COSTS

3. GENERAL STATEMENT OF ASSUMPTIONS

3.1 Parameters used in the Analysis

. The analysis covers the ten year period commencing in 1986/87. This base year is referred to as YEAR 0. The final year, 1995/96, is referred to as YEAR 9.

. A discount rate of 10% has been used. Sensitivity analyses on the discount rate have been conducted using rates of 7% and 13% (i.e., 10% +/- 3%) and the result is presented in Section 11 of this attachment (all further references are, unless otherwise stated, to this attachment). These variant discount rates differ from the 8% and 12% recommended in the PSB Guidelines. It is considered that the +/-3%, being a wider range, is a better indication of the uncertainties inherent in selecting an appropriate discount rate for public sector project analysis. Option B remains cost effective and retains its positive Net Present Value at both the 7% and 13% discount rates.

. The following Real Price Movement Factors (RPMF), as outlined in the PSB Guidelines, have been used:

— Computer hardware   -10%

— Equipment-based services
 and consumables   0%

— Labour-based services and software   +3%

A sensitivity analysis using 0% for Computer hardware was conducted (see Section 11).

. Costs which are common to both options, such as expenditure for interim computing facilities and salary and accommodation costs for existing Systems Branch personnel, have not been included. It is assumed that these interim computing facilities will not need to be replaced during the analysis period.

. Costs and benefits were calculated using Multiplan spreadsheets on a microcomputer. All costs have been rounded to the nearest thousand. Because of this, some columns totals may be one more or less than if one were to add up the rounded figures in the column. This is because the spreadsheet totals the unrounded figures (e.g., 10.4 [10] + 10.3 [10] = 20.7 [21]. Spreadsheet figures are in square brackets.)

3.2 Staff Costs

. Staff costs incorporate an 85% overhead component, as per the PSB Guidelines. A sensitivity analysis using an overhead figure of 30% was conducted.

. Salary rates are as at 30 May 1986. For Clerical Administrative Class 6 and above, the top increment in the range has been used; for Clerical Administrative Class 5 and below, the middle increment in the range has been used. Salaries are as follows:

— Clerk 8	$32,849
— Clerk 7	$30,206
— Clerk 6	$27,694
— Clerk 5	$24,638
— Clerk 4	$22,044
— Clerk 2/3	$18,965
— CA4	$17,149
— CA3	$16,077
— CA1	$12,544

3.3 Benefits

. In the terms of this analysis 'Benefits' are defined as the differences in output values (in accord with the definition in the PSB Guidelines, 2.3 and 3.1.1) between Option B and Option A. At 4.6.2 of the PSB Guidelines, six generic examples of output differences are listed, viz.,

(a)   level of customer services

(b)   level of performance

(c)   level of revenue or disbursement

(d)   level of job satisfaction

(e)   level of flexibility

(f)   level of risk.

This analysis has quantified output differences relevant to categories (b) and (c) above for the Victorian State Office and sections of Central Office, and these are presented in Section 8 and explained in Section 9. The remaining general output differences listed above have not been quantified, but have been addressed in the Statement of Benefits at Section 10.

- All quantified output differences have been treated as benefits accruing to Option B, rather than as costs attributable to Option A. This is, of course, an accounting decision, and the end result is the same no matter which of these two courses of action is chosen.

- As noted above, benefits have only been quantified for the corporate and administrative support areas of Central Office and for all areas of the Victorian State Office. The Victorian benefits are considered to be indicative of savings that would accrue in the other State Offices.

- These benefits have been understated and are therefore deliberately conservative.

- It has been conservatively estimated that benefits will only start to accrue from the final year of implementation (1989/90 or YEAR 3).

4 OPTION A COST STATEMENT

This statement tabulates the costs, adjusted for real price movement, of using existing ADP bureau facilities through DSS and /or DOH over the ten year analysis period. The real totals have been discounted at 10% compound to derive Present Values.

Cost Category/Item	RPMF	1986/87 (000'S)	1987/88 (000'S)	1988/89 (000'S)	1989/90 (000'S)	1990/91 (000'S)	1991/92 (000'S)	1992/93 (000'S)	1993/94 (000'S)	1994/95 (000'S)	1995/96 (000'S)
Recurrent Costs											
Equipment-based											
Hardware Maintenance	3%	-324	-334	-344	-354	-365	-376	-387	-398	-410	-423
Lease DOH/DSS Facilities	3%	-1,540	-1,586	-1,634	-1,683	-1,733	-1,785	-1,839	-1,894	-1,951	-2,009
Communications	3%	-480	-494	-509	-525	-540	-556	-573	-590	-608	-625
Software	3%	-285	-294	-302	-311	-321	-330	-340	-351	-361	-372
Staff											
Operations	3%	-1,280	-1,318	-1,358	-1,399	-1,441	-1,484	-1,528	-1,574	-1,621	-1,670
Training	3%	-100	-103	-106	-109	-113	-116	-119	-123	-127	-130
Consumables & Other	0%	-219	-219	-219	-219	-219	-219	-219	-219	-219	-219
Total Recurrent Costs		-4,228	-4,348	-4,472	-4,600	-4,731	-4,866	-5,006	-5,149	-5,297	-5,450
TOTAL REAL COSTS		-4,228	-4,348	-4,472	-4,600	-4,731	-4,866	-5,006	-5,149	-5,297	-5,450
PRESENT VALUE, DISCOUNT RATE = 10%		-4,228	-3,953	-3,696	-3,456	-3,231	-3,021	-2,826	-2,642	-2,471	-2,311

The Net Present Value of Option A over the ten year analysis period: $ -31,835 000

5. **EXPLANATION: OPTION A COST STATEMENT** (at Section 4)

5.1 **General Assumptions**

- Total estimated expenditure for this option in the base year (1986/87) is $4.228M.

- Costs over the analysis period are these estimated 1986/87 costs to which the appropriate Real Price Movement Factors (RPMF) have been applied. Cost levels in terms of the six indicators listed at paragraph 3.3 are therefore pegged at 1986/87 levels across the analysis period. Therefore, this cost statement does not take account of any increases in expenditure for Option A not attributable to real price movements factors. The effect of this is to inflate the Net Present Value of Option A ($-31,835,000).

5.2 **Capital Costs**

- As stated in paragraph 3.1, costs which are common to both options have not been included in this analysis (7.2.2 outlines the only exception to this policy). Consequently, there are no anticipated capital costs associated with Option A and none are shown in Section 4.

5.3 **Recurrent Costs**

5.3.1 **Equipment-based**

- This item includes costs, pegged at 1986/87 levels, for:

  - the maintenance of existing network hardware;
  - bureau costs paid to the Department of Social Security and the Department of Health for the use of their computing facilities; and
  - Telecom data transmission charges.

5.3.2 **Software**

- This item includes costs for:

  - general software maintenance, and
  - the purchase of miscellaneous software packages.

5.3.3 **Staff**

- This item includes costs for:

  - extraordinary systems maintenance overheads incurred because of the inherent inefficiencies in the existing systems (at present, approximately 12 Computer Systems Officers are dedicated to applications maintenance tasks of this nature);
  - training of staff to use the existing systems; and
  - consultants and contract programmers.

5.3.4 **Consumables and Other**

- This item includes costs for:

  - consumables,
  - printing charges, and
  - data preparation.

6 OPTION B COST STATEMENT

This statement tabulates the costs, adjusted for real price movement, of using systems run by DCS on its own distributed computing facilities over the ten year analysis period. The adjusted totals have been discounted at 10% compound per annum to produce Present Values.

Cost Category/Item	RPMF	1986/87 (000'S)	1987/88 (000'S)	1988/89 (000'S)	1989/90 (000'S)	1990/91 (000'S)	1991/92 (000'S)	1992/93 (000'S)	1993/94 (000'S)	1994/95 (000'S)	1995/96 (000'S)
Capital Costs											
Computer Hardware	-10%										
Processors	-10%		-1,636	-1,967	-751						
Data Storage	-10%		-909	-413	-376						
Peripherals	-10%										
Printers	-10%		-55	-99	-90						
Consoles	-10%		-11	-20	-18						
Terminals	-10%		-1,064	-1,017	-451						
Communications	-10%		-397	-380	-168						
TOTAL Computer Hardware			-4,072	-3,896	-1,854						
Accommodation	0%		-748	-1,098	-654						
Software	3%										
Minicomputer	3%		-761	-1,151	-706						
Terminals	3%		-402	-435	-219						
Network Control	3%		-40	-43	-22						
TOTAL Computer Software			-1203	-1629	-947						
Staff											
Systems Development	3%	-1,300	-2,009	-2,069	-1,065						
Total Capital Costs		-1,300	-8,032	-8,692	-4,520						
Recurrent Costs											
Equipment-based											
Maintenance	3%		-419	-858	-1,140	-1,174	-1,245	-1,360	-1,531	-1,775	-2,119
Use Existing Facilities	3%	-4,228	-2,831	-1,570	-462						
Software Maintenance	3%		-186	-457	-655	-675	-716	-782	-880	-1,020	-1,218
Communications	3%		-482	-1,018	-1,311	-1,351	-1,391	-1,433	-1,476	-1,520	-1,566
Accommodation	0%		-100	-175	-250	-250	-250	-250	-250	-250	-250
Staff											
Training	3%		-639	-658	-677	-523	-180	-185	-191	-196	-202
Maintenance	3%		-103	-106	-109	-113	-116	-119	-123	-127	-130
Operational	3%	-500	-1,886	-3,533	-3,639	-3,748	-3,860	-3,976	-4,095	-4,218	-4,345
TOTAL Staff Costs		-500	-2,628	-4,297	-4,425	-4,384	-4,156	-4,280	-4,409	-4,541	-4,677
Total Recurrent Costs		-4,728	-6,646	-8,375	-8,243	-7,834	-7,758	-8,105	-8,546	-9,106	-9,830
TOTAL REAL COSTS		-6,028	-14,678	-17,067	-12,763	-7,834	-7,758	-8,105	-8,546	-9,106	-9,830
PRESENT VALUE, DISCOUNT RATE = 10%		-6,028	-13,343	-14,105	-9,589	-5,351	-4,817	-4,575	-4,385	-4,248	-4,169

The total Present Value of Option B costs over the ten year analysis period: $ -70,611 000

7. EXPLANATION: OPTION B COST STATEMENT

7.1 Capital Costs

7.1.1 General Assumptions

- These costs are derived from Volume 3 of the Information Services Consultancy.

- For estimation purposes only, costs have been based on IBM and DEC equipment. This does not imply that preference will be given to either of these suppliers during any tender process that may arise in the future.

- Sizing requirements for the distributed processing equipment have been based on Section 4.4 of Volume 3 (the Systems Strategy) of the Information Consultancy Report. Processing capacity requirements by State are estimated as follows (1 MIPS equals 1 million instructions per second):

  - ACT: 8 MIPS
  - NSW: 4 MIPS
  - VIC: 4 MIPS
  - QLD: 3.75 MIPS
  - SA: 2.5 MIPS
  - WA: 2.5 MIPS
  - TAS: 1 MIPS
  - NT: 1 MIPS

- The implementation strategy is based on the broad assumption that processors will be installed in Canberra along with a rudimentary communications network in YEAR 1 (1987/88). Processors will be installed in Sydney, Brisbane and Melbourne in YEAR 2 (1988/89), and in Adelaide, Perth, Hobart and Darwin in YEAR 3 (1989/90).

7.1.2 Processors

- For estimation purposes, minicomputer costs have been based on the following DEC models (prices as at March 1986):

  - DEC VAX 8600: $900,000 (4 MIPS)
  - DEC VAX 8300: $350,000 (2.5 MIPS)
  - DEC VAX 8200: $230,000 (1.25 MIPS)
  - DEC MVAX II: $150,000 (1 MIPS)

- The following installation schedule and types of hardware have been assumed for estimation purposes:

  YEAR 1 (1987/88):   2 x DEC VAX 8600 (Canberra)

  YEAR 2 (1988/89):   1 x DEC VAX 8600 (Sydney)
                      1 x DEC VAX 8600 (Melbourne)
                      1 x DEC VAX 8300, 1 x DEC VAX
                      8200 (Brisbane)

  YEAR 3 (1989/90):   1 x DEC VAX 8300 (Adelaide)
                      1 x DEC VAX 8300 (Perth)
                      1 x DEC MVAX II (Hobart)
                      1 x DEC MVAX II (Darwin)

7.1.3   Data Storage

- This item has been costed on the pro rata basis of dollars per Gigabyte (Gb) installed.

- The cost for the 30Gb of storage capacity required has been estimated at $2M, (or about $66,667 per Gb).

- The installation schedule is as follows:

  -   YEAR 1 (1987/88):   15 Gb
  -   YEAR 2 (1988/89):   7.5 Gb
  -   YEAR 3 (1989/90):   7.5 Gb

7.1.4   Printers

- One high-speed printer for production work will be installed per minicomputer.

- The average cost per printer is estimated to be $30,000.

- The installation schedule is therefore:

  -   YEAR 1 (1987/88):   2
  -   YEAR 2 (1988/89):   4
  -   YEAR 3 (1989/90):   4

7.1.5   Consoles

- Consoles will be installed at the same rate as printers.

- The average cost per console is estimated at $6000.

7.1.6   Intelligent Terminals

- Intelligent terminals (microcomputers) have been costed at $6,000 each. This cost is based on an IBM XT microcomputer with storage via a 10 Megabyte hard disk and a small printer.

- It is estimated that intelligent terminals will be installed as follows:

  -   YEAR 1 (1987/88):   195   (Canberra and rudimentary network)
  -   YEAR 2 (1988/89):   205   (NSW, VIC and QLD)
  -   YEAR 3 (1989/90):   100   (SA, WA, TAS and NT)

- The approximate breakdown by State across the three years of implementation is as follows:

	YEAR 1	YEAR 2	YEAR 3
ACT:	110	0	0
NSW:	20	80	0
VIC:	20	70	0
QLD:	15	55	0
SA:	10	0	40
WA:	10	0	30
TAS:	5	0	15
NT:	5	0	15

7.1.7   Communications

- $1.12M has been estimated as the capital cost for communications. This can be broken down as follows:

  -   $0.85M: for terminal servers to support multiple screens within each Local Area Network (LAN),
  -   $0.05M: for software to connect State and Central Office minicomputers (costed on DEC ETHERNET), and
  -   $0.22M: for LAN to LAN connection costs within a State (required for States with dispersed program administration sites)

- On average, this amounts to $2240 per terminal.

- Costs have been apportioned on a pro rata basis according to the number of terminals installed each year (see 7.1.6).

7.1.8 Accommodation

- Accommodation has been costed on a _pro rata_ basis. It has been estimated that it will cost $2.5M to accommodate a total of 26.75 MIPS of processing capacity, (or about $93,458 to accommodate 1 MIPS).

- Processing capacity is to be installed as follows:

  - YEAR 1 (1987/88):   8 MIPS
  - YEAR 2 (1988/89):   11.75 MIPS
  - YEAR 3 (1989/90):   7 MIPS

7.1.9 Minicomputer Software

- This item has been costed on a _pro rata_ basis. It is estimated that it will cost $2.47M for software to run a processing capacity of 26.75 MIPS, (or it costs about $92,336 to run 1 MIPS).

- Processing capacity is to be installed as follows:

  - YEAR 1 (1987/88):   8 MIPS
  - YEAR 2 (1988/89):   11.75 MIPS
  - YEAR 3 (1989/90):   7 MIPS

7.1.10 Intelligent Terminal Software

- It is considered that microcomputer software will average $2000 per machine.

- Yearly totals are derived by multiplying the cost per terminal by the number of terminals to be installed in that year (see 7.1.6).

7.1.11 Network Control Software

- It is considered that this item will cost about $200 per terminal.

- Yearly totals are derived by multiplying the cost per terminal by the number of terminals to be installed in that year (see 7.1.6).

7.1.12 Systems Development

- A total of 95 person years of effort has been estimated for the development of the systems to run on the proposed hardware. (Refer to Attachment E of Volume 3 of the Information Services Consultancy for a detailed breakdown of these estimates.)

- This development effort has been apportioned over YEARS 0-3 as follows:

  - YEAR 0 (1986/87):   20 person years
  - YEAR 1 (1987/88):   30 person years
  - YEAR 2 (1988/89):   30 person years
  - YEAR 3 (1989/90):   15 person years

- Each person year has been costed at $65,000.

7.2 Recurrent Costs

7.2.1 Hardware Maintenance

- Hardware maintenance has been costed at the rate of 10% of cumulative hardware costs per year.

7.2.2 Use of Existing Facilities

- The cost of running existing facilities until the new hardware and systems are fully 'phased in' have been estimated as a percentage of existing facilities (Option A) as follows:

  - YEAR 0 (1986/87):   100%
  - YEAR 1 (1987/88):   65%
  - YEAR 2 (1988/89):   35%
  - YEAR 3 (1989/90):   10%

  This cost category is an exception to the general practice of ignoring costs common to both options. It is included for reasons of clarity.

7.2.3 Software Maintenance

- This item has been costed at the rate of 15% of cumulative software capital costs per year.

7.2.4 Communications

- $1.2M has been estimated for Telecom charges. On a _pro rata_ basis, this will cost about $2400 per terminal installed (see 7.1.6).

7.2.5 Training Staff

- It is estimated that training costs will amount to $3.1M over the ten year analysis period. The percentage breakdown is estimated as follows:

  YEAR 1 (1987/88):   20%
  YEAR 2 (1988/89):   20%
  YEAR 3 (1989/90):   20%
  YEAR 4 (1990/91):   15%
  YEARS 5-9 (1991/92-1995/96): 5% per year

7:2.6 Maintenance Staff

- Applications maintenance overheads will increase once the proposed systems are implemented. While existing applications Computer Systems Officers will be able to perform the bulk of this work, some extra resources will be required.

- It is estimated that these resources will total to approximately 15 person years over the ten year analysis period.

- Each person year has been costed at $65,000.

- Over the 10 year analysis period, this averages about $100,000 per year.

7.2.7 Operational Staff

- It is estimated that 60 extra operations and technical support staff will be required. These staff will be engaged as follows:

  - YEAR 1 (1987/88):   9
  - YEAR 2 (1988/89): 24
  - YEAR 3 (1989/90): 27

- An average salary rate of $30,000 (CS02 top increment) plus an 85% overhead has been used in this costing.

7.2.8 Accommodation

- Space requirements according to State for accommodating computer equipment has been costed as follows:

ACT:	400 square metres	(from YEAR 1 (1987/88))
NSW:	100 square metres	(from YEAR 2 (1988/89))
VIC:	100 square metres	(from YEAR 2 (1988/89))
QLD:	100 square metres	(from YEAR 2 (1988/89))
SA:	100 square metres	(from YEAR 3 (1989/90))
WA:	100 square metres	(from YEAR 3 (1989/90))
NT:	50 square metres	(from YEAR 3 (1989/90))
TAS:	50 square metres	(from YEAR 3 (1989/90))

  TOTAL: 1000 square metres

- Space has been costed at $250 per square metre per year.

8 OPTION B STATEMENT OF BENEFITS (QUANTIFIED)

This statement tabulates the benefits, adjusted for real price movement, over the ten year analysis period of Option B. The yearly adjusted totals have been discounted at 10% per annum compound to produce Present Values. The figures in this table represent the findings gleaned from Victoria and parts of Central Office. The Extrapolated Real Total is a 3-times extrapolation of these findings to give a national figure (see Section 9.1).

Cost Category/Item	RPMF	1986/87 (000'S)	1987/88 (000'S)	1988/89 (000'S)	1989/90 (000'S)	1990/91 (000'S)	1991/92 (000'S)	1992/93 (000'S)	1993/94 (000'S)	1994/95 (000'S)	1995/96 (000'S)
NOTIONAL SALARY SAVINGS											
Residential Programs	3%					431	444	457	471	485	500	515
Disability Services	3%					350	361	372	383	394	406	418
Childrens Services Programs	3%					272	280	288	297	306	315	324
HACC and SAAP	3%					112	115	119	122	126	130	134
Corporate Service and Administrative Support	3%					777	800	824	849	874	901	928
SUB-TOTAL						1942	2000	2060	2122	2185	2252	2319
BENEFITS DUE TO INCREASED EFFECTIVENESS											
Residential Programs	0%					4,500	4,500	4,500	4,500	4,500	4,500	4,500
Disability Services	0%					1,180	1,180	1,180	1,180	1,180	1,180	1,180
Childrens Services Programs	0%					250	250	250	250	250	250	250
Corporate Service and Administrative Support	0%					650	650	650	650	650	650	650
SUB-TOTAL						6,580	6,580	6,580	6,580	6,580	6,580	6,580
REAL TOTAL						8,522	8,580	8,640	8,702	8,765	8,832	8,899
EXTRAPOLATED REAL TOTAL						25,566	25,740	25,920	26,106	26,295	26,496	26,697
PRESENT VALUE IF DISCOUNT RATE = 10%						19,208	17,581	16,094	14,736	13,493	12,361	11,322

The total Present Value of the Quantified Benefits of Option B over the ten year analysis period: $ 104,796 000

9. EXPLANATION: OPTION B STATEMENT OF BENEFITS (QUANTIFIED) (at Section 8)

9.1 Introduction

- As noted in paragraph 3.3, this analysis has attempted to quantify benefits (i.e., output differences) whenever reasonable and defensible. Where this was not possible, benefits have been described in as much detail as possible in Section 10, Statement of Benefits (Unquantified).

- Where a range of benefits has been determined, it has been the practice in this analysis to take the lower end of the range.

- Similarly, it has been conservatively assumed that benefits due to the introduction of improved computing facilities will not commence until the final year of implementation (1989/90). It is very likely that some benefits will begin to be apparent well before this.

9.2 Scope

- Benefits have only been directly quantified for some corporate and administrative services areas of Central Office and for all areas of the Victorian State Office.

- These Victorian State Office benefits are considered to be indicative of savings in the other State Offices. The quantifiable benefits determined for Victoria have been extrapolated to produce a national figure. Victoria represents between one-quarter and one-third of the Department's national expenditure. In order to take account of the Central Office component in the figures, and remain conservative, the basis of the extrapolation has been to multiply the Victorian findings by three.

9.3 Methodology Used

- In conducting this analysis, the benefits of Option B in Section 8 have been quantified as:

 - notional salary savings, and

 - benefits due to increased effectiveness.

9.3.1 Notional Salary Savings

- Notional (opportunity) salary savings are benefits affecting administrative expenditure. They represent the salaries of staff that would have been required to raise Option A to the same performance level as Option B. In terms of the definition contained in paragraph 3.3, these benefits reflect output differences in levels of performance.

- With the current inadequate level of computing support (Option A), the Department would require extra staff to enable it to successfully administer the legislation, regulations and Government policies for which it is responsible.

- With improved computing support (Option B), it is considered that fewer additional staff would be required to enable the Department to perform at its required level.

- It is considered that the implementation of the proposed information systems on the distributed computing facilities under Option B will yield significant notional salary savings particularly for functions involving the collection, storage, extraction and manipulation of data, and financial monitoring.

- Particular opportunities for reducing the requirement for extra staff have been quantified for some corporate and administrative support areas of Central Office and for all areas of the Victorian State Office. They have been detailed in Section 8.

- These notional salary savings have been quantified for the final year of implementation (1989/90) by the senior managers responsible for each area. These base figures have then been indexed at a rate of 3%, in accordance with the PSB Guidelines.

- Specific cases of notional salary savings, detailed as positions within functional areas within program areas, have been derived from discussions with relevant senior managers and are presented below.

9.3.1.1 Residential Programs (Victoria only)

- Needs-based planning:

 - collection, integration, retrieval and manipulation of statistical data to enable the construction and maintenance of regional profiles of other community services,

population and transport details to allow
better matching of services to client needs.

- 1 x Clerical Admin. Class 6
- 1 x Clerical Admin. Class 5

. **Financial monitoring:**

- collection, aggregation, retrieval and
manipulation of high-level program financial
data to enable the accurate monitoring of
expenditure and commitments against
estimates, and the production of accurate
projections for budgeting purposes.

- 3 x Clerical Admin. Class 4
- 5 x Clerical Admin. Class 2/3

9.3.1.2 **Disability Services** (Victoria only)

. **Inspections and monitoring of existing services:**

- collection, aggregation, retrieval and
manipulation of client outcome and service
inspection data to enable feedback to the
needs-based planning process.

- 1 x Clerical Admin. Class 6
- 0.5 x Clerical Admin. Class 5

. **Financial monitoring:**

- (similar to corresponding function in
9.3.1.1).

- 1 x Clerical Admin. Class 8
- 0.5 x Clerical Admin. Class 5
- 2 x Clerical Admin. Class 4

. **Needs-based planning:**

- (similar to corresponding function in
9.3.1.1).

- 2 x Clerical Admin. Class 4

9.3.1.3 **Childrens Services Programs** (Victoria only)

. **Needs-based planning:**

- (similar to corresponding function in
9.3.1.1).

- 2 x Clerical Admin. Class 7

. **Financial monitoring:**

- (similar to corresponding function in
9.3.1.1).

- 3 x Clerical Admin. Class 5

9.3.1.4 **Home And Community Care (HACC) and Supported
Accommodation Assistance Program (SAAP)** (Victoria only)

. **Needs-based planning:**

- (similar to corresponding function in
9.3.1.1).

- 2 x Clerical Admin. Class 6

9.3.1.5 **Corporate and Administrative Services**

Central Office:

. **Financial planning/estimates control:**

- collection, aggregation, retrieval and
manipulation of high-level national
financial data to support the development of
sound financial forecasts for input to the
budgeting process.

- 1 x Clerical Admin. Class 8
- 1 x Clerical Admin. Class 6

. **Assets control:**

- collection, aggregation, retrieval and
manipulation of inventory data to enable
proper control of Departmental assets.

- 1 x Clerical Admin. Class 2/3
- 1 x Clerical Asst. Class 4

. **Accounts/Purchasing/Stores control:**

- collection, aggregation, retrieval and
manipulation of orders, accounts and
inventory data to enable proper control over
administrative expenditure.

- 3 x Clerical Admin. Class 2/3
- 2 x Clerical Asst. Class 4

Victorian State Office:

. Financial management:

- collection, aggregation, retrieval and
  manipulation of high-level State financial
  data to enable proper monitoring of
  expenditure and commitments against
  estimates, and the production of accurate
  projections for budgeting purposes.

- 0.5 x Clerical Admin. Class 8
- 0.5 x Clerical Admin. Class 6
- 1 x Clerical Admin. Class 4

. Accounts/Purchasing/Stores control:

- (similar to corresponding Central Office
  function).

- 1 x Clerical Admin. Class 5
- 1.33 x Clerical Admin. Class 2/3
- 1 x Clerical Asst. Class 1

. Assets control:

- (similar to corresponding Central Office
  function).

- 1 x Clerical Admin. Class 4

. Debt recovery/accounts receivable:

- collection, aggregation, retrieval and
  manipulation of financial data to enable
  proper control over debt recovery and
  accounts receivable.

- 1 x Clerical Admin. Class 2/3

. Rehabilitation Centre Administration:

- collection, aggregation, retrieval and
  manipulation of general administrative data
  to support more efficient and effective
  administration of Commonwealth
  Rehabilitation Centres.

- 2.5 x Clerical Asst. Class 4

9.3.1.6 Summary of Notional Salary Savings

. In terms of real costs, notional salary savings
  by program area for the first year of benefits
  (1989/90) are as follows:

Residential Programs	$431,000
Disability Services	$350,000
Childrens Services Program	$272,000
HACC and SAAP	$112,000
Corporate Service and Administrative Support	$777,000

. This represents total notional salary savings of
  $1,942,000 in 1989/90.

9.3.2 Benefits Due to Increased Effectiveness

. Benefits due to increased effectiveness relate to program expenditure. In terms of the definition contained in paragraph 3.3, these benefits reflect output differences in levels of disbursement between the two options.

. As a result of implementing the proposed information systems, the Department will dramatically improve its information base. This integrated, multi-dimensional information base will provide the necessary support for sound decision-making and will allow the Department to achieve its required transition from reactive, submission-based funding to a genuine needs-based planning model.

. With the introduction of needs-based planning, the Department will become a more proactive organisation and will more effectively target its services and program expenditure to areas of greatest community need.

. As in the case of notional salary savings, specific benefits that can be achieved due to this increased effectiveness have been quantified for some corporate and administrative support areas of Central Office and for all areas of the Victorian State Office. These benefits have been detailed in Section 8.

. The benefits have been quantified for the final year of implementation (1989/90) by the senior managers responsible for each area. These benefits, however, have not been indexed and are shown as a constant annual figure commencing from the base year. These figures are therefore conservative, since they are based on the assumption of zero real growth in overall activity levels.

. Specific cases of benefits due to increased effectiveness, as supplied by the relevant senior managers, are detailed by program area below.

9.3.2.1 Residential Programs (Victoria only)

. It is considered that significant savings will be achieved for the following reasons:

- the transition from the present fee-setting and benefits payment arrangements to the grants arrangements proposed by the Nursing Homes and Hostels Review will be greatly

facilitated by the proposed computer facilities leading to a more efficient and effective implementation of the new arrangements;

- more accurate and timely identification of existing services, unmet needs and trends leading to better planning and more appropriate targeting of capital and recurrent funding of residential services;

- a reduction in the demand for expensive nursing home beds through improved geriatric assessment processes with an improved service monitoring and evaluation capability; and

- availability of accurate and up-to-date financial and management information.

. The relevant senior managers have estimated that these savings will amount to up to 5% of Victoria's annual Residential Programs expenditure of $300 million. However, in keeping with the conservative approach adopted in this analysis, a figure of $4.5 million (or 1.5%) has been used.

9.3.2.2 Disability Services (Victoria only)

. Specific cases of benefits that can be achieved with the introduction of the proposed information systems include:

- improved projections of the profit and loss performance of funded services leading to elimination of expenditure on management consultancies and emergency grants required to 'rescue' services in danger of collapse; and

- up-to-date and accurate financial management information leading to an increase in the effectiveness of expenditure on funded services.

. The relevant senior managers have estimated that these savings will amount to $1.18 million annually, or approximately 5% of the program's annual expenditure of $23 million.

9.3.2.3 Childrens Services Program (Victoria only)

.   Specific benefits are as follows:

     -    with the introduction of needs-based
          planning, the Victorian Administration
          considers that child care centres can be
          more appropriately sited to better service
          need; and

     -    similarly, it has been estimated that the
          introduction of improved systems support for
          financial monitoring and inspection will
          allow tighter control over recurrent funding.

.   It is estimated that these benefits will total to
     approximately $250,000 per annum.

9.3.2.4 Home and Community Care (HACC) and Supported
         Accommodation Assistance Program (SAAP) (Victoria only)

.   As much of the day-to-day administration and
     decision-making is currently a Victorian State
     Government and Central Office responsibility, the
     Victorian State Office is not in a position to
     provide objective figures. In accordance with
     the conservative nature of this analysis, no
     benefits have been quantified for these programs.

.   Also, in line with Government policy, the HACC
     program will soon assume much greater importance
     in terms of the Department's overall portfolio of
     responsibilities. Given that the administration
     of this program will change dramatically over the
     analysis period, it is inordinately difficult to
     arrive at objective quantifications of benefit.

.   However, even though benefits have not been
     quantified for HACC and SAAP, it is considered
     that saving levels for these programs will be
     similar to the levels achieved by the other
     Victorian State Office program areas.

.   In particular, the proposed introduction of a
     capability to share information with external
     organisations, as part of Option B, is considered
     to yield significant benefits for HACC and SAAP.

9.3.2.5 Corporate and Administrative Services (Central Office
         and Victoria)

.   The introduction of improved financial and
     management information and computer support for
     purchasing, accounts and assets control will
     provide significant savings in the Corporate and

     Administrative Services expenditure. Specific
     cases include:

     -    standardisation and bulk purchasing and
          maintenance of stores, assets and services;

     -    elimination of overspending by ensuring
          compliance with regulations and budgets; and

     -    allowing better stocktaking and control of
          stores and assets.

.   It has been estimated by the relevant senior
     managers that these savings will amount to
     approximately $500,000 per annum in Central
     Office, and $150,000 per annum in the Victorian
     State Office.

9.3.2.6 Summary of Benefits Due to Increased Effectiveness

.   In terms of real costs, benefits due to increased
     effectiveness, by program area, for the first
     year of benefits (1989/90) are as follows:

     -    Residential Programs $4,500,000

     -    Disability Services $1,180,000

     -    Childrens Services Program $250,000

     -    HACC and SAAP   (not
                                            quantified)

     -    Corporate Service and
          Administrative Support $ 650,000

.   This represents a total of $6,580,000 for 1989/90.
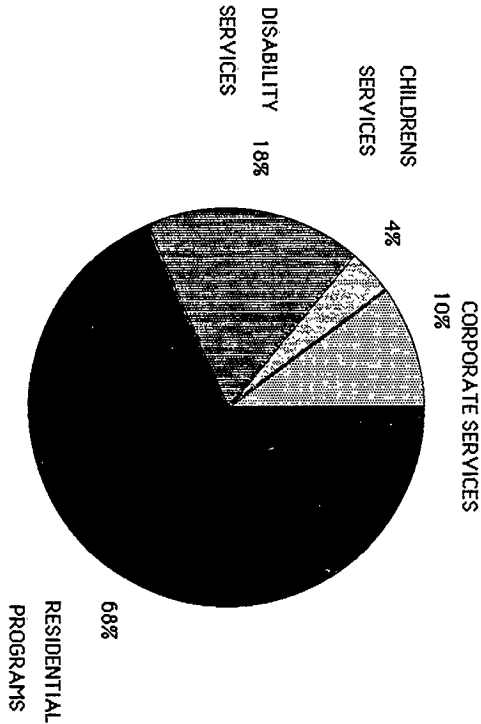
OPTION B: BENEFITS DUE TO INCREASED EFFECTIVENESS

DISABILITY SERVICES 18%

CHILDRENS SERVICES 4%

CORPORATE SERVICES 10%

RESIDENTIAL PROGRAMS 68%

10. **STATEMENT OF BENEFITS (UNQUANTIFIED)**

10.1   **Introduction**

- In line with paragraph 3.3, the unquantified benefits of Option B have been categorised in terms of their impact on output differences. These benefits have been identified below under the following headings suggested by the PSB Guidelines:

    - Improved level of client service,

    - Improved level of performance,

    - Improved level of job satisfaction,

    - Improved level of flexibility,

    - Improved level of service provider support,

    - Reduced level of risk, and

    - Effects on other Department and external organisations.

10.2   **Improved Level of Client Service**

- The introduction of effective needs-based planning, service inspections and client outcome monitoring will lead to more accurate identification of community needs, better matching of services to these needs, and ultimately will improve the quality of life of many clients.

10.3   **Improved Level of Performance**

- It is considered that Option B will produce a significant improvement in the productivity level of the Department's staff. Some benefits of this nature have been quantified where possible as notional salary savings.

- Apart from the automation of manual and repetitive functions, Option B will dramatically improve the Department's information base and its ability to respond effectively to information requests. It is considered that this will lead to more reliable and timely servicing of Ministerial requirements and Parliamentary Questions as well as enquiries from service providers and the community.

• The Department of Social Security has found that the computer re-equipment program implemented by that Department resulted in better working conditions for staff, with consequent benefits in productivity (deriving solely from these improved conditions, and not from altered working arrangements).The Department of Social Security has been able to quantify this increase, by conducting a comparative study involving newly-equipped and non-equipped regional offices.

• Whether the experience of Department of Social Security is applicable to this Department, in terms of the quantified percentage increase in productivity, cannot be determined at this stage. Consequently this benefit has not been quantified in this analysis. However, it is considered that similar results will be achieved through the implementation of this proposal. This is an area which can be studied and measured after implementation.

10.4 Improved Level of Job Satisfaction

• The automation of manual and repetitive functions will allow staff to be internally repositioned to perform more interesting work. It is considered that improved job variety and job enrichment will provide a significant increase in the level of job satisfaction for many staff members.

• Option B will provide opportunities for staff development through the introduction of technology to support work practices.

• With the improved decision-support facilities that Option B will provide, staff will be able to make more informed decisions. It is considered that this will also improve the level of job satisfaction for many staff members, and will generally improve the quality of decision-making in the Department.

10.5 Improved Level of Flexibility

• It is considered that Option B will enable the Government to be more responsive to changing community needs and will result in improved flexibility in policy and program administration.

• Similarly, it is considered that an improved information base will enable the Department to be more responsive to changes in Government policies.

• Distributed computing facilities will provide improved operational flexibility for local Department of Community Services managers.

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10.6 Improved Level of Service Provider Support

• It is considered that service providers will receive more timely payments and improved service in general under Option B.

10.7 Reduced Level of Risk

• The introduction of needs-based planning will reduce the risk of funding inappropriate services. The actual and opportunity cost savings will be significant in the Department's view.

• Improved financial monitoring capabilities will reduce the Department's exposure to overservicing and fraud.

• Distributed computing facilities, by their nature, have in-built contingency and are less susceptible to operational close-down.

10.8 Effects on Other Departments and External Organisations

• Option B will free up the computing resources that the Department currently uses on the Department of Social Security and Department of Health installations.

• Given the size and range of the equipment required under Option B, (small to medium), the Australian computer industry should be able to respond competitively to all or most aspects of any Request For Tender for the proposed ADP acquisition.

• The proposed information sharing capability will provide the potential for other social welfare Departments, both State and Commonwealth, and welfare organizations to access this Department's integrated information base.

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11. SENSITIVITY ANALYSES

11.1   Introduction

- This section of the analysis tests the sensitivity of the Net Present Value economic indicator listed in the "Cost/Benefit Analysis Summary" table at Section 2 of this attachment against changes in key variables. The objective is to determine if a change in one of these variables causes Option B to become uneconomical in terms of its Net Present Value. (A negative Net Present Value would imply that Option B was economically unsound.)

- The standard Net Present Value economic indicator shown in Section 2 (i.e. the Net Present Value of Option B = $34,185,000) is derived from the following parameters:

   -    a discount rate of 10%,

   -    a salary overhead rate of 85%,

   -    a three year implementation program, and

   -    a highly conservative estimate of benefits accruing to the Residential Programs and Disability Services areas.

- The sensitivity analysis tested the effect on the Net Present Value economic indicator mentioned above of changes in one of these parameters at a time. This was achieved by varying the above standard as follows:

   -    discount rates of 7% and 13%,

   -    a staff overhead rate of 30%,

   -    a five year implementation program, and

   -    a less conservative estimate of the benefits accruing to Residential Programs and Disability Services.

11.2   Summary of Results

- The Net Present Value of Option A under all of the above variations remained negative (and in all cases was about $-30 million). The Net Present Value of Option B was positive in all cases, signifying that:

   -    Option B is economically superior to Option A in every case, and

   -    Option B is economically sound in itself in every case.

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11.3   Varying the Discount Rate

- The intention to test the sensitivity of the analysis to a plus or minus three percent variation in the discount rate was stated in paragraph 3.1. The results of this test are as follows:

     NPV of Option B at 10% = $34,185,000,

   -    NPV of Option B at 13% = $25,676,000, and

   -    NPV of Option B at 7% = $44,752,000.

- As can be seen from the results, as the discount rate increases the Net Present Value of Option B decreases. However, Option B remains a sound option in cost/benefit terms at all three discount rates. The Internal Rate of Return of Option B is about 30% (see Chart on following page).

- Summary tables outlining these results are attached.

11.4   Varying the 85% Overhead on Staff Costs

- The 85% overhead rate on staff costs outlined in the PSB Guidelines can be regarded as a sensitive variable for three reasons:

   -    it was derived from data specific to the PSB over five years ago,

   -    DCS has not officially determined, as yet, an overhead figure applicable to its own situation. However, for the purposes of this analysis, an overhead figure of 30% was arrived at using departmental salary and administrative expenses.

- The sensitivity of the analysis to this overhead figure was determined, using the 30% rate. The results are as follows:

   -    NPV of Option B at 85% = $34,185,000, and

   -    NPV of Option B at 30% = $37,119,000.

- Option B has a higher Net Present Value at the lower overhead rate, i.e., the 85% rate is less advantageous to Option B than the 30% rate. The reason for this is that the higher rate increases costs more than it increases benefits.

- Summary tables outlining these results are attached.

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OPTION B: NET PRESENT VALUE/DISCOUNT RATE PROFILE
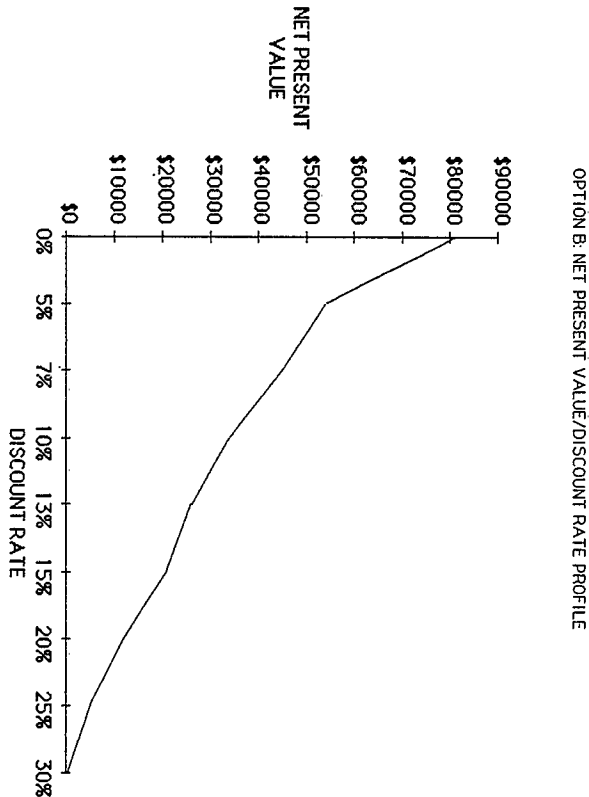
11.5   Varying the Implementation Program

.   The analysis used a three year implementation
     schedule. It was decided to test the impact on
     the Net Present Value of Option B if the
     equipment were to be installed over five years
     instead, according to the following schedule:

     YEAR 1   CENTRAL OFFICE
     YEAR 2   NEW SOUTH WALES & VICTORIA
     YEAR 3   QUEENSLAND & SOUTH AUSTRALIA
     YEAR 4   WESTERN AUSTRALIA AND TASMANIA
     YEAR 5   NORTHERN TERRITORY

.   It is assumed that, under the five year scenario,
     Option B benefits will be postponed one year (and
     not two, as would have to be the case if strict
     consistency were to be adhered to). A
     postponement of one year therefore gives a
     conservative result, because, whereas costs are
     now spread over an additional two years, benefits
     are only postponed by one. The results of this
     test are as follows:

     -    NPV of Option B at 3 years = $34,185,000, and

     -    NPV of Option B at 5 years = $ 6,815,000

.   A five year implementation, with a very
     conservative postponement of benefits,
     drastically reduces the Net Present Value of
     Option B. In economic terms, the three year
     installation schedule must be preferred.

.   A summary table outlining these results is
     attached.

11.6   Varying the Level of Benefit

.   In terms of the benefits attributable to Option B
     because of the increase in the effectiveness of
     program expenditure in the Residential Programs
     and Disability Services areas (see 9.3.2), advice
     from the Victorian State Office was that
     increased utility in program expenditure deriving
     from Option B in Victoria would amount to at
     least $15 million per annum for Residential
     Programs and $2.36 million in Disability Services.

- For the purposes of the analysis, much lower figures were used, viz., $4.5 million and $1.18 million respectively. The effect on the Net Present Value of Option B of benefit levels of $9 million for Residential Programs (still well below the $15 million identified by Victoria) and $2.36 million for Disability Services was determined. The results are as follows:

  - NPV of Option B at lower benefit levels = $34,185,000, and

  - NPV of Option B at higher benefit levels = $93,744,000.

- A summary table outlining these results is attached.

11.7 <u>Varying the Hardware Capital Cost RPMF</u>

- It was decided to test the sensitivity of the Net Present Value of Option B to a variation in the -10% RPMF applied to computing equipment capital costs. There is a certain amount of conjecture involved in the determination of RPMFs, and this sensitivity analysis seeks to determine the effect upon Option B of a RPMF less favourable to it. The -10% used in the main analysis was varied to 0%. The results of this test are as follows:

  - NPV of Option B using -10% = $34,185,000

  - NPV of Option B using 0% = $31,474,000

Use of the 0% factor reduced the Net Present Value of Option B by $2,711,000, or by about 8%. Option B remains a sound investment decision.

- A summary table outlining these results is attached.

COST/BENEFIT SENSITIVITY ANALYSIS SUMMARY: 7% DISCOUNT RATE (see 11.3)

Parameters:
(i) 7% discount rate
(ii) 85% staff overhead
(iii) 1 year implementation for Option B
(iv) lower quantified benefit levels

| | 1986/87 | 1987/88 | 1988/89 | 1989/90 | 1990/91 | 1991/92 | 1992/93 | 1993/94 | 1994/95 | 1995/96 | TOTAL |
	(000'S)	(000'S)	(000'S)	(000'S)	(000'S)	(000'S)	(000'S)	(000'S)	(000'S)	(000'S)	(000'S)
PRESENT VALUES:											
OPTION A (@7%)	-4,228	-4,064	-3,906	-3,755	-3,609	-3,469	-3,336	-1,207	-1,083	-2,964	-35,621
PRESENT VALUE COSTS											
OPTION B (@7%)	-6,028	-13,717	-14,907	-10,419	-5,977	-5,531	-5,401	-5,322	-5,300	-5,347	-77,948
PRES VALUE BENEFITS											
OPTION B (@7%)				20,869	19,637	18,481	17,396	16,375	15,421	14,521	122,700
NET PRESENT VALUES											
OPTION B (@7%)	-6,028	-13,717	-14,907	10,451	13,660	12,949	11,995	11,053	10,121	9,174	44,752
ANNUAL DIFFERENCES											
IN NPV (B-A)	-1,800	-9,653	-11,001	14,206	17,270	16,419	15,330	14,260	13,204	12,139	80,373
CUMULATIVE											
DIFFERENCES IN NPV	-1,800	-11,453	-22,454	-8,249	9,021	25,440	40,770	55,030	68,234	80,373	

NET PRESENT VALUE OF OPTION A: $ -35,621 000

NET PRESENT VALUE OF OPTION B: $ 44,752 000

THE DIFFERENCE BETWEEN THE NPV OF OPTION B AND NPV OF OPTION A IS $ 80,373 000

COST/BENEFIT ANALYSIS SENSITIVITY SUMMARY: 13% DISCOUNT RATE (see 11.3)

Parameters:
(i) 13% discount rate
(ii) 85% staff overhead
(iii) 3 year implementation for Option B
(iv) lower quantified benefit levels

	1986/87 (000'S)	1987/88 (000'S)	1988/89 (000'S)	1989/90 (000'S)	1990/91 (000'S)	1991/92 (000'S)	1992/93 (000'S)	1993/94 (000'S)	1994/95 (000'S)	1995/96 (000'S)	TOTAL (000'S)
PRESENT VALUES:											
OPTION A (@13%)	-4,228	-3,848	-3,502	-3,188	-2,902	-2,641	-2,404	-2,189	-1,993	-1,814	-28,709
PRESENT VALUE COSTS OPTION B (@13%)	-6,028	-12,989	-13,366	-8,846	-4,805	-4,211	-3,893	-3,632	-3,425	-3,272	-64,467
PRES VALUE BENEFITS OPTION B (@13%)				17,719	15,787	14,068	12,539	11,177	9,967	8,887	90,144
NET PRESENT VALUES OPTION B (@13%)	-6,028	-12,989	-13,366	8,873	10,982	9,858	8,646	7,545	6,541	5,615	25,676
ANNUAL DIFFERENCES IN NPV (B-A)	-1,800	-9,141	-9,864	12,061	13,884	12,499	11,051	9,733	8,534	7,429	54,385
CUMULATIVE DIFFERENCES IN NPV	-1,800	-10,941	-20,804	-8,744	5,140	17,639	28,689	38,423	46,956	54,385	

NET PRESENT VALUE OF OPTION A: $ -28,709 000

NET PRESENT VALUE OF OPTION B: $ 25,676 000

THE DIFFERENCE BETWEEN THE NPV OF OPTION A AND NPV OF OPTION B IS $ 54,385 ,000

COST/BENEFIT SENSITIVITY ANALYSIS SUMMARY: 30% STAFF OVERHEAD RATE (see 11.4)

Parameters:
(i) 10% discount rate
(ii) 30% staff overhead
(iii) 3 year implementation for Option B
(iv) lower quantified benefit levels

	1986/87 (000'S)	1987/88 (000'S)	1988/89 (000'S)	1989/90 (000'S)	1990/91 (000'S)	1991/92 (000'S)	1992/93 (000'S)	1993/94 (000'S)	1994/95 (000'S)	1995/96 (000'S)	TOTAL (000'S)
PRESENT VALUES:											
OPTION A (@10%)	-4,228	-3,953	-3,696	-3,456	-3,231	-3,021	-2,826	-2,642	-2,471	-2,311	-31,835
PRESENT VALUE COSTS OPTION B (@10%)	-5,879	-11,958	-11,492	-7,144	-3,061	-2,673	-2,567	-2,506	-2,488	-2,521	-52,288
PRES.VALUE BENEFITS OPTION B (@10%)				16,443	15,032	13,740	12,569	11,494	10,512	9,619	89,407
NET PRESENT VALUES: OPTION B (@10%)	-5,879	-11,958	-11,492	9,299	11,971	11,067	10,001	8,988	8,024	7,098	37,119
ANNUAL DIFFERENCES IN NPV (B-A)	-1,651	-8,005	-7,796	12,755	15,202	14,088	12,827	11,630	10,495	9,409	68,954
CUMULATIVE DIFFERENCES IN NPV	-1,651	-9,656	-17,452	-4,698	10,504	24,592	37,420	49,050	59,545	68,954	

NET PRESENT VALUE OF OPTION A: $ -31,835 000

NET PRESENT VALUE OF OPTION B: $ 37,119 000

THE DIFFERENCE BETWEEN THE NPV OF OPTION B AND NPV OF OPTION A IS $ 68,954 000

COST/BENEFIT SENSITIVITY ANALYSIS SUMMARY: FIVE YEAR IMPLEMENTATION (see 11.5)

Parameters:
(i) 10% discount rate
(ii) 85% staff overhead
(iii) 5 year implementation for Option B
(iv) lower quantified benefit levels

	1986/87 (000'S)	1987/88 (000'S)	1988/89 (000'S)	1989/90 (000'S)	1990/91 (000'S)	1991/92 (000'S)	1992/93 (000'S)	1993/94 (000'S)	1994/95 (000'S)	1995/96 (000'S)	TOTAL (000'S)
PRESENT VALUES: OPTION A (@10%)	-4,228	-3,953	-3,696	-3,456	-3,231	-3,021	-2,826	-2,642	-2,471	-2,311	-31,835
PRESENT VALUE COSTS OPTION B (@10%)	-6,028	-13,343	-12,918	-9,323	-7,457	-5,858	-4,595	-4,406	-4,270	-4,193	-72,392
PRES VALUE BENEFITS OPTION B (@10%)					16,249	14,883	13,635	12,493	11,451	10,495	79,207
NET PRESENT VALUES: OPTION B (@10%)	-6,028	-13,343	-12,918	-9,323	8,792	9,025	9,040	8,087	7,181	6,302	6,815
ANNUAL DIFFERENCES IN NPV (B-A)	-1,800	-9,390	-9,222	-5,867	12,023	12,046	11,866	10,729	9,652	8,613	38,650
CUMULATIVE DIFFERENCES IN NPV	-1,800	-11,190	-20,412	-26,279	-14,256	-2,210	9,656	20,384	30,036	38,650	

NET PRESENT VALUE OF OPTION A: $ -31,835 000

NET PRESENT VALUE OF OPTION B: $ 6,815 000

THE DIFFERENCE BETWEEN THE NPV OF OPTION B AND NPV OF OPTION A IS $ 38,650 000

COST/BENEFIT SENSITIVITY ANALYSIS SUMMARY: INCREASED BENEFITS IN RESIDENTIAL PROGRAMS AND DISABILITY SERVICES (see 11.6)

Parameters:
(i) 10% discount rate
(ii) 85% staff overhead
(iii) 3 year implementation for Option B
(iv) higher quantified benefit levels

	1986/87 (000'S)	1987/88 (000'S)	1988/89 (000'S)	1989/90 (000'S)	1990/91 (000'S)	1991/92 (000'S)	1992/93 (000'S)	1993/94 (000'S)	1994/95 (000'S)	1995/96 (000'S)	TOTAL (000'S)
PRESENT VALUES: OPTION A (@10%)	-4,228	-3,953	-3,696	-3,456	-3,231	-3,021	-2,826	-2,642	-2,471	-2,311	-31,835
PRESENT VALUE COSTS OPTION B (@10%)	-6,028	-13,343	-14,105	-9,589	-5,351	-4,817	-4,575	-4,385	-4,248	-4,169	-70,611
PRES VALUE BENEFITS OPTION B (@10%)				30,545	27,662	25,253	23,056	21,052	19,227	17,559	164,355
NET PRESENT VALUES OPTION B (@10%)	-6,028	-13,343	-14,105	20,956	22,311	20,437	18,481	16,667	14,978	13,390	93,744
ANNUAL DIFFERENCES IN NPV (B-A)	-1,800	-9,390	-10,409	24,412	25,542	23,458	21,307	19,309	17,449	15,701	125,579
CUMULATIVE DIFFERENCES IN NPV	-1,800	-11,190	-21,599	2,813	28,355	51,813	73,120	92,429	109,878	125,579	

NET PRESENT VALUE OF OPTION A: $ -31,835 000

NET PRESENT VALUE OF OPTION B: $ 93,744 000

THE DIFFERENCE BETWEEN THE NPV OF OPTION B AND NPV OF OPTION A IS $ 125,579 000

COST/BENEFIT SENSITIVITY ANALYSIS SUMMARY: ZERO RPMF ON HARDWARE CAPITAL COSTS

Parameters:
(i) 10% discount rate
(ii) 85% staff overhead
(iii) 3 year implementation for Option B
(iv) lower quantified benefit levels

| | 1986/87 | 1987/88 | 1988/89 | 1989/90 | 1990/91 | 1991/92 | 1992/93 | 1993/94 | 1994/95 | 1995/96 | TOTAL |
	(000'S)	(000'S)	(000'S)	(000'S)	(000'S)	(000'S)	(000'S)	(000'S)	(000'S)	(000'S)	(000'S)
PRESENT VALUES:											
OPTION A (@10%)	-4,228	-3,953	-3,696	-3,456	-3,231	-3,021	-2,826	-2,642	-2,471	-2,311	-31,835
PRESENT VALUE COSTS:											
OPTION B (@10%)	-6,028	-13,751	-14,888	-10,208	-5,499	-4,960	-4,718	-4,531	-4,402	-4,336	-73,322
PRES VALUE BENEFITS											
OPTION B (@10%)				19,208	17,581	16,094	14,736	13,493	12,361	11,322	104,796
NET PRESENT VALUES:											
OPTION B (@10%)	-6,028	-13,751	-14,888	9,000	12,082	11,134	10,018	8,962	7,959	6,986	31,474
ANNUAL DIFFERENCES											
IN NPV (B-A)	-1,800	-9,798	-11,192	12,456	15,313	14,155	12,844	11,604	10,430	9,297	63,309
CUMULATIVE											
DIFFERENCES IN NPV	-1,800	-11,598	-22,791	-10,335	4,978	19,132	31,977	43,581	54,011	63,309	

NET PRESENT VALUE OF OPTION A: $ -31,835 000

NET PRESENT VALUE OF OPTION B: $ 31,474 000

THE DIFFERENCE BETWEEN THE NPV OF OPTION B AND NPV OF OPTION A IS $ 63,309 000

SUBMISSION

TO:

JOINT PARLIAMENTARY COMMITTEE OF PUBLIC ACCOUNTS

PROPOSAL TO ACQUIRE COMPUTING FACILITIES FOR
THE DEPARTMENT OF COMMUNITY SERVICES

ATTACHMENT B - ACTION PLAN

OVERVIEW OF THE SYSTEMS BRANCH ACTION PLAN

This Action Plan was developed by the Department's Systems Branch at an Intensive Planning Conference in April 1986.

The conference identified eighteen objectives that must be achieved in order to implement the Strategic Plan and maintain an adequate level of support until the new systems and equipment are installed.

The Action Plan contains the following details for each of these eighteen objectives:

- milestones

- tasks required to achieve the objective

- start and finish dates

- the Systems Branch officer with carriage of the task

- estimated resources required, expressed in person days (indicated in the column titled "HOW MANY")

- dependencies on other tasks, milestones or objectives (indicated in the column titled "DEP").

These details will form the basis for a Project Management system.

A chart which summarises the key elements of this Action Plan is provided on the following page.
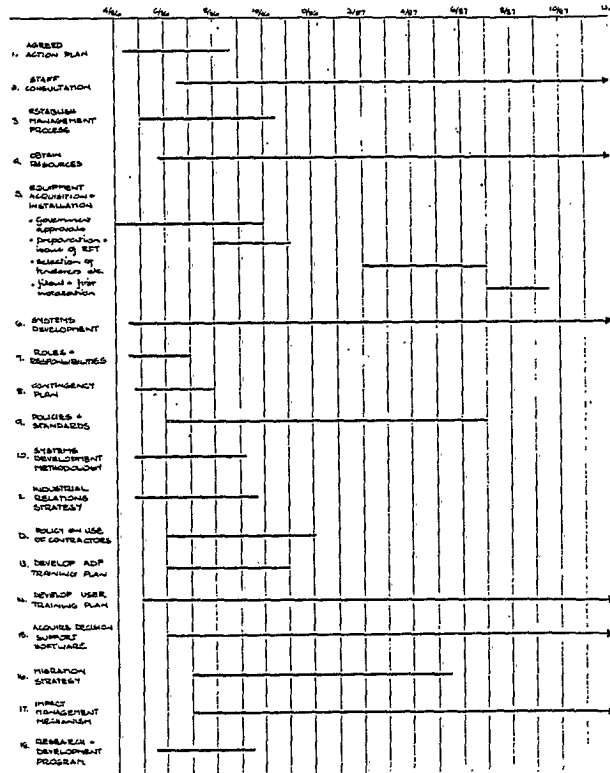
OBJECTIVES/MILESTONES/ACTION PLANS:

OBJECTIVE 1: TO JUSTIFY RESOURCES AND CONTROL DEVELOPMENT, WE REQUIRE AN
AGREED ACTION PLAN

MILESTONES 1.1: – Draft Action Plan
1.2: – Issue of Action Plan
1.3: – Approval of Action Plan

NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
1.1	DRAFT ACTION PLAN					
1.1.1	Conduct IPS	8/ 4/86	11/ 4/86	B Poole	16	
1.1.2	Prepare Draft Action Plan	10/ 4/86	18/ 4/86	B Poole	16	
1.2	ISSUE OF ACTION PLAN					
1.2.1	Finalise Action Plan "Package" (incl S/Plan & synopsis of Vols 2 & 3)	21/ 4/86	6/ 6/86	B Holmes	20	1.1.2
1.2.2	Distribute draft package to States, Program areas & Unions.	10/ 6/86	13/ 6/86	B Holmes	2	1.2.1
1.2.3	Liaise with States, Program areas & Unions re: .Action Plan .Strategic Plan .Volumes 2 & 3	16/ 6/86	25/ 7/86	P Jones	45	1.2.2
1.3	APPROVAL OF ACTION PLAN					
1.3.1	Collate/rationalise comments	27/ 6/86	25/ 7/86	B Holmes	10	1.2.3
1.3.2	Prepare & distribute material for, organise & conduct management meet'g	28/ 7/86	8/ 8/86	B Holmes	10	1.3.1
1.3.3	Finalise agreed Action Plan	11/ 8/86	15/ 8/86	B Holmes	5	1.3.2
1.3.4	Distribute agreed Action Plan	18/ 8/86	20/ 8/86	B Holmes	3	1.3.3

OBJECTIVE 1 Cont'd

NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
1.4	MAINTAIN ACTION PLAN					
1.4.1	Install action plan on project management software					
1.4.2	Prepare regular reports					

OBJECTIVE 2: TO ENSURE CONFIDENCE AND COMMITMENT TO THE ADP STRATEGIC
PLAN, STAFF NEED TO BE AWARE OF ITS IMPLICATIONS AND
TO BE REGULARLY INFORMED OF PROGRESS TOWARDS ITS
IMPLEMENTATION.

MILESTONES 2.1 - Staff awareness of Strategic Plan and Volumes 2 & 3
2.2 - Ongoing Progress Reports

NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
2.1	STAFF AWARENESS OF STRATEGIC PLAN AND VOLUMES 2 & 3					
2.1.1	Information sessions for States, Program Areas & Unions re: . Action Plan . Strategic Plan . Volumes 2 & 3	16.6.86	25.7.86	P Jones		
2.2	ONGOING PROGRESS REPORTS					
2.2.1	Conduct regular conferences with State Systems officers	21.4.86	Ongoing			
2.2.2	Issue regular Information Bulletins	26.5.86	Ongoing			

OBJECTIVE 3: TO EFFECTIVELY IMPLEMENT THE ADP STRATEGIC PLAN THE
DEPARTMENT NEEDS A MANAGEMENT PROCESS WHICH ENTAILS:

- SELECTION/APPROVAL OF PROJECTS
- IDENTIFICATION OF DETAILED ACTIVITIES
- ASSIGNMENT OF RESOURCES
- ASSIGNMENT OF RESPONSIBILITIES & AUTHORITIES
- CO-ORDINATION OF ACTIVITIES
- MONITORING & EVALUATION OF PROGRESS
- RESOLUTION OF CONFLICT

MILESTONES 3.1: - A Systems Implementation Management Group with approved
Terms of Reference
3.2: - Approved supporting structures and methods of operation
3.3: - Implemented initial management structure

NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
3.1	A SYSTEMS IMPLEMENTATION MANAGEMENT GROUP WITH APPROVED TERMS OF REFERENCE					
3.1.1	Define areas of responsibility for the SIMG (eg resource conflict, resourcing, budgets and change management) and proposed structure	1/ 5/86	16/ 5/86	B Holmes	5	
3.1.2	Obtain approval from Resources Committee on SIMG Terms etc	19/ 5/86	6/ 6/86	P Edmonds	2	3.1.2
3.1.3	Convene first meeting	9/ 6/86	30/ 6/86	P Edmonds	3	3.1.1
3.2	APPROVED SUPPORTING STRUCTURES AND METHODS OF OPERATION					
3.2.1	Develop proposals for structures incl. Terms of Reference (progress monitoring, financial control, S/Plan maintenance, change procedures)	15/ 6/86	15/ 8/86	B Holmes	30	3.1.2
3.2.2	Obtain approval for structures & methods (to SIMG)	15/ 8/86	15/ 9/86	P Edmonds	1	3.2.1

OBJECTIVE 3 (2) Cont'd

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                                                          HOW
NUMBER  TASK                    START   FINISH   WHO      MANY  DEP
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NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
3.3	IMPLEMENTED INITIAL MANAGEMENT STRUCTURE					
3.3.1	Implement approved initial management structure	15/ 9/86	15/10/86	P Edmonds	20	3.2.2

OBJECTIVE 4 : TO ENSURE THAT THE ACTION PLAN IS IMPLEMENTED, WE NEED TO
DEFINE AND OBTAIN THE NECESSARY:

- RESOURCES (HUMAN/FINANCIAL/OTHER)
- SKILLS
- ORGANISATIONAL STRUCTURES

MILESTONES 4.1 - Formal Cyclical Estimating Process
4.2 - Resources For Preparation of RFT
4.3 - Resources For Evaluation of RFT
4.4 - Resources for Systems Development
4.5 - Instituted Review Cycle for Critical Stages

NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
4.1	FORMAL CYCLICAL ESTIMATES					
4.1.1	Identify estimates cycle requirements			B Harris		
4.1.2	Develop estimating process			B Harris		
4.1.3	Implement the process			B Harris		
4.2	RESOURCES FOR PREPARATION OF THE RFT					
4.2.1	Assess existing situation .staffing numbers .skills .organisation structure	26/5/86	6/6/86	P Jones	7	
4.2.2	Determine requirements	9/6/86	9/6/86	P Jones	1	
4.2.3	Obtain necessary staff and skills	10/6/86	13/6/86	B Harris	4	See 5.2.1
4.3	RESOURCES FOR EVALUATION OF RFT					
4.3.1	Action as per 4.2.1 - 4.2.1	1/9.86	15/11/86	B Harris	20	See 5.3.3
4.4	RESOURCES FOR SYSTEMS DEVELOPMENT					
4.4.2	Action as per 4.2.1 - 4.2.3	2/6/86	31/10/86	P Jones	20	6.4.3

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                                                HOW
NUMBER  TASK                  START   FINISH  WHO  MANY  DEP
------------------------------------------------------------
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4.5   INSTITUTE REVIEW CYCLE FOR
         CRITICAL STAGES

4.5.1   Identify critical stages
         at which resources need
         to be reviewed

4.5.2   Action as per 4.2.1 - 4.2.3

OBJECTIVE 5: TO ENSURE THE SUCCESSFUL IMPLEMENTATION OF THE PHYSICAL
ASPECTS OF THE ADP STRATEGIC PLAN, WE NEED TO DEVELOP AND
IMPLEMENT AN EQUIPMENT ACQUISITION AND INSTALLATION PLAN.

MILESTONES 5.1: - Initial Approvals
           5.2: - Issuing of RFT
           5.3: - Selection of Preferred Tenderer/s
           5.4: - Final Approvals
           5.5: - Signed Contract
           5.6: - First Installation
           5.7: - Subsequent Installations as per 2.6

NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
5.1	INITIAL APPROVALS					
5.1.1	Cabinet Approval-in-Principle		6/ 6/86	P Edmonds	4	
5.1.2	JPCPA Approval	16/ 6/86	15/ 8/86	P Edmonds	90	5.1.1
5.1.3	Cabinet Approval	30/ 8/86	30/ 9/86	P Edmonds	3	5.1.1
5.2	ISSUING OF RFT					
5.2.1	Selection of staff to prepare RFT	3/ 7/86	25/ 7/86	B Harris	20	
5.2.2	Preparation RFT (incl. resolution of conceptual system requirements)	4/ 8/86	3/10/86	B Harris	400	5.1.2
5.2.3	Preparation Evaluation Methodology	4/ 8/86	3/10/86	B Harris		5.1.1
5.2.4	Method of release	4/ 8/86	3/10/86	B Harris	5	
5.2.5	DOLGAS Approval	6/10/86	24/10/86	B Harris	20	
5.2.6	Revision	27/10/86	31/10/86	B Harris	2	5.2.5
5.2.7	Issue RFT to market-place	3/11/86	3/11/86	B Harris	1	5.2.6
5.3	SELECTION OF PREFERRED TENDERER/S					
5.3.1	Physical Security	15/ 8/86	1/12/86	B Harris	5	5.2.5
5.3.2	Identify Required Skills	15/ 8/86	1/ 9/86	B Harris	5	5.2.2

OBJECTIVE 5 Cont'd

NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
5.3.3	Select Evaluation Team	1/ 9/86	15/11/86	B Harris	20	5.3.2
5.3.4	Security Clearance	18/11/86	30/ 1/87	B Harris	5	5.3.3
5.3.5	Perform Evaluation	2/ 2/87	24/ 4/87	P Edmonds	700	5.2.4 5.3.1 5.3.4
5.3.6	Steering Committee Acceptance	27/ 4/87	30/ 4/87	P Edmonds	20	5.3.5
5.4	FINAL APPROVALS					
5.4.1	Cabinet Approval Preparation	1/ 5/87	31/ 5/87	P Edmonds		5.3.6
5.5	SIGNED CONTRACT					
5.5.1	Negotiations	1/ 6/87	30/ 6/87	B Harris	40	5.4.1
5.5.2	Signing	26/ 6/87	30/ 6/87	B Harris	5	5.5.1
5.5.3	Announcement/s	26/ 6/87	1/ 7/87	P Edmonds	10	5.5.2
5.5.4	Debriefing	26/ 6/87	1/ 7/87	P Edmonds	10	5.5.3
5.6	FIRST INSTALLATION					
5.6.1	Accommodation Specifications	1/ 9/86	1/ 2/87	T Wuth	20	5.2.3
5.6.2	Obtain Accommodation	1/ 2/87	30/ 6/87	T Wuth	10	5.6.1
5.6.3	Fit-out Accommodation	1/ 7/87	1/ 9/87	T Wuth	10	5.6.2 5.3
5.6.4	Install Machine(s)	1/ 9/87	15/9/87	T Wuth	15	5.6.3 5.5
5.6.5	Acceptance Testing	16/ 9/87	30/9/87	T Wuth	10	5.6
5.7	SUBSEQUENT INSTALLATIONS AS PER 2.6	1/2/87	1989	T Wuth	325	5.6

OBJECTIVE 6: TO ELIMINATE CONFLICT AND PROVIDE DIRECTION IN RELATION TO SYSTEMS DEVELOPMENT, WE NEED AGREED POLICIES AND PRIORITIES FOR THE DEVELOPMENT AND ENHANCEMENT OF EXISTING, INTERIM AND FUTURE SYSTEMS.

MILESTONES 6.1: - Issued guidelines for ADP proposals, reviews and determination of priorities
6.2: - Established project register outlining objectives, features, effect on workload, adequacy of existing systems, phasing and timing, impact on other projects, commitments from other areas, h/w, s/w used, risk, financial & other resource costs
6.3: - Identified total resources and their commitment
6.4: - Endorsed plan
6.5: - Installation of review mechanism

NUMBER	TASK	START	FINISH	WHO	HOW MANY	* DEP
6.1	ISSUED GUIDELINES FOR ADP PROPOSALS, REVIEWS AND DETERMINATION OF PRIORITIES					Obj.2
6.1.1	Develop guidelines for ADP proposals and review mechanism	15/ 4/86	15/ 5/86	J Scott	20	
6.1.2	Approval by SIMG of guide-lines and issue to Dept	15/ 5/86	15/ 5/86	J Scott	1	6.1.1
6.1.3	Development of guidelines for priority determination	15/ 4/86	15/ 5/86	J Scott	20	
6.1.4	Endorsement of guildelines by SIMG	15/ 5/86	15/ 5/86	P Edmonds	1	6.1.3
6.1.5	Approval by Resources Committee and issue to Dept	15/ 5/86	15/ 6/86	P Edmonds	3	6.1.2 6.1.4

OBJECTIVE 6 (7) Cont'd.

NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
6.2	ESTABLISHED PROJECT REGISTER OUTLINING OBJECTIVES, FEATURES, EFFECT ON WORKLOAD, ADEQUACY OF EXISTING SYSTEMS, PHASING AND TIMING, IMPACT ON OTHER PROJECTS, COMMITMENTS FROM OTHER AREAS, H/W, S/W USED, RISK.					Obj.10
6.2.1	Identify and describe projects associated with ADP Strategic Plan	30/ 4/86	31/ 7/86	J Scott	300	6.1.1
6.2.2	Identify projects for development of interim systems or extensions to existing systems	30/ 4/86	31/ 7/86	J Scott	100	6.1.1
6.3	IDENTIFIED TOTAL RESOURCES AND THEIR COMMITMENT					
6.3.1	Identify total resources available	30/ 4/86	15/ 5/86	J Scott		Obj.3
6.3.2	Identify resources committed	30/ 4/86	15/ 5/86	J Scott	10	
6.3.3	Identify resources required	30/ 4/86	31/ 7/86	J Scott	10	6.2.1
6.4	ENDORSED PRIORITIES AND RESOURCE ALLOCATIONS					
6.4.1	Develop draft priorities and resource allocations	30/ 4/86	15/ 8/86	J Scott	15	
6.4.2	Obtain SIMG endorsement	15/ 8/86	15/ 9/86	P Edmonds	2	
6.4.3	Obtain Resources Committee approval	15/ 9/86	30/ 9/86	P Edmonds	2	
6.4.4	Distribute approved priorities and resource allocations.	1/10/86	1/10/86	J Scott	3	

OBJECTIVE 6 Cont'd

NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
6.5	INSTALLATION OF REVIEW MECHANISM					
6.5.1	Reassess priorities and resources	ongoing		J Scott		
6.5.2	Revise and release priorities and resources	ongoing		J Scott		

* Other Dependency: Objective 4

OBJECTIVE 7: IN ORDER TO CO-ORDINATE AND MAKE THE MOST EFFECTIVE USE OF
OUR RESOURCES, WE NEED TO CLEARLY DEFINE THE ROLES AND
RESPONSIBILITIES OF:

- CENTRAL OFFICE & STATE OFFICE
- SYSTEMS AND USERS
- SYSTEMS INTERNAL SECTIONS
- INTERNAL DEPARTMENTAL SPECIALIST AREAS
- EXTERNAL SUPPLIERS (EXCLUDING CONTRACTORS)

MILESTONES 7.1: - Detailed functional specification
7.2: - Agreed statement of roles and responsibilities

NUMBER	TASK	START	FINISH	WHO	HOW MANY	* DEP
7.1	DETAILED FUNCTIONAL SPECIFICATION					
7.1.1	Examine 'Systems' objectives	14/ 4/86	16/ 4/86	B Strutt	3	
7.1.2	Identify all functions	17/ 4/86	28/ 4/86	B Strutt	10	7.1.1
7.2	AGREED STATEMENT OF ROLES AND RESPONSIBILITIES					
7.2.1	Allocation of functions	29/ 4/86	7/ 5/86	B Strutt	5	7.1.2
7.2.2	Canvass comment on allocations	8/ 5/86	22/ 5/86	B Strutt	2	7.2.1
7.2.3	Resolve conflict	23/ 5/86	23/ 6/86	B Strutt	20	7.2.2
7.2.4	Obtain agreement	24/ 6/86	29/ 6/86	B Strutt	2	7.2.3
7.2.5	Promulgate the statement	30/ 6/86	30/ 6/86	B Strutt	1	7.2.4

* Other Dependencies: Objectives 4 and 7.

OBJECTIVE 8: TO GUARANTEE CONTINUING COMPUTER SUPPORT FOR OUR EXISTING
SYSTEMS UNTIL WE HAVE OUR OWN EQUIPMENT IN PLACE, WE MUST
DEVELOP A CONTINGENCY PLAN

MILESTONES 8.1: - Prepare Draft Contingency Plan
8.2: - Draft to be Reviewed by All Areas
8.3: - Approval to Formal Plan.
8.4: - On-Going Review of Plan

NUMBER	TASK	START	FINISH	WHO	HOW MANY	* DEP
8.1	PREPARE DRAFT CONTINGENCY PLAN			T Wuth		
8.1.1	Analyse operating environment(now till new equip.in place)	21.4.86	1.7.86	T Wuth	30	
8.1.2	Assess Capacity requiremnts	21.4.86	1.7.86	T Wuth	30	
8.1.3	Perform Risk assessment	21.4.86	1.7.86	T Wuth	30	
8.1.4	Determine Priorities	1.6.86	1.7.86	T Wuth	20	
8.1.5	Formulate Options.	1.7.86	15.7.86	T Wuth	15	
8.2	DRAFT TO BE REVIEWED BY ALL AREAS					
8.2.1	Circulate draft	16.7.86	17.7.56	T Wuth	1	
8.2.2	Amend Draft where necess. and prepare final plan	17.7.86	28.7.86	T Wuth	10	
8.3	APPROVAL TO FORMAL PLAN	29.7.86	1.8.86	T Wuth	1	
8.4	ON-GOING REVIEW OF PLAN	1.8.86	On-Going	T Wuth		

*Dependencies: Objectives 4 and 6

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OBJECTIVE 9: TO ENSURE THE DEVELOPMENT OF EFFICIENT, EFFECTIVE AND
APPROPRIATE SYSTEMS, WE MUST DEVELOP AGREED POLICIES AND
STANDARDS.

MILESTONES 9.1: - Policy and Standards for Information/Data & Data Dictionary
9.2: - Policy and Standards for Information Systems
9.3: - Policy and Standards for Proprietory Software
9.4: - Policy and Standards for Hardware
9.5: - Policy and Standards for Communications
9.6: - Policy and Standards for Documentation(System/User)
9.7: - Policy and Standards for Security
9.8: - Policy and Standards for Audit Involvement
9.9: - Policy and Standards for End User Computing
9.10: - Policy and Standards for Occ. Health and Safety
9.11: - Policy and Standards for Accommodation

NUMBER	TASK	START	FINISH	WHO	HOW MANY	* DEP
9.1	POLICY AND STANDARDS FOR INFORMATION DATA					9.2
9.1.1	Information Sharing	1/7/86	?		15	
9.1.2	Data Ownership	July 86	?		15	
9.1.3	Access to/Privacy of Data (FOI implications)	May 86	Sept 86	Ilze L-B	10	
9.1.4	Data Definition	Sep 86	Nov 86	Chris M-M	40	
9.1.5	Archiving of Data/Inform- ation/Source Doc'n.	Jun 86	Sept 87	Ilze L-B	10	
9.1.6	DB Design	May 86	Sept 86	R Duff	60	
9.2	POLICY AND STANDARDS FOR INFORMATION SYSTEMS					
9.2.1	*see SDM*					
9.2.2	Maintenance	May 86	July 86	P Crewe	20	
9.2.3	Programming	May 86	Aug 86	W Forsyth	60	
9.2.4	User Interface	Jul 86	Sep 86	Chris M-M	30	
9.2.5	Transaction Mapping	May 86	Sept 86	R Duff	40	
9.2.6	Software Compatibility (Policy only)	May 86	July 86	A Ducrou	10	
9.2.7	Software Evaluation	May 86	Aug 86	J Scott	10	
9.2.8	Job Control	Aug 87	Sept 87	A Ducrou	10	

NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
9.3	POLICY AND STANDARDS FOR PROPRIETORY SOFTWARE					
9.3.1	Use (Policy Only)	May 86	July 86	A Ducrou	20	
9.3.2	Location of (Policy Only)	May 86	July 86	A Ducrou	10	
9.3.3	Maintenance	May 86	July 86	A Ducrou	50	
9.3.4	Compatibility *see 9.2.6*					
9.4	POLICY AND STANDARDS FOR HARDWARE					
9.4.1	Maintenance	May 86	Aug 86	A Ducrou	60	
9.4.2	Equipment	May 86	Aug 86	A Ducrou	20	
9.5	POLICY AND STANDARDS FOR DATA COMMUNICATIONS					
9.5.1	Types	May 86	Sept 86	A Ducrou	20	
9.5.2	Access To	May 86	Sept 86	A Ducrou	20	
9.6	POLICY AND STANDARDS FOR DOCUMENTATION					
9.6.1	Distribution	May 86	Aug 86	Chris M-M	10	
9.6.2	Format	May 86	Aug 86	Chris M-M	10	
9.6.3	Maintenance	May 86	Aug 86	Chris M-M	10	
9.6.4	Responsibility	May 86	Aug 86	Chris M-M	10	
9.6.5	Forms Design	May 86	Aug 86	Chris M-M	10	
9.7	POLICY AND STANDARDS FOR SECURITY					
9.7.1	Prepare Policy & Standard	May 86	Dec 86	Ilze L-B	60	All
9.8	POLICY AND STANDARDS FOR AUDIT INVOLVEMENT					
9.8.1	Prepare Policy	May 86	Aug 86	P Crewe	20	

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                                                        HOW
NUMBER   TASK                   START    FINISH   WHO    MANY  DEP
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9.9      POLICY AND STANDARDS FOR
         END USER COMPUTING

9.9.1    Prepare Policy and
         Standards              May 86   Sept 86  Chris M-M  30

9.10     POLICY AND STANDARDS FOR
         OCC. HEALTH & SAFETY

9.10.1   Prepare Policy and
         Standards              May 86   Sept 86  W Forsyth  20

9.11     POLICY AND STANDARDS FOR
         ACCOMMODATION

9.11.1   Prepare Standards      May 86   Nov 86   T Wuth     20

9.12     POLICY AND STANDARDS FOR
         ADP PRODUCTION CONTROL

9.12.1   Service Requests       May 86   Sep 86   R Duff     10

9.12.2   Fault Reporting        May 86   Jun 86   Chris M-M  15

9.13     POLICY AND STANDARDS FOR
         PROJECT MANAGEMENT

9.13.1   Prepare Policy & Standards May 86  Aug 86  B Holmes  20

9.14     POLICY AND STANDARDS FOR
         FACILITIES OPERATION

9.14.1   Scheduling             Mar 87   July 87  A Ducrou   10

9.14.2   Service Levels         Mar 87   July 87  A Ducrou   15

9.14.3   Backup/Recovery        May 86   July 86  A Ducrou   10

9.14.4   Consumables            May 86   Aug 86   A Ducrou   5

9.14.5   Operational Procedures
         (Service Agreements)   Mar 87   July 87  A Ducrou   30

9.15     STANDARDS MAINTENANCE
         MECHANISM

9.15.1   Prepare Functional
         Statement              Jun 86   Jun 86   Ilze L-B   5

9.15.2   Assign Responsibility
         for Standards Maintenance Jul 86  Jul 86  Ilze L-B   5

* Other Dependencies: Action Item 2.4
                      Objectives 5, 7 and 11
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OBJECTIVE 10: TO ENSURE THAT SYSTEMS ARE DEVELOPED WITH THE HIGHEST
PROBABILITY OF SUCCESS, WE MUST IMPLEMENT A COMPREHENSIVE
SYSTEMS DEVELOPMENT METHODOLOGY.

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MILESTONES 10.1:  -  Establish Content and Level of Detail
           10.2:  -  Prepare Draft Initial SDM
           10.3:  -  Review Draft
           10.4:  -  Approval of Formal Methodology
           10.5:  -  Implement SDM
           10.6:  -  Assess More Detailed User Needs
           10.7:  -  Develop Enhanced Version
           10.8:  -  Review Enhanced Version
           10.9:  -  Approval of Enhanced Version
           10.10: -  Implement Enhanced Version
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                                                         HOW    *
NUMBER   TASK                  START    FINISH   WHO      MANY  DEP
---------------------------------------------------------------------
10.1     ESTABLISH CONTENT AND LEVEL  21/4/86  14/5/86  B Strutt    2
         OF DETAIL

10.2     PREPARE DRAFT INITIAL SDM    15/5/86  14/7/86  B.Strutt  100

10.2.1   Prepare Documentation

10.2.2   Carry Out Testing

10.2.3   Design Forms

10.3     REVIEW DRAFT                 15/7/86  30/7/86  B.Strutt    2

10.4     APPROVAL OF FORMAL           31/7/86  6/8/86   B.Strutt    2
         METHODOLOGY

10.5     IMPLEMENT SDM                7/8/86   6/9/86   B.Strutt   40

10.5.1   Distribute SDM Package

10.5.2   Train Users

10.5.3   Market Package

10.6     ASSESS MORE DETAILED USER    7/9/86   6/10/86  B.Strutt   20
         NEEDS

10.7     DEVELOP ENHANCED VERSION     7/10/86  1/2/87   B.Strutt  150

10.8     REVIEW ENHANCED VERSION      2/2/87   14/3/87  B.Strutt   30

10.9     APPROVAL OF ENHANCED VERSION 15/3/87  21/3/87  B.Strutt    5

10.10    IMPLEMENT ENHANCED VERSION   22/3/87  22/4/87  B.Strutt   80
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*Dependencies: Objectives 4 and 6

OBJECTIVE 11: TO ENSURE TIMELY IMPLEMENTATION OF THE ADP STRATEGIC PLAN,
WE NEED TO DEVELOP AN AGREED INDUSTRIAL RELATIONS STRATEGY.

MILESTONES 11.1: - AGREED INDUSTRIAL RELATIONS STRATEGY

NUMBER	TASK	START	FINISH	WHO	HOW MANY	* DEP
11.1	AGREED INDUSTRIAL RELATIONS STRATEGY					
11.1.1	Draft terms of reference for Technological Change Sub-Committee (including procedural guidelines)	21/4/86	21/5/86	B Holmes	10	
11.1.2	Obtain Agreement from TCSC members	22/5/86	22/8/86	B Holmes	15	
11.1.3	Obtain approval from management	22/8/86	22/9/86	B Holmes	3	

*Other dependencies: Objectives 4 and 14

OBJECTIVE 12: IN ORDER TO SMOOTHLY RESOURCE THE IMPLEMENTATION OF THE
ADP STRATEGIC PLAN, WE NEED TO DEVELOP AN AGREED POLICY
ON THE USE OF EXTERNAL RESOURCES/CONTRACTORS.
ISSUES INCLUDE:

MILESTONES 12.1: - Agreed policy on use of external resources

NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
12.1	AGREED POLICY ON USE OF EXTERNAL RESOURCES AND CONTRACTORS					
12.1.1	Prepare draft policy	May 86	Jul 86	P Crewe	15	
12.1.2	Circulate draft	Jul 86	Aug 86	P Crewe	1	12.1.1
12.1.3	Finalise policy	Aug 86	31/8/86	P Crewe	4	12.1.2
12.1.4	Refer to Technological Change Sub-Committee meeting	1/9/86	1/11/86	B Holmes	10	
12.1.5	Obtain approval	2/11/86	2/12/86	B Holmes	3	

OBJECTIVE 13: IN ORDER TO FULLY UTILIZE SYSTEMS RESOURCES WE NEED TO
              DEVELOP AN ADP TRAINING STRATEGY.

MILESTONES 13.1: - Training Needs Analysis completed
           13.2: - Skills Acquired
           13.3: - On-Going Review Process Installed

NUMBER	TASK	START	FINISH	WHO	HOW MANY	* DEP
13.1	TRAINING NEEDS ANALYSIS COMPLETED					
13.1.1	Develop ADP Skills Inventory-Based Action Plan	1.6.86	30.8.86	P Jones	10	1.2.2
13.1.2	Assess Current Skills Levels Against Inventory	1.9.86	1.10.86	P Jones	30	13.1.1
13.1.3	Determine Shortfalls	2.10.86	15.10.86	P Jones	5	13.1.2
13.2	SKILLS ACQUIRED					
13.2.1	Develop Training Plan	16.10.86	31.10.86	P Jones	5	13.1.3
13.2.2	Conduct Training	1.11.86	ON GOING	P Jones		13.2.1
13.3	ON GOING REVIEW PROCESS INSTALLED					
13.3.1	Develop and Implement Review Process	1.1.87	15.1.87	P Jones	10	13.1.3

* Other Dependencies: Objectives 5 & 15.

OBJECTIVE 14: IN ORDER TO EFFICIENTLY UTILIZE RESOURCES (COMPUTER/
              INFORMATION/HUMAN), WE MUST DEVELOP AN EFFECTIVE USER
              TRAINING PROGRAM.

MILESTONES 14.1: - General ADP Appreciation by Dept. as a whole
           14.2: - Proper Use of Operational Equipment
           14.3: - Efficient use of ADP Systems
           14.4: - Trained Line Area Operational Staff

NUMBER	TASK	START	FINISH	WHO	HOW MANY	* DEP
14.1	GENERAL ADP APPRECIATION BY DEPARTMENT AS A WHOLE					
14.1.1	Develop Awareness Program and define audiences	May 86	Jul 86	P Crewe	10	
14.1.2	Conduct Awareness Program	Aug 86	O/G	P Crewe	2 per Course	14.1.1
14.2	PROPER USE OF OPERATIONAL EQUIPMENT					
14.2.1	Develop Programs	May 86	Sep 87	P Crewe	15	
14.2.2	Conduct Programs	Sep 86	O/G	P Crewe	2 per Course	14.2.1
14.3	EFFICIENT USE OF ADP SYSTEMS					
14.3.1	Define use and function of each info. system	Jan 87	Dec 89	Chris M-M	]]]]240]]]	Obj.6
14.3.2	Identify data relationships for the users	Jan 87	Dec 89	Chris M-M		
14.4	TRAINED LINE AREA OPERATIONAL STAFF					
14.4.1	Develop training packages for the use of each system	May 86	Ongoing	Chris M-M	700	14.3
14.4.2	Conduct Training	July 86	Ongoing	Chris M-M	5/Course	

*Other Dependencies: Action Item 2.4
                     Objectives 5,7 and 8

OBJECTIVE 15: TO PROVIDE MORE EFFECTIVE SUPPORT FOR DECISION-MAKING BY
SENIOR MANAGEMENT IN THE SHORT-TERM, THE DEPARTMENT ACQUIRE
DECISION SUPPORT SOFTWARE AND ARRANGE FOR FINANCIAL AND
OTHER INFORMATION TO BE MADE AVAILABLE FOR ANALYSIS.

MILESTONES 15.1: - Decision Support Systems in Place

NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
15.1	DECISION SUPPORT SYSTEMS IN PLACE					
15.1.1	Determine requirements for interim decision support systems	May 86	?	J Scott	10	
15.1.2	Examine availability of data			J Scott	10	15.1.1
15.1.3	Evaluate available software			J Scott	20	15.1.2
15.1.4	Acquire Packages			J Scott	5	15.1.2 15.1.3
15.1.5	Implement Packages			J Scott	20	15.1.4
15.1.6	Train Staff in use of packages		?	J Scott	10	15.1.5
15.1.7	Review Effectiveness of Packages			J Scott	10	15.1.5

OBJECTIVE 17: IN ORDER TO IDENTIFY IMPACTS THAT MAY RESULT FROM:
. CHANGES IN POLICY
. LEGISLATION
. GOVERNMENT
. UNIONS
. EQUIPMENT/SOFTWARE SUPPLIERS
. BUDGET CONSIDERATIONS
. EXTERNAL H/W & S/W REQUESTS ETC.
WE NEED TO DEVELOP AN IMPACT MANAGEMENT MECHANISM

MILESTONES 17.1: - Impact Management Mechanism

NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
17.1	IMPACT MANAGEMENT MECHANISM					
17.1.1	Establish an area into which possible impacts can be channelled	Jul 86	Aug 86	B Harris	10	4&5
17.1.2	Educate and advise Dept. of requirement to report to 12.1.1	Aug 86	On-Going	B Harris	4/yr	17.1.1
17.1.3	Assess possible impacts in respect of Systems Branch	Aug 86	On-Going	B Harris	1/mon	17.1.2

OBJECTIVE 18 : TO MAKE THE MOST EFFECTIVE USE OF THE AVAILABLE
                TECHNOLOGY, INSTITUTE A RESEARCH & DEVELOPMENT PROGRAM

MILESTONES 18.1: - Established research plan

NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
18.1	ESTABLISHED RESEARCH PLAN					
18.1.1	Develop R&D Plan (incl "Keeping in Touch" Mech) -Links to project register	15/5/86	15/ 8/86	J Scott	20	
18.1.2	Obtain approval for plan	15/ 8 86	15/ 9/86	J Scott	5	

APPENDIX 2

Public Accounts Committee letter of 25 July 1986
to the Department of Community Services requesting
further information.

The Secretary
Department of Community Services
P O Box 646
WODEN   ACT   2606

Attention: Mr John Simpson

ACQUISITION OF ADP EQUIPMENT ARISING FROM THE FORMATION OF THE
DEPARTMENT OF COMMUNITY SERVICES

I refer to your Department's submission to the Committee for the
acquisition of ADP equipment.

The Committee's advisers have reviewed the submission, and have
raised a series of issues and points of concern, and some
specific questions. These are attached in draft form for your
consideration. The final version will be forwarded as soon as it
is finalised.

I acknowledge that there may be some duplication in the matters
raised, due to the short time available for revision of the
material. Where duplication occurs, please answer the first time
and refer back to the answer where necessary. If the information
has been previously supplied in the submission, please respond by
cross-referencing to the submission.

I regret that the timetable for briefing the Committee on your
proposal is tight, and that in consequence your response is
required by close of business 7 August 1986. If you find that you
are unable to provide all the information sought by that time,
please advise by close of business 4 August 1986.

M J Talberg
Secretary
25 July 1986

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Review of DCS Proposal

Overall Assessment

1. Assuming the Corporate Plan involving restructuring the
    approach to controlling progams is accepted and valid,
    the data flows and suggested systems are in the main
    theoretically valid.

2. DCS has merely provided the consultant's reports and
    has not worked these reports over to the point of
    providing a Departmentally accepted and prioritised
    plan.

2.1   As a consequence there is no sequencing of
      application development and the reality of the
      ability to meet the three year development program is
      in doubt.

2.2   Individual applications are not justified.

3. There is no justification for the sizing of equipment
    selected. What figures are given on transaction rates
    would suggest the proposed computer power is four times
    what should be needed. These figures themselves are in
    doubt as being too high relative to current levels.

4. The figures given for numbers of transactions and
    storage needs do not indicate the base year for which
    they are expected to apply and do not indicate any
    growth. The support for these figures is not based on
    current work loads but on a number of dubious
    assumptions and state proportionate scaling.

5. Staff levels are inconsistent. In one place a request
    is made for 500 terminals to meet a ratio of one per
    six staff indicating 3000 staff; in another an
    AOSL 2500 is mentioned; and in the 1985-86 budget
    actual expenditure a salary bill of $28,986,478 (in a
    total of $33,430,504) would suggest a staff level
    nearer 1000.

6. The budget figures just mentioned are not consistent
    with the quoted cost of current services (unless that
    item does not appear as a budget figure).

7. Based on figures provided by the suppliers of the
    development methodology used by the Department's
    consultants, the development manpower costs quoted
    would appear to be about half what they should be. A
    considerable portion of this shortfall is in
    underestimated system testing, acceptance testing and
    implementation. Fourth Generation Languages can only
    affect programming time which represents about 20% of
    total costs.

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7.1   The difficulty of staffing and training the numbers required suggests that a three year schedule is unrealistic even for only those applications considered vital. Accordingly the development cost and the realisation of benefits and their timing could remove any benefit.

8.   The consideration of options is not well presented. If the confusions between possession and control, between central development and local processing control, are removed many more options arise. Possibilities include

8.1   Medium sized machines in Melbourne, Canberra and Sydney.

8.2   Facilities management contract for the provision of processing power backed by a service level agreement.

8.3   Use of a commercial service bureau (e.g. A.C.I. Computer Services) to provide state level processing coupled with a central office facility.

8.4   Obtaining software from other Departments (possibly with implied choice of machine supplier).

9.   Other areas of doubt include:

9.1   Costs of controllers and disk drives needed to provide an operating base in each state.

9.2   Two tape drives per state would seem a minimum need for processing practicality and for contingency purposes.

9.3   Site preparation for multiple sites is likely to be greater than for a single larger site.

9.4   Communication line costs should be lower for a decentralised approach. Line costs are not given for recurring charges.

9.5   Software licence fees for a decentralised situation of 8 sites are likely to be 2 to 3 times the charges for a two processor single site.

9.6   The number of support staff for the decentralised case seems underestimated. Also if fewer staff are used their multi-skill talents places their costs nearer the CSO3 level.

9.7   Using two different manufacturer's equipment for the centralised versus the decentralised option confuses the evaluation with considerations of equivalency.

9.8   Maintenance and training costs seem underestimated and ongoing development is ignored. Training must include whole Department not just DP.

10.   The cost benefit analysis is dubious in a number of ways.

10.1   All options not given.

10.2   The costs and benefits of each are not independently stated. If continued use of DOH/DSS were adopted, costs of development are included and some of the benefits would accrue.

10.3   Some of the benefits accrue from restructuring the method of working and are not dependent on even a computer system let alone a particular option. Such benefits should not be attributed to the computer.

10.4   Reduction in cost of present processing is not valid. The staff have been assumed to move from present work to the new mode but their salary costs of about $1.5 million are not included in the recurrent costs.

10.5   Tape drives were omitted from the "Option B" costs.

10.6   No consideration of installing lower powered equipment and upgrading in 3 years time.

10.7   No equipment considered beyond 1989/90 yet phased acquisition would indicate a spread, additional terminals would be required (to increase the ratio of staff) and equipment upgrades needed.

10.8   Machine prices are not substantiated.

10.9   Benefits not substantiated and can be expected to build up to the maximum values over a few years.

10.10   Salary level chosen is not consistent with CSO levels needed.

11.   There are several items missing from the submission.

11.1   Summary ADP plan.

11.2   Acquisition options.

11.3   Action plan.

11.4   Staff levels in Industrial Issues.

11.5   Quantitative evaluation of risks of not proceeding.

11.6   Job impact statement.

Review of DCS Proposal

Questions for DCS

A.   Completion of Response

1.   The Department has taken the trouble to respond to the Committee's specified requirements. However, there are a number of weaknesses.

1.1   The Executive Summary does not describe the equipment requested and is weak on justification.

1.2   ADP Objectives are not expressed in quantitative terms.

1.3   The Post Implementation Review of current systems is not related to the objectives and is not quantitative.

1.4   The other options discussed were very limited and do not address acquisition options as requested.

1.5   The Technical Issues section needs to address hardware and software considerations and for all options.

1.6   The action plan is inadequate. It does not indicate priorities, scheduling of development, manpower allocation by time.

1.7   Industrial Issues section indicates good coverage of consultation and O.H.&W., but does not address staff levels.

1.8   Australian Industry Participation section gives no indication of how or why or to what extent participation should occur under the different options.

1.9   Discussion of the method of acquisition is not adequate. Only open tender capital purchase is considered.

1.10   Consultation did not include Audit Office. This is desirable in view of the claims of no difference in the auditability of the options and the implication of all being easily audited.

1.11   The consequences of not proceeding are not presented objectively or quantitatively.

1.12   Consideration of the impact of a full Department's work based on a "Fourth Generation Language" has not been included in the section on advanced technology. A plan based on this approach will run into staffing problems (availability and training) and equipment performance problems.

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1.13   No job impact statement has been provided.

B.   Substantiating Details

Will the Department please provide substantiating details on the following aspects? This substantiation should include reference to current computer applications where relevant.

1.   Sizing

1.1   Processing requirements need details on transaction rates by application indicating current (manual and computer), anticipated on implementation of the application and expected pattern with time.

1.2   Processor power requirements need justification. Current computer time usage by application should serve as the basis. The DCS may wish to consider time x (MIPS rate) as a measure which would normalise the usage. No indication is given of batch processing requirements.

1.3   A rationalisation is provided for the 15,000 MBytes of the proposed central configuration. Justification is required of the 7000 estimate for overheads.

1.3.1   Further justification is required for the Office Automation figures of 6000 MBytes.

1.3.2   Analysis is required of the disk usage in options other than the central option.

1.4   Tape numbers appear odd. Given the described environment it would seem likely that two tape drives and a tape controller would be required for each computer system.

1.5   Printer requirements need justification by way of expected print volumes on a peak load basis.

1.6   Line traffic is required to support line speed needs and hence line costs.

2.   Applications

2.1   Individual applications require justification. The statement that "All the proposed systems are considered essential" cannot be accepted as valid. A number of the minor applications (e.g. FOI, correspondence) may not justify the costs of development. Substantiation by way of volumes, current manpower used and expected growth factors should be provided.

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3.   Cost Figures

3.1   Substantiation by way of configuration details and vendor provided indicative cost estimates are needed.

3.1.1   There seems to be a discrepancy in disk storage costs which needs justification or correction. Decentralisation implies more disk controllers as well as more disks.

3.2   Network cost figures require justification. This should allow for contingency needs as well as peak loads and acceptable transaction transmission times. It is unlikely that network costs would be the same for all options since traffic will vary.

3.3   Building set-up costs need substantiation. It is hard to see that either a central site can be purchased and fitted out for $2.5 Million or that multiple sites can be set up for the same money.

3.3.1   Why is there no provision for increase in space needs with time?

3.4   Annual costs for telecommunications need justification for each option.

3.5   Software licence costs need justification in all options. It does not seem reasonable that a two processor single site should incur higher licence fees than ten processors in nine sites.

3.6   Benefits claimed need substantiation by

3.6.1   Comparison of staff savings with current staff employed in the same roles.

3.6.2   Provision of magnitude of current costs (e.g. consultancies and emergency aid to providers in difficulty) where benefits are attributed to saving of costs.

3.6.3   Consideration of effect of learning curves, particularly regarding "effectiveness" benefits. These will start at a lower level and increase as staff become more experienced (assuming staff turnover is not great).

3.6.4   Reference to current bed-days costs and expected reductions in bed-days and/or bed-day cost.

3.6.5   Commitment to recovery of costs by way of reduced operating budget in future years.

C.   Revision Required

1.   Incorporate requirements for completion and substantiating details.

2.   Provide an application development plan and schedule which overlaps Departmental priorities on top of the data dependent sequence and identifies (and costs) interim or bridge systems needed.

     This plan should take into account the realities of obtaining and training development staff and providing them with accommodation and computer facilities.

3.   Provide a phased equipment installation program to match the application development schedule as well as phasing in by state. In all options, there are good economic reasons to instal with lower power and less disk space and upgrade later.

4.   Provide some estimates of additional equipment needs beyond the three year period. This should depend on the application development plan, equipment phasing, expansion of terminal usage and so on.

     Note that the Parliamentary Accounts Committee has already voiced its disapproval of funding terminal, work station and word processing equipment to a greater extent than, and out of appropriations other than, those identified in equipment submissions.

5.   Provide evaluations based on configuration pricing from a single supplier. This will avoid confusing vendor pricing differences with differences due to the options, and be consistent with requirement for a uniform architecture. Vendor differences may be added as a second stage.

6.   Include tape drives and controllers in the cost benefit analysis.

7.   Relate data storage needs to time. Not all requirements, even if justified, can be used effectively immediately and there must be some further variation of needs with time. A revision of requirements is needed.

8.   Staffing costs throughout need to be brought into line with consistent rates related to the skill levels needed and the PSB 1.85 factor to allow for overheads.

9.   The cost benefit analysis for "Option B" needs to be adjusted. Cost of continuing present usage until new systems are phased in is valid, but as these are phased out, the manpower (48 people) moves across to

Option B costs. These manpower costs have been omitted. Even on the argument that under PSB guidelines they are a common cost and can be omitted, adjustment is required as the figure of $4.23 Million includes about $1.4 Million for these staff.

10. Other Costing

10.1 Training costs need adjustment to allow for training of non-DP staff in use of the systems and in training of DP staff with a higher load in the earlier stages and where there is a "culture shock" in moving to DCS equipment, changing vendors, use of 4GL, etc. These costs would be expected to vary with option.

10.2 The first option includes upgrade of DSS/DOH and presumably current staff carrying out system upgrades and development. In these circumstances some of the benefits from the revised applications should accrue. The cost benefit analysis should be revised to include such benefits in Option A and not attribute them all to Option B.

11. Benefits for Option A (and other options) should be evaluated and included.

Review of DCS Proposal

Points of Concern

1. Development Costs

1.1 If SDM/70 is the basis of estimating and the SRD/SDA and SFS estimates are good, the total manpower needs are about half what SDM/70 would predict.

1.2 The significant areas of shortfall are system testing, conversion, implementation and post implementation reviews.

1.3 No costs have been included for the development of support facilities other than problem management. Obtaining a single image will require development of security management software. Monitoring and performance timing will also need cross domain controls.

1.4 No consideration is given to ongoing development costs, yet stress is placed on the need for ongoing change. Possibly this is meant to be included in "Software Maintenance" recurrent costs, but if so the number of people seems low and licensed software maintenance charges would seem to have got lost.

1.4.1 Arguments on flexibility for organisational change seem suspect. If development is central, the programming changes to reflect the organisational change are done centrally and there is no difference between computing options - in fact the centralised option would be quicker.

1.5 Development costs would be greater to support the decentralised approach where state level corporate data is in one machine and may need to be addressed from all locations, and data needs to be summarised and transmitted for central office use.

2. Sizing

2.1 If 40,000 transactions per day is a real figure, and assuming 1 million intructions per transaction (allowing 100% increase over IBM estimates for the effect of 4GL), then a 2MIP machine would carry out the required processing in about 5.5 hours.

This analysis is simplistic through effects of wait time and transmission times, but as these would be overlapped to a large extent for transactions from different locations, it does give an indication of the needed size of a central installation. Hence a single 3090/150 or even a 4381 would be enough.

2.2	Applying similar arguments to state systems suggests Sydney needs a machine capable of only .5MIPS.
2.3	If intelligent workstations are used, each with 20MB hard disk, would not a proportion of the disk needs for Office Automation be distributed out to the workstation (regardless of the option chosen)?
2.3.1	Further, would not some of the location unique applications be moved out to the workstation with some upload of historical or status data? Examples are FOI, LIBRARY, REGISTRY, CORRESPONDENCE, STATISTICS and possibly ASSETS. Admittedly some of these might need larger local disk.
2.3.2	By the time some of the read-only applications are implemented, it is likely that W.O.R.M. laser disks would be in use.

3. Contingency Planning

3.1	The comments on contingency planning are too facile. Has any consideration been given to the way in which contingency backup would be implemented?
3.2	Contingency requirements will affect equipment size and communications costs (capital and ongoing). No allowance seems to have been made.
3.3	Ongoing testing is needed to keep contingency plans effective, particularly in view of staff turnover. Costs are not indicated.

4. Staffing

4.1	Availability of suitable skills is suspect.
4.2	Maintenance allocation in recurring costs should vary with option and be greater for the more decentralised versions. In absolute numbers an annual cost of $100,000 representing 1.5 people is unrealistic.
4.3	Where low numbers of operational support staff are provided, they must correspondingly be multi-skilled (as recognised by the consultants) and accordingly higher priced.
4.4	Staff turnover and the implications of this on training, development and benefit realisation are not considered.
4.5	There does not seem to be any provision for contract staff or contract development work. Rates to agencies are likely to be greater than 1986 CS03 oncosted rates.

5. Options

If one removes confusion of physical possession with control, there are other options open which have not been considered. These include

5.1	Use of commercial bureau services for state level processing (with appropriate service level agreements), and a smaller central office system.
5.2	"Regional Decentralisation" with a Central Office site; a Melbourne site servicing Melbourne, Adelaide, Perth and Hobart; and a Sydney site servicing Sydney, Brisbane, Darwin (and ACT state level).
5.3	Use of a Facilities Management approach to providing processing capacity. As with Bureaux, a service level agreement would be needed and DCS would not directly provide operating staff or operating system and network maintenance.
5.4	Equipment rental, at least until the major applications are installed and real needs determined. (This might lead to a Certificate of Exemption at a later date and hence acquisition procedures would have to include cost of transition).
5.5	Availability of software from other Departments. This is partly referenced but there seem to be many, basically administrative, areas where DCS needs are identical with other Departments. This obviously mostly excludes the program delivery applications, but development costs could be significantly reduced albeit at the expense of restricting the potential suppliers.
5.6	No indication is given of the evaluation methodology to be adopted, particularly where vendors might propose different solutions.

6. Overall Costing

6.1	Current DCS budget is about $33 Million for expenditure of $1900 Million.
6.2	Running costs of $6 Million plus a notional amortised equipment cost of about $6 Million (both of which figures need justifying) is excessive relative to $33 Million.
6.3	Comparison of DCS costs with those of information intensive industries such as Insurance and Banking suggests annual DCS costs (including amortised equipment costs) should be in the region of about $2 to $3 Million per annum.

7.   Sensitivity Analyses

7.1   The major concern is over the effect of a year's
       delay in the benefits.

7.1.1   If concerns about staffing are right, the delay
         will be greater than allowed for in the sensitivity
         analysis.

7.1.2   If some benefits are not related to the computer,
         then the effect is greater.

7.1.3   However, if concerns over sizing and phasing are
         valid, the actual costs should be lower.

8.   Security and Privacy

8.1   Implied in the proposal is data sharing with other
       bodies. There appears to be little consideration of
       the impact of the need for privacy control on the
       software or hardware needed.

8.2   Protective measures even within DCS are barely
       mentioned (and not costed).

8.3   What security concerns are addressed seem to be
       oriented more to access to the system rather than
   resources within it.

APPENDIX 3

Department of Community Services supplementary
submission of 7 August 1986.

COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF COMMUNITY SERVICES

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Sharing Community Care

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COMMITTEE

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Joint Parliamentary Committee of
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Parliament House
CANBERRA   ACT
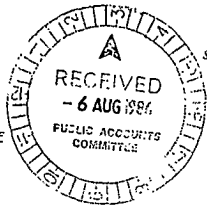
ACQUISITION OF ADP EQUIPMENT - DEPARTMENT OF
COMMUNITY SERVICES

Attached is the Department of Community Services response to the points of concern and questions raised by the Committee's advisers on the Department's proposal to acquire computing facilities.

The Department wishes to thank the Committee for providing the opportunity to elaborate further on some of the matters covered in the original Submission. However, the Department notes that many of the issues which have been raised in the Committee's critique have been covered, in our view adequately, in the primary documentation put before the Committee.

The attached response deals in some detail with the specific issues that you have raised and refers you to the supporting documentation already provided where appropriate. The introductory section details the format of the Department's response and a cross referenced index of questions and responses is also provided for your convenience. This relates the Department's replies to each of the three distinct sets of specific issues that you have raised.

The Department has some concerns about the thrust of the Committee's critique which seems to deal more with issues of detail than of strategic appropriateness. We had understood that the Committee's charter was to broadly confirm the overall strategic rationale of acquisition plans such as this including issues of viability, cost effectiveness and management support, commitment and capability. In this context we would not want the significant efforts we have applied to strategic planning and corporate analysis to be lost sight of through an undue emphasis on operational level detail.

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2

It is important to state here that this proposal has the full support of the Department's Executive who have been closely involved in managing the development plans now under consideration. All strategic aspects of this project have and will continue to be controlled at this level. The Department recognises that considerable detailed developmental work still remains to be done. However, we firmly believe that the strategic framework contained in our submission provides a sound basis on which to proceed.

In considering this proposal it is important that the Committee appreciate the Government's overall objectives for the Department, namely to develop and co-ordinate policy and planning in the social policy field and to deliver a broad range of community programs to areas of greatest need. Implementation of this proposal will enable the Department to meet these objectives and ensure that available welfare funds are delivered to the most needy in the most efficient manner.

It would be appreciated if you could confirm the date and place of any Committee hearing as soon as possible so that the Department's Executive can schedule their timetables accordingly.

JOHN R SIMPSON
Acting Deputy Secretary

7 August 1986

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RESPONSE TO QUESTIONS
FROM
JOINT PARLIAMENTARY COMMITTEE
OF
PUBLIC ACCOUNTS

ON

PROPOSAL TO ACQUIRE COMPUTING FACILITIES
FOR
DEPARTMENT OF COMMUNITY SERVICES

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AND POINTS OF CONCERN

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POINTS OF CONCERN

1 INTRODUCTION

1.1 Structure of response by the Department to JPCPA issues and concerns.

1.1.1 The advisors to the Committee have raised a number of issues, points of concern and questions about the Department's Submission to the Committee to acquire computing facilities. These matters raised fall into two broad categories. One category contains matters of detail, which are grouped and addressed specifically under several major headings within the body of this response.

1.1.2 The second category deals with matters of strategy. These also are addressed specifically within the response. However, given that strategy determines detail, the Department is concerned that in their critique of the Submission, the advisors to the Committee seem to reflect a quite different perception about the Department's computing strategy. This apparently different perception is shown by the thrust of many of the questions and issues raised in the critique.

1.1.3 Because the Department's strategy forms the foundation for the whole of its Submission for the acquisition of computing facilities, it is most important that any differences in perception about that strategy should be clarified and resolved at the outset. Therefore, while these strategic matters are discussed in detail within the body of the response, three major issues are discussed in general in Section 1.2 within this Introduction.

1.1.4 The Department has found it useful to collate all the issues, points of concern and questions of the critique, under several major headings, to ensure that the Department's response is concise, and also that it deals completely with each of those items. These major headings form the structure of the remainder of this response. Within each Section, there is specific reference to each of the numbered items of the critique.

1.2 Issues of Strategy

1.2.1 There are three major issues that are at the heart of the Department's submission:

- what is the nature of the computing facilities needed?

- what is the best way such facilities can be grown?

- what need is there for local responsibility and responsiveness?

1.2.2　The nature of the facilities required by the Department, is not of the type whose primary objective is to replace with more efficient tools, a set of functions currently being performed by existing systems (of people and facilities). The problem is essentially that the Department cannot perform its functions properly without either proper computing facilities, or more staff. The workload of the Department is not that of a conventional high volume transaction-based system, supporting repetitive functions and considerable enquiry and update activity. The drift of a number of questions in the critique, clearly reflects this misconception about the nature of the Department's work and the facilities it needs.

1.2.3　There was a time when commentators argued that an online system was unnecessary, because all the transactions could be processed in batch mode. So they could. That line of argument lost currency during the 1970s, as the tedious cycle of batch edit and error correction was supplanted by the immediacy and accuracy of the online systems. In the 1980s, we are clearly using computer networks for the rapid, efficient and accurate transmission of information among different arms of an organisation, for the timely collection and aggregation of that information, and for its manipulation and reporting so that sound operational and policy decisions can be made. Furthermore, in the Department's case, it is critical that it exercises thorough control over its welfare budget. It must ensure that it operates efficiently, and above all, that its services are effective and appropriate in the sense of being targeted to areas of greatest need.

1.2.3　It is to meet these purposes, that the Department has developed its computing strategy.

1.2.4　The next major issue is that of the stages of growth. It is desirable that any organisation builds its computing facilities steadily. Given the need for the type of system just described, how is

this best achieved? Is the best course to acquire a pre-owned centralised computer, and to run a small network off it to begin with? What happens as the load grows, and the network extends? Will the Department suffer considerable costs of migrating later to a more enduring computer and network architecture? Will such a move be constrained by the need for compatibility with the initial hardware, network architecture, and software? Will the Department find that it is locked in by that initial acquisition, an acquisition which in the government sector offers little by way of choice of architecture, for it depends entirely on what second-hand systems might be available at the time.

1.2.5　A set of computing facilities of the kind required by the Department cannot be grown without a clear plan, and a deliberate plan. It cannot be grown by a series of ad hoc steps. The Department's plan for computing facilities is thoroughly grounded on its prior substantial work in the development of a clear statement of corporate goals and objectives, and of the information strategy required to support them. The ADP strategy has emerged directly from that information strategy: it is a clear and deliberate plan.

1.2.6　Furthermore, the proposal put forward by the Department does specify an evolutionary growth, where the backbone of the network is laid first. It is to be augmented progressively as the load increases and as the Departmental user staff become more skilled in using the facilities, so requiring greater services and levels of service.

1.2.7　Finally, the third strategic issue is one of responsibility and responsiveness. It is useful to consider the whole intent of program budgeting and the Financial Management Improvement Program. Their intent is to ensure not merely accountability, but sound management and responsibility for results. In selecting the option for distributed processing facilities, the Department deliberately recognises the need for its management and staff to be able to control far more directly their own facilities, to obtain from those facilities the kind of responsiveness that they need, and as a result use them far better than would be the case with a centralised or bureau-based system over which they would have no direct control. This proposition is entirely consistent with the management style of the Department.

1.2.8   These three strategic issues have been discussed
here at this point because they are fundamental to
the original submission by the Department and
because a complete understanding of their
significance does not appear to be reflected within
the critique offered by the advisors to the JPCPA.

1.3   General comments on major items.

1.3.1   Purpose of systems.

The Department is very clear indeed about the
application systems it wishes to develop on its
proposed computing facilities. It deliberately
commissioned a significant study whose first phase
was to define and document the goals and objectives
of the Department. The study then proceeded to
define the required information strategy to support
those objectives. The ADP plan itself was founded
on that strategy. Considerable numbers of
Departmental management and senior staff contributed
throughout to the findings of this study, both by
way of direct input, and through continuous review
and final endorsement.

Upon the completion of the study's first three
phases, the Department held planning sessions, and
is now about to commence detailed analysis as the
first stage of progressive systems development.

To propose that the Department has not thought
through in detail its purposes for the proposed
computing facilities is to ignore the substantial
work that has been performed so far, work that has
gone to much greater depth than has been the case
for almost all proposals for computing facilities of
this scope that have been submitted to date in the
Federal Government sector in this country.

1.3.2   Sizing

The critique provided by the advisors to the
Committee, raises a number of questions about the
accuracy and reasonableness of the estimates of
required hardware capacity of the facilities. In
its response, the Department specifies in detail the
background calculations on which those estimates are
based. These background calculations should resolve
any concerns about the appropriateness of system
sizing.

1.3.3   Options

Any extension of the chain stretching from the user
responsible for the effective and correct use of a
system, to the system itself, weakens the control
that can be exerted by the user over that system,
simply because there are more links in the chain,
more chances for communication failures, for
misunderstandings, for confusion about priorities.

To enhance that immediacy of management over the
system, and to encourage direct local responsibility
for use of system facilities (as well as for other
reasons such as overall reliability through
intrinsic backup, and flexibility because of the
modularity of system components), the Department has
chosen as its most effective option the proposed
distributed processing system. Lack of possession
simply makes it so much harder to exercise sound
control.

1.3.4   Costs

There is some difference of opinion between the
Committee's critique on matters of costs, and the
Department's detailed response to each of the
questions raised.

1.3.5   Staffing issues

The critique raises several detailed questions,
which are addressed in the detailed response of
Section 6 below. However, there is one point which
is of general significance that is worth noting
here. It concerns the issue of whether the
Department can manage, within its proposed
timetable, what it is setting out to do.

The point is well raised. It will be difficult for
the Department to meet its timetable. To date, it
has. To continue to do so, it will need additional
resources, drawn from both within and outside of the
Public Service. These resources have been specified
within the Submission, and further explained in the
responses below. Being aware of the complexities of
this project the Department is nevertheless
confident of its abilities to successfully manage
the acquisition and implementation processes.

1.3.4   Other matters

These are matters of some variety and detail,
relating to plans, security, privacy, audit,
acquisition, and to the comprehensiveness of the
Submission itself. Again, matters raised typically
do not traverse areas of strategic significance and
are best considered in detail in Sections 7 and 8
below.

2   **PURPOSE OF SYSTEMS**

2.1   This section addresses queries concerning the purpose
        and justification of the proposed information
        systems. Answers are provided for points 1 and 2 of
        the Overall Assessment, B2. and B2.1.

2.1.1   The Department's information systems requirements have
        been developed using a rigorous and soundly based
        analytical methodology. The methodology adopted by
        the Information Services Consultancy is very much a
        'text book' approach and has been recognised and
        supported as such by a number of Departments and
        industry representatives. It hinged on starting from
        first principles, that is, establishing an agreed
        Corporate Strategy as the first stage. The Corporate
        Strategy provided the framework and foundation for
        developing Information and Systems Strategies which
        directly support the Department's overall goals and
        objectives. You agree in point 1 of the Overall
        Assessment that 'the data flows and suggested systems
        are in the main theoretically valid'.

2.2   The Department disagrees with the assertions made at
        points 2 and 2.1 of the Overall Assessment.

2.2.1   The Information Services Consultancy involved
        widespread participation and consultation with
        Departmental officers at all levels, from all Program
        and Corporate Service areas, from Central Office and
        all States. A number of senior Departmental officers
        worked closely with the Consultancy team.
        Consequently the proposal to introduce the strategic
        information systems is widely and enthusiastically
        supported throughout the Department.

2.2.2   The conduct of the consultancy was managed by the Department at the Executive level and monitored at four distinct levels within the Department. Systems Branch in Central Office provided day-to day support and the first level of review. A Standing Committee consisting of all First Assistant Secretaries in Central Office and a State Director regularly reviewed the work undertaken by the Consultancy team after written comments were provided from all States and Program areas. A Steering Committee (chaired at Deputy Secretary level and comprising Senior Departmental Management, some State Directors and high-level representatives from the Department of Finance, the Public Service Board and two Victorian State Government Welfare Departments) was responsible for regularly reviewing and shaping the overall strategic directions. The Management Group, the Department's peak corporate decision-making body, provided the ultimate level of review and approval.

2.2.3   An iterative approach was used by the Department to review and gain widespread internal approval for all volumes of the Consultancy Report and the ADP Strategic Plan. All draft reports were reviewed and significantly reworked by Systems Branch, amended again after consultations with Program Heads and State Directors, and were finally endorsed by the Steering Committee. The ADP Strategic Plan, an appendix to Volume 3 (the Systems Strategy) was endorsed by the Secretary on 4 April 1986.

2.2.4   As the first stage in implementing the ADP Strategic Plan, the Department conducted an Intensive Planning Conference to translate the high-level strategies into an agreed Action Plan. A Departmentally accepted and prioritised Applications Development Plan is one of a number of detailed plans that have been identified as action items, and the Department has commenced work on these lower level plans. Given the relatively early stage of the acquisition, implementation and systems development processes, not all of these detailed plans have been finalised to date. Further implementation issues are discussed in section 7 of this response.

2.3   The Department considers that it has justified individual applications and makes the following comments (2.2 of Overall Assessment, B2.1).

2.3.1   Figure 6.3.1 of Volume 2 details the expected use of the proposed systems and hence links each system to functional areas of the Department. The Cost/Benefit Analysis at Attachment A of the Submission provides a detailed cost justification by functional area and indicates that the introduction of the proposed information systems will provide significant savings.

2.3.2   The projected benefits of $8.52M for the final year of implementation (1989/90) for the the Victorian State Office alone more than justifies the estimated $6.5M required to develop all the strategic information systems.

3 SIZING

3.1 This section addresses concerns about the justification of sizing requirements for the proposed distributed architecture. Answers are provided for points 3 and 4 of the Overall Assessment, Points of Concern 2.1 and 2.2 and B1, C4 and C7.

3.2 The Department disagrees with the assertions at points 3 and 4 of the Overall Assessment, Points of Concern 2.1 and 2.2 and B1.1 and makes the following points:

- As stated at section 1.6.1 of the Submission, and at Attachment C of Volume 3, the sizing estimates have been presented in terms of <u>logical</u> transactions (40,000 logical transactions per day nationally for all the strategic information systems by the final year of implementation, 1989/90).

- The logical transaction rate requirements for each of the strategic information systems were developed after wide consultation with relevant Central and State Office Program and Corporate Service areas.

- From previous experience, supported by advice from its consultants, the Department considers that on average each logical transaction will consist of 5-6 physical transactions.

- Using your own formula for a <u>centralised solution</u> offered by your advisers in Points of Concern 2.1, and assuming that the bulk (80%) of online transactions will be performed over a 6 hour period (ie: core time), and that batch processing will be performed outside of this period, online processing for strategic information systems alone in 1989/90 will require <u>7.41 to 8.89 MIPS</u> of processing capacity.

  ie: <u>(trans. in core time * avg. instr. per trans.)</u>
        (millions of instructions in core time)

  ie: <u>(40,000 * c * 0.8 * 1,000,000)</u>
        (6 * 3,600 * 1,000,000)

  where c is the logical to physical conversion rate (5 or 6)

  = <u>7.41 to 8.89 MIPS</u>

- In addition, it is estimated that the overheads required for the development and maintenance of the strategic information systems, and for end-user computing will amount to approximately 50%. Therefore the projected total processing capacity required for 1989/90 under a <u>centralised solution</u> is in the range of <u>11.12 to 13.33 MIPS</u>.

- Further, it is estimated that the logical transaction growth rate from this base year (1989/90) will be in the order of 5% per annum. Over the remaining 6 years of the analysis period this compounds to a factor of approximately 1.34. Therefore the total processing capacity required for the final year of the analysis period under a <u>centralised option</u> is estimated to be in the range of <u>14.9 to 17.86 MIPS</u>. Given that by the final year the development overheads will be minimal, the Department considers that the total capacity requirement will be closer to the lower end of this range (ie: in the order of 15 MIPS).

- A distributed solution requires further capacity overheads to cater for the impact of running multiple sets of operating systems, data base management systems and related systems software. The Department considers that these overheads over the 8 distributed sites will total to around 80%.

- Therefore, the total processing capacity required for a <u>distributed solution</u> for the final year of implementation (1989/90) is estimated to be in the range of <u>20.02 to 24.0 MIPS</u>. Similarly, the total capacity requirement for the final year of the 10 year analysis period is estimated to be around <u>27 MIPS</u>.

3.3 In response to Points of Concern 2.3, 2.3.1 and 2.3.2, the Department makes the following points:

- The reference to 20 MB of hard disk storage per microcomputer is incorrect. As stated in section 7.1.6 of the Cost/Benefit Analysis, and at Attachment D of Volume 3, the average microcomputer storage requirement has been estimated at 10 MB. This storage capacity will be used mainly to support personal processing and to allow for downloading and manipulation of state or national data.

. To ensure that risks to the integrity of the
Department's data are minimised, all strategic
systems and data, including Office Automation
systems, will be centred on the minicomputers.
That is, a high degree of control will be
exercised to maintain the integrity of both data
and operational systems.

. In response to Point of Concern 2.3.2, the
Department will evaluate the impact and potential
use of new technology as part of the tendering
process. Also, the Systems Branch has an ongoing
responsibility to regularly review computer
industry trends and potential applications for
new technology.

3.4 The issues raised in B1.1 have already been dealt with
in 3.2 above. In response to assertions made at B1.2,
the Department makes the following points:

. Comparisons of current systems transaction rates
to projected transaction rates for the proposed
strategic information systems are not valid. The
existing applications only support a small part
of program functions (typically the more
repetitive accounting functions), are not
integrated, are based on old technology and are
inefficient and do not address at all the broader
policy co-ordination role for which the
Department is responsible. Clearly any
extrapolation from current resource usage to
predict capacity requirements for the proposed
equipment would be unreliable.

. The existing systems currently use about 5 MIPS
of processing capacity (about 4 MIPS on the DSS
mainframe and about 1 MIPS on the DOH
mainframe). The Department notes that this
figure has been incorrectly quoted on page 12 of
the submission as 12 to 14 MIPS. However, as
outlined in 3.2 above, the sizing requirements
for the proposed equipment have been based on
projected transaction loads for the strategic
information systems (not on current systems
resource usage), and are unaffected by this error.

. As stated in 3.2 above, the bulk of batch
processing will be performed outside of online
processing hours and will therefore not affect
overall processing capacity requirements.

3.5 In response to issues raised at B1.3, B1.3.1 and
B1.3.2, concerning storage capacity estimates, the
Department makes the following points:

. It has been estimated by the Consultancy team
that 7 gigabytes will be required for a
centralised solution to cover the following
overheads:

 − Operating system

 − Other support software including:

  . Data Base Management Systems
  . Decision Support Software
  . Security
  . Performance Monitoring and Accounting
  . Time Sharing System/TP Monitor

 − Applications software (strategic and
  end-user)

 − Spooling and Paging

 − Production Data Base backups

 − Transaction logging

 − Production and Development Time Sharing

 − Development files and test data bases

 − Training files.

. The 6 gigabyte estimate for Office Automation has
been based predominantly on word processing and
electronic mail requirements. It has been
calculated on the basis of providing storage and
backup capacity, from the final year of
implementation (1989/90), for up to 200,000 word
processing and electronic mail documents (with an
average page length of 6 pages each) at any one
time.

. The Department expects to support around 1,000
Office Automation users (representing around 6
megabytes per user).

. The Department disagrees with the assertion made at B1.3.2. Disk usage has been calculated for the distributed option by adding a 100% increase to the centralised requirements to allow for duplication of the overheads outlined in 3.5 above, and for some duplication of corporate data. As such, the Department has estimated and costed for a distributed solution storage requirement of 30 gigabytes (refer to Attachment A p.83, of Volume 3).

3.6 In response to B1.4, the Department makes the following points:

. At this stage, the Department intends to only use tapes for second-level backup and for data transfer to and from other organisations. This requires only 1 tape drive and controller for each major site, with the smaller sites (Hobart and Darwin) being supported across the network by Central Office.

. Exact tape requirements will be supplier dependent and will not be known until the completion of the tender evaluation process. However, any extra tape requirements would be offset by a compensating reduction in disk storage.

3.7 In answer to issues raised in B1.5, the Department notes:

. For estimate purposes, printers have been allocated as follows:

- one per minicomputer (2 for Central Office and 1 for each State Office), and

- one extra printer in Central Office to handle peak period overflow printing for all sites via the network.

. The Department has not performed a detailed print volume analysis at this stage. This will be done as part of the RFT preparation.

. Cost estimates were based on advice from the suppliers for the average printer sizes needed for the various CPU sizes. On this advice, the average cost per printer is around $30,000 and the Department is confident of this estimate.

3.8 In response to B1.6, and as stated in section 3.3.5(b) of the ADP Strategic Plan, more detailed line traffic volume estimates and line speed requirements will be determined during the RFT preparation. The Department also makes the following points:

. The line speeds used for costing purposes are consistent with requirements for other Departments (for example DSS and DIEA use 48 kbps leased lines for the Central Office to major State Office links, and 9.6 kbps leased lines for links to the smaller States).

. The Department intends to perform some backup across the network. This requires high-speed lines.

. Leased line charges are independent of line traffic volumes.

3.9 In response to C4, the only foreseeable extra equipment requirement may be extra terminals to bring the ratio of terminals to staff in line with other Departments. This potential requirement would have to be evaluated as part of a Post Implementation Review conducted some time after the final year of implementation (1989/90).

3.10 In answer to C7, the Department has previously provided a projected breakup of storage costs over the implementation period in section 7.1.3 of the Cost/Benefit Analysis. A more detailed analysis relating data storage needs to time will be performed as part of the RFT preparation process.

4. OPTIONS

4.1 Points 8 and 11.2 in Overall Assessment, point 5 (Points 5.1 to 5.5 inclusive) in Points of Concern and A1.4 raise a number of issues relating to the options that the Department has considered. However, in the way in which you have presented and expressed these points, there seems to be some confusion between options and acquisition methods.

- Facilities management (Overall Assessment 8.2, Points of Concern 5.3) by the successful tenderer is an important consideration and the Department's RFT and Evaluation Methodology will reflect this. However, it in no way influences the Department's preference for the distributed option.

- The facilities management approach has substantial Industrial Relations ramifications in that career avenues for Departmental staff are reduced. The Department will proceed with caution if it pursues this method.

- The Evaluation Methodology (Points of Concern 5.6) is a matter for the acquisition process and will be prepared at the same time as the RFT in accordance with DOLGAS guidelines (see 7.6.4 of this reply).

4.2 The Department would disagree that there is confusion between possession and control. Experience has shown that there is no effective control without possession and the Department has thoroughly argued this throughout the documentation (section 6 of Volume 3 of Consultancy Report, section 3.1 ADP Strategic Plan, section 1.6 (page 10) of the Submission). Dependence on bureau services would continue to leave a major resource outside the effective control of the Department. Security and privacy of information holdings is an issue that cannot be left to the control and possible unauthorized access of others. Similarly, continuation of a bureau service arrangement could seriously jeopardize the potential for effective information sharing with other organizations, Departments and agencies engaged in welfare service delivery.

- To restate what has already been thoroughly argued, the Department has a management philosophy of devolution of responsibility and the preferred option gives State managers the ability to set and control their own operational priorities, control security and access and extract and manipulate data to suit local information needs.

4.3 The Department has invested considerable time and resources in considering in detail four major and realistic options and it is acknowledged that numerous hybrid solutions exist including those which you have suggested. However, these have not been considered in any detail for the following reasons:

- They do not fit the Department's management philosophy of devolution of responsibility to local managers.

- They do not satisfy the Department's logical processing model.

- They are less flexible to changing Government and Departmental needs.

- Numerous hybrid solutions exist, however considerable time and resources could be expended exploring solutions which are often impractical, unworkable or prove to be unmanageable.

- The range of hybrid solutions typically present a significant degree of technical, operational or managerial complexity and risk of failure which is simply not warranted or desired.

4.4 Your 8.4 of Overall Assessment and point 5.5 in Points of Concern suggest that software from other Departments should be obtained. We assume that this means applications software that is relevant to our needs. It has been the Department's stated intention to acquire applications packages, developed by either private suppliers or other Government Departments, wherever possible and when they meet our needs or can be tailored to meet our needs (p.60 s.8.1 of Submission). Realistically, however, it is unlikely that these will be available or appropriate for the majority of the production systems required to support the Department's Program functions.

4.5   Points of Concern 1.4.1 refer to the flexibilty for
       organisational change of the distributed option. Your
       comment appears to relate to flexibility of making
       changes to the computer applications on a national
       basis in line with legislative and other changes. The
       Department considers that these changes can be made
       with equal expediency under both the centralized and
       distributed options. The Department's arguments about
       organisational change relate to possible changes in
       our operating environment that may occur in the
       future. These may include:

       ·   Growth. The distributed architecture allows
            minor upgrades in processing capacity to be made
            with minimum expense and disruption.

       ·   Changes in location. For minimal cost the
            hardware in the distributed option can be
            relocated.

       By distributing control over computing resources,
       substantial flexibility in meeting the changing needs
       of their organisations can be given to State
       Managers. This includes responding to the changing
       priorities and pressures that occur on a day-to-day
       basis.

4.6   Development costs for the new systems have been
       estimated at 95 person years (Points of Concern 1.5).
       These systems must support corporate and local level
       access as you have suggested. Both the distributed
       and centralized option will require the aggregation of
       corporate level data to ensure the efficient use of
       computer time. Therefore, the Department considers
       that the development cost in both solutions will be
       similar.

5   COSTS

5.1   This section addresses queries concerning costs, with
       particular reference to points 7, 9, 10 of the Overall
       Assessment and sections 1, 4.2, 6, 7.1 of the Points
       of Concern.

5.2   Point 7 in your Overall Assessment and points 1, 1.1,
       and 1.2 of Points of Concern involve the estimate of
       development manpower costs. The following points
       should be noted:

       ·   The Department's estimated development
            manpower costs were based on the customised,
            and simplified, SDM/70 methodology inherited
            from the Department of Social Security.
            This customized version is still an
            effective and proven development methodology
            but is more streamlined in terms of
            administrative overheads. The form-driven
            aspect of the full-blown methodology is
            diminished and hence development costs are
            subsequently lowered to a more realistic
            level.

       ·   The simplified SDM/70 methodology includes
            systems testing, acceptance testing and
            implementation. Refer Volume 2 of the
            Consultancy Report p.109, s.6.8.

       ·   The Department is in the process of
            tailoring an appropriate systems development
            methodology (see Action Plan, Attachment B
            of the Submission, page 18).

5.3   The Department cannot agree with your comments in 7.1
       of the Overall Assessment about development staffing
       and training. For cost estimate purposes it has been
       assumed that development will be done by teams
       comprising suitably experienced contractors and
       Departmental staff, with other contractors backfilling
       line positions as required. By engaging contractors
       the Department will have immediate access to the skill
       levels necessary to meet its development schedules, in
       time and within budget.

5.4   Concerning your point in 9.1 of the Overall Assessment
       and B3.1.1, the cost of controllers and disk drives
       are included in both distributed and centralised
       options. As far as the former is concerned, they are
       regarded by DEC (the example chosen for costing
       purposes) as an integral part of the processor and are
       included in the processor cost. The cost of
       controllers for disk drives in the centralized option
       are included in the cost for the 20Gb of disk storage.

5.5   The Department disagrees with your comments in 9.2 of
        the Overall Assessment about the numbers of tape
        drives. Tape drives are only required for
        second-level backup and data transfer (see response to
        question B 1.4).

5.6   The Department disagrees with the assumption in 9.3 of
        the Overall Assessment and in B3.3 and B3.3.1, that
        distributed site preparation costs would be greater
        than those for the centralised option, and would argue
        that the reverse is more likely to be the case.
        Whereas a centralised solution would need a special
        operating environment, the minicomputers proposed in
        the distributed network could possibly be accommodated
        in a normal office environment.

5.6.1   The Department also points out that it is difficult,
        at this stage, to exactly determine this requirement.
        It is supplier-dependent and will therefore be
        clarified during the tender evaluation process. The
        Department in the Submission has sought to arrive at a
        reasonable estimate and, given the argument on
        centralised/distributed accommodation requirements
        outlined above, believes that it is appropriate.

5.7   The Department does not agree with your assertions
        about communication line costs in point 9.4 of the
        Overall Assessment and in B3.2 and B3.4. In a
        centralised approach there would be data concentrators
        in each capital city and the line speed requirements
        would be the same as for the distributed option. For
        cost estimate purposes the Department has assumed 48
        kbps lines. These assumptions should become sharper
        with the more detailed analysis to be performed when
        determining the RFT specification. This response also
        references your question B 1.6.

5.8   The Department cannot agree with your comments on
        software licence fees in point 9.5 of the Overall
        Assessment and in B3.5. Software licence fee
        determination is supplier dependent and industry-wide
        generalisations cannot sensibly be made. For cost
        estimate purposes the Department has used DEC and IBM
        mainly because they are generally regarded as market
        leaders. IBM and DEC have different software charge
        arrangements. IBM software is rented, with maintenance
        included in this rental charge. DEC software is
        obtained by purchasing a corporate licence which does
        not include maintenance. Maintenance is an additional
        annual cost. Rental of IBM software over ten years is
        estimated to be about $4M. The DEC cost estimates
        comprise $2.47M for corporate licences and $3.7M for
        ten years of maintenance.

5.9   The Department disagrees with your comments on the
        number of support staff in 9.6 of the Overall
        Assessment. The number of support staff is similar
        regardless of the option, i.e., user and technical
        support and network control staff will be needed in
        Central Office and the States for each option. The
        main difference between the two options is that, in
        the distributed option, more support staff are
        required in the States and less in Central Office.
        Attachment B of Volume 3 of the Consultancy Report
        identifies 97 support staff for the centralised option
        and 108 for the distributed. These estimates have
        been determined by the Department and are considered
        reasonable. Obviously, the situation will need
        on-going monitoring and review.

5.10   As far as skill level requirements are concerned (C8),
        the Department re-emphasises the following points:

        .   specialised technical support skills will be
                concentrated in Central Office. The majority of
                State support staff will be drawn from the
                Clerical Administrative classification, mainly
                because the skills required will be of a more
                general, less technical, user-interface nature.
                Major technical support skills will reside with
                Central Office Computer Systems Officers.

- It is considered that the top increment of the CSO2 range, which is equivalent to the top of the Clerical Administrative Class 7 range, is a reasonable average salary for costing these support staff. Indeed, given that the majority of state support personnel will most likely be Clerical Administrative 6 or below, the salary chosen for cost estimate purposes is probably a marginal overestimate.

5.11 The Department has not as yet been able to determine where the confusion lies as suggested in your point 9.7 of your Overall Assessment. However, it may be helpful if the following basic points are reiterated:

- IBM is widely considered to be a representative example in terms of centralized computing equipment.

- Similarly DEC is widely considered to be a representative example for distributed computing equipment.

- the Department has addressed the sizing issues associated with each option and has accordingly determined what it believes is a realistic cost estimate for each option.

5.12 Contrary to your statement in 9.8 of the Overall Assessment and C10.1, maintenance and training costs are not considered to be underestimated and on-going development costs have not been ignored. It should be noted that:

- maintenance, enhancement and on-going development will be performed by existing applications Computer Systems Officers. An estimate of $1M over the ten year analysis period for extraordinary maintenance has been included in the costs. This will involve contractors engaged to assist during peak maintenance periods.

- ongoing development and maintenance should not be confused with the development of the proposed systems, which has been costed separately.

- The $3.1M identified for training is predominantly for non-ADP staff, that is, the users of the systems.

5.13 In Section 10 of your Overall Assessment you state that 'The cost benefit analysis is dubious in a number of ways.' The Department disagrees with this comment and the following discussion addresses the specific points you have raised.

5.14 The Department has not included all options in the cost benefit analysis because:

- The Guidelines provided by the JPCPA do not request it. They refer to performing a detailed cost benefit analysis for the most promising of the options under consideration. The Department's preferred option is the distributed one and this is considered the most promising.

- The PSB Guidelines on which the cost benefit methodology is based clearly state that: 'A cost effectiveness analysis is a method of comparing the forecast net costs of two options for achieving a defined set of objectives, products or system outputs' (page 4 of the PSB Guidelines).

- The proposed approach and methodology which were followed by the Department were raised at a meeting with the JPCPA Secretariat during the preparation of the Submission. No problems about the Department's interpretation of the JPCPA guidelines or its proposed CBA methodology were raised by the Secretariat and no contrary advice was given to Departmental officers.

5.15 Your comments in Point 10.2 of the Overall Assessment appear to be the result of a misunderstanding of the methodology used by the Department. As clearly stated in the Cost Benefit Analysis, benefits are output differences between the two options (in accord with the PSB Guidelines definition).

5.16 With respect to point 10.3 in the Overall Assessment, the Department took particular care to ensure that the line managers consulted about the benefits accruing from the implementation of the preferred option (Option B) clearly understood that the benefits were to be attributed to the implementation of the distributed architecture and new systems alone. Care was taken to ensure that the perceived benefits did not accrue from restructuring working methods.

5.17 The point which you raise in Overall Assessment 10.4 is arguable. Firstly it should be noted that the relevant figure is not $1.5M but $1.38M. This figure is comprised of the following:

- $780,000 for extraordinary maintenance staff,
- $500,000 for contract personnel, and
- $100,000 for training staff.

As Option A is phased out, the $500,000 for contractors will disappear and the $100,000 for training staff will be absorbed into the Option B training costs, where allowance has been made for this. Even if the $780,000 were to be progressively allocated to Option B as Option A is phased out (and this is arguable) then the overall impact of this additional cost burden to Option B reduces its NPV from $34M to about $29M over the ten year period of analysis. That is, the effect is marginal comparative to Option A.

5.18 In response to point 10.5 in the Overall Assessment and C6, the Department agrees that tape drives were omitted from the Option B costs. The requirement has been reviewed and tape drive costs are as follows:

- YEAR 1: 1 unit (Central Office)
- YEAR 2: 3 units (Melbourne, Sydney and Brisbane)
- YEAR 3: 2 units (Adelaide and Perth).

The unit cost has been averaged out at $42,000 each. Tape functions for the Northern Territory and Tasmania will be performed by Central Office as those sites do not warrant tape drives.

Further Sensitivity Analyses have been conducted to take into account the following (refer Attachments A-D inclusive):

. Additional tape drive costs in Option B.

. Additional operating staff cost
(a) $780,000 rolled over to Option B as Option A is phased out.
(b) $30,206 used as average salary rate for operational staff (instead of $30,000).

5.19 Your comment concerning the option of installing lower powered equipment now (10.6 in the Overall Assessment) has been addressed in the Department's response to question C2.

5.20 The following comments are offered in response to point 10.7 in the Overall Assessment, concerning equipment considerations beyond 1989/90:

. The Department has identified its total processing requirements as explained in our response to your points 3 and 4 in the Overall Assessment.

. The major equipment identified is expected to suit our requirements for at least ten years.

. The only other foreseeable expansion is additional terminals to increase the terminal to staff ratio. This is currently not planned until after the analysis period. However, should this need arise before then, the Department will justify it separately.

. This Submission seeks approval for the provision of 500 terminals.

. It is an ongoing function of Systems Branch to regularly review the potential impact of new technology. At this stage it is too early to determine this impact.

5.22 With reference to 10.8 of the Overall Assessment and B3.1, machine prices used for the cost estimates were provided by IBM and DEC and are current as at March 1986.

5.23 The Department has difficulty in understanding your comments concerning benefits substantiation and build-up in point 10.9 of the Overall Assessment. Attachment A to the Submission has, in considerable detail, quantified and substantiated benefits wherever possible. Where quantification was not possible, benefits have been expressed qualitatively in as much detail as possible.

5.24 With regard to build-up of benefits, the Department makes the following points:

. The 'benefit-harvesting' curve will be steeper than you appear to suggest, for the reasons outlined.

- The Department has deliberately understated the quantification of benefits, by, among other things, omitting benefits that would accrue before the final year of implementation.

- The Victorian State Office (i.e., the Director and appropriate senior program managers) has endorsed the benefits determined for that State in the analysis.

5.25 Concerning point 10.10 in the Overall Assessment and C8, the salary level for operational staff used for costing purposes has been revised from $30,000 to $30,206 to accord with CSO pay rates as at 30 May 1986. The revised level is the top increment of the CSO 2 range, and equates to the top of the Clerical Administrative Class 7 range. The following points are made:

- The net effect of the revision is a marginal increase in Option B costs.

- The Department believes that the top increment of the CSO 2 range is a realistic average cost for the skill level required.

- State-based operations/technical support will require broader, clerical abilities rather than specialised technical skills. State support staff will probably be classified as Clerical Administrative.

- Section 3.2 of the Cost Benefit Analysis clearly shows that the staff costs incorporate a 1.85 overhead factor in accordance with the Public Service Board guidelines.

5.26 The Department cannot agree with 1.3 of your Points of Concern about the development of support facilities. The need for these specialised tools has been recognised (refer to Section 5 Volume 3 of the Consultancy Report and page 37 of the Submission). The effort and costs needed to implement these are supplier dependent and will be addressed during the tender process. As with many other matters discussed in this submission it was neither feasible nor desirable to develop specific views to this level of detail at this stage of strategy development.

5.27 The Department's response to 9.8 of the Overall Assessment (see 5.12) addresses the issues raised in 1.4 of your Points of concern.

5.28 Point 1.5 of Points of Concern raises a matter that is discussed in Section 6 of Volume 3 of the Consultancy Report. The Department's estimates already include overheads for these special distributed solution requirements.

5.29 The Department disputes 4.2 of Points of Concern which queries recurring maintenance costs. The $100,000 per annum is merely to enable the Department to engage contractors to supplement the Department's existing technical staff as necessary to cope with peak period maintenance tasks.

5.30 As all systems development, maintenance and change control will be centrally organised and controlled, the cost in a centralised as against a distributed system would be similar (see paragraphs 5.9 and 5.11 of the Submission).

5.31 The Department has not yet been able to determine from where the $33M figure was derived in 6.1,6.2 and 6.3 of the Points of Concern. Current (base year 1986/87) DCS budget is about $100M to administer the portfolio of $1,900M. Furthermore, it is questionable to compare public and private enterprises because of the different operating environments under which each must operate. However, if one accepts this doubtful comparison, the DCS ratio of $6M recurrent and $2M capital (averaged over the ten years) to $100M administrative expenditure compares favourably with your stated ratio of $6-9M to $100M.

5.33 Your concern regarding the Sensitivity Analyses (point 7 of Points of Concern) is not founded. It has already been pointed out in the response that:

. The development costs, and particularly the staff component of these, have not been underestimated in the Department's Submission (see sections 5.2 and 5.3).

. All of the benefits quantified in the cost effectiveness analysis are attributable to the introduction of the Option B distributed systems (section 5.16).

. Sizing and phasing matters outlined by the Department in the Submission are valid (section 3 on sizing).

It is also worth repeating that the benefits attributable to Option B in the cost effectiveness analysis have been deliberately understated.

5.34 You raise the issue of benefit substantiation in B3.6. With respect to the staffing level comparison requested in B3.6.1, the Department wishes to emphasise the fact, clearly stated in Attachment A of the Submission, that the staff savings identified are output differences quantified as an opportunity cost, that is, these are the additional staff the Department would need to raise the output level of Option A to that of Option B. That point made, however, it may help to sharpen the perspective of these opportunity cost staff savings to provide current staffing levels, by the functional areas listed in the cost effectiveness analysis, of the Victorian Office of DCS along with the opportunity cost staff saving identified for that functional area as set out in section 9 of the Department's original Submission. These are set out in the following table:

Functional Area	Current Staffing Level	Opport'y Saving
Residential Programs and CRS	310	10
Disability Services	30	7
Childrens Services	26	5
HACC & SAAP	13	2
Corporate Services	97	10
TOTAL	476	34

5.35 Questions B3.6.2 and B3.6.4 request substantiation of the benefits claimed in the Cost/Benefit analysis by providing specific detail on the magnitude of the current costs and details of expected reductions in bed-days and/or bed-day costs. Firstly, the Department points out that a bed-day cost analysis would only be appropriate for Residential Programs. Secondly, the current inadequate information base that is available to the Department does not allow these figures to be produced without a substantial data collection exercise. This further highlights the lack of up-to-date and meaningful management information available to the Department.

5.36 Question B3.6.3 comments on the effect of the learning curve on "effectiveness" benefits. Benefits for the Cost/Benefit analysis have been quantified as accruing from the final year of implementation (1989/90) (Attachment A, p.26, s.9.3.2 of the Submission). The acquisition proposal requires the phasing in of the new systems and equipment with all systems being in place by 1989/90. The effect of the learning curve will be minimal after that time for the following reasons:

. The new systems will be phased in over a three year period with some systems being introduced as early as 1987/88. The effect of the learning curve on the majority of systems will be insignificant after 1989/90.

. It is likely that the minor administrative systems will be introduced during the latter part of the implementation period which implies only minimal staff learning effects after 1989/90.

- The Department plans to invest considerable resources in staff training (see section 5.12, p.16 of this response) and this will substantially reduce any learning curve effects.

5.37   Question B3.6.5 requests that the Department give a commitment to recovering costs from the operating budget in future years. In replying to this question the Department's overall objectives must be considered (Section 1, p.2 of the Submission). The implementation of this proposal will enable the Department to better meet these objectives, that is, to deliver the available welfare dollar to areas of greatest need. The overall level of the operating budget is determined by Government policy and the Department cannot give a commitment that the implementation of this proposal will have the effect of reducing this budget. The implementation of this proposal will, however, ensure that available funds are directed to areas of greatest need and are used in the most efficient manner.

6   **STAFFING ISSUES**

6.1   Points 5 and 6 in your Overall Assessment claim that the Department's staffing levels quoted are inconsistent. We do not accept that this is the case and the following comments should clear up your misunderstandings.

6.2   The Department's AOSL for 1985-86 was 2674 (p.6, sl.1 of Submission) which represents salaries expenses of $65,407,000. The revised portfolio estimate for 1985-86 was $1,752,560,000.

6.3   The figure of $28,986,478 which you quote for salary expenditure appears to relate to the 1984-85 financial year. You will of course be aware that the Department was formed in December 1984 and funding for 1984-85 was therefore for a seven month period only. In addition, the Department has gradually increased its staffing level over the ensuing eighteen months with program expansion and the take up of administrative support functions. Consequently your extrapolation from the figure that you quote to arrive at a staffing level of 1000 is not valid.

6.4   The original terminal to staff ratio of one to six was a broad estimate made in the context of the development of the ADP Strategic Plan and based on a possible growth in the Department's AOSL to around 3000 over the four year planning period. The ratio of terminals to staff based on the actual 1985-86 figure is 1 to 5.3 staff which is very close to the planning estimate.

6.5   Your 4.1 and 4.5 in Points of Concern appear to express your concern about the availability of skills to manage and implement the new systems and equipment. The Department has always recognised the need for appropriately trained and skilled staff to implement the ADP strategy (p.13, sl.7 of Submission) and has taken a number of steps to supplement and improve our skills base as outlined below.

6.6   The Department has sought and received an allocation of $2.61M in 1986-87 to assist in the preparatory work involved in acquiring the new equipment and in developing the new applications. These funds will be used to:

- engage consultants and contractors to assist in *developing the RFT and Evaluation Methodology*, evaluating the tender responses and in commencing work on the development of the new applications;

- training of Departmental staff in such areas as data base management and administration, communications, systems analysis and design, project management and managing end user computing; and

- *provide accommodation and minor equipment for the* tender evaluation and systems development teams.

6.7   Effective management of the development and implementation process is also seen as an essential element in the overall strategy. The Department of Finance has agreed to an increase in AOSL of nine pending the outcome of the JPCPA review of our proposal and in recognition of the overriding need for effective management and an improved skills base. The *Department is currently in the process of recruiting* these staff.

6.8   Operational support staff (Points of Concern 4.3) will require more general skills and consequently are expected to be recruited from the Clerical Administrative levels. Specific technical staff will be located in Canberra and provide support to all States.

6.9   *Multi-skilling will certainly be required but these* will be more general skills and the strong emphasis on a program of training and development already outlined will generally assist in developing these skills.

6.10   Staff turnover (Points of Concern 4.4) is a factor common to all organisations and will be common to both the current and proposed operating environments. The specific effects of the staff turnover factor will be included in any long term training strategy and will not materially influence any of the benefits to be realized by the implementation of this proposal. In addition, we believe that the new systems will free staff, currently involved in routine manual processing tasks and those connected with using the current inadequate systems, for more challenging work. If anything, it is likely that staff turnover will be a less significant factor under the new operating environment.

6.11   In the Overall Assessment 11.4 and Question A1.7, you have raised concerns that Industrial Issues do not include consultation on staffing issues. The Technological Change Sub-Committee has been set up within the ambit of the National Consultative Council to deal with all aspects relating to the introduction of new technology (refer section 8.4 of this response). A working party, consisting of Departmental staff and representatives from Staff Associations has been established to determine the terms of reference for the Sub-Committee and the procedures under which it will operate. Issues relating to staffing will be included in these terms of reference.

7   IMPLEMENTATION ISSUES

7.1   This Section addresses concerns or questions you have regarding issues relating to the implementation aspects of the proposal. Your Overall Assessment 11.3, Questions A1.6, A1.8-A1.10, C2-C3 and Points of Concern 3, 5.6, and 8 refer.

7.2   Action Plan

7.2.1   The Department disagrees that the Action Plan is inadequate (Overall Assessment 11.3, Question A1.6). The Information Consultancy has provided a sound foundation for systems development and equipment acquisition and within this framework the Department can proceed in replacing the current outdated and inadequate systems with viable computing support. To enable DCS to achieve its objectives, the Department must follow an aggressive implementation path which has and will continue to involve undertaking a number of major activities in parallel.

7.2.2   The Action Plan is a direct reflection of this approach and identifies all activities that must be undertaken during acquisition, implementation and systems development. The Action Plan will be reviewed, refined and modified over time and this is obviously necessary with this type of document. However, we do not agree that the Action Plan is inadequate.

7.2.3   Your concern with the Action Plan appears to relate to the fact that priorities and detailed and definitive plans for applications development have as yet not been finalised. This is certainly true, however Objective 6 of the Action Plan details the process that will be undertaken by the Department in establishing priorities and undertaking controlled systems development. This Objective has been progressively updated since the Submission was lodged and a copy of the latest revision is attached (Attachment E).

7.2.4   You have also requested that the Department provide an application development plan and schedule and a phased equipment installation program (Questions C2 and C3). From the thrust of these questions, you appear to suggest a phased implementation plan with equipment gradually being installed as the applications are being developed. The installation plan (Attachment A p.13 S.7.1.1 of Submission) and the development strategy (Volume 3 of Consultancy Report p.27 s.4.5) provide a good indication of the approach to be taken by the Department.

7.2.5   In examining the Department's strategy it is important to appreciate the nature of the systems that are being proposed. These systems are not large processing systems but rather smaller information and processing systems that provide a functional approach to effectively support the Department's operations. Certainly information dependencies must be taken into account in determining priorities and this has been recognised (Volume 3 of Consultancy Report p.27 s.4.5). However the nature of these systems allows the Department substantial flexibility during development and implementation.

7.2.6   The Department does not favour an approach that would involve a series of equipment upgrades over time. The Department has identified its total needs by a rigorous and well accepted analytical approach and we believe that the progressive upgrade solution that you suggest could prove to be more costly for the Department, DOLGAS and potential suppliers, as the acquisition process would need to be repeated many times. We see no advantage in adopting a piecemeal solution when we have already invested considerable financial and human resources in determining our overall needs and are confident of our abilities to manage this developmental project.

7.2.7   In essence, the strategy proposed by the Department, represents a more realistic means of phasing in processing capacity in line with applications as they are being developed than the one which you suggest. Processing capacity will initially be installed in Canberra to further the development of the new applications and in the first instance a rudimentary network will be established to allow access to these applications by all States. As more applications are developed, the network will be expanded by installing additional machines in the States to provide the additional capacity. The Department considers that this will provide the most effective means of phasing in computing capacity while at the same time ensuring that the overall strategic direction is adhered to.

7.2.8   It should also be noted that it has always been the Department's intention to phase in disk space (Question C7).

7.3   Contingency Planning

7.3.1   The Department would disagree that its treatment of
        contingency planning is facile (Points of Concern 3).
        We acknowledge however, that further work will need to
        be undertaken in this area in particular:

        .   It should be recognized that the contingency
            issue is dependent on the equipment and software
            selected and requirements will be specified
            during the preparation of the RFT and Evaluation
            Methodology.

        .   The Department plans to engage a suitably
            qualified and experienced consultant to assist in
            developing contingency plans and assist in their
            implementation when the time is appropriate.

        .   Sizing estimates include an allowance for backup.

        .   The distributed network proposed for the
            Department has in built contingency (ADP
            Strategic Plan p.27 s.3.1.2.5).

        .   The operations staff which have been estimated
            for in the States and Central Office will be
            expected to undertake testing of contingency
            plans on an ongoing basis as part their duties.

7.4   Security and Privacy

7.4.1   The Department has always and continues to recognise
        the substantial security and privacy issues (Points of
        Concern 8) involved in our strategy (Volume 3 of
        Consultants Report p.35 s.5.1.4) and makes the
        following points:

        .   Specific recommendations on the security and
            privacy issue will depend on the outcome of the
            Information Sharing Feasibility Study (final
            report due in August 1986).

        .   Security software has been included in sizing
            estimates and therefore estimates of cost.

        .   Specific security software is supplier dependent
            and will therefore be assessed during the RFT
            process.

        .   Access to both the system and the data within it
            will be addressed at the appropriate time.

        .   Work is also proceeding in the Department on the
            development of agreed policy and standards for
            security (see Action Plan at Attachment B to the
            Submission, p.15).

7.5   Audit

7.5.1   Copies of the JPCPA Submission were forwarded to the
        Audit Office for their consideration (Question A 1.10)
        in accordance with the guidelines. No comments have
        been received from them to date. Earlier comments
        were not sought because:

        .   Internal Audit in this Department has been
            continually and closely involved during the
            conduct of the Information Consultancy and
            development of the ADP Strategic Plan. It also
            conducted a comprehensive review of the
            Submission to the JPCPA.

        .   Internal Audit and the Audit Office, as
            appropriate, will also be involved in the
            development and review of the new
            applications(Volume 3 of the Consultancy Report
            p.35 s.5.1.5).

7.6   Acquisition Methods

7.6.1   Questions for DCS A1.8 and A1.9 and Points of Concern
        5.6 relate to methods of acquisition issues.

7.6.2   Australian Industry participation in the acquisition
        appears to be one of your major concerns with the
        proposal. The Department acknowledges the
        significance of this issue and would like you to note
        that:

        .   The Department is arranging a number of briefings
            for Australian Companies to ensure they are aware
            of our computing requirements and acquisition
            proposals.

        .   All options requiring the acquisition of new
            hardware and software will provide an opportunity
            for Australian Industry participation (p.72 s.12
            of Submission).

- These options include the acquisition of 500 microcomputers and there are a number of Australian companies that could tender to supply these.

- The preferred option (distributed) includes a range of smaller processors which offers the widest possible opportunity for Australian Industry participation (p.72 s.12 of Submission).

7.6.3   The Department has considered other options besides open capital purchase including leasing and second hand equipment, however:

- Such methods of acquisition would tend to lock out Australian suppliers.

- The range of potential suppliers would be limited which may result in a less than satisfactory solution for the Department.

- An open functional tender would still be required even if a rental solution was chosen in the first instance. This means the whole acquisition process would have to be duplicated if a decision to purchase was made at a later date. Subsequent Requests for Tender would tend to lock out other suppliers possibly creating the potential for justifiable criticism from the industry. The Department is keenly aware that the whole acquisition process must be publicly defensible and above reproach.

- Available second hand equipment is likely to be of the mainframe type that is not appropriate for the Department's preferred option. This approach would also potentially lock out Australian Industry participation.

7.6.4   The Evaluation Methodology (Points of Concern 5.6) will be developed at the same time as the Request for Tender and will be in accordance with DOLGAS Guidelines (p.73 s.13 of Submission). It is also important to note that DOLGAS must approve the Evaluation Methodology and RFT.

7.6.5   DOLGAS has already indicated that it supports our proposed tendering during 1986-87.

7.6.6   The Department believes that it has covered this issue satisfactorily and in as much detail as it can at this stage of the acquisition process.

8 MATTERS RELATING TO THE SUBMISSION

8.1   The Department has attempted to provide an Executive Summary which conforms with the JPCPA guidelines. In the absence of more comprehensive guidelines we believe that we have summarised the essential elements of the proposal in non-technical language (Question A1.1). Specific details of the proposed acquisition and justification are contained in the proposal overview document (Overall Assessment 11.1).

8.2   Question A1.2 states that the ADP objectives listed in the Submission are not expressed in quantifiable terms. Please refer section 1.2 which deals with the nature of the computer systems that are being developed. These systems are not of a high-load transaction-based type but rather a computer network to support the rapid and efficient transmission of information among different parts of the organization. Note also that:

- The Department, as a new Department, does not have a history of providing ADP services available to it and consequently it is not possible to currently develop quantifiable ADP objectives without an historical base to build on.

- The cost/benefit analysis that is provided in Attachment A of the Submission provides a basis for evaluating the effectiveness of the ADP strategy after implementation.

- The Department has recognised the need to evaluate the effectiveness of the acquisition and implementation of the new systems. It plans to institute mechanisms to monitor performance and effectiveness (p.14 s.1.8 of Submission).

8.3   The Department strongly disagrees that the Post Implementation Review of current systems is not related to objectives and is not quantitative (Question A1.3).

- Section 4 of the Department's Submission highlights the deficiencies in existing systems by taking into account recent internal and external reviews and the findings and recommendations of the Information Services Consultancy. These clearly show that the current systems do not meet the stated ADP and organisational objectives that were defined through the comprehensive corporate analysis that has been undertaken.

- The Submission and its Attachments set out in quantifiable terms the computing capacity required and the applications that need to be developed to satisfy these objectives.

8.4   Section 11.3 on page 70 of the Submission succinctly sets out the Department's position on the provision of job impact statements. We are simply not in a position to provide detailed job impact statements at this stage (Overall Assessment 11.6, A1.13) neither would it be appropriate to do so until the Tender process more clearly defines architectures. Nonetheless,

- the Technological Change Sub-Committee of the National Consultative Council has convened a joint working party to examine inter alia guidelines for the provision of job impact statements;

- a Systems Development Methodology tailored to DCS requirements is in the process of final review and deals specifically with the development of job impact statements as part of the overall development of any new system; and

- job impact statements will be provided as a matter of course in the development of each new system.

8.5   Your Question A1.5 suggests that the Technical Section of the Department's Submission needs to address hardware and software considerations for all options. Your attention is drawn to Volume 3 of the Consultancy Report (Section 6, p.64) which covers this requirement in detail.

8.6   In point 11.5 of the Overall Assessment and A1.11 you requested quantification of the costs and risks of not proceeding. Your attention is drawn to section 15, page 75 of the Submission which objectively discusses the consequences of not proceeding. The Department considers that the benefits attributable to Option B of the Cost Benefit Analysis is in effect a quantification of the cost of not proceeding.

OBJECTIVE 6: TO ELIMINATE CONFLICT AND PROVIDE DIRECTION IN RELATION TO SYSTEMS DEVELOPMENT, WE NEED TO IMPLEMENT A PLAN FOR THE DEVELOPMENT AND ENHANCEMENT OF EXISTING, INTERIM AND FUTURE SYSTEMS, BASED ON AGREED POLICIES AND PRIORITIES.

MILESTONES 6.1: - Issued guidelines for ADP proposals, reviews and determination of priorities
6.2: - Established project register outlining objectives, features, effect on workload, adequacy of existing systems, phasing and timing, impact on other projects, commitments from other areas, h/w, s/w used, risk, financial & other resource costs
6.3: - Identified total resources and their commitment
6.4: - Endorsed plan
6.5: - Installation of review mechanism
6.6: - Enhancement of existing systems
6.7: - Development, implementation and enhancement of interim systems
6.8: - Development, implementation and enhancement of future systems

NUMBER	TASK	START	FINISH	WHO	HOW MANY	* DEP
6.1	ISSUED GUIDELINES FOR ADP PROPOSALS, REVIEWS AND DETERMINATION OF PRIORITIES					Obj.2
6.1.1	Develop guidelines for ADP proposals and review mechanism	15/ 4/86	15/ 8/86	J Scott	20	
6.1.2	Approval by SMG of guidelines and issue to Dept	15/ 8/86	30/ 8/86	J Scott	1	6.1.1
6.1.3	Development of guidelines for priority determination	15/ 4/86	15/ 8/86	J Scott	20	
6.1.4	Endorsement of guidelines by SMG	15/ 8/86	30/ 8/86	P Edmonds	1	6.1.3
6.1.5	Approval by Resources Committee and issue to Dept	30/ 8/86	30/ 9/86	P Edmonds	3	6.1.2 6.1.4

OBJECTIVE 6 (7) Cont'd

NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
6.2	ESTABLISHED PROJECT REGISTER OUTLINING OBJECTIVES, FEATURES, EFFECT ON WORKLOAD, ADEQUACY OF EXISTING SYSTEMS, PHASING AND TIMING, IMPACT ON OTHER PROJECTS, COMMITMENTS FROM OTHER AREAS, H/W, S/W USED, RISK.					Obj.10
6.2.1	Identify and describe projects associated with ADP Strategic Plan	1/ 6/86	31/ 8/86	J Scott	300	6.1.1
6.2.2	Identify projects for development of interim and future systems or enhancements to existing systems	1/ 6/86	31/ 8/86	J Scott	100	6.1.1
6.3	IDENTIFIED TOTAL RESOURCES AND THEIR COMMITMENT					
6.3.1	Identify total resources available	30/ 4/86	30/ 6/86	J Scott		Obj.3
6.3.2	Identify resources committed	30/ 4/86	30/ 6/86	J Scott	10	
6.3.3	Identify resources required	30/ 4/86	31/ 7/86	J Scott	10	6.2.1
6.4	ENDORSED PRIORITIES AND RESOURCE ALLOCATIONS					
6.4.1	Develop draft priorities and resource allocations	30/ 4/86	15/10/86	J Scott	15	6.2
6.4.2	Obtain SMG endorsement	15/10/86	30/10/86	P Edmonds	2	6.4.1
6.4.3	Obtain Resources Committee approval	1/11/86	20/11/86	P Edmonds	2	6.4.2
6.4.4	Distribute approved priorities and resource allocations.	21/11/86	22/11/86	J Scott	3	6.4.3

OBJECTIVE 6 Cont'd

NUMBER	TASK	START	FINISH	WHO	HOW MANY	DEP
6.5	INSTALLATION OF REVIEW MECHANISM					
6.5.1	Reassess priorities and resources	ongoing		J Scott		
6.5.2	Revise and release priorities and resources	ongoing		J Scott		
6.6	ENHANCEMENT OF EXISTING SYSTEMS					
6.6.1	Implement endorsed plan for enhancements to existing systems	23/11/86	ongoing	R Duff		6.4.3
6.7	DEVELOPMENT, IMPLEMENTATION & ENHANCEMENT OF INTERIM SYSTEMS					
6.7.1	Undertake the development and implementation of interim systems	1/10/86	ongoing	R Duff		6.4.3
6.7.2	Conduct Post Implementation Review		ongoing	R Duff		6.7.1 10.4
6.7.3	Enhance as necessary		ongoing	R Duff		6.7.1
6.8	DEVELOPMENT, IMPLEMENTATION & ENHANCEMENT OF FUTURE SYSTEMS					
6.8.1	Design the structure and content of the future systems	1/10/86	1989	R Duff		9.1 9.2
6.8.2	Undertake the development and implementation of the future systems		1990	R Duff		6.4.3 5.6.5
6.8.3	Conduct Post Implementation Review			R Duff		6.8.2 10.4
6.8.4	Enhance as necessary		ongoing	R Duff		6.8.3 10.4

* Other Dependency: Objective 4

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Attachment A

2 COST/BENEFIT ANALYSIS SUMMARY

This table summarises: cash flow over the ten year analysis period of Option A.
(a) the Present Value costs and benefits over the ten year analysis period of Option B relative to Option A:
(b) the Present Value of the investment worth of Option B and the cost effectiveness of Option B relative to Option A.
(c) indicators of the Present Value worth of Option B and the cost effectiveness of Option B relative to Option A.
All Present Values are derived from a discount rate of 10%.

	1986/87 (000'S)	1987/88 (000'S)	1988/89 (000'S)	1989/90 (000'S)	1990/91 (000'S)	1991/92 (000'S)	1992/93 (000'S)	1993/94 (000'S)	1994/95 (000'S)	1995/96 (000'S)	TOTAL (000'S)
PRESENT VALUES: OPTION A (@10%)	-4,220	-3,953	-3,696	-3,456	-3,231	-3,021	-2,826	-2,642	-2,471	-2,211	-31,835
PRESENT VALUE COSTS OPTION B (@10%)	-6,031	-13,650	-14,668	-10,249	-5,985	-5,411	-5,133	-4,909	-4,740	-4,632	-75,407
PRES VALUE BENEFITS OPTION B (@10%)			19,208	17,581	16,094	14,736	13,493	12,361	11,322		104,796
NET PRESENT VALUES: OPTION B (@10%)	-6,031	-13,650	-14,668	8,959	11,596	10,683	9,603	8,585	7,621	6,690	29,389
ANNUAL DIFFERENCES IN NPV (B-A)	-1,803	-9,697	-10,972	12,415	14,827	13,704	12,429	11,227	10,092	9,001	61,224
CUMULATIVE DIFFERENCES IN NPV	-1,803	-11,500	-22,471	-10,056	4,771	18,475	30,904	42,131	52,223	61,224	

NET PRESENT VALUE OF OPTION A: $ -31,835 000

NET PRESENT VALUE OF OPTION B: $ 29,389 000

THE DIFFERENCE BETWEEN THE NPV OF OPTION B AND NPV OF OPTION A IS $ 61,224 000

COST/BENEFIT RATIO (OPTION B) 2.405 (BENEFITS B)/(COST B - COST A))

PAYBACK PERIOD: YEAR 4 (1990/91)

NB: This takes into account :
(1) additional tape drive costs in Option B
(2) additional operational staff costs:
   (a) $180,000 rolled over to Option B as Option A is phased out
   (b) $30,206 used as average salary rate for operational staff
   (instead of $30,000).

The effect is to increase the GPV of Option B by approximately $5M and decrease the NPV of Option B by the same amount (ie: from $34M to $29M).

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4   OPTION A COST STATEMENT

This statement tabulates the costs, adjusted for real price movement, of using existing ADP Bureau facilities through DSS and /or DOH over the ten year analysis period. The real totals have been discounted at 10% compound to derive Present Values.

Cost Category/Item	RPMF	1986/87 (000'S)	1987/88 (000'S)	1988/89 (000'S)	1989/90 (000'S)	1990/91 (000'S)	1991/92 (000'S)	1992/93 (000'S)	1993/94 (000'S)	1994/95 (000'S)	1995/96 (000'S)
Recurrent Costs											
Equipment-based											
Hardware Maintenance	3%	-224	-334	-344	-354	-365	-376	-387	-398	-410	-423
Lease DOH/DSS Facilities	3%	-1,540	-1,586	-1,634	-1,683	-1,733	-1,785	-1,839	-1,894	-1,951	-2,009
Communications	3%	-440	-464	-509	-525	-540	-556	-573	-590	-608	-626
Software	3%	-285	-294	-302	-311	-321	-330	-340	-351	-361	-372
Staff											
Operations	3%	-1,280	-1,318	-1,358	-1,399	-1,441	-1,484	-1,528	-1,574	-1,621	-1,670
Training	3%	-100	-103	-106	-109	-113	-116	-119	-123	-127	-130
Consumables & Other	0%	-219	-219	-219	-219	-219	-219	-219	-219	-219	-219
Total Recurrent Costs	$	-4,228	-4,348	-4,472	-4,600	-4,731	-4,866	-5,006	-5,149	-5,297	-5,450
TOTAL REAL COSTS	$	-4,228	-4,348	-4,472	-4,600	-4,731	-4,866	-5,006	-5,149	-5,297	-5,450
PRESENT VALUE, DISCOUNT RATE = 10%	$	-4,228	-3,953	-3,696	-3,456	-3,231	-3,021	-2,826	-2,642	-2,471	-2,311

The Net Present Value of Option A over the ten year analysis period: $ -31,835 000

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6   OPTION B COST STATEMENT

This statement tabulates the costs, adjusted for real price movement, of using systems run by DCS on its own distributed computing facilities over the ten year analysis period. The adjusted totals have been discounted at 10% compound per annum to produce Present Values.

Cost Category/Item	RPMF	1986/87 (000'S)	1987/88 (000'S)	1988/89 (000'S)	1989/90 (000'S)	1990/91 (000'S)	1991/92 (000'S)	1992/93 (000'S)	1993/94 (000'S)	1994/95 (000'S)	1995/96 (000'S)
Capital Costs											
Computer Hardware											
Processors	-10%	-1,636	-1,847	-751							
Data Storage	-10%	-909	-413	-376							
Peripherals	-10%										
Printers	-10%	-55	-99	-90							
Consoles	-10%	-11	-20	-18							
Terminals	-10%	-1,064	-1,017	-451							
Tape Drives	-10%	-38	-106	-43							
Communications	-10%	-397	-380	-168							
TOTAL Computer Hardware		-4,110	-4,000	-1,917							
Accommodation	0%	-748	-1,098	-654							
Software											
Minicomputer	3%	-761	-1,151	-706							
Terminals	3%	-402	-435	-219							
Network Control	3%	-40	-43	-22							
TOTAL Computer Software	3%	-1203	-1629	-947							
Staff											
Systems Development	3%	-1,300	-2,009	-2,069	-1,065						
Total Capital Costs		-1,300	-8,070	-8,796	-4,583						
Recurrent Costs											
Equipment-based											
Maintenance	3%		-423	-873	-1,163	-1,198	-1,271	-1,389	-1,563	-1,812	-2,164
Use Existing Facilities	3%	-4,228	-2,821	-1,570	-462						
Software Maintenance	3%		-186	-457	-655	-675	-716	-782	-880	-1,020	-1,218
Communications	3%		-482	-1,018	-1,311	-1,351	-1,391	-1,433	-1,476	-1,520	-1,566
Accommodation	0%		-100	-175	-250	-250	-250	-250	-250	-250	-250
Staff											
Training	3%		-639	-658	-477	-523	-180	-185	-191	-196	-202
Maintenance	3%		-103	-106	-109	-112	-116	-119	-123	-127	-130
Operational	3%	-503	-2,181	-4,095	-4,431	-4,652	-4,791	-4,935	-5,083	-5,235	-5,393
TOTAL Staff Costs	3%	-503	-2,923	-4,859	-5,117	-5,288	-5,087	-5,239	-5,397	-5,558	-5,724
Total Recurrent Costs		-4,731	-6,945	-8,952	-9,058	-8,762	-8,715	-9,093	-9,566	-10,160	-10,922
TOTAL REAL COSTS		-6,031	-15,015	-17,748	-13,641	-8,762	-8,715	-9,093	-9,566	-10,160	-10,922
PRESENT VALUE, DISCOUNT RATE = 10%	$	-6,031	-13,650	-14,668	-10,249	-5,985	-5,411	-5,133	-4,909	-4,740	-4,632

The total Present Value of Option B costs over the ten year analysis period: $ -75,407 000

B OPTION B: STATEMENT OF BENEFITS (QUANTIFIED)

This statement tabulates the benefits, adjusted for real price movement, over the ten year analysis period of Option B.
The yearly adjusted totals have been discounted at 10% per annum compound to produce Present Values.
The figures in this table represent the findings gleaned from Victoria and parts of Central Office. The extrapolated
Real Total is a 3-class extrapolation of these findings to give a national figure (see Section 9.1).

Cost Category/Item	RPMF	1986/87 (000's)	1987/88 (000's)	1988/89 (000's)	1989/90 (000's)	1990/91 (000's)	1991/92 (000's)	1992/93 (000's)	1993/94 (000's)	1994/95 (000's)	1995/96 (000's)
NOTIONAL SALARY SAVINGS											
Residential Programs	3%				431	444	457	471	485	500	515
Disability Services	3%				350	361	372	383	394	406	418
Childrens Services Programs	3%				272	280	288	297	306	315	324
HACC and SAAP	3%				112	115	119	122	126	130	134
Corporate Service and Administrative Support	3%				777	800	824	849	874	901	928
SUB-TOTAL					1942	2000	2060	2112	2185	2252	2319
BENEFITS DUE TO INCREASED EFFECTIVENESS											
Residential Programs	0%				4,500	4,500	4,500	4,500	4,500	4,500	4,500
Disability Services	0%				1,180	1,180	1,180	1,180	1,180	1,180	1,180
Childrens Services Programs	0%				250	250	250	250	250	250	250
Corporate Service and Administrative Support	0%				650	650	650	650	650	650	650
SUB-TOTAL					6,580	6,580	6,580	6,580	6,580	6,580	6,580
REAL TOTAL					8,522	8,580	8,640	8,702	8,765	8,832	8,899
EXTRAPOLATED REAL TOTAL					25,566	25,740	25,920	26,106	26,295	26,496	26,697
PRESENT VALUE IF DISCOUNT RATE = 10%				19,208	17,582	17,581	16,094	14,736	13,493	12,361	11,322

The Total Present Value of the Quantified Benefits of Option B over the ten year analysis period: $ 104,796 000

REVIEW OF COMPUTER PROCESSING POWER AND DATA STORAGE REQUIREMENTS PROPOSED IN THE DEPARTMENT OF COMMUNITY SERVICES' SUBMISSIONS OF 8 JULY 1986 AND 7 AUGUST 1986

Computer Processing Power Requirements

4.1   The Department is seeking 26.75 MIPS (millions of instructions per second) of processing power and 30,000 megabytes of data storage to provide for an extensive range of applications in the broad categories of community program based systems, corporate services systems and administrative support systems. The processing is proposed to be spread over eight sites.

4.2   The Department provided its estimates of computer processing power requirements in its submission of 8 July 1986 (Appendix 1). On 25 July 1986 the Committee sought further justification from the Department for the system sizing (Appendix 2). The Department's response is at Appendix 3, page 194. The Committee remains concerned about the size of the computer capacity being sought by the Department.

The Committee's concerns are twofold:

.   the assumptions underlying the estimates of the transaction rates and applications requirements; and

.   the method by which estimated transaction rates and applications requirements have been translated into estimates for processing power.

4.3   The consultants who undertook the systems strategy part of the Information Services Consultancy for the Department estimated that the proposed applications would result in approximately 40,000 logical transactions per day, comprised of some 25,000 transactions for community program systems and 14,500 for corporate services and administrative support systems. The community program systems figures derive from estimates of residential program figures which are assumed to be one third of the total. The basis for assuming that transaction rates for the residential program are one third of total program transactions is not provided. The derivation of transaction rates for corporate service and administrative support systems is likewise not provided.

4.4 The Department was asked to give details of current systems transaction rates. It responded that:[1]

> Comparisons of current systems transaction rates to projected transaction rates for the proposed strategic information systems are not valid. The existing applications only support a small part of program functions (typically the more repetitive accounting functions), are not integrated, are based on old technology and are inefficient and do not address at all the broader policy co-ordination role for which the Department is responsible. Clearly any extrapolation from current resource usage to predict capacity requirements for the proposed equipment would be unreliable.

4.5 In the Committee's view the argument that current transaction rates cannot be used because they cover only a small part of the functions is not valid. The figure of 40,000 transactions per day has apparently been produced by scaling up estimated processing requirements for a small part of the Department's programs, on doubtful and unjustified assumptions. The Department should be able to provide details of the number of payments processed, clients registered and service providers registered by reference to current transaction rates, whether processed by computer or manually and relate these to the estimated transaction rates, to provide a basis for estimating transaction rates for program systems.

4.6 The Department should also be able to justify estimated transaction rates for proposed corporate services and administrative support transactions using current, presumably manual, systems. The Committee considers that estimated transaction rates seem very high for some corporate services and administrative support applications. For example, given that Correspondence Monitoring relates to administration and not benefits processing, the estimated transaction rate of 3,000 per day seems excessive for what the Committee understands to be the requirement. Policy and General Ledger (1,500 per day), Accounts (1,000) and Assets (1,000) likewise seem high.

4.7 The Department was asked to justify its estimate of processing power requirements. Its response was provided in the Department's supplementary submission (Appendix 3). In summary, the Department has assumed 5-6 physical transactions for each of its 40,000 logical transactions, with 80 per cent of on-line transactions occurring over a six hour period, and batch processing and the remaining 20 per cent of on-line transactions.

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1. Department of Community Services supplementary submission, Appendix 3, p. 197

outside that period. Using the formula:

$$\frac{40,000 \times c \times 0.8 \times i}{6 \times 3,600 \times 1,000,000,} \quad \text{(see footnote[2])}$$

the Department estimates its requirement for on-line processing for strategic information systems in 1989-90 to be 7.41 to 8.89 MIPS. To this, the Department adds 50 per cent for development and maintenance work, a growth factor of 5 per cent per year from 1989-90 to 1995-96, and a further 80 per cent for capacity overheads to cater for the proposed distributed operating environment. Calculations based on these assumptions yield an estimated total capacity requirement for 1989-90 in the range of 20 to 24 MIPS, rising to 27 MIPS by 1995.

4.8 This calculation does not appear to be soundly based, for the following reasons:

- the Department has assumed that all its 40,000 transactions per day will be on-line transactions, whereas it seems very likely that some applications (eg. Assets) will be better handled by batch processing;

- the Department has assumed a requirement of 50 per cent additional processing power for development and maintenance work. It is not considered valid to base the processing requirement for development and maintenance work on the number of transactions processed during peak period. Also, the need for development work should decline as applications are developed and introduced; it therefore seems most unlikely that the processing power required for development and maintenance should be 50 per cent of that required to process all of the Department's transactions when all applications have been developed;

- any growth required over the next decade could most likely be accommodated through a decline in the need for development work; and

- while a rate of conversion from logical to physical transactions of 5 to 6 is acceptable, its use in combination with an assumption of 1,000,000 machine instructions per transaction is questionable.

4.9 Moreover, with microcomputer workstations, it could be expected that most end-user computing, as well as a considerable amount of word processing, would be processed in the microcomputers rather than in the minicomputers. This would further reduce the amount of processing power required to be provided by the minicomputer network.

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2. 'c' is the logical to physical conversion rate (5 or 6) and 'i' is the average number of instructions per transaction (given as 1,000,000)

4.10   In summary, the assumptions and statements of need
employed in estimating processing power requirements for the
Department's proposed system tend to inflate the estimate. While
the amount by which the capacity estimate is inflated cannot be
ascertained on the information currently available, it appears
very substantial.

Data Storage

4.11   The Department has advised a requirement for 15,000
megabytes of storage for a centralised computing capability, or
30,000 megabytes of storage for a distributed computing
capability. Details of applications usage were provided for the
centralised capability only, with no justification provided for
the 30,000 megabyte requirement for a distributed capability. The
Committee notes that, for the proposed centralised capability,
53 per cent of disk capacity has been allocated to overheads, 40
per cent to office automation, and only 7 per cent to
applications relating directly to the Department's role, i.e.
community program and corporate services systems. The Committee
considers that the storage capacity proposed for the centralised
capability appears inflated given that the Department has mainly
a policy role rather than an operational role.

4.12   However, if an overhead requirement of 53 per cent of
the storage capacity for a centralised capability is justifiable,
then it appears to the Committee that the need to duplicate a
large proportion of overheads over other sites would imply that
the estimate of 30,000 megabytes for a distributed capability is
too low.

Terminals

4.13   The Committee notes that the Department has opted for
500 microcomputer workstations at an estimated cost of $3 million
rather than 'dumb' terminals at an estimated cost of $1.99
million, apparently on the basis that the cost difference is not
large. Each microcomputer is to have a dot matrix printer, 512K
memory and 10 megabyte capacity hard disk. The Committee does not
accept that every terminal in the Department needs to be equipped
to such a level. The need for microcomputers in particular
locations should be justified by reference to the work performed;
a mixture of microcomputers and other workstations could be
expected to meet most requirements. The Committee notes also that
the costs for 'dumb' terminals includes an allowance for
controllers, but that no interconnection costs have been included
in the costs for microcomputers.

Applications

4.14   The Committee is also concerned at the Department's
insistence that all its proposed computer applications are of
equal priority and that all are essential. This was raised with
the Department and on 25 July 1986 (Appendix 2). The Department
responded that it considered it had provided detailed cost
justification of all proposed applications in the cost/benefit
analysis at Attachment A of its Submission (Appendix 3).

4.15   The Committee does not accept the Department's
assertion that all the proposed computer applications are
essential and have been cost-justified. For some minor
applications, such as Freedom of Information or Assets Control,
it seems very unlikely that the costs of development would be
justified. The Department has advised (Appendix 3) that work has
commenced on an Applications Development Plan including the
allocation of priorities. The Committee considers that the
Department should also be examining the cost effectiveness of
each proposed application against the current or a modified
manual system. The elimination of non-cost effective applications
would further reduce the number of transactions required to be
processed and thus the computing capacity required.

REVIEW OF ESTIMATED COSTS OF OPTIONS
FOR THE PROVISION OF A COMPUTING CAPABILITY
CONSIDERED BY THE DEPARTMENT OF
COMMUNITY SERVICES

5.1   The Committee had a number of concerns about the
estimated costs of the options examined by the Department of
Community Services in its submission of 8 July 1986.[1] Additional
information was sought on 25 July 1986.[2] This was provided in the
Department's supplementary submission of 7 August 1986.[3]

5.2   Some costs incurred in establishing a computing
capability relate directly to the size of the installation.
Generally, a larger installation will cost more than a smaller
one, but this is partly offset by lower unit costs for larger
installations. The expectation is that a system operating from a
number of sites would also be more costly to acquire and operate
than a system delivering the same processing capacity located at
a single site.

5.3   The Department of Community Services' estimates show a
difference of only 25 percent between the costs of processing
units for a distributed computing capability spread over eight
sites and providing 80 percent more processing power, and the
costs of processing units for a centralised computing capability.
The Committee believes this cost difference to have been
significantly underestimated by the Department.

5.4   Moreover, any computer system requires computer memory
and data storage to accommodate overheads associated with the
particular system and its software. This overhead allowance is
required at each site in a multi-site system, further increasing
costs. For other items such as tape devices, a larger number is
needed in a multi-site system to provide the same level of
service as provided by a single site system. The Committee
questions the Department's estimates of its requirements for disk
storage and tape devices for its distributed computer capability.
In addition, the Committee questions the estimate of $2 million
for 30,000 megabytes of disk storage for the distributed
capability, compared to $1.8 million for 20,000 megabytes of
storage for the centralised capability.

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1   Proposal to Acquire Computing Facilites for the Department
     of Community Services, Submission to the Joint Parliamentary
     Committee of Public Accounts, Appendix 1, pp 69 and 70
2   Review of DCS Proposal, Appendix 2, p 170
3   Department of Community Services Supplementary Submission,
     Appendix 3, p.203

5.5   The Committee accepts that site preparation costs may be lower for some sites in a distributed system because some smaller computers may operate in normal office environments. However the Committee considers that overall, costs for site preparation would be expected to be greater for a distributed system than for a single site system. The Department's estimates for its distributed capability are based on Digital Equipment Corporation's 8600, 8300 and 8200 computers.[4] The Committee understands these mainframes, which the Department refers to as 'minicomputers', require sites which are specifically prepared for computing equipment. The Committee is unable to accept that the estimate of $2.5 million for site preparation is valid for both a distributed system and a centralised system.

5.6   Furthermore, the Committee notes that estimates for the centralised capability are based on IBM mainframes and operating system requirements. It is likely that IBM plug compatible equipment or some other mainframe environment would be less costly. Indeed, in this submission there appears to be a pattern of underestimation of the costs of the distributed capability and overestimation of the costs of the centralised capability.

5.7   As an example, $4 million has been estimated for initial software costs for the centralised capability. In its supplementary submission (Appendix 3), the Department has advised that this amount is in fact a 10 year software rental cost.[5] It is therefore an ongoing maintenance cost rather than an initial cost, and should have been included in recurring costs, at $0.4 million per annum, instead of in the initial acquisition and installation costs. This would reduce initial costs for a centralised capability by $4 million. Presenting software rental costs as a one-time initial cost distorts not only comparison of initial costs, but also reduces the net present value of the centralised capability and thus its apparent cost effectiveness.

5.8   The Department could not substantiate its cost estimates by providing the Committee with manufacturer priced configurations. Configuration charts, including all equipment, controllers, network interfacing and software costs, would also show the comparison of equivalent facilities.

5.9   For the above reasons, the Committee is unable to reconcile the expected substantial cost advantages of a centralised system with the very small difference between the Department's costings for a centralised computing capability ($19.67 million) and a distributed computing capability ($19.68 million).[6]

5.10   The Committee also considers that the Department may have underestimated its requirements for development manpower. The Department has indicated that it intends to use a customised and simplified SDM/70 development methodology inherited from the Department of Social Security. It contends that this will reduce development time and therefore the number of staff required.[7]

The Committee considers that, notwithstanding the use of the modified SDM/70 methodology, insufficient allowance has been made for system testing, conversion, implementation and post implementation reviews.

5.11   The Committee also considers that the Department may be over optimistic about the availability of suitably skilled technical staff. An industry-wide shortage exists for such staff. The difficulties in recruiting and retaining technical computing staff in the Australian Public Service have been exacerbated by the inflexibility of classifications and salary scales. In addition, there are a number of large computer redevelopment projects commencing in other departments which can be expected to increase demand for technical computing staff in the near future. For these reasons, the Committee considers it unlikely that suitably skilled contract staff will be as readily available as the Department assumes.

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4   Appendix 1, pp. 69 and 71
5.   Appendix 3, p.205
6   Appendix 1, p. 69
7   Appendix 3, p. 203

REVIEW OF OPTIONS FOR THE PROVISION OF
A COMPUTING CAPABILITY CONSIDERED
BY THE DEPARTMENT OF COMMUNITY SERVICES

6.1   The Department's consultants, in their report on systems strategy (Volume 3 of the Information Services Consultancy Report) considered five options:

- Option 1 - continue with the existing levels of support provided by the Department of Social Security (DSS)and Health (DOH), no initial cost;

- Option 2 - acquire a centralised computing capacity, initial cost $19.67 million;

- Option 3 - acquire a computing capability which is decentralised to State level, initial cost $19.68 million;

- Option 4 - acquire a computing capability which is decentralised to major program level, initial cost $21.54 million; and

- Option 5 - acquire a computing capability which is decentralised to individual program level, initial cost $23.82 million.

6.2   Options 3 and 4 were preferred mainly because they provided the 'highest degree of compatibility with the logical processing model'.[1] Option 3 was adopted by the Department as its preferred option, apparently because of its lower cost.

6.3   In its submission of 8 July 1986, the Department considered four options:

- Option (a)- continue with the existing levels of support provided by DSS and DOH, no initial cost;

- Option (b)- seek to have the computing facilities of either DSS or DOH significantly upgraded to provide adequate consolidated computer support from a single host, initial cost $18.17 million;

- Option (c)- acquire a centralised computing capacity, initial cost $19.67 million; and

- Option (d)- acquire a distributed computing capability, initial cost $19.68 million.

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1. Information Consultancy Report for the Commonwealth Department of Community Services, Volume 3 Systems Strategy, March 1986, p. 81

6.4   The Department has argued vigorously that only a
distributed computing capability will meet its key corporate
management strategy of devolution of decision making outwards
through the State Offices and to the managers of various program
areas. The option of upgrading the DOH or DSS computing
capability was rejected because it would not provide the
Department with adequate control over computing resources, the
computing facilities available would not be specifically tailored
to the Department's needs, and the cost difference ($18.17
million compared to $19.68 million) did not provide sufficient
incentive to 'make do' with bureau services through either DOH or
DSS.[2]

6.5   In its comments on the Department's submission, the
Committee suggested that the Department had confused possession
and control, including central development and local processing
control.[3] The Committee suggested a range of alternative options
it considered might also meet the Department's requirement for
local control of transaction processing.

6.6   The Department disagreed that there was confusion
between possession and control, stating that[4]:

> Experience has shown that there is no effective
> control without possession ... Dependence on
> bureau services would continue to leave a major
> resource outside the effective control of the
> Department. Security and privacy of information
> holdings is an issue that cannot be left to the
> control and possible unauthorized access of
> others. Similarly, continuation of a bureau
> service arrangement could seriously jeopardize the
> potential for effective information sharing with
> other organizations, Departments and agencies
> engaged in welfare service delivery ... To restate
> what has already been thoroughly argued, the
> Department has a management philosophy of
> devolution of responsibility and the preferred
> option gives State managers the ability to set and
> control their own operational priorities, control
> security and access and extract and manipulate
> data to suit local information needs.

6.7   The Committee does not consider the Department's
arguments to be valid. Decentralised control of computing
resources, including the setting of operational priorities,
control of security and access and the ability to extract and
manipulate data, does not require a distributed computing
capability, with the physical location of computers in each state
or territory. Moreover, use of bureau services is only one of a
number of options not considered by the Department, and arguments

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2. Proposal to Acquire Computing Facilities for Department of
    Community Services, Submission to the Joint Parliamentary
    Committee of Public Accounts, Appendix 1, p. 65
3. Review of DCS Proposal, Appendix 2, p.176
4. Department of Community Services supplementary submission,
    Appendix 3, pp. 200-201

against bureau services do not negate the Committee's contention
that the Department has not considered a range of options other
than a distributed computing capability, which could provide
decentralised control of computing resources.

6.8   In the Committee's view, there are three aspects to the
question of effective control over computing resources:

.   control over the development of applications;

.   control over access and the submission of work to
    be processed; and

.   control over computing hardware and operating
    systems.

6.9   Control over the development of applications is
essential. The Department has indicated that applications
development will be carried out centrally. It is therefore
apparent that this aspect of control was not a factor in the DCS
decision to acquire a distributed computing capability.

6.10   Control over access to computing resources and the
submission of work to be processed is also essential if managers
are to be properly accountable for the achievement of output
objectives. This aspect of control does not depend on the
physical possession of a facility, rather it requires the
provision of sufficient and properly located terminals and an
adequate budget for computing time and storage.

6.11   Control over computing hardware and operating systems,
while desirable, is not essential. It is desirable because it
enables the acquisition of hardware and operating software
tailored to an organisation's specific requirements, whereas
computer facilities which are controlled externally are likely to
be less than optimal. The decision on whether the desirability of
this aspect of control is sufficient to justify the physical
possession of computing facilities requires an examination of the
costs of acquiring and operating the facilities against the costs
of using less than optimal centralised or bureau systems. With
reference to the DCS proposal, it should be noted that it is not
possible to tailor a State Office computer for all the programs
using it.

6.12   The Committee notes the following advice from the
Department of Finance:[1]

> While DCS has prepared detailed costings for
> its preferred option of a decentralised
> processing system, we feel the possibility
> of utilising a centralised system with
> decentralised control could have been more
> fully explored. Our own experience leads us
> to believe that centralised systems are not

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1. Memorandum to the Secretary, Joint Committee of Public
    Accounts from the Department of Finance, dated
    9 September 1986

necessarily more prone to failure or industrial action. At the same time, decentralised systems are generally more expensive in terms of maintenance.

DCS has costed the centralised option on the basis of two medium-sized computers (IBM 3090 Model 150). Because the use of a single more powerful computer (eg an IBM 3090 Model 180) could result in reduced capital costs, this possibility should be specifically addressed in the submission.

6.13   The Committee considers that DCS has not adequately evaluated alternative, and possibly lower cost, options, nor demonstrated that they would not meet its processing requirements while allowing devolution of adequate control over computing resources to State Offices.

6.14   Furthermore, given previous findings about the lack of justification for system capacity requirements and applications, the Committee considers that the Department should also examine a range of less ambitious but potentially more cost effective options, which do not include the computerisation of lower priority applications. The Department of Community Services should be looking to establish quite clearly which of its proposed applications have the highest priority. The Department should be examining the costs of individual lower priority applications to determine whether computerisation of these currently manual systems is cost effective. It may well be that the most cost effective option for meeting the Department's information requirements will incorporate a mix of computer-based and manual systems.

REVIEW OF THE COST/BENEFIT ANALYSIS
PROVIDED IN THE DEPARTMENT OF COMMUNITY SERVICES'
SUBMISSIONS OF 8 JULY 1986 AND 7 AUGUST 1986

Cost/Benefit Analysis

7.1   The Committee's guidelines to departments on its information requirements for proposed acquisitions of ADP facilities, require departments to provide a cost analysis of each option with a detailed benefit/cost analysis of the most promising of these. Four options were considered by the Department of Community Services in its submission to the Committee. The Department undertook a cost/benefit analysis comparing two of the options.

7.2   The Department's analysis is at Attachment A of its submission of 8 July 1986 (Appendix 1). This analysis was subsequently modified by the Department after the Committee sought clarifications. The Department's modifications are provided in its supplementary submission (Appendix 3).

7.3   The Department found that Option B (its preferred option of a distributed computing capability) had a positive Net Present Value of $29.389 million over a ten year period compared to a negative Net Present Value for Option A (the continuation of existing levels of support provided by the Departments of Social Security and Health) of $31.835 million. A distributed computing capability was therefore found to be clearly more cost effective that the continuation of the use of existing computing facilities in the Departments of Health and Social Security.

7.4   The Committee considers that the Department's analysis contains a technical error such that, when the analysis is corrected, Option B is not seen to be cost effective.

7.5   The Department used the technique described in the Public Service Board's 'Guide to the Cost Effectiveness Analysis of ADP Systems'. This technique is a restricted form of cost/benefit analysis applicable to two alternative investment proposals. It allows costs and benefits common to both proposals to be excluded from the analysis and in the form prescribed in the PSB Guide, assumes that the outputs (benefits) of each alternative are the same.[1]

7.6   In the analysis presented in the Department's submission, Option B produces greater output than Option A, thus violating the basic assumption of the cost effectiveness technique. The Department treated all quantified output differences between the two options as benefits accruing to Option B whereas some are in fact costs attributable to Option A.

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1. 'Guide to the Cost Effectiveness Analysis of ADP Systems', Public Service Board, AGPS, Canberra 1981, p. 4

These costs are 'Notional Staff Savings' described by the Department as 'the salaries of staff that would be required to raise Option A to the same performance level as Option B'.[2]

7.7   The correct treatment is to include the notional salaries as a cost of Option A and regard the outcomes of the two options as equivalent. Thus the alternative proposals which should be considered in the cost effectiveness analysis are:

- Option B - the distributed computing capability; or

- Option A - existing administrative systems (computing and manual) improved by the employment of additional staff to perform functions which will raise administrative performance to the level obtainable by Option B.

7.8   The comparison of the options can proceed strictly on the basis of costs. The relevant costs for Option B are those attributed to it in the Department's analysis. The relevant costs for the modified Option A are the costs of existing procedures as given by the Department, plus the costs of the staff required to achieve the same outcome as Option B, ie $25.371 million.

7.9   In summary the Committee estimates that the total present values of the costs over ten years of the options are:

- Option A - Current operating costs $ 31,835,000
              Additional staff costs $ 25,371,000

              Total $ 57,206,000

- Option B - Anticipated costs $ 75,407,000

7.10   These data indicate that the cost effective course of action is to improve the performance of existing administrative procedures, through the employment of additional staff.

7.11   The Committee accepts that the functions and associated staff costs have been identified for the purpose of establishing some basis for assessing the benefit of the proposed computer facilities rather than as part of a genuine study of an alternative proposal. The Committee considers that the employment of additional staff of the number and required skill level would probably not be possible, and that therefore Option A should not be regarded as a realistic option.

7.12   Notwithstanding, the Department has not demonstrated the Option B to be cost-effective in comparison with Option A or indeed other options.

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2. Department of Community Services Supplementary Submission, Appendix 3, p.213

7.13   The Committee is also concerned that the Department's analysis contains no discussion of the external effects of the proposed acquisition. The Department is a user of existing computer facilities in the Departments of Health and Social Security. The Committee is aware that the proposed acquisition, were it to proceed, would increase the total computing capacity in the welfare area by nearly 27 MIPS (millions of instructions per second). At the same time computing capacity in the DOH and DSS computers currently used by DCS would become available for other uses, or be idle.

7.14   Under such circumstances, it is essential that these costs and benefits of the proposal which are external to DCS but still accrue to the Commonwealth, are considered by the Department of Finance in its examination of the cost effectiveness of the proposal.

REVIEW OF THE PROPOSAL BY THE DEPARTMENT
OF COMMUNITY SERVICES TO DEVELOP ITS
COMPUTER SYSTEMS IN A FOURTH GENERATION LANGUAGE

8.1   The Department of Community Services has indicated in its submission that it intends to use a high level, fourth generation programming language (4GL) to develop all its systems rather than a mixture of 4GL and third generation programming languages.[1]

8.2   The Committee is concerned that the Department does not appear to have subjected this proposal to critical examination.

8.3   Fourth generation languages are said to be easier to learn and use than earlier generation programming languages which require the expertise of professional computing staff for effective use. They have applications ranging from short on-line enquiries to use in large systems, and are useful for prototyping systems. They are said to be capable of reducing program development time by factors ranging between 2 and 10, and may also facilitate maintenance of existing programs. There are disadvantages to their use, especially in the construction of larger, integrated systems.

8.4   It is likely to be more efficient to use a 4GL than an earlier generation programming language for small on-line data base enquiries. But as the systems become larger, the benefits reduce. This is partly because the amount of time spent coding and testing programs is smaller compared to the amount required for analysis, design and implementation. Poor analysis and design and inefficient coding techniques can lead to gross inefficiency in the use of processing resources. Examples exist of computer processing resource usage ranging up to 50 times what could have been achieved with a third generation programming language.

8.5   As the complexity of the task to be performed increases, the potential for gross inefficiency rises rapidly. Having end-users undertake complex coding tasks increases the risk of this occurring substantially. Unless end-users are trained in systems analysis and design techniques as well as efficient 4GL coding techniques, they will lack the skills necessary for the development of the larger systems to the extent possible with the smaller systems. Thus, anticipated savings in professional computing staff may not be achieved.

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1. Proposal to Acquire Computing Facilities for Department of Community Services, Submission to Joint Parliamentary Committee of Public Accounts, Appendix 1, p. 74.

8.6   In noting these points, the Committee concedes that 4GLs are valuable programming tools, but is concerned that they should be used only where appropriate. The Committee observed that the impact of the Department's work based entirely on a 4GL had not been considered in its submission, and that a plan based on this approach could run into staffing problems (availability and training) and equipment performance problems.[2]

8.7   The Department's response included no reference to 4GLs, nor to the relevance or otherwise of the above arguments to the Department's use of 4GLs.[3] The Committee has seen no evidence that the Department has considered issues of training or the rate at which existing staff can take up technology of the type envisaged in relation to the tasks they will be asked to perform. Nor has argument been provided about the advantages of a 4GL over a third generation programming language for particular tasks, or their inherent convenience and costs.

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2.   Review of DCS Proposal, Appendix 2, p 169.
3.   Department of Community Services Supplementary Submission, Appendix 3, pp. 195 and 216.