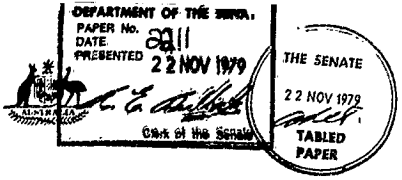


THE PARLIAMENT OF THE
COMMONWEALTH OF AUSTRALIA

JOINT COMMITTEE ON FOREIGN AFFAIRS AND DEFENCE

AUSTRALIAN DEFENCE PROCUREMENT

NOVEMBER 1979

THE PARLIAMENT OF THE
COMMONWEALTH OF AUSTRALIA

JOINT COMMITTEE ON FOREIGN AFFAIRS AND DEFENCE

AUSTRALIAN DEFENCE PROCUREMENT

NOVEMBER 1979

SUB COMMITTEE C - DEFENCE MATTERS

REPORT ON PROCUREMENT POLICY

Mr Roger F. Shipton, M.P.,
Chairman,
Joint Committee on Foreign Affairs
and Defence,
Parliament House,
CANBERRA.

Mr Shipton,

On 12 April 1978 this sub committee was given the following terms of reference:

1. The implementation and effectiveness of Australia's announced defence programmes, with particular reference to procurement policy.

2. The capacity of the three services to meet requests for assistance by the civil authorities, such as for coastal surveillance.

The sub committee has pleasure in submitting its report on that part of the terms of reference relating to procurement policy.

R.C. Katter, M.P.
Chairman

23 October, 1979

LIST OF MEMBERS

Full Committee

Mr R.F. Shipton, M.P. (Chairman)
Senator the Hon. R. Bishop (Deputy Chairman)
Senator B.F. Kilgariff
Senator K.J. Martin
Senator K.W. Sibraa
Senator J.P. Sim
Senator the Hon. J.M. Wheeldon
Senator H.W. Young
Mr J.L. Armitage, M.P.
Dr N. Blewett, M.P.
The Hon. G.M. Bryant, E.D., M.P.
The Hon. J.D.M. Dobie, M.P.
Mr R. Jacobi, M.P.
The Hon. R.C. Katter, M.P.
Dr R.E. Klugman, M.P.
Mr S.A. Lusher, M.P.
Mr J.R. Martyr, M.P.
Mr M.J. Neil, M.P.
Mr G.G.D. Scholes, M.P.
Mr J.R. Short, M.P.
Mr B.D. Simon, M.P.

Sub Committee on Defence Matters

The Hon. R.C. Katter, M.P. (Chairman)
Senator the Hon. R. Bishop (Deputy Chairman)
Mr J.L. Armitage, M.P.
The Hon. G.M. Bryant, E.D., M.P.
Senator B.F. Kilgariff
Mr M.J. Neil, M.P.
Mr G.G.D. Scholes, M.P.
Mr J.R. Short, M.P.

Adviser

Commodore K.D. Gray, DFC, RAN (Rtd.)

Specialist Research Officer

Mr G.M. Brown, Parliamentary Library

CONTENTS

INTRODUCTION

This Report discharges the Reference to Sub-Committee 'C' of the Joint Standing Committee on Foreign Affairs and Defence:

> The implementation and effectiveness of Australia's announced defence programmes, with particular reference to procurement policy.

A separate Report is in preparation on the second Reference to the Sub-Committee:

> The capacity of the three Services to meet requests for assistance by the civil authorities, such as for coastal surveillance.

The preparation of the current Report has been an exacting, arduous and occasionally controversial task taking more than eighteen months to complete.

Formal hearings were commenced in June 1978, while submissions and oral evidence were taken until October 1979. The volume and scope of the evidence testifies to an abiding and increasing interest in defence matters among the community, and the Committee wishes to thank all those who took the trouble to place their views before it. The activities of the Committee have made a contribution to public awareness of defence in Australia, and it is our hope that this awareness will continue to grow. A list of witnesses may be found at Appendix D.

In this Report, the Committee is concerned with strategic policy, Defence Force capabilities, industrial infrastructures and Government organisation as they relate to defence procurement. The Report deals with the entire procurement process in sequence, from initial strategic assessments through

to the acquisition of major equipments. The Chapter on 'Local versus Overseas Production' picks up issues raised in a previous Report of this Committee on 'Industrial Support for Defence and Allied Matters' and examines them in the light of developments since the tabling of that Report in October 1977.

In some cases, the Committee has been unable to agree with the Department of Defence on matters of particular significance. In all cases, however, the Committee's views have been formed only after exhaustive scrutiny of all the evidence and of other relevant sources of information. The Committee has found many aspects of the Department's approach to, and administration of, defence procurement with which it fully concurs, and does not wish that areas of disagreement be overstressed. Where agreement has not been possible, the Committee commends to the Parliament, the Government and the Department of Defence a close examination of the reasons for disagreement. In this way, the Committee hopes that solutions which meet problems apparent from the evidence and enhance our overall defence preparedness can be found.

The inquiry was greatly facilitated by cooperation received from the Minister for Defence, the Hon. D.J. Killen, M.P. and the Minister Assisting the Minister for Defence, the Hon. J.E. McLeay, M.P. and the Committee extends its appreciation to them.

The Committee desires to thank those Government Departments, particularly the Department of Defence, which gave of their time and resources in response to requests for evidence or additional information. The Committee especially thanks the then Secretary of the Department of Defence, Sir Arthur Tange, A.C., C.B.E., and the Chief of the Defence Force Staff, Admiral Sir Anthony Synnot, A.O., C.B.E., R.A.N., for appearing before it.

The Committee had the benefit of the services of Commodore K.D. Gray, D.F.C., R.A.N. (Rtd.) and Mr G.M. Brown, Defence Specialist of the Department of the Parliamentary Library, as specialist advisers. Mr R.J. King acted as Secretary. To them and to the Department of the Senate staff goes the Committee's thanks for their diligence and assistance. The Committee also expresses its gratitude to the Parliamentary Reporting Staff and the Australian Government Publishing Service.

By order of the Committee,

R.F. Shipton, M.P.
Chairman

13 November 1979

MAJOR RECOMMENDATIONS

1. That an inquiry into the expansion capability of the Defence Force be conducted. (Chapter II, p.30; Chapter VII, p.137.)

2. That Australia's defence-related industries be developed to make us as free as possible from reliance on overseas sources of supply. (Chapter VI, p.133.)

3. That changes in the size and shape of the Defence Force and improved self-reliance in local defence production be implemented during the present period of favourable strategic outlook, and not delayed until some apparent threat emerges. (Chapter II, p.48.)

4. That, to assess the level of financial resources which should be allocated to the acquisition of major new equipments, the Government should:

   (i) determine the most effective security strategy for Australia;

   (ii) identify the major capabilities required to satisfy that strategy;

   (iii) establish any deficiencies in major capabilities;

   (iv) determine generic type options to make good those deficiencies; and

   (v) develop a program to introduce those generic type equipments over a period of ten years.

(Chapter II, p.44.)

5. That a concerted attempt be made to develop a bi-partisan approach to defence issues and that the Parliament endorse the ten-year equipment program through some form of supplemental budgeting procedure. (Chapter II, p.45.)

6. That Government act to improve the present system for procurement of defence equipments in Australia so as to remove present disincentives for industry and the Defence Department. (Chapter IV, pp.89-91.)

7. That the Department of Defence investigate ways of reducing the contribution of its decision making processes to equipment acquisition lead times and, if reduction is not possible without reducing the quality of decisions, that some major equipments be acquired ahead of the period of strategic warning. (Chapter III, pp.71-72.)

8. That functions of the Department of Administrative Services relative to the procurement of major military equipment for the Defence Force be transferred to the Department of Defence. (Chapter V, p.108.)

9. That the technology base of Australia's defence industries be expanded by:

   (i) provision of a stable workload in those industries with limited non-defence application;

   (ii) accepting apparent cost-disadvantages for local production where the apparent disadvantage is small, and charging the disadvantage against a defence-industry development role rather than against defence itself;

(iii) making early identification of requirements and not reversing equipment decisions previously advanced as final; and

(iv) developing increased communication with industry and involving Australian industry in the development of new equipment requirements as early as possible.

(Chapter VI, pp.132-133.)

CHAPTER I

THE STRATEGIC CONTEXT

Introduction

A nation's strategic environment is the prime determinant of its defence objectives, strategies and doctrines and of the defence forces it maintains. Thus it is a prime determinant of its defence procurement policy. The nature and size of capabilities required in the armed forces at any given time to meet ongoing commitments, and as a basis for expansion to meet contingent situations of conflict, must be assessed against that environment.

There are both internal and external elements of Australia's strategic environment. Internal elements are relatively or totally static and relate to our geographical location, our strategic significance, our geo-physical features, our population, resource, economic, education and technological bases, our political and social systems, and our national will. The principal external elements, which are dynamic and must be subject to detailed and continuing study, are: the prospects for world, regional and neighbourhood stability and the implications of any perturbations for our security interests; the potential of any foreign country to initiate action which would be inimical to our security interests; the attitudes of third countries, including allies, friends and neighbours, to us and our adversary should we become involved in conflict; and the essential nature of our environs.

The Strategic Assessment Process

The Committee has been advised by senior officials of the Department of Defence that its strategic assessment is an amalgam of strategic intelligence assessment and strategic analysis and that this is an ongoing activity with continual monitoring of the strategic environment.

The strategic intelligence assessment is provided by the Office of National Assessments in co-operation with the Joint Intelligence Organisation and endorsed by the National Assessments Board. Essentially, the process involves looking into the future and making judgments relating to the military capabilities and intentions of foreign countries of defence concern to Australia. In this regard the Committee notes that military capabilities can be monitored and measured accurately; intentions are much less readily apparent and need to be assessed against political motivations and objectives, public statements, actions, the size and shape of the armed forces maintained and the state of readiness of these.

Strategic analysis is the process of considering all those aspects of the world strategic situation which are perceived to have implications for Australia's defence posture and capability requirements. These include: relations between the super-powers (the US and the USSR); the activities of major regional powers in the Indo-Pacific area; the prospects for conflict in areas remote from Australia; and the likely pattern of events in Australia's area of primary strategic concern - our adjacent maritime area, the South West Pacific, Papua New Guinea, Indonesia and South East Asia; the circumstances under which Australia could become involved in conflict and the attitude of our allies and friends to any such involvement, together with the

broader issues of nuclear proliferation and Law of the Sea. This analysis is prepared for and endorsed by the Defence Committee.*

* A list of Committees referred to in this Report, their memberships and functions, may be found at Appendix A.

The strategic intelligence assessment and the strategic documents are 'customarily conveyed by the Minister to Cabinet and there discussed with him'.* This causes the Committee some

* Hansard, 25 July 1979, p.2089.

unease. The security, and possibly the survival of the nation depends on the guidance tendered in these documents which are endorsed only at the officials' level. The Committee believes that they should be endorsed formally by the Cabinet, which would then accept responsibility for their adequacy.

The last public, comprehensive strategic assessment was provided in the White Paper: 'Australian Defence', Parliamentary Paper No. 312/1976. The thrust of that assessment was that:

> 'Strategic pressure or direct military threat against Australia, its territories, maritime resources zone, or lines of communication are at present not estimated as probable. But important changes have been noted that give rise to significant uncertainties in some respects.'

Since 1976, however, major events have taken place in the North West Indian Ocean littoral, Asia and southern Africa which emphasise the speed with which change can take place and the difficulties in forecasting changes. These events could erode stability and thus provide a greater measure of uncertainty in these areas and, indeed, in the central balance of power.

Several witnesses have been critical of the strategic assessment process. The criticisms investigated by the Committee have related to an alleged lack of positive guidance, to the emergence of events which have not been perceived, to the

uncertainty of the strategic environment, and to a 'no threat' syndrome which has given rise to a sense of complacency and justification for a reduced defence posture, particularly in a period when there are competing demands for available resources.

Of necessity the guidance provided cannot be absolute; it cannot identify that certain possible future threats are likely to arise in particular time-frames. It can, and does, based on military capability studies, identify the most likely earliest time that certain contingent situations could develop, their likelihood and their significance.

The Department of Defence accords a high degree of confidence to the timely perception of indicators of change to our strategic environment insofar as the threat of major attack against Australia is concerned. Contemporary shifts in Australia's strategic circumstances are kept under continuing review, and the Minister informed of any requirement for policy action not previously contemplated. While it seeks to provide surprise free projections it acknowledges the prospect of lesser contingencies arising with only scant warnings or perhaps no warning at all. The Department of Defence's perception of the strategic outlook appears to be influenced by Australia's distance from major or medium powers, its natural barriers to invasion, the central balance of power, which promotes a high degree of world stability, the stability of the region, and the low level of military power indigenous to Australia's primary area of strategic concern.

The stability of the central balance of power and regional stability are now less certain as a consequence of recent events in the Indian Ocean littoral and in Asia. In the North-West Indian Ocean the USSR has made significant gains at the expense of the US and the Western Alliance. Much will depend on the characteristics of the new regime in Iran: at best, it will be less pro-Western in its attitudes, at worst, anti-Western. Events in Iran could, moreover, have far-reaching

consequences throughout the Islamic world extending from North Africa to Indonesia, where a major resurgence of religious values and greater co-ordination of common objectives between Muslim States may eventually alter the attitude of those States to world economic, social and political issues. This would have strategic implications for Australia in the future. Muslim pressures in Indonesia and the Philippines could produce de-stabilising factors in Australia's region.

In Asia, although strenuous efforts have been made to limit the border conflict between China and Vietnam, there will remain a legacy of suspicion and animosity. The outcome could have direct implications for Australia in respect of its effects on regional countries. They may seek to strengthen their security, unilaterally or multi-laterally, or they may seek some accommodation with any power emerging as the apparent dominant regional power. Any major developments in the size and shape of their military capabilities could seriously affect the regional military balance, the prospects for continuing stability, and the period of warning which would be likely to be available before the threat of major attack could emerge.

The uncertainties outlined above serve to validate the criticisms relating to the difficulties in perceiving the unexpected, and a 'no threat' syndrome. When events can be demonstrated to move as quickly as they have over the past months, and where there are destabilising factors at work in Australia's region, a concept of developing the nation's defence strategies, doctrines and the force-in-being against fallible, long-term assessments has inherent risks. In the following Chapter the Committee considers a range of optional approaches which may be used to determine the requirements of the Defence Force.

Threat of Major Direct Attack

There are a number of abiding environmental factors which dictate the capabilities which a potential enemy would require before it could pose a credible threat of invasion or major direct attack which could jeopardise the survival of Australia as an independent nation. Broadly these are long-range maritime and air strike capabilities, specialised sea and air transports, and the probable need to have access to facilities close to Australia to reduce the length - and vulnerability - of lines of communications, and to provide close support for offensive operations.

The size and shape of the forces which an enemy would need to mount a major attack against Australia would clearly depend on: the identity and geographical location of the aggressor; the availability of any intermediate facilities or access to these; the distances over which the attack must be launched; the offensive strategies which the enemy had developed; the political objectives which the enemy hoped to achieve; the defence forces which Australia had in being and capable of early mobilisation; and the enemy's perception of these, of Australia's vulnerabilities, and of the physical difficulties involved in mounting a successful attack. In this regard it is noteworthy that, in March 1942, a Japanese study estimated that a force of 12 divisions (one more than was required for the conquest of all of South-East Asia), 1 to 1.5 million tons of shipping and naval support from the whole Combined Fleet would have been needed for an invasion of Australia*. It was impossible for Japan to meet

---

* Hattori, Takushiro. Complete History of the Greater East Asia War. Tokyo, 1953. Part III, p. 112-129.

this requirement. This was after more than a decade of militarist government in Japan, with the nation geared to total war. In the assault phase of the Allied invasion of Europe, over 1,200 combatant and 5,600 non-combatant ships, and more than 10,000 front-line aircraft were required to support an assault by 17 divisions across the narrow waters of the English Channel.

It is probable that an enemy intent on invasion would have available merchant ships and civil aircraft which could provide the necessary sea and air lift requirements. These would require protection on passage, however, and air and sea support at the vulnerable assault landing phase. A very considerable surface fleet and associated air support would be needed to protect an invasion fleet and to secure the lines of communication providing follow-up maintenance support. Essentially, an offensively oriented force structure would be required by a potential aggressor. Unless Australia had left its advanced airfields and ports undefended the force would need to be landed across the beaches in specialised craft. Until airfields had been taken or established in the lodgement area, access would need to be available to airfields in a co-operating country within close range, or seaborne air platforms would be required to provide air support to the invasion force. Clearly, invasion of Australia would be a formidable task for any power. A potential aggressor would be aware of the problems involved and the magnitude of the task; a rational aggressor would not embark on its execution until it had acquired the appropriate equipments and developed their effectiveness sufficiently to ensure a high degree of prospect for success. The acquisition of the necessary capabilities by a potential enemy should be readily apparent to Australia.

There is no country in the Indo-Pacific region which currently maintains the necessary levels of the capabilities required to pose a threat of invasion as opposed to major raids or lodgements. There are several countries which have the potential to develop the capabilities required for invasion, but it would take not less than five years - and in most cases up to ten - for these to be acquired and introduced into effective service. Although the super-powers do have the means to pose such a threat, their ability to deploy and maintain the necessary forces at the required distance from their home bases would be

greatly reduced. They would, moreover, be heavily constrained in the extent of their distant deployments unless there occurred major changes in the world environment which allowed them to reduce the close protection of their homelands.

An alarming situation would arise should a super-power provide a massive infusion of military aid, including the necessary offensive equipments, to a regional country. Such aid would still take some years to introduce into effective service, but this could be reduced if the supplying nation or a proxy also provided key combat personnel, technicians and advisers.

The Committee agrees that, in the absence of the unforeseeable occurring, there would be indicators, probably of at least five years, of the likelihood - or even the feasibility - of invasion of Australia. Whether that period would be timely or not, however, would depend on how quickly the indicators were perceived and acted upon, the identity of the potential aggressor, the defence strategies and doctrines adopted, the size and nature of the Australian force-in-being at the time the emerging threat is acted upon, the national will, and the willingness and/or ability of potential allies to come to our support. The Committee is particularly concerned with three aspects:

- that the force-in-being or in prospect should be sufficient to ensure that a potential enemy perceives that the cost and risk of invasion or major attack is too high to be acceptable;
- whether the present force-in-being could be expanded to the required size within the period of likely warning; and
- the level of support which would be likely to be forthcoming from our allies.

The Committee considers that it has a basic philosophical difference with the Department in respect of warning of invasion or major direct attack against Australia. We accept the convincing evidence provided by the Department that, *as at 1979 and for as long as regional countries maintain* their current military capabilities, it would require a period of some five to ten years, for any of these countries to develop the specialised capabilities necessary to make such a threat feasible. We diverge, however, from the Department in the action which should be taken in the period short of any warning. The Departmental attitude appears to be that it could respond to the emergence of any indicators preceding a threat and develop the force capability necessary to meet a specific threat within the period of warning; until any indicators did emerge the only action to be undertaken in respect of the force-in-being would be to update its capability: its size and balance would remain fundamentally unchanged. The Committee argues that the period short of any indicators of impending invasion or major direct attack against Australia is the time when the fundamental concepts of our defence policies and strategy should be examined and, if necessary, the force-in-being should be reshaped and restructured to compound the problems of any country which should develop an intent inimical to Australia's basic security.

The Committee notes that the 1976 White Paper foreshadowed the need for a five year program of $2,320m (at January 1976 prices) for ships, aircraft, armour and other equipments and plant 'to strengthen defence and correct existing shortcomings and imbalances'. The subsequent reductions in actual allocations to Defence have meant that the shortcomings and imbalances perceived in 1976 have been perpetuated, and that the force-in-being does not provide an adequate and appropriate base for expansion. This position would be exacerbated if unforeseen major contingencies developed in the shorter term.

It is not possible to assess the size and shape of the Australian Defence Force which would be required to provide a successful defence against major attack until a potential aggressor is identified and the likely scale and nature of its attack is assessed. With their existing and authorised new equipments, Australia's naval and air forces would be clearly unable to conclusively defeat a major assault by the type of forces a potential determined, rational aggressor would have in effective service before embarking on such an act.

The extent to which the naval and air forces could be expanded within a period of effective warning would be constrained by the lead-time applicable to major naval and air equipments. Starting from the existing base a massive expansion, capable of comprehensively destroying an invading force of a determined enemy in passage, is most unlikely to be capable of attainment within the period of effective warning. If there is no assurance that naval and air forces could destroy an invading force in passage, then there would be a requirement to have the capacity to expand the ground force. In any case, the larger the defending ground force the larger would be the need for the invading force and the larger the vulnerable transport force. A rough rule of thumb requires that the attacking force should outnumber the defending force by a factor of at least three to one; a defending force of two divisions would require an attacking force of six divisions. As the defending force is increased so is the requirement for the attack force. A detailed independent study* has shown that it would take from two and half to five years defence preparation to provide a trained ground force of 150,000, or between four and eight years to provide an Army of 250,000. The larger figure would be the more realistic requirement in a situation in which the aggressor reached

---

* Babbage, Ross. Australia's Strategic Re-orientation - Some Important Implications. In Robert O'Neill (ed.), The Defence of Australia: Fundamental New Aspects. Canberra, Strategic and Defence Studies Centre, Australian National University, 1976, pp. 11-12.

Australia largely unscathed. Of course, should Australia's naval and air forces be expanded substantially before any threat emerged, the cost and risk to the aggressor of a major attack could be shown to be unacceptable.

Without being specific, the Department of Defence has provided assurances that a considerable expansion of the Defence Force could be achieved over a short period if there should be sufficient cause for concern, if money is made available and national mobilisation of manpower and resources is introduced.

The announced defence policy acknowledges the need for Australia to be progressively more self-reliant, although the emphasis is placed on acquiring a higher degree of combat self-reliance. Much evidence has been provided to the Committee indicating that there is reluctance at the official level to improve Australian defence-related industries to provide a higher degree of equipment self-reliance. This matter will be discussed in detail in Chapter VI. At this stage the Committee wishes to flag the points that: Australia is separated from its overseas suppliers of defence equipment by long lines of communication; those line of communication are vulnerable and potentially capable of interdiction (although Australia's dependence on the use of foreign shipping for the carriage of its overseas trade restricts this possibility to the context of a general threat to Western shipping); in a deteriorating world situation overseas suppliers would be likely to accord higher priority to their own needs rather than Australia's; and that, in a conflict with a regional country, overseas suppliers may be unwilling to provide Australia with its requirements.

The Committee is further concerned that the possibility of nuclear war cannot be discarded. Although the super-powers are seen to be anxious to contain that possibility, there remain the risks of miscalculation and human fallibility. Should a nuclear exchange occur the resultant devastation would have potential for

cataclysmic change in the central and regional balances of power. In the ensuing chaos, medium and small powers would need to be wholly self-reliant for their security. The Committee does not advocate that this contingency should be a prime determinant of our procurement policies. It does, however, strengthen our view that an increasing degree of self-reliance in defence production is necessary.

Lesser Contingencies

There are many contingent situations short of invasion or major direct attack which could involve Australia. A country wishing to achieve political objectives against Australia by the use of military pressure would be more likely to resort to these than to major attack as the risk and cost would be lower. The initiative would be with the aggressor, with the aggressor selecting options which it believed it could perform from within its existing resources or with only small augmentation. Factors pertinent to the nature and scale of the enemy activity would be:

- the political objective to be attained should be important, not attainable by other means, 'respectable' in world and/or regional opinion, and capable of achievement by the means employed;

- the activity should not evoke a response from Australia which would threaten the security of the homeland;

- the associated risks and costs should be commensurate with the political gains;

- the means employed should be capable of completing the task, including handling any local escalation, and should be related to Australian vulnerabilities; and

- the interests of third countries should not be put at risk by the activity except where third countries are grouped with Australia as countries from which concessions are sought.

It is possible to conceive a wide range of lesser contingencies which may be grouped into medium and low level. The level of activity selected would be determined primarily by the political objective. There would probably be a period of deteriorating political relations, marked by acrimonious debate between Australia and an antagonist, before lesser contingencies arose and this would provide some strategic warning; tactical warning would be provided by the mobilisation and deployment of enemy forces. Warning of medium level activities would be likely to be greater than for the low level activities, but would be measured in weeks rather than months, while effective warning of low level activities may be measured only in days or they could occur without effective warning. Allied support could be forthcoming in respect of medium level activities but would be more likely to be non-combat support. If time permitted there could be some mobilisation of the nation's resources for medium level activities but any major disruption to the normal life of the Australian community would serve to achieve the enemy's objectives.

A representative, but not exhaustive, list of medium and low contingency scenarios, consistent with the factors pertinent to their nature and scale, would be:

Medium Level

- the threat of, or actual attack against our lines of communication, either in isolation or in the context of a general threat against Western lines of communication. If it occurred in isolation, it would most likely happen in

areas close to the enemy's territory; if it occurred in the context of a general threat, Australia would be most interested in its vital lines of communication across the Indian and Pacific Oceans and through the island chain to our north;

- the seizure of isolated island territories;

- raids against key military and/or civil installations and facilities, especially in isolated areas. To qualify for medium level status, such raids would need to be on a continuing basis or comprise seize-and-hold type operations against major facilities or resource installations;

- the blockade of selected ports;

- external aggression against a regional country, the security of which is highly important to Australia;

Low Level

- sporadic raids against isolated military and civil facilities, installations and centres of population;

- harassment of our shipping, fishing activities, and offshore exploration and exploitation;

- sporadic intrusions into our maritime and air space;

- military support for the illegal (in our view) exploitation of our offshore resources;

- the planned introduction of exotic diseases or the support of illegal migrants or drug-runners;

- harassment of our nationals or a threat to their safety in overseas countries; and

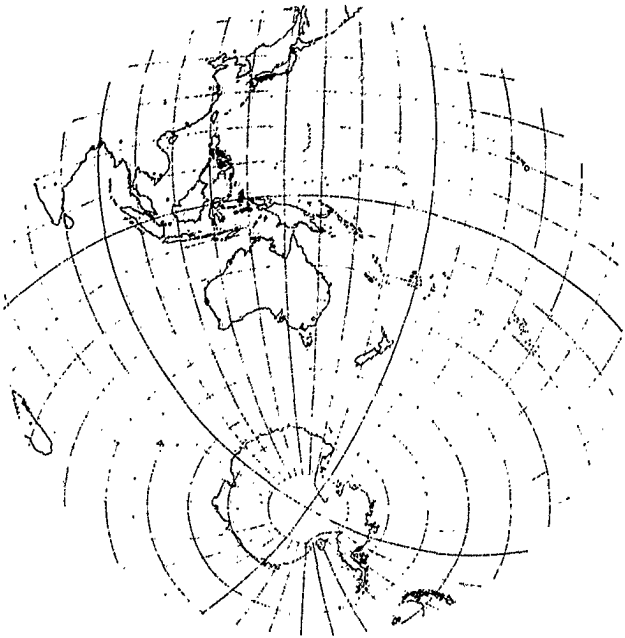
- external support for dissident elements in, or military pressures against, a regional country the security of which is important to Australia.

At this stage the Committee considers there is no issue between Australia and any other country which could lead to that country taking action which could require a military response. Matters can change rapidly, however, and prospective dispute situations emerge with little or no warning.

Promoting Stability

The many uncertainties which abound through the Indo-Pacific area, particularly the competition between a number of countries to gain positions of regional hegemony or major influence, provide potential for local confrontation or conflict which could have implications for Australia. Where these implications are seen to be directly relevant to our long-term security interests any Australian Government would wish to have the option of attempting to influence events and contributing to the stability of the region by the demonstrable capability to support regional countries under threat or pressure. In the wider field, the fragile nature of world stability and stability in regions remote from Australia, could cause Australia to wish to have the option of contributing to peace-keeping operations or to the Western Alliance.

THE HEMISPHERE CENTRED ON AUSTRALIA



AZIMUTHAL EQUIDISTANT PROJECTION NMP 79/080.3

Mention has already been made of the abiding environmental factors which would ensure, at this stage of development of regional military capabilities, that significant warning of a major attack against Australia would be available and of the factors which would determine whether that warning period would be timely enough for us to develop an adequate defence. A highly important factor in establishing whether a threat of a major attack against Australia could develop in the longer-term is the essential nature of our environs.

Australia's environment is the South Pacific, Southern and Eastern Indian Oceans, and the island chain to our north, with important lines of communication extending into the North West Indian Ocean, around the Cape of Good Hope, to North-East Asia, and across the Pacific. A major threat to our survival as an independent nation could arise - short of a ballistic missile attack or threat of such attack - only from or through those areas or if those lines of communication were placed under threat. Lines of communication aside, the area extends from about 10^{o} North to Antarctica and from about 90^{o} East longitude to 130^{o} West - roughly one-sixth of the earth's surface.

Within that area live 200 million people, most of these in the north-western quadrant. Australia and New Zealand are the only developed states in the area, although Indonesia - with its large population, high resource potential and strategically important geographic location; and Singapore - with its advanced technology potential and geographic position - are highly important countries. The remaining countries - island states - are deficient in resources, have poor economic prospects, and, in several cases, are subject to divisive forces. By unilateral declaration or under the prospective Law of the Sea Treaty, they do, however, command large areas of maritime space, and their geographic locations have strategic potential particularly relevant to the security of lines of communication.

The north-western quadrant is of particular strategic significance to the super-powers, as secure passage through the area is vital to their world-wide deployment capabilities and possibly to their strategic nuclear capabilities. Thus it is likely that there will be an ongoing competition for influence in Indonesia in particular. In the remainder of the area the potential for competion will be less pronounced, except in areas where fisheries or other offshore exploitation prospects are good. Pressures, including military pressures, are likely to be associated with competition, so it can be expected that countries of the region will be increasingly subjected to pressures.

Because of their educational, resource, economic and technological bases, it is likely that regional countries will be capable of maintaining only low technology capabilities, related primarily to containing local insurgency situations where those occur and to the protection of sovereign rights in their maritime space. In some cases they could be attracted to foreign offers to provide more advanced military capabilities in return for favoured treatment or access. Because of the great distance from homeland bases it would be difficult for external powers, even the super-powers, to sustain large deployments in the area. On the one hand this will reduce the level of military capability in the area but, on the other, it provides an additional incentive for external powers, with interests in the area, to seek access to facilities.

In this area there is a role for Australia - with its relatively high technology, resource and economic potential and its potential to maintain sizable, modern defence forces - to play a role proportionately higher than its status would appear to justify. By developing the appropriate initiatives it could bolster confidence throughout the area to pursue an independent line, to resist blandishments or pressures from external powers, and to contribute to the stability of the area. Enhanced stability would reduce the scope for the emergence of

circumstances which would be inimical to the security interests of Australia.

CHAPTER II

DEFINING THE DEFENCE FORCE REQUIREMENTS

Introduction

The requirements of the Defence Force are determined by the objectives of the nation's security policy and strategy and the tasks required of the Defence force to meet those objectives. In the introduction to the Defence White Paper of 1976 it was stated: 'The first responsibility of government is to provide the nation with security from armed attack and from the constraints on independent national decisions imposed by the threat of such attack'. The Committee considers this to be a clear and unambiguous expression of the ultimate objective of Australia's security policy.

The attainment of this ultimate objective is dependent upon a number of factors - the principal of which are the identity of the potential aggressor, physical features which advantage or disadvantage the defence of the country, the resource, economic and population bases of the country, its education and technology base, the national will, and the extent to which allies, friends and neighbours are prepared to support Australia in a specific situation of threat.

In support of this ultimate objective the Defence Force may be required to perform a variety of tasks, including:

- to deter a potential aggressor from mounting a major military attack against Australia or its vital interests by having the demonstrable capability to provide, at the time it may be

required, a military response which would deny the enemy from achieving its objective or would increase the cost and risk of that activity to an unacceptable degree;

- should deterrence fail, the provision of a successful defence against major attack and raising the cost and risk of that attack to a degree which the enemy would find unacceptable;

- to provide an appropriate military response to any of the lesser contingencies identified in the previous chapter;

- to further Australia's diplomatic influence;

- to contribute to world and regional stability, and to contribute to the security of Australia's allies, neighbours and friends;

- to contribute to Australia's self-confidence and national will; and

- to support the civil authorities.

A particular problem confronts Australian Defence Force planners. At present there is no identifiable likely aggressor against which they can develop specific capabilities relative and relevant to that potential enemy's capabilities, vulnerabilities and characteristics. Instead there are a number of countries which have the potential to develop, in the longer-term, a range of capabilities, of varying nature and size, which would pose a serious threat to Australia. Should Australia develop its force requirements against a non-specific threat, there is a risk that the capabilities provided would be inappropriate to a specific

threat and capable of being circumvented by the enemy. At the same time, however, should Australia develop its capabilities against a specific, perceived threat and that threat failed to materialise but another, non-perceived threat did, we could also be equipped with non-relevant capabilities. There is a danger, too, that capabilities acquired too early to meet a non-specific threat would be out-dated when they were required.

Failure to maintain an appropriate force-in-being could engender and accelerate latent threat situations if other countries perceived low-cost, low-risk ways of achieving political objectives by military means. There is also the need to provide insurance against the fallibility of long-term strategic assessments. While the defence policies and strategy which Australia adopts should ensure the security of the nation, caution needs to be exercised that they do not alarm regional countries and stimulate arms competition in the region; they should be assertive rather than aggressive.

Department of Defence Approach

Two notions - no identifiable threat of substance at this time, and the need for insurance against uncertainty - have engendered in the Department of Defence the concept of the core force. 'This is a simple notion of a force that is able to be fleshed out when indicators are perceived of the specific direction that any change in strategic circumstances might take, noting that these indicators will occur well-ahead of any major eventuality. Expansion and change in direction would take place gradually, at least in the first instance, in response to any perceptions of a developing threat'.*

* Hansard, p.1041; underlining by Committee.

Through the Five Year Defence Program (FYDP) a process of incremental change to the force structure is effected in a

direction reassessed year by year. This incremental change takes account of a number of factors, the principal of which are:

- the capabilities required to meet a wide range of credible contingencies, particularly those which could arise in the shorter-term, but without allowing any specific contingency requirement to distort the force structure, and, in the event of a fundamental threat to Australia, to be able to mount in time a national defence effort that would maximise the risk or costs of any aggressions;

- the need to maintain deterrence against attack, a threat of attack and the concomitant need to maintain combat forces rather than support forces;

- our responsibilities to our regional defence associates and allies to help maintain the relatively favourable strategic prospect now existing in our region;

- the pervasive characteristics of our environment and projections of technological development;

- the need to have in the core force certain capabilities basic to any national military effort and certain long-lead items and skills which would be likely to be required whatever the nature of combat;

- the need to make good deficiencies caused by the obsolescence of present capabilities; and

- the need to be careful not to spend too early or on the wrong things, and not to over-commit our present and future resources.

The system which the Department of Defence has evolved over the past few years has much to commend it. In a period of assessed favourable strategic outlook and at a time when there is strong competition for limited financial resources, it ensures that capabilities are specifically relevant to any emerging crisis and to Australia's particular environment, and that the resources provided are not spent too soon or on the wrong equipments. The core force provides the capabilities required to meet peace-time tasks and is designed to deter potential enemies from resorting to the use of military action to achieve their objectives. Lesser contingencies would be handled by the force-in-being at any given time and the more likely of these contingencies influence the shaping of the force-in-being. Departmental witnesses assert that it provides an adequate base for expansion to the size and shape necessary, within the available time of warning, should the threat of major direct attack ever emerge.

The Committee is not satisfied that the core force, as presently constituted, could expand to its required level within a realistic period of warning should the threat of major direct attack emerge in the future.

Given the long-lead times required to acquire major, advanced technology naval and air capabilities, to introduce them into effective service, and to train personnel to operate and maintain these, the capacity to expand the Navy and Air Force within a period of five years (the least time in which a realistic threat would be likely) would be limited, although they could, perhaps, be provided with relatively large numbers of lesser technology equipments, where these can be shown to be suitable substitutes or complementary capabilities to the more

advanced equipments with their greater acquisition lead-times. The present level of equipments in service or authorised for acquisition in these Services would provide only a limited defensive capability against the threat of major attack. This limited capability requires either that the naval and air elements of the core force should be expanded in the period before the threat of major attack emerged, or the development of a strategy based around a major Army response. Independent assessments conclude, however, that it would take between two and a half and five years defence preparation to provide a trained ground force of 150,000 troops or between four and eight years to provide an Army of 250,000.*

---

* Babbage, R., loc. cit.

On the other hand, the Department has assured the Committee that, subject to the availability of manpower and money, the Services could be greatly expanded within a period of five years. Clearly it could not be expected to be able to provide the exact extent of that expansion capability as there would be so many factors involved. Nor indeed could it be expected to estimate the required size of an expanded force until the identity of the likely enemy was determined and its force structure and likely strategy was known. For these reasons the Committee argues that our national strategy for the assurance of our security should not be responsive to factors which could not be perceived until a threat was developing, but should be dynamic and positive so as to further delay or deny the emergence of a threat.

A number of witnesses who have appeared before the Committee have been critical of the present system, maintaining that it is cumbersome and slow to react, that it could not react quickly enough during a period of warning, that there are no clearly defined objectives, and that there is an apparent lack of urgency engendered by the absence of any perceived major threat. In particular there is a lack of understanding of and confidence

in the system - within industry, interested Service associations, within the Services themselves, and within interested areas of academia and the electorate. The absence of any perceived major threat or identifiable potential enemy has been interpreted in many quarters to mean that no threat could arise to Australia in the foreseeable future, and has resulted in a no-threat syndrome and a lack of clearly defined military capability objectives, and this has promoted compacency, allowing successive governments to defer equipment acquisition decisions and leading to a marked reduction in defence preparedness.

The Committee accepts that the presently constituted core force has a deterrent capability against direct attack against Australia by medium or small powers. If augmented by the proposed acquisitions announced in 1976 this capability would be enhanced, but the concept is reactive with expansion related to the likely strategy of a potential enemy. Its ultimate capability to deter a determined aggressor from direct attack would be dependent on perceiving the development of a determined potential enemy's capability to mount a direct attack, and to match that capability within the period of warning with forces capable of defeating the enemy or of imposing an unacceptable degree of risk. Its prospects of deterring absolutely would be suspect. In the long-term it could encourage a potential enemy to chance its arm and cause Australia to engage in a massive rearmament program at a time not of its own choice.

The reservations which the Committee holds in respect of its perceptions of the shortcomings of the present approach are not necessarily a reflection on the Department of Defence. Within the constraints imposed on it, particularly during a period of financial stringency, the Department has been concerned to husband available resources and to allocate resources in accordance with perceived priorities. The Departmental processes have identified the additional equipments required to make good perceived shortcomings and deficiencies in the force-in-being to

meet changing circumstances. Successive governments have failed to provide the resources necessary to accquire those equipments in the time-scales identified as necessary. If the long-term security of the nation is to be preserved and the present favourable strategic outlook is to be maintained it will be necessary to devote additional resources to Defence. In a later section of this Chapter the Committee has proposed how this could be achieved.

The uncertain assurances of long-term security afforded by the present approach have led the Committee to consider various options. A wide range of options, many of them interlocking, may be considered. The Committee has selected five, embracing various shades of opinion. We describe them as the major deterrence approach, the high cost of entry approach, the major hypothetical contingency approach, the low-level approach, and the regional security approach.

The Major Deterrence Approach

It is fundamental to the major deterrence approach that Australia should maintain, at all times, the demonstrable capability to inflict upon a potential aggressor an unacceptably high degree of damage should it resort to the use of military means to gain its objectives. It must be supported by the unambiguous national will to exercise selectively the use of the appropriate level of military power, including by pre-emptive strike, if the adversary challenges the deterrent. Its purpose would be to discourage a potential enemy from engaging in any form of military action or pressure against Australia, and to discourage the emergence of any military threat.

Capabilities acquired would be specifically related to the particular features of our environment, and clearly capable of inflicting an appropriate degree of damage against an adversary's military units, formations and related installations

and bases. It would need to be based on a strategy designed to exploit a potential adversary's vulnerabilities rather than a reactive strategy designed to destroy a particular adversary's capabilities vis-a-vis Australia. Essentially it would be based on an offensive strategy with power-projection capabilities to threaten the war-fighting and economic potential, where these are vulnerable, and/or the lines of communication of a potential enemy.

It would be an advanced technology approach with the emphasis placed on acquiring a selection of advanced equipments which a potential enemy would have serious problems in combating. The essential features of our environs were noted in the previous chapter. These indicate clearly the need for a deterrent force with largely long-range maritime and air strike capabilities with maximum penetration and survivability in a hostile environment, and the ability to inflict high degrees of damage using only a minimum number of equipment platforms. Modern technology provides for this in the form of Precision Guided Munitions (PGMs) in advanced aircraft, submarines and surface ships. High priority would need to be accorded to naval and air strike capabilities, but caution would be necessary to maintain a balance so as to compound an attacker's problems.

The Committee considers that there are some major problems inherent in this option. It could be misrepresented as a belligerent approach causing our neighbours to believe that Australia was developing a hostile intent, and possibly provoking them into higher levels of defence preparedness and to seek major power supporters, to the detriment of regional stability. It would be likely to be an expensive solution. The success of this concept depends, to a large degree, on the potential aggressor's perception of Australia's national will and willingness to use a considerable degree of force. If that will is lacking at the appropriate time - or if the potential enemy miscalculates the extent of it - there is a risk that the deterrent could fail to

be effective. The potential enemy could, moreover, resort to a low level activity which it perceived as being unlikely to cause Australia to escalate its response to a high level and flout world or regional opinion. Finally, it would be necessary to provide second tier forces in any case to handle peacetime tasks and situations requiring a military response at low level.

High Cost of Entry Approach

A less aggressive, but nonetheless effective, means of deterring a potential enemy from taking military action against Australia would be to adopt the high cost of entry or disproportionate response approach. The basis of this concept would be to develop and maintain a military capability which would raise the cost and risk of any military activity which a potential enemy should contemplate to a degree unacceptable to that enemy. The deterrent capability developed should be relevant to all levels of potential enemy activity.

Capabilities acquired should be related specifically to the particular features of our environment and to the vulnerabilities of any potential enemy operating in that environment. They should seek to exploit those factors which would produce a multiplier effect; they should seek to compound an enemy's problems by forcing the enemy to combat a range of threats; they should seek to ensure that the capabilities required by the enemy to combat those threats would be specialised, expensive in cost and manpower, and long-lead items.

Given Australia's physical environment, the concept based upon this view should be related to a strategy which: denied an enemy unopposed access to ports and airfields; forced it to use disproportionately large ground forces to seize an objective (and so increased the required size of the vulnerable transport force); enabled a rapid concentration of defensive forces at any threatened target area; caused it to provide

protection of its maritime transport force against surface, submarine and air attack and its air transport force against air attack; and which forced it to use long lines of communication. Should a potential enemy engage in lower levels of military activity, it should be faced with the certainty that its activities will be monitored at an early stage and responses effected which would force it to cease its activities or to escalate them to a degree not commensurate with its objectives.

A two-tier approach would be relevant to this concept. The first-tier would comprise those high-technology maritime and air equipments required to monitor our strategic environment and to cause an enemy to provide the complex capabilities required to operate in a hostile environment. Second-tier, lower-technology equipments would be effective in providing for the necessary concentration of forces and defensive aspects of the strategy, and to supplement some elements of the first-tier forces should the deterrent appear to be under challenge. The concept would also require the demonstrable capability to field substantial ground forces - to exploit the multiplier effect - at the time they would be required. Careful consideration would need to be given to the base level of ground forces required to provide the expansion capability and to the lead-times required to provide fully trained and equipped forces.

The forces developed as a consequence of this concept would provide a deterrent against major direct attack and would be relevant to the lesser contingency situations which could arise although, on occasion, a greater than necessary capability may need to be employed. For the less demanding peacetime roles in support of the civil authorities it could be necessary to provide some specific lesser equipments. The force-in-being would be particularly relevant in the wider role of contributing to world and regional stability, especially as it would include equipments which would supplement the lesser technology equipments which regional countries are likely to be able to maintain.

Hypothetical Contingency Approach

The hypothetical contingency approach is designed to ensure that the Defence Force has in being, at the time they would be required, those military capabilities which would be required to provide a successful defence against any level of attack. The concept envisages that account is taken of Australia's unique environmental characteristics and strategic situation. Vital interests, critical to national survival, need to be determined, and their vulnerability to attack exposed and identified. In this regard vital interests are seen to be:

- the centres of population, government and industry in South-East Australia;
- the major resource areas, including offshore resource areas, of northern and north-western Australia;
- our major lines of communication to east Asia, through the island chain to our north, to the Middle East, the US and Europe; and
- our major defence installations and facilities.

Having identified the vulnerabilities of Australia's vital interests, it would be necessary to identify the nature and scale of attack which could be mounted by a notional enemy. From this it is possible to determine the nature of the capabilities which a notional enemy would require to pose a threat to these vital interests. By reviewing the present orders-of-battle of countries which could be candidates for potential enemies, it is possible to determine to what extent they have the capacity to threaten those vital interests now, or if they have no such

capacity at present, how long it would take them to achieve it. A notional threat for a defined time-scale would then be developed.

A series of optional defence strategies would then be developed, and the most effective - in terms of assurance of success, feasibility and cost, when related to the existing force structure - selected. From a number of realistic scenarios, a pattern of force requirements could be discerned. Acquisition programs would be developed based on those capabilities seen to be common to a number of realistic scenarios.

The essential difference between this and the present approach is that capabilities essential to the defence of Australia would be introduced into service in advance of the perception of indicators of a specific threat. Such a concept would be a reactive strategy designed to deny an enemy from achieving its political objectives by military means rather than to deter that enemy from resorting to military means. There is an element of risk in adopting such a concept, as the capabilities adopted, while meaningful in relation to a threat from a notional enemy, could be inappropriate to a real threat which had received little weight in the development of force capabilities. Because of our particular environment, however, this risk is seen to be low, as any notional enemy would need certain common capabilities.

This approach would require a mix of first-tier, advanced technology, and second-tier, lesser technology equipments. Advanced technology equipments, because of their longer lead-times and the need to develop Australian technological capacity, would be acquired in the period short of positive warning. Lesser technology equipments, capable of local production in large numbers as a substitute for quality, could, because of their shorter lead-times, be acquired in the period of warning. A mix of regular and reserve forces would be required, although the latter would need to be maintained at a high state

of readiness for commitment to operations at the outbreak of hostilities.

Low Level Approach

A case has been argued that, given an assessed favourable outlook and the low level of forces indigenous to our strategic environment, Australia has no need for defence forces of the nature of those presently in being and in prospect; those forces are essentially of advanced technology and relevant to a major threat situation. Even if the outlook is not as favourable as has been assessed it would be impractical for Australia to defend itself against attack from a determined major power.

It is argued further that the regional military situation is relatively stable and that there is nothing significant which Australia could or should do by way of military intervention to influence developments. A general proposition is offered that, if Australia were to adopt a non-aligned position, the prospect of a major threat to Australia ever developing would be greatly reduced as there would be no reason for the major powers to develop the intent. Proponents of this concept consider that the countries of the region could not develop the capability to mount a major threat to Australia over even a long period and will, for the foreseeable future, be preoccupied with their own internal problems.

If this approach were adopted, capabilities would be related directly to the lesser contingencies and to the essential features of Australia's environs - vast distances, low population density except in the north-western quadrant, low level military capabilities indigenous to the area, isolated pockets of population within Australia itself. The type of capabilities required would be those necessary for surveillance and monitoring of the environment, sea and air transport, a predominantly coastal defence Navy equipped with large numbers of small craft,

and with air defences related only to the likely low level of threat which would obtain. A small, highly mobile ground force would be required to counter the threat and the fact of any small-scale raids or lodgments. It would be a defensive rather than an offensive force.

It has been claimed that advanced technology would be employed in selected fields relevant to our environment, but it would be simple rather than complex advanced technology as used, for instance, in patrol boats rather than destroyers. The overall allocation of resources directed to defence would be reduced below current allocations or, at least, constrained within those levels. Savings achieved would be allocated to improving the defence infrastructure to provide a higher degree of self-reliance. Should the longer-term strategic outlook show signs of fundamental change, indicative of the potential for a major threat to Australia to arise, capabilities relevant to the specific threat and based on the improved infrastructure, could then be developed.

The Committee considers that a persuasive case has been argued in support of this concept. It believes, however, that acceptance of such a concept would not ensure the preservation of our present favourable position relative to major attack which depends, in part, on our favourable geographical features and, for the remainder, on exploiting factors which make major attack on Australia unattractive. This concept would not deter the prospect of major threat to Australia emerging; indeed, it could encourage it. The Committee disagrees with the proposition that there is little of consequence that Australia could or should do to influence military stability in the region. It would prefer that an option should be adopted which would contribute to the stability of the region and further Australia's diplomatic influence in the region.

Regional Security

At the end of the previous chapter mention was made of a role for Australia to play in relation to the security of Australia's strategic environment - the South Pacific, the southern and eastern Indian Ocean, and the island chain to our north. Australia's abiding interest in this area derives from the concern that it would be only from or through this area that a major threat to Australia - missile attack or attack against our distant lines of communication aside - could arise. Thus the stability of the area is of paramount importance to Australia. There are prospects for major power competition in the area, particularly in the north-western quadrant and these could involve the application of military pressures which could erode the stability of it. In the foreseeable future local countries would have grave difficulty in resisting serious military pressures exerted by a major power unless they receive support.

Australia has provided a small measure of support in this are already on a bi-lateral basis with individual countries of the region. The concept under consideration provides for broader initiatives. Two interlocking areas - the South West Pacific and the ASEAN areas - could be established. In both areas mutual security arrangements could be concluded whereby, in the event of external attack, Australia and New Zealand would provide the type of support in which local countries are deficient. In peacetime, surveillance and monitoring of the two areas could be shared, according to the capabilities of participating countries, with Australia and New Zealand, initially at least, playing the major part in distant operations, and with the pooling of all information gained. In return for their major role, Australia and New Zealand would be provided with access to local facilities required to support their operations.

Acceptance of this concept would have the effect of pushing out the perimeter of Australia's defences. It would not,

in fact, be a self-contained option as it is not envisaged that the Defence Force should contain only those equipments relevant to the concept. It should be subordinate to one of those options which would provide for equipments of this nature. It could be related particularly to the deterrence approach and, to a lesser extent, to the approach adopted by the Department of Defence or to the hypothetical contingency approach.

There would be major political and diplomatic difficulties in Australia adopting this approach. Regional countries have shown that they wish to retain their non-aligned status and would undoubtedly be reluctant to enter into any formal mutual security arrangements. Accordingly, the Committee believes that the concept should not be considered as a valid option for determining the Defence Force requirements. At the same time, however, the Committee considers that whichever option is adopted, consideration should be given to the potential which the preferred option provides for contributing to regional security and stability.

Satisfying the Defence Force Requirements

It is not sufficient to define the requirements of the Defence Force; it is necessary also to ensure that those requirements are met. Subsequent chapters will describe the methodology employed by the Department of Defence to attain this. There is, however, an important policy aspect to be considered. Irrespective of the approach adopted to determine the Defence Force requirements and the methodology employed to satisfy those requirements, there still remains the matter of provision of resources to satisfy requirements.

A prime criticism of the Committee to the approach adopted by the Department of Defence, as outlined earlier in this chapter, is that it does not clearly establish objectives. Expansion and change would take place gradually, at least in the

first instance, in response to any perceptions of a developing threat. In practice, expansion and change have been judgmental decisions related closely to the level of resources expected to be made available; shortcomings reflect the low-level of resources made available rather than deficiencies in the approach and procedures. If the present favourable outlook is to be maintained a greater level of resources should be made available.

Essentially the official threat assessment has not changed dramatically over the past few years, yet the 1976 Defence White Paper developed a strong case for significantly increased expenditure on new equipments, but this program was subsequently deferred. Either the 1976 judgments were grossly in error or the Defence Force development has been neglected. The Committee supports the latter view, but because of the lack of publicly announced objectives it is not possible to substantiate that view.

The continued postponement by successive governments of major equipment procurement decisions not only erodes the deterrent capability and expanison base of the Defence Force, but will inevitably create major problems in the late 1980s when other major equipments will need to be acquired to replace existing capabilities. The need for massive equipment programs over a short time-scale will have major consequences for the Australian economy or will lead to further erosion of the Defence capability if the economy is unable to support their acquisition.

If the proposition that 'the first responsibility of government is to provide the nation with security from armed attack and from the constraints on independent national decisions imposed by the threat of such attack' is accepted, the provision of that security should receive a proportionately high priority in the allocation of resources. If it can be shown that the necessary level of security may be provided by steady development of a force-in-being which would deter the prospect for armed

attack against Australia, the capability objectives of the force-in-being should be established and the deficiencies made good over a continuing period. The length of that period should be related to the earliest time at which a major direct threat to Australia could arise, the lead-time for the acquisition of major new equipments, the ability of the services to develop and absorb new capabilities, and the desirability of maintaining an even and supportable allocation of resources.

Because of the uncertainties inherent in threat assessments of longer than five years ahead, the Committee would prefer that deficiencies in Defence Force capabilities should be made good within that period. It recognises that the lead-time factor alone, however would preclude this. Accordingly it advocates that deficiencies in capability in relation to an approved national security strategy should be made good over a period of ten years, commencing in the financial year 1980/81.

The first stage of implementing such a policy would be for Government:

- to determine the most effective security strategy;
- to identify the major capabilities required to satisfy that strategy;
- to establish the major capability deficiencies;
- to determine the generic type options required to make good these deficiencies; and
- to develop a program to introduce those generic type equipments over a period of ten years.

A concerted effort should be made to develop a bi-partisan approach to the defence issue and for the Parliament to endorse the ten year program for the introduction of major equipments. Clearly there would be practical, political and financial reasons which would constrain rigid adherence to the program. When these did arise, the consequences of delay or concellation of particular equipments could be measured against the national security strategy, made public, and responsibility for those consequences accepted by the Parliament.

Noting the uncertainties of assurance of security and the problems of fostering an indigenous defence-related industrial base associated with the stop-go policies of the past, the Committee is attracted to the Italian model of supplemental equipment acquisition budgets. Essentially these provide for supplemental ten-year budget packages to cover the development, production and entry into service of several specific defence systems. Funding is separate from the regular annual defence budget and represents about ten percent of the regular budgets. Preference is given to equipments which can be produced largely from Italian industry and which have export potential as well as relevance to the long-term development of the Italian Services. The philosophy was adopted to compensate for the very low average percentage, only 14%, of the total defence budget which had been allocated to capital equipment in the six years from 1971 prior to its introduction in 1976, and which had arisen from the vagaries of annual budgeting.

If such a procedure were adopted in Australia it would be necessary to define the objectives of the supplemental budget. The Committee believes that projects should be included in a supplemental budget only where:

- they are clearly relevant to deterring the threat of long-term major direct attack against Australia;

- their acquisition would be effected over a period of some years with the need to commit major funding over the life of more than one Parliament;

- there would be potential for local production or strong Australian Industry Participation (AIP); and

- as a bonus, there would be potential for their sale to regional countries.

There has been much public debate on what financial resources should be allocated to defence. Advocates of a low defence posture have maintained that the present figure of about 2.6% of GDP should be the upper limit, with some effort made to reduce this figure; advocates of a strong defence posture have urged for an increase to 3.5% to 4% of GDP. Proponents of the percentage of GDP approach usually relate the favoured percentage to like countries overseas. There are others who urge that the defence allocation should be related to the percentage of the total allocation which is provided for capital equipment, and compare that percentage to the allocation made for similar purposes by like countries - generally to the disadvantage of Australia.

Either method is arbitrary and has little meaning for Australia. Clearly the only logical method is to determine the most cost-effective national strategy for defence, seeking a solution which would provide additional capabilities disproportionate to the investment, and then assess the costs of providing for that strategy, spreading the acquisition of major new equipments over a period of ten years, as proposed earlier. Should the financial burden prove to be too onerous over this period the electorate should be made aware of the consequences of failing to make provision for specific equipments.

In the final analysis it should be the electorate, expressing its will through the Parliament, which determines the level of resources which should be allocated to achieve the national defence strategy and thus the effectiveness of that strategy. If the electorate and the Parliament are to play their proper role in this function they must be fully informed, and a bi-partisan approach developed in respect of defence policies and strategy, the essential requirements of the Defence Force, and the extent to which resources should be allocated to provide those requirements.

The Parliament has a central role to play in such a process by the critical and objective examination of announced policies and programs. The Department could make a valuable contribution by the publication, at say three-yearly intervals, of a comprehensive statement of policies such as the 1976 White Paper, by the promotion of public seminars and by active participation in those sponsored by other responsible bodies.

Committee's Views

The Committee strongly supports the objective of Australia's security policy as expressed in the introduction to the 1976 White Paper: 'to provide the nation with security from armed attack and from the constraints on independent national decision imposed by the threat of such attack.' It has considerable reservations, however, whether the approach adopted to develop the requirements of the Defence Force to satisfy that objective is effective. Our reservations apply particularly to the capacity of the Defence Force - as presently constituted and with the additional equipments approved for acquisition, and given the lead-times for the introduction of new equipments - for expansion to the size and shape necessary within the effective period of warning likely to be available before the threat of major direct attack against Australia could emerge. The force-in-being or in prospect would, moreover, have difficulties in

handling some of the medium level lesser contingencies which are more likely than major direct attack against Australia and which could arise with little or no warning. Finally, the present force-in-being has limited potential to deter the emergence of a regional threat or to contribute to the stability of the region.

The Committee does not share the confidence which the Department of Defence apparently places on the warning it would be likely to receive before the threat of major direct attack could emerge (see pp.28-32, above). Despite the unlikelihood of such an attack, we feel that it is unwise to base the security of the nation on a foundation which is suspect, particularly when events in recent months have demonstrated the fragility of world and regional stability and the unpredictable way in which events can erode stability. In any case, we believe that the present approach is discredited in the view of a wide range of interested and competent observers.

The Committee believes that the period before any major direct attack against Australia could emerge should be used to examine options to the present approach, select the most cost-effective option, and, if necessary, reshape and restructure the Defence Force to enable it to discharge the roles and tasks inherent in the strategy of the selected option.

In reviewing the available options, the Committee has considered it fundamental that an approach should be adopted which would ensure, if and when they were needed, the availability of forces which would deter an adversary from resorting to the use of military means or the use of military pressures to achieve its political objective.

As at 1979 we are fortunate that it would take at least five years for any conceivable potential enemy to develop the military capabilities necessary to mount a major direct attack against Australia. Lesser threats could emerge during that period

but the advantages of geography which we enjoy would provide constraints on the nature and seriousness of those threats. It is imperative, however, that we take advantage of the time available to exploit the natural advantages which we enjoy to develop an appropriate defence strategy and to implement the measures necessary to discharge that strategy so as to ensure that the current favourable position is maintained.

The existence of an effective force-in-being is an essential element in preserving the present favourable environment. Failure to expand the capabilities of the present force-in-being to reflect the additional responsibilities which Australia should accept to contribute to the stability of its region as a consequence of the changing situation could limit the deterrent value of the force-in-being. The present allocation of resources to Defence is insufficient to achieve a greater degree of deterrence. There are strong indications that the amount allocated to the acquisition of new equipments should be increased to a figure at least 50 percent higher than that provided at present.

Should the forces provided fail to deter the use of military means or pressure, they should be capable of denying an adversary the attainment of its objectives. Accordingly we have discarded the low-level approach and the regional security approach. The low-level approach is attractive as a low-cost solution in a period of favourable strategic outlook. The Committee does not accept that the strategic outlook is as favourable as has been claimed, and considers, moreover, that this approach would do little to deter the emergence of a regional threat or to contribute to regional stability. The Committee is attracted to the regional security approach but considers this should be incorporated within another option. As pointed out earlier, there are some major problems inherent in the major deterrence approach.

The Committee does not have the resources to examine in detail the relative merits of the high cost of entry approach and the major hypothetical contingency approach. If fully implemented either of these would ensure: that Australia could not be taken by surprise; that a high degree of defence preparedness would exist at all times; that the necessary responses to lesser contingencies could be made; that there would be a significant deterrent to the development of any military pressures against Australia; and that Australia could make a significant contribution to regional stability and would have the option to contribute to UN peace-keeping forces or to the Western Alliance.

The key to which of these approaches would be the most desirable is likely to be the cost factor of developing a Defence Force which could discharge the tasks envisaged by the respective concepts. The Committee recommends that the Government should urgently assess the relative merits and costs of these approaches, and that it should take account of the need to ensure that the development of the Defence Force is not sensitive to specific threats, that the capabilities provided in the Defence Force are adaptable and relevant to a range of possible threats, and that it is not presumed that a high level of allied combat or supply support would be available, although the Defence Force should be capable of operating in support of or in co-operation with allied forces.

An important factor in assessing which approach should be adopted is the appropriate technological level of equipments which should be acquired. For any country there is always a dilemma as to the relative merits of high-performance weapon systems that are so costly that only a few may be acquired versus moderate-performance, moderate-cost weapon systems which may be acquired in greater numbers. Although the high-performance systems may be capable of discharging a greater range of tasks with greater effectiveness than the moderate-performance systems, their greater performance characteristics may be required in only

a limited range of tasks and their necessarily limited availability - because of cost - could prejudice the ability to discharge particular tasks becuase they could not be in enough places at the same time.

The following guidelines should govern the requirements of the Defence Force:

- The force-in-being should be clearly capable of expansion - in the period before an aggressor could mount an attack - to the size and shape demonstrably capable of defeating an invasion or other major direct attack or imposing an unacceptably high cost and risk to such activities;

- The force-in-being should be capable of providing an appropriate military response to meet those lesser contingencies identified in the previous chapter, which could arise with little or no warning, from within its established strength. Established strength should be regarded as including any reserve forces available for immediate call-up to augment elements of the force which are not required to be manned to full complement in periods short of conflict operations;

- The long-term shape of the force-in-being should be related to those capabilities relevant to deterring or defeating an invasion of or major direct attack against Australia. Only when it can be shown clearly that specific equipments are essential, and peculiar to the lesser contingencies, should these be allowed to influence the shaping of

the force. Where it is shown that it would be more cost-effective to employ lesser equipments to meet particular peace-time operational requirements, it should be established that the particular requirements are beneficial to defence preparedness and would, from a national viewpoint, best be carried out by the Defence Force;

- The size of the force-in-being should be related to the base level required to enable the Defence Force to be expanded, within a period of not more than five years, to the size required to deter, to defeat, or to raise the cost and risk to an unacceptable level of an invasion of or major direct attack against Australia. Where it can be shown that the base level in certain elements would not be large enough to provide an appropriate response to lesser contingencies, the size of these elements should be adjusted accordingly;

- Until a specific threat of invasion or major attack emerges; the size and shape of the force-in-being should be related further to the characteristics of Australia's environment, the capabilities which a rational aggressor would require to mount such operations, and the vulnerabilities inherent in such operations;

- Contributions to regional security and the UN peace-keeping operations and support of the Western Alliance should not be determinants of the size of the force-in-being although they could influence the shape in respect of operating compatibility;

- The base level force-in-being requirements should be determined immediately and the shortcomings identified;

- In view of the stop-go nature of defence programs over the past years and the long lead-times applicable to the acquisition of major equipments, it would be desirable to introduce a long-range continuing defence program, along the lines of the Italian supplemental budgets, to make good the shortcomings and deficiencies identified; and

- Provision should be made for maintaining sufficient level of stocks of support equipment - such as ammunition, spares, etc - to sustain the prime equipments in use in response to the lesser contingencies until these can be supplied at a continuous operational usage rate from assured sources. If and when a threat of invasion or major attack should emerge, these stocks should be increased to a level required to sustain counter operations until these can be supplied at a continuous war-usage rate from assured sources.

In determining priorities for development of the Defence Force consideration should be given to the following elements:

- Those capabilities that are required to provide a military response to the lesser contingencies which could arise with little or no warning;

- Those high-performance capabilities relating to a general strategic requirement - as dictated by the characteristics of the environment rather than by specific contingencies - and required to provide deterrence against the use of military pressures or military means by a potential enemy to achieve its objectives, and which could not be acquired within the period of warning likely to be available before a major threat to Australia could develop; and

- A representative selection of second tier or 'substitute' capabilities - moderate-cost, moderate-performance, short lead-time systems that could be acquired in relatively large numbers during a period of developing threat - to enable the development of operating techniques, procedures and doctrines in a period short of crisis.

CHAPTER III

CONSIDERATION OF OPTIONAL CAPABILITIES

Introduction

Whichever approach to defining Defence Force requirements is actually adopted, defence planners still face the task of selecting military capabilities to meet the requirements eventually defined. In many instances a number of options for meeting a requirement will exist and it will then be necessary to examine each of these in order to determine which most appropriately provides the needed force capability. This examination constitutes one of the most influential phases of the procurement process, and the Committee therefore proposes to consider it in some depth.

It is at this stage of procurement that the basic direction of equipment acquisition is set: a wide range of 'generic types' of equipment potentially capable of satisfying a defence need will be eliminated and further consideration confined to one basic option. For example, to meet a requirement to interdict the sea lines of communication of a potential adversary, consideration might be given to submarines, surface warships, sea/air platforms, land-based aircraft or some combination of these. Once the generic type of equipment is settled, only one of these options will go forward. The importance of proper consideration at this stage of the procurement process is therefore readily apparent. Failure properly to approach this aspect can lead to serious consequences extending over many years. The so-called 'replacement syndrome' (which we propose to designate by the less emotive term, 'follow-on imperative') is one of several weaknesses which possibly can be built into the procurement process at this point.

Other facets of generic type consideration which the Committee wishes to address include the degree to which integrated inter-Service consideration of options is promoted, the stage at which a generic type decision is considered final within the relevant Service Office and by the Department and the extent to which the rapid pace of technological change in the defence field has been accommodated within the Department's decision making system.

The Department of Defence Machinery

It is therefore appropriate to describe, as yet without comment or analysis, the machinery in the Defence Department for the consideration of various capabilities potentially meeting a stated requirement. The major sources for this description are the Defence Instructions (General) and related material supplied to the Committee by the Department.

An initial step in this process is often the preparation of a document known as a Staff Objective, although the RAN and RAAF employ this tool less frequently than the Army. The Staff Objective is a statement of a capability considered necessary in the long term for the effective conduct of operations, and is written so as to specify the significance, relevance and timing of a requirement and to identify all potential options for meeting that requirement. When a Staff Objective is raised, it is subjected to preliminary examination by the Service and the Defence Operational Requirements Committee (DORC) in order to confirm the need and show that the concept is practicable.* In cases where this is accomplished, the Service may proceed to raise a Staff Requirement. If any doubts exist, a Staff Target will be raised instead.

* A list of relevant Committees, their membership and functions is attached at Appendix A.

A Staff Target is in many cases, particularly for the RAN and RAAF, the first formal documentation on a new program. It describes in general terms the functions and desired performance of a proposed equipment or system so as to provide a basis for detailed study of the scientific and technical feasibility of the project, the risks involved if proceeded with and a rough indication of the cost. Each Service has its own review and development machinery through which the Staff Target must pass before it is accepted as a Service Target. For example, draft Navy Staff Targets are considered by the Navy Staff Requirements Committee which will recommend that the project be endorsed, reconsidered or cancelled. If the project is a major equipment*

---

* A major equipment proposal is defined by the Department of Defence as one which meets one or more of the following criteria:
(a) has defence policy implications;
(b) has a project investment cost (R&D, initial equipment, spares, facilities, training investment, test equipment, etc) of more than $5,000,000;
(c) has significant joint Service implications;
(d) has a unit cost for the individual equipment (one ship, one aircraft, etc) of $250,000 or more.
A minor equipment proposal is one which meets none of these criteria.

the Staff Target is forwarded to the Defence Operational Requirements Committee which must endorse it before any further action may be taken.

Assuming that Staff Target studies validate the concept and that Defence Operational Requirements Committee approval has been obtained, the Service will proceed to raise a Staff Requirement as a statement of its perceived requirement. It will say what the user wishes to achieve and offer justification for the requirement. As with Staff Targets, Staff Requirements are subject to intensive intra-Service scrutiny before proceeding further, and all major equipment Requirements are submitted, with supporting documentation arising from that scrutiny, to the Defence Operational Requirements Committee for review and endorsement. If a project proceeds, the Staff Requirement and

associated material may, after updating further into the procurement process, be used by the Defence Source Definition Committee (DSDC) to assist in final source selection. A 'sanitized' version may also be released to industry.

With Defence Operation Requirements Committee endorsement of the Staff Requirement, the Service can proceed to the issue of Form DP1 as a Major Equipment Proposal. The DP1 represents a detailed examination and justification of the Major Equipment Proposal in a standard format covering sixteen major heads including justification, assumptions, analysis of requirement, capability, force structure implications, cost and so on. (Appendix C lists all sixteen heads.) The DP1 is submitted in multiple copies to the Force Development and Analysis Division of the Department which, in consultation with the relevant Service Office, will prepare a draft Project Brief for consideration by the Force Structure Committee (FSC). The Brief sets out the major points concerning the proposal together with an objective analysis of options and alternative views. It is circulated to the relevant functional areas of the Department of Defence for comment and suggested amendments and, with these, to the initiating Service or Division of the Department for scrutiny. Following this process, the Brief is sent to the Force Structure Committee. In the case of particularly significant or complex proposals, a special working group comprising representatives of relevant Services and Divisions will be set up under the chairmanship of a senior officer of the Force Development and Analysis Division. This working group will present to the Force Structure Committee a combined report dealing with all aspects of the proposal, including alternatives and options, based on relevant studies carried out during the preceding stages.

New Major Equipment Proposals are considered by the Force Structure Committee in November and December each year. The Committee will examine a proposal in the light of considerations

such as: financial guidelines given by Government; the ability of the Five Year Defence Program to absorb the projected expenditure in each of the years it is anticipated outlays will occur on the project; other indications of Major Equipment Proposals before the Committee; general views held by the Force Structure Committee and the Defence Force Development Committee on new Major Equipment Proposals; and implications of 'spinoff' minor programs associated with the Major Equipment Proposal.

Following this Force Structure Committee consideration, the Programmes and Budgets Division of the Department will examine the Major Equipment Proposal in the context of an overview of the Five Year Defence Programme. This will consolidate for integrated consideration all equipment proposals, whether new or approved, major or minor, service and civilian manpower costs, defence facilities and so on - in other words, the implications for the Five Year Defence Programme of slotting in the new Major Equipment Proposal should it proceed. This document (called an 'agendum paper on the Five Year Defence Programme') is usually sent to the Consultative Group* for

---

* The Consultative Group reviews the draft Five Year Defence Programme and a draft annual Defence Programme and Estimates and makes recommendations to the Defence Force Development Committee. It consists of representatives of the Services, civilian Defence Central personnel and the Defence Scientific Service, all at a high level. (See also Appendix A.)

consideration before going to the Defence Force Development Committee. The Committee will consider Force Structure Committee recommendations on Major Equipment Proposals individually in March and April and will examine all equipment proposals, manpower and defence facility costs, operating costs, etc in December, and will vary them as necessary in the light of financial and other relevant considerations.

Major Equipment Proposals with final Defence Force Development Committee approval are submitted to the Minister for Defence who will seek Cabinet approval in the context of the

annual Budget. This approval will, according to the stage the project has reached, take one of the following forms:

- evaluation approval: for examination of contending equipments for a given project;

- project definition approval: to commence work aimed at more precisely defining the scope and implications of a project which may well involve outside bodies;

- project development approval: to develop and refine a project, but not to commence acquisition; and

- project approval: approval of the generic type of equipment.

None of these approvals confers authority to expend funds on a project except in that a Minister or his delegate may approve expenditure within Budgetary provisions and defined limits. It will be seen that a Major Equipment Proposal will require four approvals before the generic type is finally decided on by Government.

The foregoing outline of the Department of Defence machinery is necessarily abbreviated, but the Committee wishes to point out that the process takes a considerable amount of time. A new Major Equipment Proposal will be submitted in DPl format six to eight years before the proposed introduction into effective service and will, provided that it passes all stages, be continuously updated and refined until generic type approval is given. Thus the Defence Operational Requirements Committee, Force Structure Committee, Defence Force Development Committee will each scrutinize any given Major Equipment Proposal several times in the course of its progress through the decision making system

prior to final Government approval of the generic type. The time taken by this process is one major component of the long lead times associated with major equipment procurement, but a careful and comprehensive assessment of all Major Equipment Proposal options and their implications for vital national security interests is clearly necessary. At the same time, it is necessary to consider the possibility that this six to eight year lead time may exceed probable warning times for several defence contingencies which Australia could face. This is a question the Committee proposes to address at a later point in this Chapter.

Consideration of Particular Matters

Evidence before the Committee has pointed to several matters connected with generic type selection in which there are said to be deficiencies of policy, procedure or administration. The Committee is not persuaded that all of these allegations have substance; however, some of them have become so pervasive as to require scrutiny while others are of such import that they demand attention in their own right. It will be understood, therefore, that the mention of an allegation does not of itself imply that the Committee necessarily endorses any charges or criticisms that have been made by witnesses. The attitude of the Committee to the matters discussed below will be made explicit in each case.

1. Technological Change and Force Options

The Committee has received authoritative evidence from both official and non-official witnesses to the effect that the technological base of defence forces, even among middle powers such as Australia, has become significantly more complex in the period since the Second World War. This increase in scientific and technological sophistication has played no small part in reducing Australia's self-sufficiency in defence equipment, notably from about 1960 onwards. While the superpowers spend huge sums on advanced research, development, test and evaluation

programs, second and middle ranking nations are obliged to work in particular specialist fields and in other cases to rely on technology transfers from the superpowers to maintain essential capabilities in their Defence Forces. The degree to which a country such as Australia can achieve self-reliance in this field is a question which will be examined in detail in Chapter VI, 'Local versus Overseas Production'.

Defence planners in all countries necessarily seek to develop a comprehensive understanding of the implications of current and foreseeable military technologies. Technological change can impinge both directly and indirectly on the capabilities, organisation and structure of the Defence Force in many ways. The more significant of these include:

- the equipment of combat units: weaponry, sensors and command, control and communications systems;

- the organisation of forces for operations: if, for example, technology innovations increase the firepower of a unit, the manpower of the unit might be reduced with a consequent requirement to reorganise the unit and units of which it is a part;

- the relative importance of combat and support elements: the higher 'kill probabilities' of new weapons increases the rate at which a force facing these weapons will lose materiel and sustain casualities. Thus, if Australia were facing such weapons a heavier burden would fall on logistic and other support units; conversely, should Australia possess these weapons and her opponent lack them, the opponent's support elements would come under

greater pressure and Australia's problem would be to keep her weaponry operational so as to sustain this pressure. Much increased flexibility in the 'teeth to tail' ratio at the operational level would be required; and

- the organisation of the Defence Forces at a Service level: if technologies arise which tend to cut across traditional Service boundaries, consideration should be given to ways of making these boundaries less rigid.

Even if their combat effectiveness is not significantly superior to earlier designs (though it frequently is), equipments which incorporate the newer technologies possess a number of advantages. In many cases, the use of integrated microcircuits and similar developments has reduced the size and weight of equipments while making them more reliable. Modular construction tends to cut production costs over longer runs and to simplify greatly the maintenance task. Weapon systems with these technologies are thus more reliable, easier to repair and return to service faster than their older counterparts. Together, these advantages tend to reduce the life-cycle cost of operating and maintaining many new weapons systems and, in some cases, platforms as well. These features need to be taken into account not only when considering various generic type options, but in the broader context of potential Australian industry contributions to the Defence Force as well.

Technological change is particularly relevant to defence procurement at the phase of consideration of generic type options. New technologies can render some generic types obsolete while at the same time opening up a new range of generic type options potentially capable of meeting Defence Force requirements. Failure to monitor closely developments in this area and to act on those of relevance to national security can in

some circumstances lead to serious distortions of force structure and overall Defence Force capability. This can occur in two ways: firstly, equipments rendered obsolete by technological change might be continued in service to the detriment of the Forces; and, secondly, there could be a failure to recognise the potential value of a new technology leading to capability gaps which may in time erode the nation's capacity to defend vital security interests. The rapid development during and after World War I of tanks and related armoured fighting vehicles (which rendered horse cavalry almost obsolete as a front line weapon) is a famous example of this phenomenon, and it is well known that those nations which failed to appreciate the significance of the new technology and its implications paid dearly for their errors during World War II.

It has been suggested by some witnesses that the Department of Defence does not possess the capacity to evaluate fully the significance of technological changes*, while certain

---

* Hansard, 21 June 1978, p.117.

evidence from the Department might be interpreted as reinforcing this suggestion. The Committee received evidence from a Departmental witness that, in his view, 'the changes in technology applicable to military operations are relatively slow', and this statement was subsequently amplified in oral evidence.* Accordingly, the Committee examined the matter further.

---

* Hansard, 9 November 1978, p.1046 (written), and 29 November 1978, pp.1492-6 (oral).

This examination substantially clarified the Committee's understanding of Defence Department thinking on this matter. The Committee was initially concerned that a possible lack of appreciation of the need for close monitoring of and appropriate action on technological developments might exist within the Defence Department. Given the dangers inherent in any such lack

of understanding, it was considered necessary to inquire into the question at greater length. Subsequent evidence from authoritative sources in the Department of Defence* made it

---

* Hansard, 25 July 1979, pp.2323-26

clear that an appreciation exists of the many developments in weapons, command, control and communications technology which have taken place in the past two decades. It is also clear that these developments do not of themselves render established weapon systems obsolete at a stroke, but that such systems can often be adapted readily to the new technologies. At the same time, there is a need to reassess continuously the viability of traditional platforms and weaponry in the light of technological change and to avoid any suggestion that these might not at some time have their capabilities significantly eroded by advances in the field of military science.

While satisfied that an appreciation of technological developments exists among Australian defence planners, the Committee considers it not insignificant that reputable and qualified witnesses have argued to the contrary. There is a degree of evidence of concern in the community about this question which requires attention. In this context, the Committee notes that studies such as that by the Regular Officer Development Committee on the likely requirements of the Army in coming years in the light of, inter alia, technological change, constitute visible evidence of Defence Department scrutiny of these issues. The Committee commends this and similar future studies as a means of advancing our understanding of the strategic and operational implications of technological change and of relieving legitimate concern in the community.

Moreover, the Committee believes that a more active approach to the monitoring of technological developments should provide Australia with adequate and timely information in this field. While aware that groups from the Department of Defence do

travel overseas from time to time to investigate and report on particular developments relevant to the Defence Force, the Committee is of the opinion that a higher level of continuous effort would be justified.

2. The Follow-On Imperative and Methods of Avoiding It

A persistent strand in evidence before the Committee has been the allegation that Australian defence procurement suffers from the so-called 'replacement syndrome' (which, as noted previously, the Committee will refer to by the less emotive term, follow-on imperative). Although the Committee does not propose to examine recent acquisitions and test them for evidence of the follow-on imperative, the frequency with which its existence has been asserted both before the Committee and elsewhere has persuaded it that the question demands particular attention.

The follow-on imperative can be defined simply as the replacement of an obsolete weapon system or platform with another of the same generic type when the requirement for that generic type no longer exists. For example, the almost automatic acquisition of a submarine to replace a submarine, of an air superiority fighter to replace another fighter and so on could constitute evidence of the imperative at work. However, before it can be stated that any acquisition is an example of the follow-on imperative, it is necessary to establish two things:

(i) that the new acquisition is of the same generic type as its predecessor; and

(ii) that there is no longer a requirement, derivable from the strategic assessment as discussed in Chapter II, for either the capability conferred by the obsolescent materiel or for that particular generic type of equipment in the forces.

The operation of the follow-on imperative is characterised by certain factors. Chief among these is a reluctance to re-assess the relevance to defence forces of a particular type of equipment. A temptation can exist for force planners, particularly if a vested interest of some type is involved, to assume that because a given requirement existed in the past it will continue to exist in the future. Not only does this simplify the decision making process, it tends to protect the status quo within a large organisation. One non-Departmental witness spelt out this approach very clearly:

> There is a very strong replacement syndrome [in Australia] ...If we have 10 destroyers now we shall have 10 destroyers; if the Air Force consists of three squadrons of fighters, one squadron of reconnaissance planes and five squadrons of helicopters we will continue to have that, and so on....It is all very well to point the finger at the Chiefs of Staff, the Government or whoever and say that they are not giving guidance but the guidance one can give is at the very best an inspired guess, so that what we did before was a good place to start from. This is reasonable. Where we are at present is a reasonable place to start from.*

* Hansard, 21 September 1978, p.249.

The Committee points out that it is not enough to point to prior defence equipment purchases and force structure and use these as a guide to future acquisitions policy: nor is it enough to recite the history of such purchases and assert that because Australia has acquired, say, the Leopard tank to replace the Centurion, we have fallen prey to the follow-on imperative. It would also be necessary to show that insufficient examination of other generic type options was undertaken and that a requirement for tanks no longer exists. The Committee believes that witnesses claiming, for example, that Australia has 'carried the "follow-on imperative" to a perfection unrivalled in the international

defence community',* are in error because they have not produced

* Hansard, 19 October 1978, p.519.

evidence to show that most equipment acquisitions are based on invalid assessments of Defence Force requirements.

As mentioned in Chapter II, the possession of a variety of equipments with different capabilities would have the effect of compounding an enemy's difficulties in operations against Australia. Too narrow a spectrum of capabilities - for example, heavy reliance on submarines to interdict an enemy's communications before he reaches Australia - would mean that the enemy would have to protect his forces against only that specific threat. On the other hand, an excessively wide spread of capabilities can lead to a proliferation of over-specialised weapon systems and to an excessive supply, support and training burden on the Defence Force. When considering the various options available to meet a requirement, therefore, there is a need to strike a balance between these two extremes.

The Committee reiterates its view that strategic circumstances are subject to change and that as a consequence of this and other sources of change, Australia's Defence Force requirements are also subject to change. It is therefore of primary importance that the impending obsolescence of a weapon system or platform not be taken as a cue to initiate processes leading automatically to the acquisition of a system or platform of the same generic type. The Committee considers that there is a responsibility at such times to commence the procurement process from its initial phases: to assess fully the strategic requirement (if any) for the capability provided by the obsolescent materiel and, should a continuing requirement exist, to examine fully all generic type options before proceeding further. Although fully seized of the fact that in many instances the re-establishment of the requirement and the generic type selection will be neither difficult nor time-consuming, the

Committee considers that a full re-assessment of these questions in each case will offer organisational protection against the follow-on imperative and that such protection is justification for the effort involved.

The Committee's purpose in its examination of the follow-on imperative has been to indicate the ways in which the imperative can operate and to outline the basic principles which should be followed to minimise the risk of it appearing. While there has been a significant amount of evidence claiming that the imperative has operated in Australia, the Committee notes that the bulk of this evidence has called upon examples which refer to decisions made many years ago. It has not been the intention of the Committee to undertake such an historical examination in its inquiry. Not only would this be irrelevant to the future of defence procurement in Australia (due to the substantial reorganisation of the defence decision making machinery which has taken place in recent years), but the Committee is not persuaded that such an exercise is needful for the discharge of the task set it by the Parliament.

3. Consideration of Alternative Options Within the Department

The Committee has had the benefit of a substantial quantity of documentation and supporting verbal evidence on all aspects of the procurement process from the Department of Defence. Although it is not possible to advert to the totality of the relevant material in a report of this nature, a basic outline of Defence Department procedures up to Government approval of the generic type has been included in this Chapter. An aspect of these procedures which the Committee desires to consider further concerns where and when in the procurement process decisions eliminating some options and advancing others are made by the Department.

It is not wholly clear from the available evidence precisely where in the Departmental machinery and when in the procurement process certain key points in the consideration of generic type options are definitively resolved. The Committee considers that this arises in large part from uncertainties as to funding levels versus prospective bids, the fact that the specialised nature of major projects requires consideration at many levels and, in particular, the fact that final decisions will be taken by Government in a context wider than the purely technical and administrative matters listed below. These matters include:

- when the bidding Service or Division commits itself, either formally or informally, to a particular generic type in preference to other options;

- to what extent options other than the obvious or favoured option are given comprehensive attention;

- at what point(s) in the process the several generic type options potentially capable of meeting a given requirement are set out and flagged for examination;

- at what points the Defence (Central) organisation first examines and subsequently culls generic type options;

- the degree of inter-Service collaboration on the examination of options; and

- the extent to which the Central Studies Establishment, with its expertise in the field of joint Service implications of weaponry and

related factors, has an input into the assessment of generic type options.

It is not intended to imply that the Department of Defence has failed to give attention to the matters listed. However, given the substantial body of evidence made available to it, the Committee is concerned that the difficulty it has had in definitively resolving these points may indicate a possibly imprecise understanding of them within the Department. The Committee considers that the need for full consideration of all generic type options in both a Service and joint-Service context is sufficient to require machinery which will guarantee that this takes place. Failure to achieve this objective may, as with the follow-on imperative, introduce distortions into the structure and equipment of the Defence Force. To minimise this risk guidelines should be issued making it mandatory for the bidding Service or Division to produce adequate studies of the merits and demerits of all potential generic types within that Service or Division's area of expertise, and for the Central Studies Establishment and the Department's Force Development and Analysis Division to test these options and raise options for appropriate other-Service assessment. If this is done before even a tentative preference for any one option becomes established within a Service, the risk of making an inappropriate choice between options will be significantly reduced. There is always a danger in any substantial organisation that once a preference has been indicated it will be no easy matter to secure acceptance of any other solution, and the Committee's intention in pointing this out is to assist in the restraint of any such tendencies within the Department.

An important aspect of the consideration of generic type and capability options is the timing of the process. As mentioned previously, (see above, p.60) it can be six to eight years from the first issue of a new Major Equipment Proposal in DPl format until the equipment is in effective operational service with the

Defence Force. This is a matter of some concern to the Committee, as this period is in excess of the warning times likely for all low and medium level defence contingencies which Australia could face. Should a particular equipment be required to meet one of these contingencies it would not be available inside the warning time if standard procedures were followed. The Committee would favour an investigation of ways of reducing the total acquisition and operational work-up time for an equipment to levels not in excess of the likely warning time for contingencies against which the capability is being procured. Because there is an essential minimum operational work-up and training time for any new equipment before it can be used effectively in the conduct of operations, it would be necessary to streamline procedures in the period from the issue of the DPl until delivery. Should a detailed examination of current procedures show that it is not possible to reduce lead times below warning time, it will be necessary to acquire capabilities for which a general strategic requirement exists in advance of any period of warning and add them to the 'core force'. The Committee considers these matters to be of high priority.

CHAPTER IV

SELECTION OF SPECIFIC EQUIPMENTS

Introduction

The Committee now turns to a consideration of the procedures followed by the Department of Defence when selecting equipments from various options within a previously determined generic type. This phase of the procurement process effectively involves the choice of a 'brand name' equipment and its subsequent acquisition, and as such raises several issues of significance.

Defence Department and Service officers usually have several options open to them when the choice of a particular equipment comes up for decision. It is desirable that all relevant factors are examined fully prior to any recommendation being made to Government. The more significant factors include:

- initial capital outlay;
- full life-cycle cost projections;
- operational effectiveness of the equipment;
- maintainability of the equipment without excessive reliance on foreign suppliers;
- suitability to a wide range of operational conditions; and

- potential for local construction or at least for appropriate levels of Australian Industry Participation (AIP).

The Committee considers that wherever possible the assessment of these and other factors and the process of acquisition itself should be characterized by a flexible approach backed up with strategic, technical and procurement expertise. In this Chapter, the Committee will firstly outline the machinery and procedures used by the Department in specific equipment selection and subsequently discuss these matters in some detail. The purpose of the Committee in considering this phase of the procurement process is not to identify or advocate any set of hard-and-fast rules but to consider the extent to which the Departmental machinery permits and encourages a full examination of all relevant issues in brand name selection and ensures that acquisition is executed in the best interests of Australia.

The Department of Defence Machinery

The previous Chapter, 'Consideration of Optional Capabilities', outlined the Defence Department's procurement machinery up to the selection of a particular generic type of equipment. The following paragraphs, using the Defence Instructions (General) and other material supplied by the Department of Defence, will describe processes within the Department which lead up to the selection of specific major equipments for the Defence Force. It will be seen that the Departmental Committee structure described in the previous Chapter also has an important role to play in this phase of procurement.*

---

* See Appendix A for a list of all Committees referred to in this Chapter.

There are two basic planning documents used by the Department for new major equipment programs: the Equipment

Acquisition Strategy (EAS) and the Project Management and Acquisition Plan (PMAP). The EAS provides basic guidelines and a framework within which all participants in a major equipment acquisition must operate. It sets out the nature and sequence of activities, outlines the strategy to be used and the time frame in which procurement will be conducted. The EAS for each specific equipment acquisition is prepared by the First Assistant Secretary, Defence Industry and Materiel Policy in conjunction with the relevant Service Chief of Materiel and is presented to the Defence Source Definition Committee (DSDC) for endorsement. It is usually developed after the Defence Operational Requirements Committee has endorsed the Service Staff Requirement.

The EAS acts as a basis for the preparation of the more detailed and comprehensive PMAP which is carried out by the Chief of Materiel in conjunction with other appropriate functional areas determined by the nature and purpose of the equipment. The PMAP will spell out arrangements for project management, allocate specific tasks to individuals and/or groups, identify the proposed timing of expenditure and deliveries and also flag major review points throughout the program. The PMAP is required to be developed before the issue of Tender Schedules or similar documents.

Because the considerable complexity of new major equipment programs frequently requires a great deal of preliminary effort before any specific equipment can be considered, and because there is a need for a unified and coherent approach to such programs, the Defence Department usually sets up a Project Office with a Project Director to manage a program under the general oversight of the relevant Chief of Materiel. The main function of such Project Offices is the co-ordination of all resources applicable to the project in an orderly and timely manner. They are required to function within the usual Departmental decision-making and administrative processes.

These Project Offices normally include relevant Service equipment users, scientific, technical and engineer officers and industry, supply, finance and contractual experts. While the bulk of a Project Office's personnel will come from the Department of Defence, the industrial, supply, financial and contractual specialists may be drawn from other Government Departments such as the Departments of Administrative Services, Productivity and the Crown Solicitor's Office.

In order to obtain basic information and documentation on the number and capabilities of potential sources of supply, the Department will arrange for certain papers to be released to industry and at appropriate overseas posts. Documents which are released may include the Staff Requirement (where this has been endorsed by the Defence Operational Requirements Committee), Requests for Proposals, Invitations to Register Interest and Tender Schedules. These documents in various forms acquaint industry and overseas concerns of Australian interest in a particular generic type of equipment and invite responses outlining in general terms the way in which each recipient might approach the task of providing Australia with the equipment. In Australia, for all major equipment programs, the issuance of this documentation is at the discretion of the First Assistant Secretary, Defence Industry and Materiel Policy, in conjunction with the relevant Chief of Materiel, and is normally handled by the Purchasing Division of the Department of Administrative Services. Overseas, the issuance of Invitations to Register Interest and Tender Schedules is managed through the Counsellor (Supply) in Washington in conjunction with the appropriate Service Attache; in London by the Chief Purchasing Officer on advice from the Service Adviser or Defence Science and Technology representative; and in other countries by the most appropriate Australian Government representative as determined by the relevant Chief of Materiel in consultation with the First Assistant Secretary, Defence Industry and Materiel Policy.

Requests for Proposals, Letters of Offer and similar documents are distributed overseas through the Service Attache Advisor (in conjunction with the Head of the Australian Defence Staff at the post) in Washington and London, and in other countries through the most appropriate Australian representative. As mentioned in the previous Chapter, these documents will contain in general terms the Department's view of what is required from the equipment under consideration.

In evaluating responses from local and overseas concerns to the documentation issued, the Department of Defence lays down several criteria. The more important of these include:

- equipment performance to conform with the Departmentally approved requirement and/or specification;
- supply and engineering support to be assured for the life-of-type of the equipment and to be the best available;
- taking into account the life-cycle cost, pricing, payment and delivery arrangements to be the optimum achievable for Australia in terms of current policy;
- contractual terms and conditions to be the best available and legally acceptable;
- that, consistent with stated policy, strategic needs and overall costing, maximum Australian Industry Participation is obtained; and
- proposed supplier's quality control arrangements to conform to nominated standards.

The evaluation process is divided into three major areas. Responses relating to proposed Research and Development, Project Development or Definition, Contract Definition or the proposed acquisition of the principal equipment or system under consideration are dealt with according to the basic EAS by the relevant Service Office and/or Service Procurement Authority in conjunction with other relevant functional areas within the Department and using the guidelines already listed. The evaluation will be used by the Chief of Materiel to prepare a report to the Defence Source Definition Committee recommending the preferred supplier(s) and any alternatives for its consideration. However, if an overriding requirement, such as a need for commonality with equipment already in service, predetermines the source of supply, the First Assistant Secretary, Defence Industry and Materiel Policy, may give his consent without the matter going to the Defence Source Definition Committee. In such cases, the Chief of Materiel will prepare a submission to the Minister seeking procurement approval (and with the concurrence of the First Assistant Secretary, Defence Industry and Materiel Policy, on source selection and the FAS Programming and Budgeting on financial aspects) which will go to the Minister through the office of Deputy Secretary C of the Department.

Responses dealing with long lead items in advance of the principal equipment, long term support matters and weapons or high cost ammunition for which implications exist under stock holding policy are also evaluated by the authorities referred to above. The evaluation report and recommendations on a preferred tenderer are referred to the Chief of Materiel and the FAS DIMP, seeking agreement to proceed with the proposed procurement. The Defence Source Definition Committee is thus not involved.

Other proposed procurements which form part of a major equipment program are evaluated and acted upon by the relevant

Service Procurement Authority in conjunction with appropriate functional areas of the Department.* Subject to the overall guidelines governing defence procurement, the Procurement Authority under the general supervision of the Chief of Materiel may proceed with acquisition of these subsidiary items.

* Personnel designated as Service Procurement Authorities are:
- Chief Naval Technical Services;
- General Officer Commanding Logistic Command, (Army);
- Air Officer Commanding Support Command, (RAAF); and
- the three Directors General (Supply).

It has already been mentioned that the DSDC receives from the Chief of Materiel concerned a report evaluating responses from industry and foreign countries concerning the acquisition of major equipments and incorporating a recommendation as to the preferred source of supply. It is at this stage that the Department of Administrative Services, through its representation on the DSDC*, and the Crown Solicitor's Office, which is consulted on legal aspects of contractual matters, are brought into the procurement process. The DSDC is charged with conducting an objective examination of procurement options and alternative sources of supply (of which some at least will have been identified in the submission of the Chief of Materiel to the Committee) and with the recommendation of a procurement solution to the Defence Force Development Committee (DFDC). This Committee is chaired by the Secretary of the Department of Defence and includes the Chief of the Defence Force Staff, the three Service Chiefs of Staff plus appropriate personnel by invitation of the Committee. Following the DFDC consideration and approval a joint submission from the FAS DIMP and the Chief of Material, endorsed as to financial considerations by the FAS Programming and Budgeting (PB), is sent for approval to the Minister through Deputy Secretary C. Approval for expenditure in excess of $2,000,000 will be sought by the Minister for Defence.

* Administrative Services is represented on the DSDC by the Assistant Commissioner (Operations), Purchasing Division.

The receipt of requisite approvals following the Committee's consideration described above opens the way for contractual and related negotiations with the preferred supplier. The Defence Department has a comprehensive set of guidelines as to the way in which this delicate task should be undertaken, and these are described in the following paragraphs.

The general procedure is for the relevant Chief of Materiel to ask his Service Procurement Authority to negotiate equipment procurement contracts in consultation with appropriate functional authorities. All negotiations in respect of local defence procurement are conducted in Australia, while a range of contracts subsidiary to overseas procurements may also be negotiated locally as determined by the Chief of Materiel in conjunction with the FAS DIMP. Such contracts include those for:

- Research, Project Development, Project Definition and/or Contract Definition studies pre-requisite to a go/no-go decision on a acquisition;
- long lead items;
- the main equipment or system; and
- other acquisitions with consequential implications for contracts within a project.

Where possible, overseas concerns are encouraged to send representatives to Australia at their own expense to conduct negotiations on contracts of these types. All other contracts relative to an overseas procurement may be negotiated overseas by the appropriate Australian representatives in the United States, the United Kingdom or elsewhere. In the US, such negotiations are handled by the Head of the Australian Defence Staff or his

representatives; in the UK by the head of the Australian Defence Staff in conjunction with the Chief Purchasing Officer or by that Officer as the representative of the Head of the Australian Defence Staff; and in other countries, the appropriate authority is determined by the Chief of Materiel in conjunction with the FAS DIMP.

It is often the case, however, that major equipment acquisition programs create exceptions to this general procedure because of their complexity and/or implications for defence policy. In such instances, a special contractual negotiating team will be set up by the relevant Chief of Materiel in consultation with the FAS DIMP and, where policy ramifications are apparent, with the Deputy Secretary C. The Chief of Materiel and the FAS DIMP will, after the DFDC and the Minister have approved a project, draw up a general directive for guidance of the negotiating team. When it is considered necessary to dispatch a team from Australia, its compositions will be representative of the appropriate Service, necessary functional areas of the Department, the Crown Solicitor's Defence Sub-Office and other Departments as considered appropriate. Often certain preliminary work and negotiations will have been undertaken in advance of the negotiating team by the appropriate Service and Defence representatives at overseas posts, particularly Washington and London. The relevant Chief of Materiel is responsible for co-ordinating all aspects prerequisite to contract negotiation and finalisation.

As nearly as practicable, the terms and conditions of contracts are required to conform to existing standards: in Australia, to those employed by the Purchasing Division of the Department of Administrative Services; in the United States, to those used by the Australian Tender Board there and, in the United Kingdom, to those used by the Chief Purchasing Officer London. The Defence Department is, however, well aware that need will arise to vary these standards from time to time to meet

special requirements of individual projects. Such variations require the approval of the Chief of Materiel and the FAS DIMP in conjunction with appropriate functional areas of the Department.

In dealing with major United States equipments, Australia's contract is not with the manufacturer but with the US Government, which in turn lets a contract to the supplying organisation. As a consequence, the task of supervising the performance of the supply contract is taken over for a fee by the appropriate United States Armed Service. Australia is therefore able to limit the number of personnel which must be sent overseas in connexion with such contracts: for the FFG Project the Defence Department estimates that it has been possible to avoid the posting of about one hundred personnel to Washington as a consequence of this practice.*

---

* Hansard, 9 November 1978, p.1089 and 29 November 1978, pp.1502-3.

It will be apparent from the foregoing that the Defence Department has, within relevant statutory, regulatory and administrative constraints, a considerable degree of autonomy in the selection and procurement of equipment from overseas sources. However, this is not so where the supplier is Australian. The basic brand name selection procedures already described still obtain, but the Department is required to use the Purchasing Division of the Department of Administrative Services for the procurement of all but minor items within Australia. Moreover, the Department of Administrative Services possesses authority in effect to require the Defence Department to justify its source selection.

The basic practice of the Department of Administrative Services when seeking to purchase goods or services on behalf of any Government Department or agency is open tendering. Tenders are invited and the result will be determined by the processes normally associated with the evaluation of competitive bids. A

discretionary power to modify or dispense with this procedure is vested with Administrative Services. This is known as a Certificate of Inexpediency, which states that there are good and sufficient reasons why it is not expedient for a certain item to go to tender and authorising its purchase under less rigorous procedures. The most common reason for the issuance of such a Certificate is that there is only one supplier in Australia capable of meeting the requirements of the user. Evidence from Administrative Service makes it clear that the issuance of such a Certificate to the Defence Department (for which about eighty percent of Administrative Services' purchasing activity is carried out) is by no means on demand.* It has been the policy of

---

* Hansard, 23 November 1978, p.1294.

the Department of Administrative Services to encourage wherever possible the most open and competitive tendering for all Government purchasing: nevertheless, this policy has not prevented fifty-seven percent by value of tenders for the year 1977-78 being dealt with either from a single supplier or a selected group of suppliers.*

---

* Hansard, 23 November 1978, p.1297.

Where a substantial equipment program is to be carried out in Australia, the evidence shows that separate contractual arrangements, including open tendering, are required for each significant component of the overall equipment. For example, tenders would have to be called for the hull, engines, radars, sonars and weapons fit of a warship unless the Department of Administrative Services agreed to issue Certificates of Inexpediency in respect of these subsystems. During the Nomad light aircraft project, it was necessary to obtain a Certificate for the engines.*

---

* Hansard, 29 November 1978, p.1508.

An ad hoc Interdepartmental Committee representative of the Departments of Administrative Services, Defence and Finance

has been set up to examine in detail all issues related to local procurements, including the desirability or otherwise of current tendering practices. At the time of writing, however, that committee had not proceeded very far with its inquiry, and any major restructuring of these arrangements will entail extensive redrafting of relevant regulations and possibly amendments to Acts of Parliament as well.

Effectiveness of the Machinery

The foregoing outline is by no means fully descriptive of all the processes involved in specific equipment selection: nevertheless, it does represent a basic outline of the Defence Department's decision-making machinery in this field. The Committee now turns to a consideration of the extent to which this machinery can be seen to be both appropriate to Australia's needs and effective in implementation.

The fundamental principles on which the Defence Department machinery for brand name selection is built meet with the full approval and support of the Committee. It is clear that there is a need for a coherent and integrated approach to the problems associated with this phase of the procurement process, and whereas the Committee expressed in the previous Chapter certain reservations as to the clarity of the Departmental approach to generic type issues, no such reservations exist in the present discussion. The Committee is particularly attracted by the requirement, reiterated many times in material supplied by the Department, for 'other relevant functional areas' to be involved at key points in the decision-making and assessment processes. The concept of an EAS and its associated PMAP represent particularly valuable tools for ensuring that those responsible for acquisition of equipments are constantly reminded of the fundamental objectives of the acquisition. The Department has identified the requirements for assessment of competing brand names and has constructed the basic elements of an organisation capable of meeting these requirements.

Nevertheless, there are certain aspects of the implementation of these well-understood principles, and some organisational issues, on which the Committee wishes to comment. A principal area of concern is the matter of contract administration and management for new major equipment acquisitions from the United States. The procedures currently followed by the Defence Department in conjunction with the relevant US Armed Service have been described above (see p.82 above, and footnote to that page). The Committee has two distinct areas of concern, one a matter of basic principle and the other a possiblity that current practice may result in Australia foregoing a potential long-term benefit in procurement.

As a matter of principle, the Committee considers that overseeing expenditure of significant Australian resources in a foreign country should rest with Australia, and not with the Government or other agencies of that country. In saying this the Committee does not wish to be in any way interpreted as suggesting that improprieties on the part of a foreign Government concerned with Australian defence procurement have been perpetrated or alleged in evidence. They have not. At the same time, it seems important to the Committee to place the supervision of contracts involving in many cases hundreds of millions of dollars and, in the strict sense, the future security of Australia into Australian hands.

The Committee is mindful of the fact that the Department of Defence does maintain a general overview of these matters through overseas postings of limited numbers of personnel. In the case of the FFG Project, for example, Australia is represented by twelve Service and civilian personnel who are placed in positions in the United States which would otherwise be filled by US citizens. Their work involves monitoring aspects of the whole US FFG construction program, which includes the three Australian

ships.* However, the Committee believes that an expanded effort

* Hansard, 25 July 1979, p.2124.

in this field is needed to satisfy the principle spelt out in the preceding paragraph. This practice would in time yield increased numbers of Australians well versed in foreign (especially United States) procurement practice, law and industrial methodology.

The Committee notes that the Department of Defence estimated that in the case of the FFG project about one hundred personnel would have had to be posted to the United States if it had been decided to carry out our own contract management and supervision. The Committee is also aware that there will be a continuing requirement for use of supplier countries' test and similar facilities. Moreover, the Committee has taken account of the work of the House of Representatives Standing Committee on Expenditure, which reported in May 1977 that it then cost between $70,000 and $100,000 per person per year to post an officer overseas.* Australian contract supervision of the FFG Project

* House of Representatives Standing Committee on Expenditure, Report on Australia's Overseas Representation, Parliamentary Paper No. 100/1977, p.2.

might therefore have been expected to have personnel costs in the order of seven to ten million dollars a year.

However, the Committee points out that it is both impractical and unnecessary to undertake the whole contract management and supervision task for a major project in one stroke. The Committee considers that there is a need to add further to Australian expertise in this field, but that this would be a gradual process which can be achieved over the lifetimes of several projects. Provision for this kind of training could be made part of the overall Equipment Acquisition Strategy for future major equipment purchases from foreign sources.

An outline has been provided of procedures applicable to equipment acquisitions both in Australia and from overseas sources. Although each seems complex, it is clear from evidence available to the Committee that the system applicable to overseas buys is more conducive to sound procurement practice and management. By way of contrast, the Committee is disturbed by the complexity and excessively cumbersome nature of the arrangements for local defence procurement. It seems to the Committee that an arrangement whereby it is possible for Australia to go overseas and acquire 'off the shelf' warships such as the FFG-7 while being forced, if it is decided to construct locally, to go out to tender for numerous subsystems, is not satisfactory. The Committee has received evidence showing that this difference in procedures hampers design effort and discourages both local industry and the Defence Department. The Committee welcomes the recent decision to construct a Replenishment Ship locally, noting that the cooperative attitude of all parties concerned, including the work force, was a significant factor in securing this project for australia, and expresses the hope that procedural difficulties do not inhibit the successful conclusion of this project.

The Committee considers that the open tendering system as currently organised represents a significant obstacle to the prompt and efficient local procurement of materiel for the Defence Force. There is evidence from the then Secretary of the Department of Defence indicating that local procurement procedures can add significantly to acquisition lead times and, therefore, to project costs.* They also represent a disincentive

---

* Hansard, 25 July 1979, p.2180.

to local industry bidding for defence contracts and in so doing undermine the vital industrial support infrastructure without which Australia's national security interests could be jeopardised.

As noted above, the open tendering process can be modified or negated by the issuance of a Certificate of Inexpediency. In 1977-78, some 57% by value of the Department of Administrative Services' purchases were undertaken in the situation of a single supplier or a confined quote - that is, quotes from a selected group of possible suppliers, but not by public tender.* However, the Department's evidence also indicated

* Hansard, 23 November 1978, p.1297.

that current regulations make the issuance of such a Certificate a matter of considerable weight and responsibility. While the Certificate might be of some value as an ad hoc means of streamlining procedures, the Committee is not persuaded that it represents a suitable long-term solution to the major problems associated with local tendering. It is unlikely that local industry or the Department of Defence would be encouraged to participate in major equipment projects in Australia when the success of the project was dependent upon the possible issuance of several Certificates of Inexpediency. In any event, long-term project planning on such a basis would be virtually impossible.

The Committee is aware of the Inter-Departmental Committee presently investigating tendering and related matters, and considers this investigation to be a step in the right direction. The Committee notes, however, that at the level of activity presently projected for this Inter-Departmental investigation, not less than six man/years (from May 1979) would be required before proposals to improve the present system could be developed to the point where they could receive consideration by Government;* and that the Departments involved cannot find the

* Australia. Department of Administrative Services. Brief for Sub-Committee on Defence Matters on IDC on Selective Tendering, September 1979, Attachment B.

resources necessary to expedite the investigation at this time.*

* ibid., p. 4.

The Committee considers that the matter is of such import as to require a significantly increased effort directed towards finding

a set of procedures for local acquisition which both ensures that adequate standards of propriety are observed and permits a realistic and flexible approach to local industry. The Committee is well aware of the magnitude of this task: Finance Regulations and most probably Acts of Parliament would require significant revisions of a highly complex nature.

The initial task will be to define criteria which might apply to local defence procurement. In the Committee's view, these should include:

- modification of existing local tendering procedures to allow local production sources to incorporate their preferred ancillary and component elements within a total tender package, rather than the present practice of calling tenders for many individual components;

- substantially greater emphasis on selective tendering for the many areas where Australian industry capabilities make it clear that open tendering would only complicate and delay the process;

- development of continuity of work through follow-on contracts to local industry be increased, thus ensuring that industrial capacities built up during a project are not subsequently lost or dissipated;

- speedier Government and Departmental decision making wherever possible, and adherence to previously announced decisions so that industry and Departmental planning is not unduly disrupted. In this context, the

Committee considers that it is important for Governments not to announce major projects and their time-tables only to reverse them subsequently;*

* The Committee has particularly noted the evidence of Sir Arthur Tange on this point, that unpredictable reversals cause delays and add to lead times, and that the Defence Department needs 'a Government that makes a good prediction, whose performance will match the planning base given to us when it comes to Budget time', even though ironclad guarantees are not possible. (Hansard, 25 July 1979, pp.2181-2 (delays) and pp.2191-2 (adherence to plans).

- stability of requirements: this follows from the previous point, but has application to the Department as well as Government. The Committee considers that the Department, having established a requirement for, say, a ship with certain capabilities and obtained Government approval for it, should not significantly vary this requirement. Variations of a major nature not only add to project costs but can cause serious disruption to industry planning and any design effort which may be in train;

- arrangements for local (and overseas) procurement for the Defence Force should be such that the user Service retain its necessary influence on such matters as capabilities required, project timing in the Five Year Defence Plan and cost-effectiveness; and

- the need for adequate safeguards to ensure maintenance of standards for honesty and propriety.

These matters are for the most part of a policy nature and as such require consideration and decision by Government. Consequent on this would be an examination of the ways in which Government decisions might be translated into new laws and regulations which would remove the impediments to Australian industry involvement in defence projects discussed previously.

The Committee considers that these tasks should be accorded a high priority. Evidence before the Committee has convinced it that continuing degradation of important sectors of Australia's defence industry is inevitable so long as the present tendering structure remains operational. The work of the Inter-Departmental Committee referred to above does not, in this Committee's view, represent an adequate level of effort in this area.

The Committee recommends:

- that the present arrangement for local acquisition of major goods and services for the Defence Force be improved by implementation of the principles set out above *(see pages 89-90)*;

- that the Government should direct the Departments of Defence, Administrative Services, Finance and other relevant agencies to report within six months on the best method of implementation; and

- that the Departments and agencies concerned be given the resources necessary to bring the project to fruition in the assigned period.

The Committee also wishes to express its interest in the framework for negotiating directives prepared for teams to be

sent overseas to conclude major equipment contracts. Favourable comment has already been made on the concepts of an Equipment Acquisition Strategy and Project Management and Acquisition Plan for each major equipment program, and the Committee considers that these tools would be of considerable value in the drafting of the negotiating directive. However, it appears that the directive does not refer to these documents. The Committee considers that they provide an excellent 'home base' for negotiators who may otherwise, in the intense atmosphere of negotiations in a foreign country, tend to lose sight of their fundamental objectives in a mass of detail. The Committee believes that action should be taken to use the EAS and the PMAP in the drafting of negotiating directives.

It will be recalled that for long lead items in advance of a principal equipment, and certain other categories of equipment, the evaluation reports and recommendations on a preferred tenderer are sent to the relevant Chief of Materiel and the FAS DIMP seeking agreement to proceed with the proposed procurement (see p.78, above). The Committee understands the need for some such practice if a major equipment is to be outfitted and maintained in an orderly and timely manner. For example, it could be necessary to place orders for certain weaponry associated with a warship before the warship itself was ordered if the lead time for the weaponry exceeded that for the warship. The Committee is concerned, however, about the potential for waste of resources should such an advance order be placed and the principal equipment subsequently be cancelled. A hypothetical example might involve an order being placed for, and work commenced, on extensive and specialised support facilities for a particular combat aircraft from the United States and the United States, for its own reasons, cancelling that program. This could leave Australia with a partially completed facility having little or no application to the aircraft it had subsequently decided to acquire. The Committee notes, in this context, that the Department of Defence saw this risk in connection with the

Tactical Fighter Force, and took steps to avoid it by delaying placement of orders for the long lead items.* The Committee sees

---

* Hansard, 25 July 1979, p.2339.

no easy way out of the potential difficulty, but commends to the Defence Department the need to investigate the question with a view to minimising the possibility of any such occurrence.

CHAPTER V

THE ORGANISATION OF DEFENCE PROCUREMENT

Introduction

To this stage, the Committee has examined and commented upon the systems created by Parliament and the Departmental structure to provide Government with essential strategic assessments and advice concerning necessary Defence Force requirements, generic type selections and decisions on specific equipments and materiel. Chapters III and IV outlined the Departmental decision making machinery in the context of major equipment programs and offered several observations on its organisation and operation in practice. In what follows, the Committee wishes to address the development and overall structure of Australia's defence procurement machinery, to make some specific comments and suggestions about it and to advert to certain overseas concepts which may contain something of value for Australian consideration.

Throughout this report the Committee has been at pains to bring out the underlying need for a consistent, coherent and flexible approach to matters of national security policy and defence administration. Nowhere is this requirement more relevant than in the field of defence procurement. Any fragmentation of effort, lack of clearly defined and understood objectives or of necessary expertise in key areas can have far-reaching consequences for a nation's future and, even in the short term, may result in inefficiencies resulting in the waste of scarce resources.

In this Chapter, the Committee's examination of Australian defence procurement is directed principally towards a

consideration of the extent to which any such difficulties may exist, towards identifying possible methods of eliminating or mitigating any problems which become apparent and towards suggesting areas which, though beyond the Committee's resources to investigate thoroughly, might be deserving of closer study by Government or the Department of Defence.

The Present Organisation and its Background

Considerable detail on Defence Department decision making procedures and structures has been given in earlier Chapters. The purpose of the present discussion is to give essential background on and to indicate the general shape of the defence procurement organisation and to outline what seem to the Committee to be its underlying principles.

The chief participant in Australian defence procurement activity is of course the Department of Defence itself. Prior to the integration of the five 'Defence Group' Departments* into a single Defence Department (a process carried out in phases from 1974 to 1976), defence procurement in common with most other areas of defence activity was hampered by the problems inherent in the existence of a multiplicity of Departments concerned with specialised aspects of the defence function. Despite Government efforts in 1958 and again in 1968, it proved impossible to create within the existing structure an integrated, functional, management and decision making system for defence. This goal was not approached until the reorganisation carried out as a consequence of Sir Arthur Tange's 1973 report on higher defence organisation. The implementation of this report in the 1974-76 period resulted in a single Department of Defence, with overall charge of policy advice, the day-to-day administration of the Defence Force, and much (but not all) of procurement. Although various criticisms have been advanced from time to time concerning some aspects of the present organisation, the

* These were the Departments of Defence, Navy, Army, Air and Supply.

Committee concurs with the Chief of the Defence Force Staff in that there is no reason to turn the clock back to the organisation of the nineteen sixties.* However, the Committee

* Hansard, 25 July 1979, p.2218.

does wish to advert to several matters arising in part from considerations in previous Chapters and to discuss some questions of principle relating to the organisation of defence procurement, both inside and outside the Department of Defence.

Prior to the integration of the Defence Group of Departments into the single Department of Defence, there existed in the procurement area a close relationship between other Departments in the Group and the Department of Supply. It was a function of that Department to manage defence purchasing activities and, through its Technical Directorates, to help assess specialist aspects of proposed equipment programs. From 1948 onwards intimate links and close working relationships developed between Supply and the other Defence Group Departments. By Government decision in 1973, the question of Supply's purchasing function was not included in the Tange Report, but subsumed in a general examination by a Committee of Inquiry into Government Procurement Policy under the Chairmanship of Sir Walter Scott. The May 1974 report of this Committee recommended the establishment of an Australian Government Purchasing Commission to manage all significant Government purchasing activity, including that of the Department of Defence.* In late

* Report of the Committee of Inquiry into Government Procurement Policy, Australian Government Publishing Service, 1975. Parliamentary Paper No. 124/1975.

1977, however, Government decided not to proceed with this recommendation of the Scott Committee.*

* Hansard (House of Representatives), 16 March 1978, Answer to Question No. 86, p.893.

While the Scott Report was under consideration by successive Governments it was necessary to make some arrangements

for the management of defence procurement, particularly local procurement, to fill the gap left by the abolition of the Department of Supply. These arrangements, which developed from 1974 and reached their final form in August 1977, involve a significant role for the Purchasing Division of the Department of Administrative Services. This Division is partly a continuance of the Supply Department's purchasing sections and partly the nucleus of the Purchasing Commission developed prior to the decision not to proceed with so broad a body. Under the arrangements now in force, the Department of Administrative Services is responsible for the administration of all local defence acquisitions in excess of five thousand dollars: in general terms it acts as the purchasing agent of the Defence Department, but additionally exercises certain powers over defence procurement in its own right. Its system operates on the principles that:

- procedures be, and be seen to be, beyond reproach;
- all who wish to participate in Government business are given the opportunity to do so;
- the Government maintains a reputation for fair dealing; and
- public money is spent effectively and economically.*

* Hansard, 23 November 1978, p.1239.

To these ends Administrative Services is charged with enforcing the Finance Regulations and other legislative and regulatory constraints governing local procurement, including the open tendering system discussed in the preceding Chapter; it has the discretion to issue or refuse to issue Certificates of Inexpediency; it provides legal and contractual advice to the

Defence Department on major equipment programs and is a member of the Defence Source Definition Committee which plays a major part in the brand name selection of Defence Force materiel. In fact, about eighty percent of the Department's purchasing activity is carried out for the Department of Defence. The Department sums its role up in these words:

> Essentially the role of this Department throughout is to see that the Government's policies, regulations and procedures are adequately observed and that all the actions involved in the purchasing process are capable of withstanding detailed public scrutiny.*

* Hansard, 23 November 1978, p.1277.

In addition to Administrative Services, the Defence Department can call on the expertise of the Crown Solicitor's Office for legal and contractual advice during the purchasing process, and as noted in Chapter IV, has made provision for use of this service to be automatic for major equipment programs.

Other Nations' Experiences

The Committee is well aware of the dangers inherent in transferring concepts and organisational structures developed in foreign countries to Australia in toto as solutions to domestic problems. It must be borne in mind that overseas experience always develops in a context different from Australia's and that foreign solutions rarely if ever meet local requirements. Nevertheless, the Committee has paid attention to the defence procurement procedures of some foreign countries in order to ascertain whether any aspect of their experience could indicate for Australia ways in which our defence procurement system might be enhanced. It goes without saying that any such indications are most likely to be of a general, in-principle, nature rather than containing ready-made organisational suggestions.

The Committee examined defence procurement procedure and practice in three disparate countries: Canada, the United Kingdom

and the United States of America. It is not proposed to discuss their systems in any great detail but simply to summarise briefly the main features of each.

Canada has a Department of Supply and Services which acts as the purchasing and accounting arm of the Federal Government. The Supply Administration of this Department has certain responsibilities in the defence sector, but these are shared with the Department of National Defence. For minor items and for items where a common requirement exists between National Defence and other Departments, Supply and Services acts as sole purchaser, with National Defence advising it of quantitative requirements and Supply and Services (having co-ordinated all similar requirements from other Departments and Agencies) calling tenders, letting contracts and managing distribution.

Major defence equipment projects, however, are managed in a different way. Responsibility in this area is shared between National Defence and Supply and Services, with the former taking the dominant role. A team composed predominantly of National Defence personnel, but with participation from Supply and Services, is set up to manage project definition, preliminary design, final design, manufacture and purchase. For purchases from foreign suppliers, the definition and design phases are replaced by appropriate procedures for the evaluation of options. Whether for Canadian or foreign acquisitions, however, the role of Supply and Services lies primarily in the rendering of expert legal advice, letting contracts under National Defence direction (and to National Defence's specifications) and a range of lesser supportive functions.* It will be noted that in Canada there is no major difference in procurement procedures for local as against foreign buys, as is the case in Australia.

* Organization of the Government of Canada, Items 4601 (National Defence) and 8201 (Supply and Services).

The United Kingdom embarked on a major reorganisation of its defence procurement and civil aerospace activity as a

consequence of the work of a committee set up in 1971 under the leadership of Mr Derek Rayner. The report of this committee*

* Government Organisation for Defence Procurement and Civil Aerospace, UK Command Paper 4641, HMSO, April 1971.

stressed the idea that procurement should be treated as a specialist activity in its own right, and that it should not be undertaken lightly as part of career development in a totally different profession, such as an Armed Service. To implement this principle, the report recommended that UK Service personnel in the procurement area should spend the greater part of their careers there, returning only periodically to their Service so as to retain a sense of identity with it. The report also warned against problems which might arise through 'insufficient conscious selection of people possessing procurement aptitudes in order that they might be trained for a procurement career'* and

* ibid, para 12.

further against the dislocation which can be caused by too-frequent major reorganisations in the field.

The British Government implemented the main recommendations of this report in 1972, creating a Procurement Executive as an integral part of the Ministry of Defence. This specialist procurement body is headed by a Chief Executive responsible directly to the Secretary of State for Defence, and consists of a number of functions 'Controllerates' (Control Authorities): for Research and Development, Land, Sea, Air, Guided Weapon and Electronics Systems and for Finance, Personnel and Defence Sales. Thus the main features of the Procurement Executive are:

- that it is a part of the Ministry of Defence;
- that its Chief Executive is directly responsible to the most senior level of Government concerned with Defence;

- that it is organised along functional lines; and

- that it is staffed by Service and civilian personnel for whom procurement is the major component of their careers.

In the United States a major investigation of Government procurement was conducted from 1969 to 1972 by a Commission representative of Congress and commerce under Mr Perkins McGuire. The report of this Commission* recommended substantial changes to

---

* Report of the Commission on Government Procurement, US Government Printing Office, Washington DC, December 1972.

US Government procurement machinery, pointing out that the current practice was both uncoordinated and inconsistent. It stated that there was an urgent need for a more unified approach to procurement.

The US approach to procurement difficulties differs from both the British and Canadian solutions, in that it looks neither to a central government purchasing agency nor to a specialist organisation with particular functions. The Commission sought instead to lay down what can best be described as a general set of working principles for US Government procurement to be developed and overseen by an Office of Federal Procurement Policy. Its main recommendations included:

- creation of the Office of Federal Procurement Policy;

- an integrated statutory base for procurement to lay down sound policies and simplified Government agency procedures;

- recruiting, training, career development and education programs to ensure professionalism in procurement operations; and

- a Government-wide contract administration and audit system.

The legislation implementing the Commission's report also provided that the head of the Office of Federal Procurement Policy must regularly inform Congress of the Office's activities: this provision is intended to ensure that the Office cannot be evaded by Government agencies. Moreover, the Office is fully independent of any agency with procurement implementation functions. It does no buying itself.

This survey of procurement developments in Canada, the United Kingdom and the United States shows that each has turned to different solutions to problems of procurement organisation and management. Britain has opted for a specialised defence procurement agency as part of its Defence Ministry, Canada has a central procurement body which co-operates with the Department of National Defence while the United States has tried to lay down and enforce through a statutory authority procedures and regulations to be followed by all Government agencies involved in procurement, including the Department of Defense.

At the same time, it can be seen that there are certain principles common to these solutions. All three nations stress the principles of career development and education in their procurement bodies. No matter how disparate their solutions, they identify a need for some functional and integrated approach to procurement: they turn away from options which might lead to dispersal of effort through too many agencies or organisations being involved. Accordingly, they have all set up organisations, albeit with widely differing powers and functions, whose major task is to deal with procurement matters in the most expeditious manner.

Major Issues in Defence Procurement Organisation

In the course of its inquiry the Committee has identified many issues relevant to the organisation of Australian defence procurement. A number have been referred to in earlier Chapters. Prior to an examination of the effectiveness of the present procurement organisation, it is appropriate to draw together in one place those issues the Committee considers to be of particular significance.

Both in this report and the former report on industrial support for defence and allied matters, the Committee has placed considerable emphasis on the requirement for a sound defence industrial infrastructure as a precondition for adequate protection of national security interests. Factors tending to erode this infrastructure thus concern the Committee, and a factor of this type previously discussed is the system for defence procurement in Australia. The cumbersome nature of this system, its contribution to lead times and to industry costs have been analysed by the Committee, and it will be recalled (see page 92 above) that the Committee holds its improvement to be a matter of high priority. In the following section, the Committee will relate this problem to other aspects of procurement organisation.

Chapters III and IV of this report provided outlines of the Defence Department's decision making systems and equipment acquisition procedures. While the principles of the overall higher defence organisation of which these are part are unexceptionable, the Committee has expressed certain reservations about some aspects related specifically to procurement. The Committee is concerned at the contribution which detailed committee system considerations can make to lead times - notably where lead times can exceed likely warning times for some strategic contingencies - and in Chapter III made the point that

there is a need to investigate possible ways of reducing this contribution without degrading simultaneously the quality of assessments and decisions (see pages 71-72 above). There is Defence Department evidence which suggests that certain other factors also add to lead times, among which are tendering procedures in Australia, 'preference to Australian industry' requirements, unforeseen changes to foreign equipment programs or fiscal procedures involving Australia, sudden changes of Australian Government policy or failure of Government to adhere to previously announced defence objectives*. While not all these problems are susceptible to organisational solutions, it is possible to add to the resilience of the system so as to minimise their impact.

* Hansard, 25 July 1979, pp.2180-83.

Another issue arises out of the relationship between the Departments of Administrative Services and Defence, outlined earlier in this Chapter. This relationship is largely a response to the abolition of the former Department of Supply and the subsequent decision not to proceed with the establishment of an Australian Government Purchasing Commission. One aspect of the association between Defence and Administrative Services concerns the distribution of defence procurement expertise within Australia's administrative structure. It will be recalled that there are three main areas with a role to play in procurement: the Department of Defence, the Department of Administrative Services and the Defence Sub-Office of the Crown Solicitor's Office, while other agencies also have inputs from time to time. These 'team together' at appropriate phases of the procurement process to manage the project from conception to acquisition. The question arises as to what effect this apparent dispersal of expertise has on the efficiency of Australian defence procurement, both foreign and domestic. While considerable expertise is available in these and other parts of the Public Service structure, dispersal tends to reduce its overall

effectiveness. For this reason, the Committee is attracted to the concept of a consolidated group of Australians expert in overseas procurement practice and law being built up through gradually increasing participation in contract management and supervision of foreign buys.

Committee Views

It is now appropriate for the Committee to discuss these organisational considerations with a view to identifying possible ways of minimising the difficulties referred to above and improving further the organisation of Australian defence procurement.

The Committee considers that its examination of defence procurement has brought to light two main areas which have contributed to difficulties in the past and which retain the potential to do so in the future. These are:

- the dispersal of effort between several Government agencies, notably the Departments of Defence and Administrative Services and the Crown Solicitor's Office; and

- the local tendering and procurement system, with its serious problems for both the Defence Department and Australian defence industry.

These problems are interrelated, and will not yield to solutions which do not take account of their relationship. In its consideration of the issues they raise, the Committee has accordingly opted for a unified approach to the organisation of Australian defence procurement.

It seems to the Committee that dispersal of effort and expertise are characteristics of the current organisation which

demand particular attention, and that action is required to eliminate or at least reduce them. The Committee has studied the UK Rayner Report discussed previously, and is impressed by one of its central principles: that procurement is a specialist career activity and needs to be treated as such. The Committee notes that the Department of Defence has taken the contrary view, stressing instead the wide range of disparate specialist skills which in toto comprise procurement activity; and notes in particular the Department's concern that a 'career' procurement service could become dangerously remote from the real objects of procurement.* This is a legitimate concern, and needs to be considered.

---

* Hansard, 25 July 1979, pp.2127-32 and pp.2259-63.

While it is true that the totality of the procurement process involves very many specialities - from strategic analysts at the earliest phase right through to contract lawyers during acquisition - it is also true that excessive specialisation within procurement activity can lead to precisely the dispersal of effort and expertise which contribute to many of the problems apparent in evidence. For this reason, the Committee considers that there is a need in Australia for recognition of procurement as a specialist career in its own right. This need not imply the downgrading of other important specialist inputs into the procurement process: there will always be a real requirement for the many skills to which the Department of Defence points in its evidence. It will, however, mean the addition of a further needed speciality covering procurement as a whole. Working in close collaboration with existing skilled personnel, the Committee does not see that the new career stream will overshadow the procurement process or divert it from its proper course.

Indeed, the Committee believes that its attitude to this question represents nothing more than the logical extension of principles which the Defence Department has in other ways already

sought to implement. It will be recalled that the Department prepares for all major equipment programs a paper known as the Equipment Acquisition Strategy (EAS) and a detailed Project Management and Acquisition Plan (PMAP), both of which were the subject of favourable comment by the Committee (see above, page ...). In the present context these seem to represent Defence Department recognition of the need for an overall approach to the supervision and management of a project throughout the procurement process. It should be noted that even decisions very early in a project can have major implications in later phases, up to acquisition or further. The Committee's advocacy of a career structure for procurement simply carries this concept to the point where personnel with skills not related to the technical intricacies of a particular program but to 'project and procurement management' as a field will be available to assist Service and civilian project specialists in carrying the program to conclusion with a minimum of delays, cost overruns or subsequent support problems over the life-of-type of the equipment.

It follows from the foregoing that the Committee considers it necessary to eliminate the effects of inter-Departmental boundaries which can inhibit the smooth operation of the procurement process. In this context the Committee refers specifically to the administrative separation between the Department of Defence and the Purchasing Division of the Department of Administrative Services. The Committee has noted that already the latter organisation carries out about eighty percent of its purchasing activity for the Defence Department,*

---

* Hansard, 23 November 1978, p.1288.

and considers that with so high a proportion of Administrative Services' purchasing being done for Defence a relationship closer than is possible for separate Departments is both feasible and desirable. The precise details of such a relationship are beyond the scope of the present report, but the Committee will propose

in general terms how the matter could be approached without inviting the difficulties envisaged by the Department of Defence.

On several occasions the Committee has supported the gradual consolidation of personnel expert in foreign contract administration, procurement practice or law. Such a group could form part of any career procurement service which is formed for the Defence Department. In this way, it will be possible to collect 'under one roof' all the procurement skills necessary for defence procurement both inside and outside Australia.

For these reasons, the Committee recommends that those functions of the Department of Administrative Services relative to the procurement of major military equipment for the Defence Force be transferred to the Department of Defence.

The Committee considers that such a transfer will add further to Defence Department capacity in the fields of:

- drafting of specifications;
- contracts and contract management;
- foreign procurement law and practice;
- local procurement law and practice, as necessary;
- negotiations with suppliers; and
- implementation of the Equipment Acquisition Strategy.

The Committee suggests that action along these lines could help to solve some of the problems associated with defence procurement. It would eliminate the present division of effort

and attract expertise; it would - provided the review of local procedures recommended previously is carried out - greatly assist the Defence Department in its approaches to industry, and thereby encourage the regrowth of our defence infrastructure; and it will provide the Department with in-house expertise more broadly based than at present. Moreover, it does not suffer from the problems which the Defence Department indicated lay with the proposal for an independent Australian Government Purchasing Commission divorced from its users. For defence procurement at least, an in-house operation seems to be the more suitable approach.

CHAPTER VI

LOCAL VERSUS OVERSEAS PRODUCTION

A crucial aspect of the defence procurement process is the degree of emphasis which is given to the acquisition of locally produced major equipments. A crucial measure of Australia's capacity for independent action and freedom from constraints on independent national decisions is its ability to operate and support existing equipments, and to acquire additional equipments without the fear of a foreign supplier cutting off vital support or placing embargoes on the supply or use of particular equipments in specified circumstances or against specified countries.

While Australia enjoys a special relationship with the US in respect of the supply of military equipment and retains its ties with Britain, it is unlikely that we will be denied support from these traditional suppliers of our military requirements. There could arise political circumstances, however, that cause these (and other) countries to place their own interests ahead of those of Australia and, at least, delay if not deny the provision of equipment from abroad. Military or strategic circumstances could arise, moreover, which required overseas suppliers to divert all their military production capacity to their own usage or which precluded them physically from effecting supply.

Clearly it would be in our best interests to be as self-reliant as possible for strategic reasons; the questions arise, however, to what extent is it feasible and desirable to develop self-reliance.

The 1976 White Paper 'Australian Defence' asserts that:

> 'the technical complexity and the requirements for sophisticated techniques of modern weapon systems have increased at an even greater rate [than Australia's industrial base]. Current strategic circumstances would not support diversion of sufficient resources from other national priorities to overcome this technological gap, even if it were feasible and the higher cost of the small number of equipment items required could be justified.'*

---

* Chapter 8, para.24.

In his response to the Committee's report on industrial support for defence needs and allied matters, given in the Parliament in November 1978, the Minister for Defence generally supported this view. The Committee takes a contrary view. The Committee holds the view that the time to make good the technological gap is during a period of favourable strategic outlook. In respect of high technology major equipments, there would not be time in a period when a major threat to Australia was perceived to be developing to acquire the technology and to put it into effect. Competent witnesses, representing industrial interests which have been in the forefront of endeavour to develop Australia's defence related technology, have estimated that it would take three to four years to acquire physically some of the machinery required for high technology work and to set it to work. In a period of favourable strategic environment - which the Committee accepts insofar as it is related to any threat of an invasion of Australia - the Committee considers that Australia should be according priority to those military capabilities which would be required to respond to the lesser contingencies which have been identified as feasible. At the same time, we should be shaping the Defence Force and developing the defence related industrial base so that, should a threat of invasion of Australia subsequently emerge, the nation would be in a position to expand the force levels of high technology equipment to the extent required to deter or defeat that activity, primarily from local

resources, within the period of likely warning - generally assessed as not less than four to five years.

The Government's position in respect of local versus overseas production is quite clear:

> 'Australia will continue to rely on overseas sources for the design and construction of most of the larger and more complex weapons systems....
>
> 'The central objective of Defence industrial policy is thus to ensure that the Defence Force can be supported and maintained in Australia, utilising for the provision of equipment and materiel, a combination of local industry, selective stock-holding and reliable overseas sources of supply. A further objective is the progressive development of a range of basic technologies and capacities which would facilitate an intensification and diversification of present activities to match force expansion, should the need arise....
>
> 'Industry activities thus generated include the establishment and maintenance of the capability to repair, maintain, modify and adapt to the Australian environment a wide range of equipment and weapons systems of the forces, and to manufacture high volume consumable and minor equipment items such as spare parts, ammunition, clothing, and personal and field communications equipment.'*

---

* Parliamentary Paper No. 312/1976 Chapter 8, paras 25, 26 and 28.

The Committee is concerned that the Government should accept, apparently readily, that Australia is, and will remain, a nation not in the forefront of defence related technology. There are smaller countries with fewer resources, such as Israel and Sweden, and less developed countries, such as Brazil, which have developed significant defence related industries and defence support self-reliance.

The Committee is concerned further that if industry is to support and maintain defence equipments, wherever these are

acquired, it will require a high level of technological competence including design and construction expertise. We accept the advice provided by competent and highly qualified witnesses who have maintained that it is not possible to acquire the necessary levels of technology or to retain the design and construction skills needed to achieve the central objective of Defence industrial policy and capabilities unless there is an ongoing program of design and construction of the equipments themselves.

There have been four factors cited as favouring the overseas acquisition of major defence equipments: the state of Australian technology, the higher cost of local production, the relatively small production runs required to satisfy Australia's sole requirements, and the production time over-runs incurred in local production. The Committee has chosen these four heads as the basis of its consideration of local versus overseas production.

In its consideration, the Committee has been conscious that a total of $2.32bn (at January 1976 prices) was required to be spent over five years between 1976-7 and 1980-1 to make good deficiencies and shortcomings in capital equipments perceived to exist in the Defence Force in 1976. At December 1978 prices it would cost something like $3.1bn to make good these perceived deficiencies and shortcomings. Clearly the amount which needs to be spent annually on capital equipments will depend on the defence policies and strategies adopted and the shape and size of the Defence Force maintained to achieve those policies and strategies. It is the judgement of the Committee that, based on the 1976 perceived requirements, an annual outlay of less than $65m (at December 1978 prices) on capital equipments will lead to further erosion of Australian defence preparedness. Based on past trends and the expressed Government policy to continue to rely on overseas sources for 'most of the larger and more complex weapons systems', there is potential for some hundreds of millions of

dollars to be diverted to boost the Australian economy by local production of major new defence equipments.

STATE OF AUSTRALIAN TECHNOLOGY

. Parliamentary paper No. 225/1977: 'Industrial support for Defence Needs and Allied Matters', sets out clearly the state of Australia's defence-related technology. In the two years since that report was tabled the position has been aggravated by time, although there has been some progress in the Australian Industry Participation and Offset Programs, particularly in the aerospace industry.

In a previous Chapter, the Committee considered various options about which the Defence force requirements should be determined. Lack of expertise precluded the Committee from making a firm recommendation as to which option should be adopted. Essentially, however, we favour an option which would deter a potential enemy from taking military action to achieve its political objectives.

The level of defence related technology appropriate to Australia's needs will depend to a large degree on the option adopted. The less advanced the level of technology needs to be the less difficult it will be for Australia to reach it. But in seeking to determine which option should be adopted caution needs to be exercised that we do not embrace a solution which is within our technological grasp but which fails to meet our basic objective - to secure the nation against armed attack.

As mentioned earlier it is important that first priority should be accorded to these equipments which are needed to respond to the lesser contingencies which could arise with little or no warning. Generally these will be of lesser complexity than those required to deter or defeat a major threat such as invasion. This provides us with the opportunity to climb back up the technology ladder. Responsible and competent witnesses have

assured the Committee that, subject to certain conditions and given time to develop their technological bases, there is no reason why local industry could not, in due course, substantially satisfy Australian requirements for weapons platforms at the higher levels of technology. For a variety of reasons there would be some equipments which Australian industry - in common with the industry of other medium and lesser powers - could not produce.

It is important that the technology basis of Australia's defence effort and her defence-related industries be maintained and, where possible, expanded in sophistication. We currently sustain a moderate level of defence Research and Development in particular fields and, with projects such as the Barra sonobuoy and the JINDALEE Over-the-Horizon Radar, are making significant advances. The Committee considers that R&D activities of this type should be fostered and that any future potential opportunities for further Australian contributions in defence research should be explored. While it is clearly impossible for Australia to undertake R&D programs on the vast scale of the superpowers or several second-tier nations, there is no reason why we could not initiate or expand efforts in areas of particular relevance to our environment and unique conditions.

Shipbuilding Industry

Despite the massive decline in Australian shipbuilding over the last 10 years, Australia still retains a nucleus of capacity to design and construct naval vessels. It is important that this nucleus be maintained at an appropriate size and level of technology to ensure that even the limited objectives of the 1976 Defence White Paper in respect of local capacity can be met. Should more ambitious objectives be sought - and the Committee believes that they should - this nucleus needs to be expanded.

Unlike some other defence related industries it is considered that there are no critical gaps in Australian shipbuilding technology. There are, however, areas of

technological advance which need to be more widely adopted if the industry is to be reasonably efficient by modern standards. Just as importantly, the shipbuilding industry requires an infusion and continuation of work to maintain the skills already developed, to practise and absorb the areas of technological advance, and to retain the nucleus of experience and expertise in the industry. Expert witnesses have been adamant that Australia could design - or modify overseas designs to Australian requirements - many types of naval ships which Australia is likely to require.

Computer assistance of ship design is becoming widespread, but the degree to which it may be available, and the numbers of ship designers skilled in its use, will depend largely upon the opportunities provided for its application. Experienced designers, the product of more expansive years in the shipbuilding industry, are reaching the end of their working lives. Their potential successors, although trained to a high standard, have had only limited experience and many have left the industry through frustration. Unless the younger generation of ship designers is afforded the necessary experience, through Australian designed ship projects, the capability of Australia to expand its shipbuilding industry in a period of impending crisis will disappear.

There have been significant improvements in shipbuilding production technologies such as computer assisted parts preparation, pipe production, welding processes and computer assisted machinery. These techniques need to be incorporated into the modernisation programs of the various Commonwealth owned dockyards.

The refit of a modern warship is a task of considerable magnitude which, in some ways, presents management challenges more complex than new construction. Much has been done in Australia on the development of computer based management,

information and control systems, but much more remains to be done in fields such as modern computer based support systems for spares, configuration and data management related to Australian requirements.

The report on industrial support for defence needs and allied matters considered at length the need for an Australian commercial shipbuilding industry. In the present report the Committee intends to concentrate on the requirement for naval ship production in Australia while holding to its previously expressed views on commercial shipbuilding. In this field of naval ship application, Australian dockyards have perhaps unique experience in the maintenance, refit and support of complex naval vessels, remote from their country of origin, and with a minimum of overseas help. It is this experience which should be capitalised upon rather than discarded. The skills deriving from the experience are marketable overseas. The most effective means of ensuring that the industry maintains and develops the skills and equipment necessary to provide the marketability of that experience is through specific programs for the Department of Defence.

The modification, modernisation and repair and maintenance of naval ships is interdependent with the design and construction of new ships. To carry out major modifications, modernisations and repairs it is necessary to have many of the skills and equipment required for new construction; having designed - or contributed to the design - and constructed a ship ensures that the skills and equipment relevant to its modification, modernisation and repair and maintenance are available and practised. At the same time, however, many of the skills and equipment required for modification, modernisation and repair and maintenance will be under-utilised if used only for these purposes; it is difficult to use much of the work-force gainfully and continuously for these purposes. The under-utilisation of skills, equipment and the work-force leads to an inefficient, non cost-effective industry and contributes to

higher costs than necessary for refit work. The loss of skilled workers through frustration or lack of employment opportunities in periods of trough workloads leads to delays in work completion during periods of peak activity. By combining the modification, modernisation and repair and maintenance of naval ships with a continuing workload of new design and construction, many of these difficulties would be overcome or reduced in effect.

Australia's particular maritime environment leads to the view that naval ships will be features of Australia's continuing force development for the long-term. Most existing units - or the capabilities which they represent - will come due for replacement before the end of the century. The capabilities provided by HMAS Melbourne are due for early replacement; the six River Class frigates need to be replaced over the decade starting in the mid-1980s; the three Perth class guided missile destroyers will be due for replacement starting about 1990, the six Oxley class submarines will require replacement over the decade starting about 1990; several support and hydrographic ships should be replaced in the last decade of the century; the mine countermeasures force is already overdue for replacement.

Without wishing to appear to endorse the 'follow-on imperative', the Committee considers that there is likely to be a continuing requirement in Australia for ships of the submarine, destroyer and mine warfare type plus appropriate auxiliaries. Evidence before the Committee indicates that Australia lacks the capacity to design ab initio vessels of the submarine and guided missile type. To design a guided missile frigate would require a work force of naval architects, engineers and draftsmen of the order of three hundred, which cannot be found in this country.*

---

* Hansard, 14 March 1979, p.2079-80.
However, Australian association with and involvement in the design task would be feasible, and would in the longer term tend to encourage the redevelopment of an indigenous design capability

if continuity of employment could be provided. The capability to design lesser ships, such as auxiliaries, patrol boats and mine warfare ships, still exists but requires exercise if it is to be preserved. The construction of warships from the guided missile frigate or submarine type downwards remains within our technological capability, although the economic feasibility of such an exercise would have to be the subject of detailed study by Government and potential builders before any firm decision could be taken.* For this capacity to be maintained in Australia,

---

* Hansard, 14 March 1979, p.2074.

however, there would be a need to expand the present nucleus capability and provide the technological improvements to shipbuilding which have been discussed previously.

If the naval shipbuilding industry is to survive in Australia, a favourable environment must be created for it by Government. A key feature of a favourable environment is the creation of a steady workload. To provide a steady workload it will be necessary to identify, at an early stage, the need for generic type naval ships and to authorise their design and construction to accord with Defence Force requirements and Australian dockyard workloads.

Aerospace Industry

By comparison with the shipbuilding industry there have been very considerable technological advances in recent years in the aerospace industry. Because of the portability of the component parts of aerospace products there is scope for Australian industry participation (AIP) and offset procurement programs. Thus, on the one hand, there is the considerable risk of falling far behind in the totality of technological advance in the field but, on the other, there is potential to remain current in selected areas of advanced technology. The extent to which this potential is realized will depend primarily on how dynamic

local industry is in seeking AIP or offset work and how well geared it is to accept that work. The Australian aerospace industry has been active, and successful in the past, in gaining a useful degree of AIP and offset work. It is experiencing difficulty as the latest technology is introduced because of the lack of certain equipments essential to most advanced technology production.

Because of the ground it has already lost in technology development, the complexities of advanced technology aircraft, and the relatively small numbers of vehicles required to satisfy the Australian defence-related requirement, it would be unrealistic to believe that the Australian aerospace industry could be developed in a short time frame to a stage where it could undertake the ab initio design and production of aerospace systems to satisfy the requirements. A high degree of self-reliance is required, however, to ensure that equipments already in service, and equipments brought into service in the future, can be properly maintained, modified and supported in Australia. Self reliance is also required to ensure that, in periods of developing crisis, Australia is not wholly dependent upon overseas services which could be suspect for practical or political reasons.

There are some who advocate that we could reduce the effects of the technological gap by accepting a lower-level of capability to meet our requirements: to compensate for quality by accepting a larger number of less capable systems. The Committee has discarded such a concept in an earlier chapter (see above, pages 39-40) on the grounds that it would have little deterrent value. It is likely in the future, moreover, that second-tier levels of capability will demand the provision of equipments which are of advanced technology by 1979 standards. If the Australian aerospace industry is to play a full role in supporting the Australian Defence Force, if Australian defence policies and strategies are to be as free as possible of

constraints imposed by foreign suppliers, it is vital that the aerospace industry should attain an advanced technology base, at least in selected areas, as quickly as possible. Over the longer-term, the objective should be to seek an almost complete high technology base.

The Tactical Fighter Force (TFF) Project provides a unique opportunity to update the industry's defence support capability and to provide an expanded, stable workload. With its wide spectrum of technology it is well suited to the co-ordinated development of a technology nucleus capable of expansion in time of emergency. In a submission to the Committee* Hawker de

---

* Hansard, pp. 991-1018
Havilland Australia Pty. Ltd has summarised its views on the most appropriate principles to be followed regarding Australian industry participation in the TFF Project. If these principles are endorsed the company believes that Australian industry could achieve, over a 10 year period, 30% offsets on the Project, representing $300m of a nominal $1 billion Project.

To achieve such a degree of Australian participation in the TFF Project, it would be necessary to update the technology capability of the Australian aerospace industry. Updating would involve the provision of new equipments, the training of personnel and the availability of a steady workload. A figure of $50m* has been put forward as the order of cost required for an

---

* Hansard, 14 March 1979, p.2028.
equipment update; without such an update it would not be possible to compete with overseas sources. While required specifically for the TFF Project, the equipment acquired, such as five-axis numerically controlled machinery facilities, composite material facilities, high pressure forming presses, numerically controlled stretch and brake presses, larger capacity three-axis numerically controlled machines, computer controlled cutting systems, computer based designed support systems, titanium machinery

tools, high strength steel and nickel alloys machinery tools, etc, would be relevant generally to the production and support of other advanced technology aerospace systems, including non-military systems.

Australia's vast distances and maritime surrounds dictate that there will be a continuing place in the Australian Defence Force for aerospace systems. Over the next 25-30 years there will be requirements to replace the basic trainer, the tactical transport force, the strategic transport force, the long-range maritime patrol aircraft, the F-111 force and, ultimately the TFF presently under consideration, together with a range of guided missiles for all three services. Given the technology update to contribute to the present TFF project, Australian industry could make a significant and increasing contribution to other projects. A refurbished industry could engage in joint design and production ventures with countries with coincident requirements for the less complex platforms such as the trainer and tactical transport projects. As experience is gained and the technology base improved, it should be possible to make an increasing contribution to the AIP element of the more complex systems required in the longer term. The essential requirement is to identify well in advance the need for a particular generic equipment and to provide assurances to local industry that the maximum possible Australian content will be included. There would be a continuing need to monitor advanced technology aerospace developments and to provide the equipments and develop the techniques and skills relevant to their efficient operation.

A co-ordinated approach needs to be adopted embracing the three major aerospace organisations - Hawker de Havilland, Commonwealth Aircraft Corporation and the Government Aircraft Factory. As proposed in our earlier Report, the activities of these concerns should be rationalised. The equipment required to update the technology base of the aerospace industry should be

made available to the appropriate concerns for defence-related activities, with provision to levy a charge for its use on commercial non defence-related activities.

Electronics Industry

At the time of writing its 1977 Report, the Committee was in no doubt that the Australian electronics industry was in a depressed state and that its capability in areas of defence importance was declining. Lack of an appropriate work load denied it the opportunity to keep up with many new developments. For example, it has had little or no recent involvement in areas such as radars, infra-red techniques, defence oriented lasers and electronic warfare. Capabilities in communications technology have declined; skills in computer technology are limited. The importation of most military hardware has resulted in a lack of capability in avionics generally.

On the other hand, in some specialised fields - digital techniques, fibre optics, sonar and microwave techniques - the industry has high competence deriving from its involvement in workloads of Australian origin (Mulloka, Barra, Interscan, etc.). This competence in specialised areas reinforces our view that, where there is an appropriate work load, the industry is capable of responding and developing the necessary degree of technology. Failure to provide an appropriate work load will lead to a further decline in the technological base of the industry and further erode its capacity and capability to support the Defence Force. In a high level conflict this erosion of could be critical.

There has been no startling new evidence placed before the Committee in its present inquiry. There has been strong support for the conclusions and recommendations of our previous Report and a general theme that, although the Australian electronics industry is suffering a serious decline in its

technological base, the capacity and capability of the industry could be developed if the following principles were endorsed*:

Hansard, 14 March 1979, p.2000.

- the provision of a definitive Government statement concerning the desired characteristics and capabilities of the Australian defence electronics industry;

- the development of a national 'Buy Australian' policy and strict adherence to this policy except where it can be shown absolutely that such a policy is not feasible;

- government funding in areas where it can be shown that there is no commercial application of the technology required to satisfy defence related requirements;

- the introduction of greater stability and consistency in Australian Defence programs (as outlined in Chapter II);

- the early and ongoing involvement of industry in new projects under consideration, with the funding of industry to the extent of its out of pocket expenses where a project does not gain approval; and

- acceptance of professional standard equipment specifications except where it can be shown that special military specifications are essential.

In endorsing these principles, the Committee is aware that there are many difficulties. For example, there would be

problems in enunciating a policy on the desirable characteristics and capabilities of the industry in a period when its capability is reduced. There would be problems in establishing the division of responsibility between industry and the Services for the maintenance support of electronic equipment - much of the complex equipment and environmental conditions required for various levels of support are common. There is a dilemma in determining at what stage industry is involved in a new project. If involved at too early a stage, industry is likely to become disgruntled at what it perceives to be delays; if involved too late it will be unable to compete with its more technologically advanced foreign competitors. Unlike the naval shipbuilding industry or the aerospace industry, only a small proportion of work in the Australian electronics industry is defence related.

The view of the Committee remains, however, that unless the Australian electronics industry's technological base is maintained at a high level, the capacity and capability of the industry to support the Defence Force in periods of operational conflict would be seriously impaired; its capacity and capability to expand in a period of crisis when overseas sources were in doubt would be inadequate. To maintain an appropriate level of technological competence, it must be involved in the provision of modern equipments. In this regard it should be noted that most firms in the Australian electronics industry have overseas principals or associates. So long as the Australian firms maintain a nucleus of indigenous advanced technology they should have access to and the capability to absorb advanced technology in specific areas where these would be necessary. They can only retain that nucleus for expansion while their Australian operations remain profitable and they can retain their work forces. They can do this only if they are provided with a stable work load of advanced technology activity across a representative range of electronic equipments.

Munitions Industry

As stated in our 1977 Report, the Munitions Industry exists to undertake the production of military weapons, ammunition, equipment and stores needed by the Services; its capabilities do not include the manufacture of warships, military aircraft, guided weapons or defence related electronics. The peacetime industry consists primarily of a number of Government owned and operated munitions factories supported as necessary in supply and/or sub-contractor roles by commercial industry. Their existence is solely for strategic reasons and is virtually dependent on Service orders. Essentially its productivity in peacetime represents only a fraction of its wartime capacity with many of the demands placed on it only of a sporadic nature. These matters have been discussed at length in the 'Hamer Report', and the Committee does not propose to reiterate its views in the present Report.

COST OF LOCAL PRODUCTION

Much has been made of the high cost of local production of major items of equipment. Understandably, the Department of Defence is concerned that out of a finite allocation of resources it should acquire the maximum numbers of equipments. There are, however, wider issues which should be canvassed. The first of these - and this has been emphasised by the Committee in earlier parts of this Report - is that there must be an assured source of supply particularly in periods of developing crisis when an overseas supplier could be unwilling or unable to effect supply. The premium for local production which is acceptable to provide assurance of supply may only be assessed against the value which the nation places on its national security and on freedom for constraint on its policy decisions.

A more tangible factor is the real as opposed to the apparent cost of local production. The Committee has experienced

difficulty in determining the real cost differential between local and overseas production, as it will vary from case to case. An item of equipment, such as a ship, which is a labour intensive operation to produce, would provide a more favourable model than would an item which is largely mass produced as part of a long production run. One model case was presented to the Committee by Vickers Cockatoo Dockyard Pty. Limited, and this showed* a highly

---

* Hansard, 14 September 1978, p. 178.

favourable initial cash distribution arising to the Australian economy from a ship built in Australia. In this case, tax-clawback and payment of Government services would account for most of the price differential; a further break-down would have shown additional return to the Government by way of direct and non-direct taxes.

The Committee accepts that absolute self-reliance is not possible on technological grounds, particularly in the short term. It does not accept that the position should be further exacerbated on financial grounds. If the Defence Force is to be maintained at a satisfactory level there is the potential to spend several hundreds of millions of dollars on major new equipments. Each $100m spent overseas on defence equipments is $100m lost to the Australian economy and is a drain on our overseas reserves. Every $100m spent in Australia provides employment to varying degree dependent upon the manpower intensity of a particular equipment, improves the economy, provides tax-clawbacks from the individuals and companies concerned, and utilises more efficiently established facilities and manpower and so reduces overheads concerned with other projects and/or the support of existing equipments.

Particularly because of our great distance from foreign equipment suppliers it is necessary, in most cases of new equipment purchases, to develop special facilities and technical expertise to support the newly acquired equipments. Frequently

these facilities and the expertise resemble, even if they are smaller, those required for a production facility. If the equipments were built in Australia, the support facilities would be incorporated in the production facility. The ability to produce equipments would ensure the ability to maintain these effectively.

Many overseas staffs are maintained to monitor the development and production of equipments; extensive overseas visits are required to gain familiarisation, operating experience and details of competing equipments. The need for these would be reduced with local production.

There is a considerable Australian technical education base which is not fully utilised. Because of the lack of job opportunity and job satisfaction in such specialised fields as naval architecture and aerospace design, morale is low; there is a brain-drain away from defence related industries, and there is little feed-back to or encouragement for technical education programs. An upsurge in local production of major defence equipments would do much to remedy this position and, at the same time, to update the Australian technological base generally.

The lack of continuity in Australian defence programs and the lack of assurance that Australian industry will receive absolute priority in the production of major new equipments contributes to the apparent increased costs of local production. A constant work-load, with the careful phasing of new equipment purchases, would enable local industry to reduce its overheads by the elimination of peaks and troughs and elimination of the need to retain elements of the work-force against the uncertain prospect that it may gain a particular contract.

PRODUCTION RUNS

The size of production runs to satisfy sole Australian defence requirements has been cited, by industry and Defence

officials, as a substantial barrier to local production, particularly in areas where there are high research and development (R&D) costs in developing the design and where particular items of equipment are conducive to mass production techniques. Heavy cost penalities are incurred in setting up a production run, and time delays are imposed, the production run is open only for a short-time or a slow rate of production leads to delays in introducing into effective service the total capability represented by a particular equipment. The R&D costs of developing a highly complex equipment would be prohibitive when spread over only a small number of production units.

These are formidable problems. As a share of the world's armament market Australia's proportion must always be low. We may be seeking 40-50 of a particular type of aircraft where the world market for the same generic type runs into thousands, and where we select a particular aircraft which has an overseas production run of many hundreds. Our needs for a particular type of tank, or gun, or radar, would be only a minute proportion of the total production run of a suitable overseas model. R&D costs would be roughly the same for, say, 800 copies as for 50. When applied over only 50 copies the costs would be prohibitive. For example, the R&D costs of developing a modern highly complex fighter aircraft could be over $2bn, a unit cost of $2.5m each spread over 800 copies, but $40m each spread over only 50 copies. Once a production line is opened a major overseas source could produce, say 150/160 aircraft a year; in the Mirage project, Australia partially produced 116 aircraft over a period of eight years; 97 Macchi aircraft were partially produced in seven years.

Against these problems must be balanced the advantages of local production. As already stated the equipments must be supported locally. Local production ensures the technological ability to support them. Local facilities must be established to support them; local production ensures that the facilities are available. Although overseas production capacity would be

considerably higher than in Australia, an Australian acquisition must be slotted into the production run. Dependent upon our position in the queue there could be delays in delivery. In a period of developing world crisis the foreign supplier could reorder his delivery schedule to satisfy his national priorities, which may not coincide with ours. Local production would ensure that a production run could be reopened or expanded in a period of developing crisis to improve our defence preparedness at the time when it was really necessary to do so. We have already discussed the benefits to the economy of local production.

From the foregoing the Committee considers that it is obvious that the short production runs required to satisfy Australia's sole defence needs preclude us from developing our own highly complex equipments to Australian designs. The fields in which this situation is seen to obtain are modern strike and fighter aircraft, guided missile weapons, precision guided munitions, etc. In these fields it will be necessary for us to seek an increasing degree of AIP, with the interim objective of a total update of Australian defence-related technology and the final objective of Australian production under licence from the country which develops a particular item of equipment.

There are less complex areas, such as ship platforms, tactical transport aircraft and conventional weaponry and weapon platforms when the R&D element of total cost would be considerably less. These are areas where local design could be a long-term objective following a technology update, and where joint venture design or building under licence to overseas designs could be a short-term objective. There is scope in these less complex areas for expanding the Australian production run to satisfy the needs of regional countries.

Apart from the specialised defence-related requirements the Committee has examined a number of cases where short production runs could have been avoided if the Services co-ordinated their requirements between themselves and between other

Government departments. There have been many cases cited, too, where Service insistence on specialised standards, more stringent than or at variance with professional and/or domestic standards, has led to a requirement for short production runs of a specialised nature at an uneconomic cost. In some cases the Service standards applied have been unnecessarily rigorous and applied to a whole requirement for an item whereas, in fact, only a small proportion of those items would ever be subject to the conditions to which the standard was relevant. The Services should be required to conform to professional and/or domestic standards and only allowed to impose more stringent standards where these can be clearly shown as essential.

PRODUCTION TIME OVER-RUNS

There is little doubt that there have been many cases where local production has been unable to meet the delivery schedules required by the Services. Particularly because of their large, established and extended production runs overseas suppliers are usually able to offer earlier delivery than local suppliers. When delivery date is a crucial aspect in making a sale, it is often possible to slot an Australian requirement into an existing production run to ensure that the schedule is met. When the queuing system is rigidly observed, however, it may be necessary to accept a delay in initial delivery, although follow-on deliveries may be effected quickly. There have been notable examples, too, of delays in overseas acquisitions as exampled by the F-111 project and Oxleys 05 and 06.

A number of factors contribute to delays in local production. An industry which does not enjoy a stable work-load must hire and fire as peaks and troughs occur. There may be delays in re-engaging and re-training new staff. New equipment must be introduced and set to work. New techniques must be developed or old techniques, not practised for some time, re-established. Non-permanent members of the work-force may seek to

stretch the duration of their employment by delaying the completion of projects on which they are employed. The time between orders is often so long that the expertise acquired as a result of a previous order is lost when the next is received.

A major source of complaint by industry is that there is much delay and procrastination before an order is placed. Once the order has been placed difficult delivery schedules are imposed or the circumstances of the supplier have changed substantially from those obtaining when he tendered. Local industry has difficulty, too, in comprehending the need for urgent delivery when, in the case of many major new equipments, years elapse between identification for a generic type equipment and authorisation to proceed with its acquisition.

The Committee believes that many of the causes and consequences of local production time over-runs could be averted if the following guidelines were adopted:

- the early identification of the need for generic and specific type new equipments;

- the timely granting of firm approval to proceed with a project to enable local production sources to gear-up for its completion by the required date or to arrange for the maximum AIP. (See Chapter II, pp.43-44);

- the provision of a stable and continuing workload in those industries which are almost wholly defence oriented by the careful phasing of the acquisition of new equipments in relation to capacity;

- the modification of existing Australian tendering procedures to allow local production

sources to incorporate their preferred ancillary and component elements within a total tender package rather than the calling of tenders for individual components. (see above, pp.89-91);

- the modification of Australian tendering procedures to allow greater flexibility and co-operation between the user and the supplier, and to allow the allocation of contracts to proven suppliers who need additional work-load to even out peaks and troughs in their capacity; and

- more involvement of potential local suppliers in the development and selection phases of generic type new equipments.

COMMITTEE VIEWS

The Committee accepts that it would not be possible for Australia to be wholly self-reliant in the production of defence equipments. There are, however, cogent strategic reasons for developing progressively the highest possible degree of self-reliance at the highest possible technological level. There is a steadily widening gap in Australia's technological capability to become self-reliant. As this gap increases it will become increasingly difficult for Australian industry to support the Defence Force in peacetime and in any low level operational situations. It is extremely doubtful whether Australian industry could support the expansion of the Defence Force with advanced technology equipment in a period of developing crisis unless its technological base is expanded and raised during a period of favourable strategic outlook.

The most effective way of improving and expanding the technological base of Australian defence related industry is by

involving it in the production of new, advanced technology equipment. There are a number of major new equipments presently under consideration or which will be required over the next several decades which would provide the means of re-establishing a high technology base. In respect of the more advanced and complex systems it would be necessary initially for Australian industry to build to overseas designs or to engage in a strong AIP program. As competence and expertise is gained the Australian content, including the design content, should be made greater. A continuing and phased program of acquisition should be developed, with selective tendering as necessary, to provide a stable and continuing work-load in those industries which have little commercial application. New equipment, required only to support defence related industry, should be provided on a lease basis.

Before an order is placed overseas for major new equipments, the placing of which in Australia would benefit local advanced defence-related technology development, the real as opposed to the apparent cost differential should be determined taking into account those factors outlined on page 127 above. Where it is decided to proceed with Australian production even though there is an apparent cost disadvantage, the cost diffential between local and overseas production should be charged against a defence-industry development vote instead of a direct charge against the Defence vote.

Every effort should be made to acquire minor new equipments from Australian sources. The development of specifications standards should be monitored closely to ensure that, wherever possible, Australian domestic or professional standards, are applied. Requirements of the three Services should be co-ordinated, specifications standardised and long-term requirements established to ensure the maximum possible production runs.

There should be increased communication with and involvement of Australian industry in the development of new

equipment requirements. This should commence at the stage a requirement is first foreseen, but with industry warned that the requirement is a possibility only and that its final approval will be subject to the usual procedures for determining whether a particular project will proceed or not in competition for funds with other perceived requirements. In cases where a specific equipment requires some degree of development before it can be established that it is viable, or viable for local production, selected potential suppliers should be funded to the extent of their out of pocket commitment.

The requirement for new equipments should be determined as early as possible to allow potential Australian suppliers to assess whether they have - or could acquire - the necessary technology. Where Australian industry is able to supply at a competitive real cost, as opposed to apparent cost, but would take longer to effect supply, orders should be placed early to allow delivery to the required time schedule.

Through the introduction of supplemental budgets for major new equipments (as outlined in Chapter II, page 45) greater stability and consistency should be introduced into defence programs.

Over a period the reliability of local suppliers - as determined by their ability to deliver equipments to approved standards on time and within cost schedules - should be assessed and tenders allocated on a selective basis to proven suppliers. This, together with the proposal in the preceding paragraph, would enable suppliers to gauge their prospects of gaining future contracts and to assess the degree of commercial risk involved in outlaying capital to facilitate defence-related production.

One point to which the Committee wishes to draw attention without discussion in detail concerns the implications for Australia's defence infrastructure of the Multilateral Trade

Negotiations (MTN). The potential of MTN for elimination of trade barriers around the world is a subject beyond the Committee's terms of reference. However, it desires to point out that developments of this kind will have implications for our defence industry base. The Committee recommends that any Government policy decision on adoption of the MTN Code should not inhibit those arrangements for local defence industry recommended in this Report.

CHAPTER VII

CONCLUSIONS AND RECOMMENDATIONS

Major Issues

While the Committee agrees that the prospect of major direct attack against Australia is remote in the short-term and that it would take a period of some five to ten years for other than one of the super powers to acquire the significant and specialised offensive capabilities necessary to pose such a threat, it considers that:

- the force-in-being or in prospect should be sufficient to preserve Australia's present favourable strategic outlook by ensuring that a potential enemy perceives that the cost and risk of invasion or major direct attack against Australia is too high to be acceptable;

- the size and shape of the Defence Force should be developed to ensure that it has the demonstrable capacity to expand as necessary - within the period of likely warning - to the level required to deter a potential enemy from embarking an invasion or major direct attack. THE COMMITTEE RECOMMENDS THAT THE EXPANSION CAPABILITY OF THE DEFENCE FORCE SHOULD BE A SEPARATE MAJOR INQUIRY;

- AUSTRALIA'S INDIGENOUS DEFENCE-RELATED INDUSTRIES SHOULD BE DEVELOPED TO MAKE US AS

FREE AS POSSIBLE FROM RELIANCE ON OVERSEAS SOURCES OF SUPPLY, SHOULD THE STRATEGIC OUTLOOK DETERIORATE IN CIRCUMSTANCES WHEN AN OVERSEAS SUPPLIER WOULD BE UNABLE - OR UNWILLING - TO PROVIDE US WITH THE EQUIPMENTS VITAL TO OUR SURVIVAL AS AN INDEPENDENT NATION; AND

- CHANGES IN THE SIZE AND SHAPE OF THE DEFENCE FORCE AND IMPROVED SELF-RELIANCE IN LOCAL DEFENCE PRODUCTION SHOULD BE IMPLEMENTED DURING THE PRESENT PERIOD OF ASSESSED FAVOURABLE STRATEGIC OUTLOOK.

In developing the Defence Force care should be exercised to ensure that it has the capability to provide the necessary military responses to a wide range of contingencies, short of invasion or major direct attack, which a potential enemy could mount to attain its political objectives. The consequences of these contingencies could be serious and would seek to exploit perceived Australian deficiencies; they could arise with much shorter warnings than major direct attack as many of the necessary capabilities are already possessed by regional countries.

The development of the Defence Force should be based on a deterrent posture to show that the cost of interference with Australia or her vital interests would be prohibitive, and should seek to demonstrate that Australia is concerned to contribute to the security of the region.

The approach used by the Defence Department to define the Defence Force requirements - the core force concept - has much to commend it in a period of financial stringency. The Committee considers, however, that there has been an overemphasis on this approach. The Committee agrees with the introduction to the 1976 White Paper on Defence:

> 'The first responsibility of government is to provide the nation with security from armed attack and from the constraints on independent national decisions imposed by the threat of such attack.'

However, long lead items, high attrition rates and potential political direction of military action may dictate that future conflicts will be of relatively short duration but of very high intensity, with limited prospect of immediate resupply. Therefore, the 'force-in-being', in contrast to the 'core force', must be sufficient to survive the initial shock of such conflict and still establish a base of capabilities for subsequent action. If this objective is to be attained, it will require the allocation of additional financial resources to defence, particularly for the timely acquisition of new equipments.

TO ASSESS THE LEVEL OF FINANCIAL RESOURCES WHICH SHOULD BE ALLOCATED FOR THE ACQUISITION OF MAJOR NEW EQUIPMENTS, THE COMMITTEE RECOMMENDS THAT THE GOVERNMENT SHOULD:

- DETERMINE THE MOST EFFECTIVE SECURITY STRATEGY FOR AUSTRALIA (THE COMMITTEE FAVOURS THE 'HIGH COST OF ENTRY' AND/OR THE 'MAJOR HYPOTHETICAL CONTINGENCY' APPROACH.);
- IDENTIFY THE MAJOR CAPABILITIES REQUIRED TO SATISFY THAT STRATEGY;
- ESTABLISH DEFICIENCIES IN MAJOR CAPABILITIES;
- DETERMINE THE GENERIC TYPE OPTIONS REQUIRED TO MAKE GOOD THOSE DEFICIENCIES; AND
- DEVELOP A PROGRAM TO INTRODUCE THOSE GENERIC TYPE EQUIPMENTS OVER A PERIOD OF TEN YEARS.

A CONCERTED EFFORT SHOULD BE MADE TO DEVELOP A BI-PARTISAN APPROACH TO THE DEFENCE ISSUE AND FOR THE PARLIAMENT TO ENDORSE THE TEN YEAR PROGRAM FOR THE INTRODUCTION OF MAJOR EQUIPMENTS THROUGH SOME FORM OF SUPPLEMENTAL BUDGETING.

The consideration of various generic type options potentially capable of meeting a defined requirement is a key phase of the procurement process, and that as such it should be characterised by the widest possible examination of options. This examination should have regard to a number of factors, including:

- the fact that Australia's strategic circumstances are subject to change and that accordingly her requirements for equipment and Defence Force structures are also subject to change;

- the increasing rate of change in technology applicable to military operations: under particular circumstances technology opens new areas for consideration while closing off some traditional options; and

- the risk of falling prey to the follow-on imperative (the so-called 'replacement syndrome'): action to avoid this risk will include thorough reassessments of generic type requirements and options when an equipment reaches the end of its life-of-type.

In examining the procedures, practices and constraints relevant to the selection and subsequent acquisition of specific 'brand names' of equipment, the Committee formed the view that:

- THE SYSTEM FOR PROCUREMENT FROM AUSTRALIAN SOURCES IS EXCESSIVELY CUMBERSOME AND COMPLEX

AND THAT IT POSES SERIOUS PROBLEMS FOR BOTH THE DEFENCE DEPARTMENT AND LOCAL INDUSTRY;

- THE GOVERNMENT SHOULD DIRECT RELEVANT DEPARTMENTS AND AGENCIES TO PRODUCE AN IMPROVED SYSTEM FOR LOCAL DEFENCE PROCUREMENT, AND THAT THIS SHOULD BE A MATTER OF HIGH PRIORITY;

- THE EXPENDITURE OVERSEAS OF LARGE SUMS ON DEFENCE EQUIPMENT SHOULD IN PRINCIPLE BE SUPERVISED BY AUSTRALIANS; AND

- THE DEPARTMENT OF DEFENCE SHOULD INVESTIGATE WAYS OF REDUCING THE CONTRIBUTION OF DEPARTMENTAL DECISION-MAKING PROCESSES TO EQUIPMENT ACQUISITION LEAD TIMES (WHICH OFTEN EXCEED THE FIVE YEAR WARNING PERIOD SPOKEN OF ABOVE), WITHOUT DEGRADING THE QUALITY OF DECISIONS: IF THIS IS NOT POSSIBLE, IT WILL BE NECESSARY TO ACQUIRE ADDITIONAL EQUIPMENTS WELL IN ADVANCE OF ANY WARNING PERIOD.

The evidence shows that the organisation of procurement:

- divides responsibility between too many Departments and agencies, with a consequent lack of consistency and loss of fast reaction time;

- fails to take account of the fact, recognised in overseas reports and organisations, that procurement is a specialist activity in its own right; and

- so far as local procurement is concerned, is based on requirements and practices which tend to erode our defence industrial base.

THE COMMITTEE CONSIDERS THAT THE ORGANISATION OF PROCUREMENT REQUIRES A UNIFIED AND COHERENT APPROACH, AND THAT EXISTING ARRANGEMENTS ARE PARTLY AD HOC IN NATURE. IT RECOMMENDS THAT FUNCTIONS OF THE DEPARTMENT OF ADMINISTRATIVE SERVICES RELATIVE TO THE PROCUREMENT OF EQUIPMENT FOR THE DEFENCE FORCE BE TRANSFERRED TO THE DEPARTMENT OF DEFENCE.

The Committee believes that technological base of Australian defence-related industry should be raised and expanded during the present period of favourable strategic outlook by:

- PROVIDING A STABLE AND CONTINUING WORK-LOAD, THROUGH SELECTIVE TENDERING AS NECESSARY, IN THOSE INDUSTRIES WITH LITTLE COMMERCIAL APPLICATION;

- providing the necessary equipment for advanced technology production to those elements of industry which have the ability to absorb it;

- ACCEPTING APPARENT COST DISADVANTAGES FOR LOCAL PRODUCTION WHERE IT CAN BE SHOWN THAT THE REAL COST DIFFERENTIAL IS ONLY SMALL OR, IN SOME CASES, REPRESENTS A COST ADVANTAGE. (IN CASES OF COST DISADVANTAGE THE DIFFERENTIAL BETWEEN LOCAL AND OVERSEAS PRODUCTION SHOULD BE CHARGED AGAINST A DEFENCE-INDUSTRY DEVELOPMENT ROLE INSTEAD OF A DIRECT CHARGE AGAINST DEFENCE.);

- DEVELOPING INCREASED COMMUNICATION WITH INDUSTRY AND INVOLVING AUSTRALIAN INDUSTRY IN

THE DEVELOPMENT OF NEW EQUIPMENT REQUIREMENTS AT AN EARLY STAGE; AND

- IDENTIFYING THE NEED FOR NEW REQUIREMENTS AT AN EARLY STAGE, MAKING DECISIONS ON THE SOURCE OF THE SPECIFIC EQUIPMENT AND AUTHORISING THE DEVELOPMENT OF THE PROGRAM SUFFICIENTLY EARLY TO ENABLE AUSTRALIAN INDUSTRY TO ACQUIRE OR ADAPT THE NECESSARY TECHNOLOGY AND TO GEAR UP FOR ITS PRODUCTION.

Supporting Conclusions and Recommendations

Australia's strategic and defence policies are based on periodic strategic intelligence assessments and strategic analysis documents which are endorsed only at the officials' level although they are customarily discussed in Cabinet. The Committee considers that these important documents should be endorsed formally by the Executive of the Government of the day which would then accept responsibility for their adequacy.

The Department of Defence seeks to develop long-term surprise-free projections of the strategic environment as the basis of its policies for the development of the Defence Force. Experience has shown, however, that long-term assessments are fallible but it is necessary, because of equipment acquisition and training lead-times, for the requirements of the Defence Force to be identified for long periods ahead. The Committee appreciates the dilemma of the Department, but recommends that the requirements of the Defence Force should be developed against threat insensitive criteria and that they should be dynamic and positive rather than responsive.

The 1976 White Paper on Defence identified the need for a five year program of $2.3bn (at January 1976 prices) for ships, aircraft, armour and other equipments and plant 'to strengthen

defence and correct existing shortcomings and imbalances.' The subsequent reductions in actual allocations to Defence have meant that the shortcomings and imbalances perceived in 1976 have been perpetuated. Meanwhile, other equipments have aged and the time when the capabilities that they represent will require replacement has come closer. Unless a dynamic continuing and sustained long-term program of re-equipment is authorised the total capacity of the Defence Force and its capacity to expand will be eroded. In the long-term the capacity of the nation to support the re-equipment of an ever-increasing proportion of the Defence Force will be in serious doubt. At December 1978 prices the Committee considers that it is necessary to spend in the region of $650m a year on new equipment as opposed to the $437m allocated in 1979/80 Budget to provide the equipments identified as necessary in the 1976 White Paper.

Australia is separated from its overseas suppliers of defence equipment by long lines of communication: those lines of communication are vulnerable and potentially capable of interdiction (although Australia's dependence on the use of foreign shipping for the carriage of its overseas trade restricts this possibility to the context of a general threat to Western shipping). In a deteriorating world situation overseas suppliers would be likely to accord higher priority to their own needs than Australia's: in a conflict with a regional country, overseas suppliers may be unwilling to provide Australia with its defence requirements. For these cogent strategic reasons the Committee recommends that Australia should become increasingly self-reliant for its production of defence equipment.

Because of its relatively high technology, resource and economic potential and its potential to maintain sizable, modern defence forces, there is an important role for Australia to play in providing stability within its area of strategic environment - the South Pacific, the Southern and Eastern Indian Oceans, and the island chain to our north. This is an area of potential

external power, including super-power, competition and an area of relatively low indigenous military power in which Australia's potential influence could be a determining factor in the maintenance of stability.

The absence of any perceived major threat or identifiable potential enemy has been interpreted in many quarters to mean that no threat could arise to Australia in the foreseeable future, and has resulted in a no-threat syndrome and a lack of clearly defined military capability objectives. This has promoted complacency, allowing successive governments to defer equipment acquisition decisions and leading to a marked reduction in defence preparedness.

The limited deterrent capability of the present Defence Force could encourage a potential enemy to chance its arm and to cause Australia to engage in a massive rearmament program at a time not of its own choice.

Because of the uncertain assurances of long-term security provided by the Department of Defence 'core-force' approach for determining the Defence Force requirements, the Committee has considered five optional approaches. We describe these as the major deterrence approach, the high cost of entry or disproportionate response approach, the major hypothetical contingency approach, the low-level approach, and the regional security approach.

For reasons which we have discussed we have discarded all but the high cost of entry and major hypothetical contingency approaches. We recommend that the Government subject these to detailed assessment to determine which would be the most effective for defining the Defence Force requirements.

Much public debate on defence has related to the level of resources which should be allocated, either expressed as a

percentage of GDP or as the percentage of the total defence allocation, for the acquisition of capital equipment. Either method is arbitrary and the only way in which the appropriate allocation of financial resources may be calculated in an objective way is to proceed as outlined in the preceding section of this Chapter (page 139 above).

The electorate, expressing its will through the Parliament, should determine the allocation of resources to defence. To achieve this it is necessary that there should be informed discussion in the electorate and the Parliament with a bi-partisan approach developed in respect of defence policies and strategies, the essential requirements of the Defence Force, and the extent to which resources should be allocated to provide those requirements. The Parliament, through its Committee structure, should monitor all defence programs, and the Department of Defence should be encouraged to make a positive and continuing contribution to the informed nature of the debate by its active participation in and promotion of public seminars and by its briefing of the Parliament on defence issues. In this regard the Committee notes several innovations in recent months where this has been done.

In determining priorities for development of the Defence Force consideration should be given to the following elements:

- those capabilities that are required to provide a military response to the lesser contingencies which could arise with little or no warning;

- those high-performance capabilities relating to a general strategic requirement - as dictated by the characteristics of the environment rather than by specific

contingencies - and required to provide deterrence against the use of military pressures or military means by a potential enemy to achieve its objectives, and which could not be acquired within the period of warning likely to be available before a major threat to Australia could develop; and

- A representative selection of second tier or 'substitute' capabilities - moderate-cost, moderate-performance, short lead-time systems that could be acquired in relatively large numbers during a period of developing threat - to enable the development of operating techniques, procedures and doctrines in a period short of crisis.

The Committee considers that excessive reliance on any one generic type of equipment to deter potential aggressors will mean that such aggressors need only defeat that capability for deterrence, and possibly national defence, to fail. It is necessary to compound the aggressor's difficulties by presenting him with a carefully selected range of capabilities each requiring separate countermeasures in its own right: in this way the demands he will have to make of his armed forces seriously to threaten Australia will be substantially increased, and the deterrence capacity of our Defence Force enhanced. On the other hand, too wide an inventory of capabilities embodied in different generic types will place intolerable strains on the logistic and maintenance infrastructure of the Defence Force to the ultimate detriment of operational effectiveness. It is therefore necessary to achieve a balance between these extremes when considering generic type options if an optimum solution is to be obtained.

In order to afford full protection against the follow-on imperative making itself felt in future decision-making, it will

be important to issue guidelines which make it mandatory for a full reassessment of generic type options to be carried out whenever a major system reaches the end of its life-of-type. The Committee, while aware that in many cases it will not be difficult to determine a generic type, considers that the effort is worth making. An exercise of this type, particularly if it relies in part on information brought in by the joint technological monitoring team recommended elsewhere, will enhance the Department's ability to make decisions on the widest possible data base.

Because the follow-on imperative can operate through either the formal or informal structures of an organisation, it is important to avoid any tendency for the investigation of an option to acquire a momentum which makes it difficult to drop that option. It is an unavoidable feature of any large organisation that personnel charged with developing proposals for decision at a later time may grow attached to the proposal and resist attempts to abandon it.

This phenomenon could occur as easily in the Department of Defence as anywhere else, and its possible influence should be restrained. This can be done, in the case of so-called 'replacement' equipments, by the means already outlined. In the case where a new capability is under consideration, it is necessary to examine all options with exceptional thoroughness, lest any one option - possibly the more apparently obvious alternative - receive undue attention and an inappropriate decision is ultimately taken.

The Committee welcomes the appearance of the report of the Regular Officer Development Committee as an important indication that serious thought is being given by the Defence Department to the problems of force structure, strategy and tactics into the nineteen eighties and early nineties. It considers that further reports of this type, which pay particular

attention to the influence of technological, social, strategic and economic changes on armed forces, will both advance Australia's understanding of these matters and serve to show the concerned community at large that we are not falling behind current developments to the disadvantage of our defence capability.

The Committee has noted that there is a possible risk, in the situation where a project requires a costly long-lead support item in advance of the principal equipment, that the long-lead item may be under construction or funds irrevocably committed to it when the principal equipment manufacturer decides for his own reasons to abandon the project. This could leave Australia with an expensive item (for instance, a support facility designed especially for a particular aircraft) for which there is no use. No simple answer to this problem exists, but the Committee suggests that particular attention be paid to ways of reducing the chances of its occurring.

The concepts of the Equipment Acquisition Strategy (EAS) and Project Management and Acquisition Plan (PMAP) are welcomed by the Committee. They represent an important contribution to the management of procurement and the Committee considers that they should be used as a matter of course in the preparation of negotiating directives and briefs for teams going overseas to discuss contracts and terms with major equipment suppliers.

The Committee has noted evidence from the Defence Department which showed that in the case of the FFG Project some dislocation to our defence budgetary processes was caused by a change in the payment procedures used by the United States under its Foreign Military Sales law. The Committee considers that in future contractual negotiations Australia should seek protection from procedural changes of this type where the consequences of change are likely to be felt more in the buyer country than those of maintaining the status quo are in the supplier nation.

The Committee recommends that all necessary staff and other resources be provided to facilitate the review of local procurement procedures, and the transfer of certain Department of Administrative Services functions to the Department of Defence as recommended above (page 142).

The state of Australian defence-related industries was considered in detail this Committee's report on industrial import for defence needs and allied matters in (Parliamentary Paper No. 255/1977). In the two years since that Report was tabled the position has been aggravated by time, although there has been some progress in the Australian Industry Participation (AIP) and Offset Programs, particularly in the aerospace industry. The Committee is concerned that the Government should accept, apparently readily, that Australia is, and will remain, a nation not in the forefront of defence-related technology. It accepts the advice provided by competent and highly qualified witnesses who have maintained that it is not possible to acquire the necessary levels of technology or to retain the design and construction capability needed to support and maintain the Defence Force in Australia unless there is an ongoing program of design and construction in Australia.

Given time, the access to new technology and the provision of resources to acquire equipment necessary to high technology production, there is no reason why local industry could not, in due course, substantially satisfy Australian requirements for weapons platforms at the higher levels of technology. Fine economic judgments will, however, be needed to determine the extent to which Australia should develop its self-reliance in defence-related production.

The Committee recommends that any decision to accept the Code arising from the Multilateral Trade Negotiations should be on conditions ensuring that our obligations under the Code do not inhibit the arrangements for defence industry recommended in this Report.

There will be a continuing need in the Australian Defence Force for ships of the destroyer, submarine and minewarfare classes and similar combat ships, together with auxiliaries and smaller craft such as patrol boats. Over a period of 25 to 30 years there will be a requirement to complete at least one ship a year even if the present force is to be maintained at its current strength. This gives an opportunity to provide a steady and continuing workload in the several building yards in Australia suited to the production of naval ships. Initially it would be necessary to build to overseas designs for the more complex ships but the ultimate objective should be to reinstate an indigenous design capacity.

Technology advances have been greater in the aerospace industry than in shipbuilding and despite considerable efforts, through the AIP program, to maintain and develop its technology base, the local aerospace industry is faced with the prospect of technological redundancy unless critical gaps in its capability are plugged. The TFF Project under consideration provides a unique opportunity to update the industry's support capability. If the principles advanced by Hawker de Havilland Australia Pty Ltd for AIP in this project are endorsed there is a prospect of up to 30% offset, representing $300m of a nominal $1bn outlay, achievable over a period of ten years. This would require an expenditure, estimated at $50m, on new equipments to allow the industry to compete with overseas sources.

While required specifically for the TFF project the equipment acquired would be relevant to other future aerospace requirements. Over the next 25-30 years there will be requirements to replace the basic trainer, the tactical transport force, the strategic transport force, the F-111 strike force and, ultimately the TFF presently under consideration, together with a range of guided missiles for all three services. A refurbished industry could engage in joint design and construction ventures

with countries with coincident requirements for the less complex platforms, such as the trainer and tactical transport projects. As experience is gained and the technology base improved, it should be possible to make an increasing contribution to the AIP element of the more complex systems required in the longer term.

As proposed in our earlier Report, the activities of the three major aerospace organisations - Hawker de Havilland, Commonwealth Aircraft Corporation and the Government Aircraft Factory - need to be rationalised.

The Australian defence-related electronics industry has suffered a serious decline in its technological base. Unless that base is maintained at a high level, the capacity and capability of the industry to support the Defence Force in periods of operational conflict would be impaired; its capacity and capability to expand in a period of crisis when overseas supply was in doubt would be inadequate. Many firms in the local electronics industry have overseas principals or associates. So long as the Australian firms maintain a nucleus of indigenous advanced technology they should have access to and the capability to absorb this technology in specific areas. They can only retain that nucleus while their Australian operations remain profitable and they can retain their work forces. They can do this only if they are provided with a stable work-load of advanced technology activity across a representative range of electronics equipments.

Much has been made of the increased cost of local production against acquisition from overseas sources. The Department of Defence, understandably, is most anxious to ensure that it gets the most for its defence dollar. The Committee is concerned that overseas purchase should be approved only when it can be shown that the real cost differential, as opposed to the apparent differential, significantly favours overseas purchasing. In assessing the real cost differential it is necessary to take account of a wide range of factors including tax claw-back,

payment for government services, the effects on the local economy, the effects on the balance of payments situation, the employment opportunities, the utilisation of local facilities, the need to build special facilities and develop techniques for servicing overseas source equipments, the maintenance of staffs overseas to monitor production and to train on the equipments, and the effects on the Australian technical education base. Only where it can be shown that these have been taken into account and the cost differential still favours overseas production should cost be a consideration in the case for overseas as opposed to local production.

The relatively small Australian requirement for military equipments will always be a problem. It could be alleviated, to some degree, by the co-ordination, standardisation and rationalisation of requirements between the services, other government authorities and, in some cases, the domestic market. In some areas it should be possible to co-ordinate requirements with regional customers by the prosecution of positive, dynamic marketing programs.

Production time over-runs could be averted, or reduced in effect, if the following guidelines were adopted:

- the early identification of the need for generic and specific type new equipments;

- the timely granting of firm approval to proceed with a project to enable local production sources to gear-up for its completion by the required date or to arrange for the maximum AIP. (Chapter II, pages 43 to 44);

- the provision of a stable and continuing work-load in those industries which are almost

wholly defence oriented by the careful phasing of the acquisition of new equipments in relation to capacity;

- the modification of existing Australian tendering procedures to allow local production sources to incorporate their preferred ancillary and component elements within a total tender package rather than the calling of tenders for individual components;

- the modification of Australian tendering procedures to allow greater flexibility and co-operation between the user and the supplier, and to allow the allocation of contracts to proven suppliers who need additional work-load to even out peaks and troughs in their capacity; and

- more involvement of potential local suppliers in the development and selection phases of generic type new equipments.

APPENDIX A

COMPOSITION AND FUNCTIONS OF MAJOR COMMITTEES REFERRED TO IN THE REPORT

Consultative Group

Chairman:	Deputy Secretary B (or other appropriate Deputy Secretary)
Members:	Deputy Secretary A Deputy Secretary C Assistant Chief of Defence Force Staff Deputy Chief of Naval Staff Deputy Chief of the General Staff Deputy Chief of the Air Staff Executive Controller, Australian Defence Scientific Service First Assistant Secretary, Programmes and Budgets First Assistant Secretary, Force Development and Analysis
Secretary:	SEO Committee Secretariat, assisted by officers from the functional areas appropriate to the agenda items
Functions:	To review the draft Five Year Defence Programme and annual draft Defence Programme and Estimates proposals and to make recommendations to the Defence Force Development Committee.

Defence Committee

Chairman:	Secretary, Department of Defence
Members:	Chief of Defence Force Staff Chief of Naval Staff Chief of the General Staff Chief of the Air Staff Secretary, Department of the Prime Minister and Cabinet Secretary to the Treasury Secretary, Department of Foreign Affairs

Invited Members:	Members may be invited from other departments and agencies
Secretary:	CEO Committee Secretariat
Functions:	To advise the Minister on: the defence policy as a whole; the co-ordination of military, strategic, economic, financial and external affairs aspects of the defence policy; matters of policy or principle and important questions having a joint Service or Inter-departmental defence aspect; and such other matters having a defence aspect as are referred to the Committee by or on behalf of the Minister, and carry out such investigations as it thinks fit for the purpose of advising the Minister on those matters.

Defence Force Development Committee (DFDC)

Chairmen:	Secreatry, Department of Defence
Members:	Chief of Defence Force Staff Chief of Naval Staff Chief of the General Staff Chief of the Air Staff
Invited Members:	The Defence Force Development Committee may request senior department officers (civilian or Service) appropriate to the matter under discussion to attend its meetings.
Secretary:	CEO Committee Secretariat (assisted by an officer from appropriate functional areas)
Functions:	To advise the Minister for Defence, in the context of strategic assessments and the most efficient use of resources, on the development of the Defence Force as a whole; and the inclusion in the Five Year Rolling Programme of major weapons and equipment capabilities; To initiate and review major studies concerned with the development of the

Defence Force, and to exchange views, and review progress in the development of the Defence Progamme; and

To review matters of common interest to members and to review progress in the preparation of proposals and appreciations for submission to the Government.

Defence Force Structure Committee (DFSC or FSC)

Chairman:	Deputy Secretary B
Members:	Chief of Joint Operations and Plans Chief of Naval Operational Requirements and Plans Chief of Operations - Army Chief of Air Force Operations Executive Controller, Australian Defence Scientific Service First Assistant Secretary, Force Development and Analysis First Assistant Secretary, Programmes and Budgets First Assistant Secretary, Defence Industry and Materiel Policy First Assistant Secretary, Strategic and International Policy First Assistant Secretary, Defence and Works Division, Department of Finance
Secretary:	CEO Project Development Branch
Functions:	To provide advice to the Defence Force Development Committee and to participate in decision making on the development of the force structure, Five Year Defence Programme and major equipment proposals and to keep these matters under review.

Defence Operational Requirements Committee (DORC)

Chairman:	Assistant Chief of Defence Force Staff
Members:	Chief of Naval Operational Requirements and Plans Chief of Operations - Army Chief of Air Force Operations Controller, Military Studies and Operational Analysis First Assistant Secretary, Force Development and Analysis

*First Assistant Secretary, Programmes and Budgets
*First Assistant Secretary, Strategic and International Policy
*First Assistant Secretary, Defence Industry and Materiel Policy

* Members may attend when matters affecting their responsibilities are to be discussed.

Secretary: SEO Committee Secretariat (assisted by an Officer from Force Development and Analysis Division)

Functions: The consideration of Staff Objectives and Staff Targets likely to become the subject of major equipment submissions and their endorsement for further definition and development.

The consideration, review and endorsement of Staff Requirements for major equipments and, when appropriate, their submission for further consideration by the Chiefs of Staff Committee.

Defence Source Definition Committee (DSDC)

Chairman: First Assistant Secretary, Defence Industry and Materiel Policy

Members: Appropriate Chief of Materiel
Assistant Secretary Financial Programmes
Assistant Secretary Project Development
Assistant Commissioner (Operations) Purchasing Division, Department of Administrative Services
Appropriate Chief of Technical Services (Navy or Air Force, if required)
Appropriate Director General Supply (if required)

Member & Secretary: Assistant Secretary Project Planning and Evaluation

Functions: Analysis and presentation of the objective defence considerations for and against the respective offers of competing manufacturers for the supply of alternative equipments under investigation.

Review of equipment acquisition strategies for specific major and the more significant minor equipment projects.

Review of proposals for Australian industry involvement.

Examination of proposals for capital expenditure in connection with the production of equipment.

Source: J. Tie, J. Langtry and R. O'Neill, Australia's Defence Resources: A Compendium of Data, Strategic and Defence Studies Centre, Australian National University, Canberra 1978, pp. 63-74.

APPENDIX B

LIST OF ABBREVIATIONS

AIP:	Australian Industry Participation
DAS:	Department of Administrative Services
DDL:	Light Destroyer
DFDC:	Defence Force Development Committee
DFSC:	Defence Force Structure Committee (same as FSC)
DI(G):	Defence Instructions (General)
DIMP:	Defence Industry and Materiel Policy
DoD:	Department of Defence
DORC:	Defence Operational Requirements Committee
DSDC:	Defence Source Definition Committee
EAS:	Equipment Acquisition Strategy
FAS:	First Assistant Secretary
FDA:	Force Development and Analysis (Division)
FFG:	Guided Missile Frigate
FSC:	Force Structure Committee (same as DFSC)
FYDP:	Five Year Defence Plan
GDP:	Gross Domestic Product
JIO:	Joint Intelligence Organization
ONA:	Office of National Assessments
PB:	Programmes and Budgets (Division)
PMAP:	Project Management and Acquisition Plan
R&D:	Research and Development

RCM: Reserve Capacity Maintenance

RDT&E: Research, Development, Trials and Evaluation

TFF: Tactical Fighter Force

APPENDIX C

MATTERS WHICH ARE DEALT WITH IN NEW MAJOR EQUIPMENT PROPOSALS SUBMITTED ON FORM DP1

Standing Defence Department instructions provide that all new major equipment proposals, submitted on form DP1, should deal with the following aspects:

- justification and objective;
- assumptions;
- analysis of requirement;
- operational capability;
- technical risk;
- life assessment;
- force structure implications;
- compatibility of equipment;
- production aspects;
- operating, maintenance and logistic support;
- environmental impact;
- manpower implications;
- training implications;
- associated facilities;
- cost implications; and
- implementation program.

APPENDIX D

LIST OF WITNESSES

BALL, Dr Desmond John.
Research Fellow, Strategic and Defence Studies Centre, Australian National University, Canberra.
Heard: 21 June 1978

BERTHELSEN, Mr David Ernest.
Heard: 24 October 1978

CAWSEY, Mr George Francis.
First Assistant Secretary, Force Development and Analysis Division, Department of Defence, Canberra.
Heard: 9 and 29 November 1978

CHURCHER, Mr Geoffrey Jack.
Acting Deputy Secretary C, Department of Defence, Canberra.
Heard: 20 June 1978

CORNISH, A.O., C.B.E., M.V.O., A.F.C., Air Vice-Marshal J.G.
Chief of Air Force Materiel, Department of Defence, Canberra.
Heard: 9 and 29 November 1978

COWIE, Mr Malcolm Gilbert.
First Assistant Secretary, Personnel, Department of Defence, Canberra.
Heard: 29 November 1978

DAWSON, Mr Peter Justin.
Assistant Secretary, Policy Development, Purchasing Division, Department of Administrative Services, Canberra.
Heard: 23 November 1978

DIBB, Mr Paul.
Deputy Director (Civilian), Joint Intelligence Organisation, Russell Offices, Canberra.
Heard: 9 November 1978

ELTRINGHAM, Mr Donald Herbert.
Deputy Secretary C, Department of Defence, Canberra.
Heard: 9 and 29 November 1978

ENGEL, O.B.E., Major-General David Frederick Walter.
Chief of Army Materiel, Department of Defence, Canberra.
Heard: 9 and 29 November 1978

EVANS, Mr Frank Geoffrey.
Federal President, Navy League of Australia, Hawthorn, Victoria.
Heard: 8 December 1978

FALLON, Mr Thomas Acquinas.
Executive Member, Defence Group, Association of Professional Engineers, Australia, Canberra.
Heard: 26 October 1978

FARRAN, Mr Andrew Charles Cuninghame.
Senior Lecturer in Law, Monash University.
Heard: 30 November 1978

FLYNN, Mr Keith Brian.
Honorary Secretary, Defence Group, Association of Professional Engineers, Australia, Canberra.
Heard: 26 October 1978

FOLEY, M.L.C., Dr Kevin James.
The Parliament of Victoria, Melbourne.
Heard: 19 October 1978

FRIZELL, Mr Brian Parker.
Manager, Defence Systems, Philips Industries Holdings Limited, North Sydney.
Heard: 14 March 1979

FURNER, Brigadier James Osmond.
Deputy Director (Military), Joint Intelligence Organisation, Department of Defence, Canberra.
Heard: 9 November 1978

GRAZEBROOK, Mr Anthony Worrall.
Federal Vice-President, Navy League of Australia, Hawthorn, Victoria.
Heard: 8 December 1978

GRIFFITHS, Mr William James.
Associate Director, Philips Industries Holdings, North Sydney.
Heard: 14 March 1979

HAMILTON, Mr Robert Napier.
First Assistant Secretary, Strategic and International Policy Division, Department of Defence, Canberra.
Heard: 9 November 1978

HERBERT, Mr Colin Campbell.
Australian Manager, Y.ARD Ltd, Consultants, Canberra.
Heard: 21 September 1978

HIGGINS, Mr Russell Allan.
Senior Finance Officer, General Expenditure Division, Department of Finance, Canberra.
Heard: 30 November 1978

HUMBLEY, Mr Richard Rex.
Managing Director, Vickers Cockatoo Dockyard Pty. Ltd., Sydney.
Heard: 14 September 1978; 14 March 1979

JEREMY, Mr John Christopher.
Technical Director, Vickers Cockatoo Dockyard Pty. Ltd., Sydney.
Heard: 14 September 1978; 14 March 1979

JOHNSON, Mr Kingsley Dean.
Acting Controller, Aircraft, Guided Weapons and Electronics Supply, Department of Productivity, Canberra.
Heard: 16 November 1978

JORDAN, Air Vice-Marshal John Cyril.
Assistant Chief of the Defence Force Staff, Department of Defence, Canberra.
Heard: 9 and 29 November 1978

LEACH, C.B.E., M.V.O., RAN, Rear Admiral David Willoughby.
Chief of Naval Materiel, Department of Defence, Canberra.
Heard: 9 and 29 November 1978

LEISTER, Mr Ian Stanley.
Executive Member, Defence Group, Association of Professional Engineers, Australia, Canberra.
Heard: 26 October 1978

LOW, Mr Gordon Alexander.
First Assistant Secretary, Purchasing Division, Department of Administrative Services, Canberra.
Heard: 23 November 1978

McINTOSH, Dr Malcolm Kenneth.
Acting First Assistant Secretary, Department of Productivity, Canberra.
Heard: 16 November 1978

MARSHALL, Mr Alfred Charles.
Chairman, Defence Group, Association of Professional Engineers, Canberra.
Heard: 26 October 1978

MARSHALL, Mr Garry Richard.
Acting First Assistant Secretary, Strategic Assessment and Policy Branch, Department of Defence, Canberra.
Heard: 20 June 1978

MILLAR, Dr Thomas Bruce.
International Relations, Research School of Pacific Studies, Australian National University, Canberra.
Heard: 21 June 1978

NOBLE, Mr Colin John.
Chairman, Australia Defence Association, North Melbourne.
Heard: 8 December 1978

OPRAY, Mr Francis John.
General Manager, Hose Makers (Australia) Boronia, Victoria.
Heard: 16 November 1978

PALMER, Mr Arthur Robert.
Deputy Secretary, Department of Administrative Services, Canberra.
Heard: 23 November 1978

PORTER, Mr Bruce George.
Executive Member, Defence Group, Association of Professional Engineers, Australia, Canberra.
Heard: 26 October 1978

POWELL, Mr Brian Harvey Baden.
Director, The Victorian Chamber of Manufactures, Melbourne.
Heard: 8 December 1978

REED, Rear-Admiral Maxwell Peter.
Chief of Naval Technical Services, Department of Defence, Canberra.
Heard: 29 November 1978

REES, Mr David Roy.
Marketing Manager, Defence Operations, Commonwealth Aircraft Corporation Limited, Port Melbourne.
Heard: 12 October 1978

ROBSON, Mr Brian Leslie.
Executive Member, Defence Group, Association of Professional Engineers, Australia, Canberra.
Heard: 26 October 1978

RUSH, Mr Clay Clifford.
Chief Finance Officer, Accounting and Supply Division, Department of Finance, Canberra.
Heard: 30 November 1978

SCHAETZEL, Mr Stanley Stephen.
Technical Director, Hawker de Havilland Australia Pty. Ltd., Lidcombe, New South Wales.
Heard: 7 November 1978; 14 March 1979

SCOTT MAXWELL, Mr Peter Douglas.
Managing Director, Vickers Australia Limited, Melbourne.
Heard: 14 September 1978

SINCLAIR, Mr Alan Alexander.
Acting Assistant Secretary, Purchasing Division, Department of Administrative Services, Canberra.
Heard: 23 November 1978

SMITH, Mr Peter Alexander.
Commercial Director, Hawker de Havilland Australia Pty. Ltd., Bankstown, New South Wales.
Heard: 7 November 1978; 14 March 1979

STOKES, Mr John Bryant.
Acting First Assistant Secretary, Defence and Works Division, Department of Finance, Canberra.
Heard: 30 November 1978

SYNNOT, A.O., C.B.E., RAN, Admiral Sir Anthony Monckton.
Chief of Defence Force Staff, Department of Defence, Canberra.
Heard: 25 July 1979

TANGE, A.C., C.B.E., Sir Arthur Harold.
Secretary, Department of Defence, Canberra.
Heard: 25 July 1979

TURTON, Dr Reginald John.
First Assistant Secretary, Computing Services, Department of Defence, Canberra.
Heard: 29 November 1978

WEBB, Mr Nicholas Leicester.
Acting Assistant Secretary, Strategic Assessment and Policy Branch, Department of Defence, Canberra.
Heard: 20 June 1978

WHITE, Air Vice-Marshal Sydney Robert.
Chief of Supply, Department of Defence, Canberra.
Heard: 26 June and 29 November 1978

WOOD, Mr Donald David.
Assistant Secretary, Industry Policy and Planning, Department of Defence, Canberra.
Heard: 20 June and 29 November 1978

WRIGLEY, Mr Lloyd James.
Assistant Controller, Planning and Projects, Munitions Supply Division, Department of Productivity, Canberra.
Heard: 16 November 1978

APPENDIX E

BIBLIOGRAPHY

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, AUSTRALIA, Defence Group. Submission. 30 August 1978. 10p. plus attachments.

AUSTRALIA DEFENCE ASSOCIATION (VICTORIA). Submission. 16 August 1978. 9p. plus appendixes.

AUSTRALIA. Department of Administrative Services, Purchasing Division. Submission. 22 November 1978. 61p. Heard: 23 November 1978.

_____ Purchasing Aspects of Defence Procurement. Papers presented at Seminar on Defence procurement for Ballarat Chamber of Commerce, 20 August 1979. 17p.

_____ How to do Business with the Commonwealth Government. Canberra, Department of Administrative Services, April 1978. 30p.

AUSTRALIA. Department of Defence. Report of the Defence Legal Services Committee of Review. November 1971. 97p.

AUSTRALIA. Department of Finance. Submission. 30 November 1978. 9p. Heard: 30 November 1978.

AUSTRALIA. Department of Productivity. Submission. 16 November 1978. 10p. Heard: 16 November 1978.

AUSTRALIA. Parliament. Australian Defence, November 1976. Parliamentary Paper No. 312/1976. 60p.

_____ Defence Policy : Ministerial Statement, House of Representatives Hansard, 29 March 1979 : 1323-39.

_____ Defence Policy : Ministerial Statement, House of Representatives Hansard, 23 August 1979 : 546-53.

_____ Government Procurement Policy : Report by Committee of Inquiry, May 1974. Parliamentary Paper No. 124/1975. 198p.

AUSTRALIA. Parliament. House of Representatives Standing Committee on Expenditure. Overseas Representation, May 1972. Parliamentary Paper No. 100/1977. 57p.

AUSTRALIA. Parliament. Joint Committee on Foreign Affairs and Defence. Industrial Support for Defence Needs and Allied Matters, October 1977. Parliamentary Paper No. 225/1977. 231p. Official Hansard Report of Evidence.

_____ Parliamentary Joint Committee on Foreign Affairs and Defence Sub-Committee on Defence Matters. Official Hansard Report of Evidence. 1978-79. 2343p.

BABBAGE, Ross. 'Australia's Strategic Re-Orientation - Some Important Implications'. In O'Neill, op. cit. 1977: 7-26.

_____ et al. The Development of Australian Army Officers for the 1980s. Canberra, Strategic and Defence Studies Centre, Australian National University, 1978.

BALL, DESMOND J. 'Australia's Tactical Air Requirements and The Criteria for Evaluating Tactical Aircraft for Australian Procurement'. In idem (ed.), The Future of Tactical Airpower in the Defence of Australia. Canberra, Australian National University, 1977: 53-105.

_____ 'Equipment Policy for the Defence of Australia'. In Robert O'Neill (ed.), The Defence of Australia - fundamental new aspects. Canberra, Australian National University, 1977: 97-124.

_____ Evidence to the Sub-Committee on Defence Matters, Canberra, 21 June 1978: 95-131.

_____ (ed.) The Future of Tractical Airpower in The Defence of Australia. Canberra, Australian National University, 1977. 223p.

_____ 'Jindalee: Australia's HF Over-the-Horizon Radar System'. Strategic and Defence Studies Centre, A.N.U. 1978, 19p.

_____ 'New Military Technologies for the Defence of Australia'. In Pacific Defence Reporter, vol. 4(7) February 1978: 80-84.

_____ 'The Politics of Defence Decision-Making in Australia - the Mirage Replacement'. A.N.U. 1975. 64p.

_____ 'The Politics of Defence Decision-making in Australia - the Non-Defence Departments'. A.N.U. 1978. 35p.

_____ 'The Role of the Military in Defence Hardware Procurement'. In F. Mediansky (ed.), The Military and Australia's Defence. Sydney, 1978. 31p.

_____ 'Tactical Fighters: a complex $2,000m. choice'. In Sydney Morning Herald, 14 July 1978: 7, 9.

_____ and R.E. BABBAGE. 'The Australian Aircraft Industry - a defence point of view'. Australian Quarterly, vol. 47(2) June 1975: 62-78.

_____ and J.O. LANGTRY. Controlling Australia's Threat Environment: a methodology for planning Australian Defence Force Development. Canberra, A.N.U. 1979, 69p.

BELLAMY, IAN and JAMES L. RICHARDSON. 'Australian Defence Procurement'. Canberra, Australian National University, 1970. 33p.

BERTHELSEN, D.E. Submission. 19 August 1978. 36p.

CAWSEY, G.F. Force Structure Determination and Equipment Acquisition. Submission. Canberra, Department of Defence November 1978. 24p.

COMMONWEALTH AIRCRAFT CORPORATION LIMITED. Submission. The Effectiveness of Australian Defence Procurement Policy. August 1978. 16p.

CORNISH, AO, CBE, MVO, AFC, Air Vice Marshal J.G. Tactical Fighter Force Project (TFF). Submission. Canberra, Department of Defence, November 1978. 62p.

_____ Acquisition of P3C Aircraft for the LRMP Forces. Submission. Canberra, Department of Defence, November 1978. 22p.

ELTRINGHAM, D.H. Defence Procurement in Australia. Submission. Canberra, Department of Defence, 1978, 20p.

_____ Defence Procurement and Australian Industry. Canberra, Department of Defence, April 1979, 22p.

_____ Australian Industry Participation: Defence Policy and Implementation. Canberra, Department of Defence, November 1978. 18p.

ENGEL, OBE, Major-General G.D.W. Procurement of HIPORT/MEDPORT Communications Systems. Submission. Canberra, Department of Defence, November 1978. 6p.

_____ Procurement of Rapier Surface to Air Guided Weapon System. Submission. Canberra, Department of Defence, November 1978. 7p.

_____ Acquisition of the Leopard Tank by the Australian Army. Submission. Canberra, Department of Defence, November 1978. 10p.

FARRAN, Andrew. Submission. 27 June 1978. 25p. Supplementary submission. 21 August 1978. 2p.

FOLEY, M.L.C., KEVIN J. Submission. 11 September 1978. 48p.

GREAT BRITAIN. Parliament. Government Organisation for Defence Procurement and Civil Aerospace. UK Command Paper 4641, HMSO, April 1971, 52p.

HATTORI, Takushiro. Complete History of the Greater East Asia War. Tokyo, 1953. (Australian War Memorial mfm).

HAWKER PACIFIC PTY. LTD. Submission. 22 August 1978. 2p. Supplementary submission. 11 October 1978. 8p.

HOLMES, CAPT. I.F. The RAN Guided Missile Frigate (FFG) Project. Canberra, Department of Defence, April 1979. 22p.

HOSE MAKERS (AUSTRALIA). Submission. 2p. 20 July 1978.

KILLEN, M.P., HON. D.J. Planning for Australia's Defence. In World Review, Vol. 18(1) April 1979: 37-41.

LEACH, CBE, MVO Rear Admiral D.W. Guided Missile Frigate (FFG) Acquisition. Submission. Canberra, Department of Defence, November 1978. 11p.

_____ Navy Procurement Procedures: The Amphibious Heavy Lift Ship. Submission. Canberra, Department of Defence, November 1978. 7p.

MILLAR, THOMAS B. Submission. 21 June 1978. 5p. Evidence to Sub-Committee, 21 June 1978: 70-94.

_____ 'The Defence of Australia during the Next Ten Years'. In World Review, Vol. 16(1) 1977: 14-26.

MUGGLETON, T.P. 'A Critique of Program Budgeting in the Australian Defence Department'. In McMaster and Webb (eds.) Australian Project Evaluation, 1978: 316-334.

NAVY LEAGUE OF AUSTRALIA. Submission. 'The Need for an Australian Capability to Design and Build Smaller Warships and Support Ships and Craft for the Royal Australian Navy', by Lt. Commander A.W. Grazebrook, RANR. 31 August 1978. 5p.

O'NEILL, ROBERT (ed.) The Defence of Australia - Fundamental New Aspects. Canberra, Australian National University, 1977, 147p.

_____ 'Armed Forces are on the Defensive: After 35 years they have to justify themselves'. In National Times, 22-27 October 1973: 23-24.

_____ 'The Defence of Continental Australia'. In Pacific Defence Reporter, Vol. 5(8) Feb 1979.

_____ 'The Development of Operational Doctrines for the Australian Defence Force'. In idem, op. cit., p.125-144.

_____ 'How self-reliant is Australia?'. In Sydney Morning Herald, 27 June 1978.

_____ 'How to keep the invader guessing'. In Sydney Morning Herald, 29 June 1978.

_____ 'The Strategic View : Fears and Phobias ...'. In Australia's Resources Future ed. by P. Hastings and A. Farran. Melbourne, Nelson, 1978: 213-231.

_____ 'The Structure of Australia's Defence Force'. Canberra, Australian National University Strategic and Defence Studies Centre, 1979, Working Paper No.10, p.30.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. Government Purchasing: Regulations and Procedures of OECD Member Countries. Paris, 1976. 130p.

PHILIPS INDUSTRIES HOLDINGS LIMITED. Submission. 15 February 1979. 18p.

ROSEN, STEVEN J. and BALL, DESMOND J. Fuel Air Explosives for Medium Powers. Canberra, Australian National University, 1977. 12p.

SCHOLES, MP, G.G.D. 'Defence - Australia's Current Position'. In World Review, Vol. 18(1) April 1979: 42-47.

_____ Defence - the Opposition Point of View. In Pacific Defence Reporter, August 1978: 6-8.

STROMBERG, John L. The Internal Mechanisms of the Defence Budget Process, Fiscal 1953-1968. RAND Corporation, Santa Monica, 1970. RM - 6243 - PR.

TANGE, CBE, SIR ARTHUR. Australian Defence: Report on the Reorganisation of the Defence Group of Departments. Canberra, Department of Defence, 1973. 141p.

UNITED STATES OF AMERICA. Congress. Report of the Commission on Government Procurement. Washington, U.S.G.P.O., December 1972. 5 vols.

VICKERS AUSTRALIA LIMITED. Submission. 21 August 1978.

VICKERS COCKATOO DOCKYARD PTY. LIMITED. Submission, 15 August 1978. 11p.

VICTORIAN CHAMBER OF MANUFACTURES. Submission, 4 September 1978. 4p. plus attachments.

WEISBROD, HANNO. 'Australia's Decision to buy the F-111' In Australian Quarterly, vol. 41(2) June 1969: 7-27.

WODROW, W., JAMES, J.B. & HOGAN, W.G. Naval Technical Services. Professional/Technical Review. Canberra, Department of Defence, 1977. 181p.

WOOD, D.D. Defence Procurement Implementation. Submission. Canberra, Department of Defence, November 1978. 36p.

Y.ARD LTD. (CONSULTANTS). Submission. 4 August 1978. 15p. 'Submission to Sub-Committee on Defence Matters of the Joint Committee on Foreign Affairs and Defence, with Particular Reference to Procurement Policy'.