Defence Long-Term Development Plan

2006 Update

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Contents

Preface by the Minister of Defence **1**

1. Introduction **2**
Funding Parameters 2
Project Summary Sheets 2

2. The Long-Term Development Plan and Defence Policy **3**

3. Funding **6**
Funding Guidelines 6
Affordability, Options and Trade-Offs 7
Financial Risks 8

4. Managing the LTDP **9**
Updating the LTDP 9
Capability Management Framework 10
Defence Sustainability Initiative 10

5. Projects Approved and in Acquisition Phase **11**
Boeing 727 Replacement / Boeing 757 Modification 11
Medium Range Anti-Armour Weapon 13
Very Low Level Air Defence Cueing System 15
Light Operational Vehicles 16
Multi-Role Vessel 18
Patrol Vessels 20
Special Operations Capability 22
Improvised Explosive Device Disposal 23
P-3 Mission Management, and Communication, and Navigation Systems Upgrades 24
C-130 Life Extension 26
New Defence Headquarters Building 28
NZDF Medium Utility Helicopter Capability 30

6. Projects Approved In Principle by the Government **32**
Joint Command and Control System 32
NZDF Training/Light Utility Helicopter Capability 33
Ohakea Consolidation 34

7. Projects Critical to Avoid the Failure of Policy 36
Ohakea Base Taxiways Reconstruction 36
Joint Communications Modernisation 38
Army Tactical Trunk Communications 40
Land Intelligence, Surveillance, and Reconnaissance (ISR) and Tactical C4 41
Replacement of Devonport Naval Base 60hz Power Generation and Reticulation 43
Replacement of Devonport Naval Base Fuel Installation Facilities 44
Advanced Pilot Training Capability (B200 Replacement) 45

8. Projects Essential to Avoid the Failure of Policy 47
ANZAC Class Self-Defence Upgrade 47
C-130 Self-Protection 49
P-3 Self-Protection 51

9. Projects Necessary to Avoid the Failure of Policy 53
ANZAC Class Close-In Weapon System Upgrade and Refurbishment 53
P-3 Air-to-Surface Weapons 54
NZDF Torpedo Replacement 55
ANZAC Class Platform Systems Upgrade 57
NZDF Satellite Communications Capability 58
General Service Vehicle Fleet Replacement 59

10. Projects that have Benefit but are Less Critical to Achieving Policy Objectives 60
High Readiness Infantry Company 60
Short to Medium Range Aerial Patrol 60
Remote Mine Detection 60
Indirect Fire Support Weapon 60
Infrastructure projects 60

11. Projects Previously on the LTDP and Moved to the Defence Capital Programme - Minors 61
Army Manoeuvre Range 61
Army Engineering Equipment 61
Combat Service Support Vehicles 61
Direct Fire Support Weapon 61
NZDF Weapon Replacement 61

Preface by the Minister of Defence

I am pleased to release this third update of the *Defence Long-Term Development Plan* (LTDP). It reaffirms the Government's ongoing commitment to rebuilding and re-equipping the New Zealand Defence Force (NZDF) as a combat capable force.

First released in 2002, the LTDP is the Government's blueprint for equipping the NZDF. The LTDP enables decisions on defence acquisitions to be prioritised and taken in the context of the Government's defence policy, and project affordability.

This updated LTDP takes account of decisions made since the last update in November 2004. It also looks to the future and the evolving needs of the NZDF.

Key features of this update are:

- reporting on the significant progress made in acquiring: the Navy's Project Protector ships, Army vehicles and weapons, and the upgrade or replacement of all the Air Force's aircraft;
- the listing of seven new projects ranging from infrastructure investment to examining the merit of satellite communications;
- more realistic acquisition estimates by including such factors like estimated inflation; and
- the inclusion for the first time of the estimated through life costs of the capability.

With the commitment of $771 million for the purchase of medium utility helicopters all the priority projects listed in the first LTDP as "Projects Necessary to Avoid the Failure of Policy" have now been progressed to contract. A significant amount of the initial funding committed by the Government in the 2001 Defence Statement is now accounted for.

With careful management of the LTDP to ensure the overall plan remains affordable, the remaining funding - about $1 billion - will fund projects which are a priority over the next five years. These include the consolidation of Air Force operational activities at Ohakea, completing the ANZAC frigate systems upgrade, continuing the renewal of the Army's transport fleet, and introducing modern communications systems into the NZDF.

Hon Phil Goff
Minister of Defence

1. Introduction

1.1 First released on 11 June 2002, and updated in 2003 and 2004, the 'Defence Long-Term Development Plan' (LTDP) is a key capital planning tool to enable decisions on defence acquisitions to be taken in the context of the Government's defence policy, the priority of projects and affordability. The LTDP links the Government's defence policy objectives, which were set out in the Defence Policy Framework released in June 2000, with the capability requirements announced in the Defence Statement of 8 May 2001. This LTDP contains a comprehensive list of projects, with preliminary costing, timings, and priorities. The LTDP has a rolling forward focus over 10 years and was constructed as an active document, to be updated regularly. This is the third update of the plan.

1.2 The LTDP:

a) describes major acquisition projects required to provide military capabilities that meet the Government's defence policy objectives;

b) reflects relative priorities of the projects, measured against the Government's defence policy and security needs and interests;

c) works within agreed financial limitations; and

d) sets out planning and decision-making processes incorporating management of both operational and financial risks to ensure that investment in defence provides the best value for money.

Funding Parameters

1.3 The LTDP is managed within approved financial parameters. These are:

a) up to $1.3 billion, in nominal terms, in capital injections over 10 years commencing in 2002; (and including the additional funding provided in the Defence Sustainability Initiative Package in 2005);

b) any inflationary pressure to be managed within these constraints until 2005/06; and

c) leasing options may be considered where there is a fiscally neutral trade-off between capital and operating expenditure.

1.4 Funding amounts in the LTDP are the capital cost of bringing the asset into service and exclude GST. They do not include operating costs such as depreciation, personnel, maintenance, and consumables.

Project Summary Sheets

1.5 A project summary sheet has been prepared for these projects in sections 5 to 9 of the LTDP. Each summary sheet describes the project, how it contributes to the Government's defence policy, links to other capabilities, timing issues, costs and possible options where these are known. Options and trade-offs for defence acquisitions are properly investigated, costed and presented to Ministers as projects are brought forward for approval.

2. The Long-Term Development Plan and Defence Policy

2.1 The LTDP sets out the defence acquisition projects that will enable the New Zealand Defence Force (NZDF) to implement the Government's defence policy objectives.

2.1 In its 8 May 2001 Defence Statement, the Government stated that it is :

"building a modern, professional and well-equipped Defence Force with the necessary military capabilities across all three services to meet New Zealand's objectives... the New Zealand Defence Force is being reconfigured so that it is sustainable and affordable over the long-term. It will be able both to meet New Zealand's own defence and security needs, and to make a useful contribution when it is deployed."[1]

2.2 The Government's defence policy objectives are:

- to defend New Zealand and to protect its people, land, territorial waters, EEZ, natural resources and critical infrastructure;
- to meet our alliance commitments to Australia by maintaining a close defence partnership in pursuit of common security interests;
- to assist in the maintenance of security in the South Pacific and to provide assistance to our Pacific neighbours;
- to play an appropriate role in the maintenance of security in the Asia-Pacific region, including meeting our obligations as a member of the FPDA; and
- to contribute to global security and peacekeeping through participation in the full range of UN and other appropriate multilateral peace support and humanitarian relief operations.[2]

Long-Term Development Plan Priorities

2.3 The projects under each category are:

Projects Approved and in Acquisition Phase

- Boeing 727 Replacement / Boeing 757 Modification
- Medium Range Anti-Armour Weapon
- Very Low Level Air Defence Cueing System
- Light Operational Vehicles
- Multi-Role Vessel
- Patrol Vessels
- Special Operations Capability
- Improvised Explosive Device Disposal
- P-3 Mission Management, Communication, and Navigation Systems Upgrades
- C-130 Life Extension

[1] Government Defence Statement, 8 May 2001, A Modern, Sustainable Defence Force Matched to New Zealand's Needs, p.2.

[2] Defence Policy Framework, June 2000, para.19.

- New Defence Headquarters Building
- NZDF Medium Utility Helicopter Capability

Projects Approved in Principle by Government

- Joint Command and Control System
- NZDF Training/Light Utility Helicopter Capability
- Ohakea Consolidation

Projects Critical to Avoid the Failure of Policy

- Ohakea Base Taxiways Reconstruction
- Joint Communications Modernisation
- Army Tactical Trunk Communications
- Land Intelligence, Surveillance, and Reconnaissance
- Replacement of Devonport Naval Base 60hz Naval Power Generation and Reticulation
- Replacement of Devonport Naval Base Fuel Installation Facilities
- Advanced Pilot Training Capability (B200 Replacement)

Projects Essential to Avoid the Failure of Policy

- ANZAC Class Self-Defence Upgrade
- C-130 Self-Protection
- P-3 Self-Protection

Projects Necessary to Avoid the Failure of Policy

- ANZAC Class Close-In Weapon System Upgrade and Refurbishment
- P-3 Air-to-Surface Weapons
- NZDF Torpedo Replacement
- ANZAC Class Platform Systems Upgrade
- NZDF Satellite Communications Capability
- General Service Vehicle Fleet Replacement

Projects that have Benefit but are Less Critical to Achieving Policy Objectives

- Short to Medium Range Aerial Patrol
- High Readiness Infantry Company
- Remote Mine Detection
- Indirect Fire Support Weapon
- Infrastructure projects

Projects Previously on the LTDP and moved to the Defence Capital Programme Minor

- Army Manoeuvre Range
- Army Engineering Equipment
- Combat Service Support Vehicles
- Direct Fire Support Weapon
- NZDF Weapon Replacement

2.4 The list does not indicate the order in which projects will be completed.

3. Funding

Funding Guidelines

3.1 Following a review of the financial effects caused by revaluation of the NZDF's assets on the LTDP (CAB Min (03) 11/4), the Government directed the following financial parameters:

a) up to $1 billion, in nominal terms, in capital injections over 10 years commencing 2002;

b) any inflationary pressure to be managed within these constraints until 2005/06;

c) leasing options may be considered where there is a neutral trade-off between capital and operating expenditure.

3.2 Since then additional funding from the Defence Sustainability Initiative (DSI) and the proceeds from the sales of defence assets has been added to the Government's investment in defence capital. This has resulted in $1.3 billion now being available in the form of capital injections.

Affordability, Options and Trade-Offs

3.3 Funding constraints, cash flow management (both from depreciation and new capital) and defence industry considerations will also affect priorities, timing and the overall affordability of the LTDP. Trade-offs within and between projects are necessary. The projects presented in the LTDP take into account the Government's existing funding parameters. Solutions have been developed to provide capabilities within the financial parameters that are appropriate for New Zealand's circumstances and will deliver the Government's policy. For most projects, however, accurate costing information cannot be determined until tender responses are received. It is acknowledged that in order to determine the affordability of the LTDP, Defence needs to continue to improve the individual costing data on which the plan is based, on a project-by-project basis.

3.4 In order to provide more robust decision-making information the costing options for acquisition projects are modelled through the Defence Resource Allocation Model (DRAM). This modelling considers all elements of defence capital expenditure, including acquisition costs, through-life costs and cost/risk mitigation as they become available. The model is regularly updated when projects are integrated into the plan, accurate costs become available or when depreciation funding changes due to asset revaluations. Life cycle costing policy is being developed and through-life costs are being obtained for projects currently at the acquisition phase.

3.5 A first effort at integrating life cycle costing into the LTDP has now been made in this latest update. For the majority of projects on the LTDP, life cycle costing models have been developed that capture the ongoing annual personnel and operating costs as well as any mid-life upgrades. These models are based on projected costs adjusted for domestic and military inflation as well as the impact of expected movements in foreign exchange. The result is that estimated costs now include the estimated life, the total operating costs through that life and therefore the total cost of ownership.

3.6 By changing the model to examine different levels of capability, cost and policy compliance it is possible to identify options within projects. These options, which can be investigated for each project, could include phasing projects to spread the cash flow or reducing the size and/or scope of a project. Reducing the level of capability acquired could affect the NZDF's ability to deliver outputs designed to achieve the Government's policy objectives. NZDF and Treasury officials are continuing to work on strategies to minimise financial risks.

Financial Risks

3.7 There are several financial risks associated with the LTDP that will have to be managed to ensure the plan remains affordable.

a) **Inflation**. Estimated costs of projects reflect the impact of military inflation, and, where appropriate, internal and construction price indexation.

b) **Foreign Exchange Movements**. The majority of the project costs included in the revised LTDP have been converted from USD into NZD using exchange rate projections advised by Treasury (below). Any change to these projections will result in changes to project costs.

FY 06/07	**FY 07/08**	**FY 08/09 Onwards**
0.62	0.57	0.55

c) **Upgrades**. Military equipment requires regular upgrades to ensure that it is able to provide the required capability. Upgrades are also important to keep pace with technological changes and to maintain interoperability with other defence forces. Known upgrades have been included in the LTDP. Other unpredicted upgrades may be required during the life of the equipment.

d) **Personnel and Operating Costs**. Operating baseline changes will need to be managed to take account of pay increases and changes in NZDF personnel numbers, training requirements, maintenance and operations costs resulting from new equipment.

e) **Asset Revaluations**. The majority of procurement funding is derived from depreciation of the current defence asset base, much of which is purchased in USD. Recent changes to NZ Financial Reporting Standards dictate that all assets are to be revaluated annually, with a consequential impact on the funding arising from depreciation. Should the depreciation funding be greater than that forecast during the Defence Funding Package (DFP), the NZDF is able to seek this additional funding from the Government up to and including 2009/10. After this date, the risk of funding depreciation flows greater than that allowed in the DFP is a risk to the NZDF.

3.8 This LTDP was based on a bottom-up assessment of Defence capability requirements in relation to policy objectives. These have been rated in order of priority, and funding was planned accordingly. There is a natural tendency for projects in later years to be less critical in meeting current policy, but these relative assessments will change with time and circumstances. Those changes will be reflected in future iterations of this document. In this current plan, projects have been funded first on the basis of criticality to policy and remaining funds have been applied to some lower priority projects that had time imperatives associated with platform upgrades.

4. Managing the LTDP

4.1 Several processes have been developed to ensure that the LTDP will be a core decision-making tool for the Government.

Updating the LTDP

4.2 It is important that the LTDP is updated regularly to provide the best information possible to inform decisions on defence acquisitions and the budget cycle. The following processes will, therefore, be a feature of managing the LTDP:

a) An updated LTDP and accompanying report from officials will be submitted to Ministers to inform their considerations during the strategic phase of the budget process.

b) The LTDP will be treated as a dynamic, evolutionary document and updated on a regular basis as warranted by the availability of new and more accurate information.

c) The LTDP will be updated whenever there is a significant change in the Government's financial circumstances, a change in policy, or to support the financial impact of NZDF asset revaluations.

d) An updated LTDP will be made available whenever acquisition proposals are submitted for government consideration and approval. This will permit Ministers to consider each project within the overall context of total planned acquisitions and with a clear view of priorities, risks and trade-offs.

4.3 It is also important that Ministers have confidence that projects are well managed and that acquisition activity is consistent with the LTDP and government direction. This is achieved by the use of the following processes by the Ministry of Defence and the NZDF:

a) Government approval is sought to proceed with acquisition activity for each project.

b) The Minister of Defence is consulted before commencing major project definition studies.

c) The Minister of Defence is consulted before documentation being made available to commercial suppliers.

d) The Minister of Defence is advised of the outcome of the evaluation of the responses from commercial suppliers.

e) The Minister of Defence is consulted before documentation is made available to short-listed suppliers, and on the criteria to be used for evaluating the responses.

f) The Minister of Defence is advised of the outcome of the tender evaluation, including an analysis of the ability of the equipment to be acquired to meet the capability, and on contract negotiations with the preferred supplier(s).

g) On completion of the contract negotiations, Ministerial approval is sought to enter into contract with the preferred supplier(s) and for the appropriation of funds.

Capability Management Framework

4.4 Defence has developed a Capability Management Framework setting out governance arrangements and procedures to provide a robust and sustainable basis for the NZDF and the Ministry of Defence to progress capability development and implementation. The Framework ensures that the projects on the LTDP are defined, costed and presented to Ministers in a timely manner. The Framework also allows HQ NZDF, single Services, and the Ministry of Defence to plan for, and allocate appropriate resources to, those projects that have a higher priority on the LTDP.

Defence Sustainability Initiative

4.5 In December 2003 the Government initiated a review to identify both current and optimum configuration and resource requirements for the defence organisation to undertake the roles and tasks set out in the Government's statements of defence policy and in the LTDP. The resulting Defence Capability and Resourcing Review was presented to Ministers in February 2005. It confirmed that operational and organisational capabilities in a number of areas of the NZDF and Ministry of Defence were below what is required by government policy. This led to the May 2005 Defence Sustainability Initiative (DSI). This policy statement outlined a major remedial programme and a firm commitment of increased resources over the next 10 years to achieve long-term sustainability for Defence. It saw additional funding being provided (excluding GST) of $4.6 billion (operating) and $209 million (capital) over the next 10 years.

5. Projects Approved and in Acquisition Phase

Boeing 727 Replacement / Boeing 757 Modification

A Royal New Zealand Air Force Boeing 757

Description

5.1 This project replaced the Boeing 727 aircraft with Boeing 757 aircraft with greater range and payload capacity. A modification programme, including freight capability, engine enhancements and upgraded communications and navigation equipment, will configure the aircraft to meet the strategic airlift capability required by the NZDF.

Policy Value

5.2 In addition to the C-130s, New Zealand requires a strategic airlift capability provided by jet transport aircraft. This was previously provided by two Boeing 727 aircraft and is now provided by the Boeing 757 aircraft. Strategic airlift is an enabler for the same roles and tasks as the C-130, particularly the deployment and sustainment of NZDF forces on overseas deployments and the evacuation of New Zealand citizens.

Capability Gaps

5.3 An effective air transport capability is a critical enabler for many operations and has a high degree of utility across all of the Government's defence policy objectives. The capability provides essential air transport for the deployment of NZDF personnel and equipment within New Zealand, to the South Pacific, Australia, the Asia-Pacific region and globally.

5.4 In order to best meet both strategic and tactical aircraft requirements, and meet the Government's policy requirements, two Boeing 757 aircraft in a combination freight/passenger configuration are required.

Links to other Capabilities

5.5 This project has links to the following projects and capabilities:

- C-130 Life Extension

Timing

5.6 The project is expected to be completed in 2008.

Current Status

5.7 The two Boeing 757 aircraft, purchased in a passenger configuration, have been in service since mid-2003. Modifications necessary to meet the full capability requirements will begin in the first quarter of 2007.

Costs

5.8 Acquiring and modifying the Boeing 757 aircraft is expected to cost about $220 million.

Medium Range Anti-Armour Weapon

US Soldier demonstrates the Javelin system New Zealand has acquired

Description

5.9 This project will provide protection for New Zealand's land forces from armoured threats.

Policy Value

5.10 The Medium Range Anti-Armour Weapon (MRAAW) provides land forces with a medium-range capability against armoured vehicles and other targets. It is a critical part of any contribution to peace enforcement operations where land forces may face an armoured vehicle threat. The MRAAW also has some utility in peacekeeping operations in the Asia-Pacific region and globally for self-protection in the event of an escalation in the threat to ground forces.

Capability Gap

5.11 New Zealand land forces are currently very vulnerable to threats from tanks, armoured vehicles or other anti-armour weapons. There is a need for a capability to engage these threats at the greatest distance practicable.

5.12 The Army currently has a short-range anti-armour weapon. It is, however, limited in range and lethality. A medium-range anti-armour weapon is required to defeat threats at a greater range than the current weapon.

Links to other Capabilities

5.13 This project has links to the following projects and capabilities:

- Light Armoured Vehicle
- Light Operational Vehicle
- Direct Fire Support Weapon - Area (Automatic Grenade Launchers)

- Land Intelligence Surveillance Reconnaissance

Timing

5.14 Delivery commenced mid-2006, for completion by December 2006.

Current Status

5.15 This project has been undertaken through the United States Foreign Military Sales (FMS) programme and involves the purchase of Javelin missiles and associated support equipment.

Costs

5.16 This project is expected to cost $24 million. The estimated life is 15 years, in service through life costs are $21 million, and the total cost of ownership is $43 million.

Very Low Level Air Defence Cueing System

Description

5.17 This project involves the purchase of additional equipment to bring the Mistral air defence system up to operational standard.

Policy Value

5.18 An air defence capability is necessary to protect critical land force elements from air threats such as low flying aircraft and armed helicopters.

Capability Gap

5.19 The current system has not been fully operational. Target detection, identification and tracking rely on visual observation. To be fully effective and minimise risk to friendly aircraft, the system requires an auto cueing and identification friend or foe (IFF) capability.

Links to other Capabilities

5.20 This project has links to the following projects and capabilities:

- Light Armoured Vehicles
- Light Operational Vehicles
- Direct Fire Support Weapon
- Land Intelligence Surveillance Reconnaissance

Timing

5.21 Delivery has taken place and training will be complete by December 2006.

Current Status

5.22 New Zealand has contracted a Spanish company, Indra, for the supply of the IFF equipment.

Costs

5.23 This project is expected to cost $14 million. The estimated life is 10 years, in service through life costs are $12 million, and the total cost of ownership is $27 million.

Light Operational Vehicles

Pinzgauer General Service Variant

Description

5.24 This project is providing the Army and Special Forces with a modern, light operational, military vehicle.

Policy Value

5.25 The Light Operational Vehicle (LOV) provides an essential capability to enable the Army and Special Forces to train and to participate in operations in the South Pacific, Asia-Pacific region and globally. LOVs are the primary means of transport used by the Army and Special Forces in peacekeeping operations and also in peace enforcement operations, including in support of the light armoured vehicle. In addition, the LOVs may provide support for evacuation operations in the South Pacific.

Capability Gap

5.26 The Army's light transport needs have been met by the Land Rovers. These have reached the end of their economic life.

Links to other Capabilities

5.27 This project has links to the following projects and capabilities:

- Light Armoured Vehicle
- Multi-Role Vessel

- Land Intelligence Surveillance Reconnaissance
- Medium Range Anti-Armour Weapon
- Direct Fire Support Weapon - Area (Automatic Grenade Launchers)

Timing

5.28 The project is almost completed.

Current Status

5.29 321 (248 non-armoured, 60 armoured, and 13 special operations) Pinzgauer Light Operational Vehicles were contracted for from Automotive Technik Ltd (ATL) of the United Kingdom. All but one armoured variant have been delivered. The last one has remained at ATL for testing and will be delivered in January 2007. The special operations variants were successfully deployed as part of the third rotation of the SAS personnel to Afghanistan. The RNZAF has also ordered five LOVs to replace their communications vehicles, using this project.

Costs

5.30 The project is expected to cost about $93 million. The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

Multi-Role Vessel

MRV undergoing seatrials in the North Sea

Description

5.31 The Multi-Role Vessel (MRV) will provide tactical sealift for the NZDF. The MRV's design also allows for a strategic sealift capability by way of a port to port capability. The MRV acquisition is part of a larger project, Project Protector, which also involves the acquisition of two offshore patrol vessels and four inshore patrol vessels (see page 23).

Policy Value

5.32 The MRV will be used in the South Pacific and Asia-Pacific region for peace support operations, evacuation of personnel during civil emergencies, and disaster relief. A tactical sealift capability, to off-load people and equipment without access to a port facility, will be particularly useful in meeting the Government's policy objectives in the South Pacific. The MRV will also be able to undertake patrol and presence operations in New Zealand's EEZ and the South Pacific, and will provide the Government with an additional option for global deployments (or allow the ANZAC frigates to be deployed for global tasks). The MRV will provide additional berths for sea training purposes.

Capability Gap

5.33 The NZDF has no tactical sealift capability and cannot easily deploy land force personnel and equipment into areas without port facilities. Tactical sealift vessels cannot be chartered. Without a MRV, New Zealand will continue to rely on the tactical sealift capabilities of our allies and friends in the region for deploying to peace support operations and evacuating our nationals from trouble spots.

5.34 The MRV, in conjunction with the frigates and the offshore patrol vessels, will provide additional capacity for tasks such as defence diplomacy, support to land operations, patrol and disaster relief, and for training.

Links to other Capabilities

5.35 This project has links to the following projects and capabilities:

- Offshore and Inshore Patrol Vessels
- Light Armoured Vehicle
- Light Operational Vehicle
- NZDF Helicopter Capability
- P-3 Mission Systems Upgrade

Timing

5.36 Delivery is expected by early 2007.

Current Status

5.37 The MRV has been launched and has arrived in Melbourne for final fitting out.

Cost

5.38 The cost of the entire Project Protector Fleet is $500 million. The estimated life is 10 - 25 years, in service through life costs are $1.9 billion, and the total cost of ownership is $2.4 billion.

Patrol Vessels

Offshore patrol vessel (OPV) and Inshore patrol vessel (IPV)

Description

5.39 This project involves the acquisition of two offshore and four inshore patrol vessels to meet requirements for maritime surface surveillance in New Zealand's Exclusive Economic Zone (EEZ) and the South Pacific.

Policy Value

5.40 Patrol vessels are an important element in the surveillance of New Zealand's EEZ and other maritime areas of interest. They work in conjunction with maritime patrol aircraft to protect our natural resources and detect and deter maritime transnational threats. Patrol vessels will meet many government agencies' needs, including the Ministry of Fisheries, the New Zealand Customs Service, the Department of Conservation, the Police, Maritime New Zealand and others. The offshore patrol vessels will also be able to support maritime counter-terrorism, and provide a presence in the South Pacific to support peace and stability and help with disaster relief.

Capability Gap

5.41 New Zealand currently has a very limited maritime surface patrol capability provided by the two frigates and four inshore patrol craft. There is a need to patrol the inshore zone around New Zealand. There is also very limited capacity to undertake counter-terrorism operations at sea.

Links to other Capabilities

5.42 This project has links to the following projects and capabilities:

- Multi-Role Vessel
- P-3 Mission Systems Upgrade
- NZDF Helicopter Capability
- Special Operations Capabilities

Timing

5.43 These vessels will be delivered in 2007.

Current Status

5.44 Construction of the two offshore and four inshore patrol vessels is underway.

Cost

5.45 The cost of the entire Project Protector Fleet is $500 million. The estimated life is 10 - 25 years, in service through life costs are $1.9 billion, and the total cost of ownership is $2.4 billion.

Special Operations Capability

Description

5.46 This project is providing New Zealands' Special Forces with equipment to undertake special operations.

Policy Value

5.47 Army special operations capabilities have utility in meeting a range of the Government's defence policy objectives and also in supporting policing operations in New Zealand and the South Pacific.

Links to Other Capabilities

5.48 This project has links to the following capabilities:

- Light Operational Vehicle (Special Forces variant)
- Land Intelligence Surveillance Reconnaissance
- NZDF Helicopter Capability
- C-130 Life Extension

Current Status

5.49 The Army is currently purchasing the equipment.

Cost

5.50 This equipment will cost around $14 million. The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

Improvised Explosive Device Disposal

Description

5.51 This project will enhance the NZDF's Improvised Explosive Device Disposal (IEDD) capability and develop a credible Improvised Explosive Device Disposal - Chemical, Biological and Radiological (IEDD-CBR) capability.

Policy Value

5.52 An IEDD and IEDD-CBR capability is part of the NZDF's role to counter any threat posed by terrorism or acts of sabotage. The NZDF is an essential component of the wider whole-of-government approach to an IEDD or IEDD-CBR emergency, which is managed by the New Zealand Police. The potential consequences of IEDD incidents range from limited, but costly, inconvenience and disruption of activities through to loss of life if an explosive device was to detonate.

Capability Gap

5.53 The existing IEDD capability is derived from the inherent skills of Ammunition Technical Officers, who have a call out capability but who have limited training for extreme circumstances and who have had limited equipment. The types of terrorist threats that now exist require a more deliberate response. There is a high risk of policy failure without this capability. The ability for New Zealand to host internationally significant events will be limited unless New Zealand can guarantee a level of protection against terrorist action.

Links to other Capabilities

5.54 This project has links to the following projects and capabilities:

- Land Intelligence Surveillance Reconnaissance
- Army Engineering Equipment
- Special Operations Capability

Current Status

5.55 This project is underway with staff being employed and equipment procured.

Cost

5.56 The project will cost around $22 million. The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

P-3 Mission Management, and Communication, and Navigation Systems Upgrades

P-3K Orion flying on a routine monitoring patrol of the New Zealand coast

Description

5.57 This project is upgrading the mission management, communications, and navigation systems required for the P-3 Orion maritime patrol aircraft to conduct surface surveillance tasks.

Policy Value

5.58 The capability provided by the P-3 is central to meeting a broad range of civilian roles and tasks and for many functions required of the NZDF across the range of the Government's five defence policy objectives. The P-3 undertakes surveillance of New Zealand's EEZ and the Southern Ocean, meets our South Pacific search and rescue obligations, and provides surveillance assistance to South Pacific nations. The P-3 has a high utility for a wide range of civilian and military operations. It is one of the primary force elements contributing to our defence relationships with Australia and Five Power Defence Arrangements (FPDA) partners.

Capability Gap

5.59 The obsolescent systems onboard the P-3 are limiting availability for surveillance flights and other missions due to repeated equipment failures. Without an upgrade, there could be policy failure in not meeting the objectives for EEZ and Southern Ocean surveillance and assisting South Pacific countries with surveillance of their EEZs. There could also be difficulties in meeting commitments to Australia and the FPDA.

Links to other Capabilities

5.60 This project has links to the following projects and capabilities:

- Patrol Vessels
- Multi-Role Vessel
- Land Intelligence Surveillance Reconnaissance
- Joint Command and Control System
- NZDF Torpedo Replacement
- P-3 Air-to-Surface Weapons
- P-3 Self-Protection
- ANZAC Class upgrades

Timing

5.61 In October 2004 a contract was awarded to L-3 Communications Integrated Systems of the USA as the prime contractor for the project. Design development continues with the prototype being prepared for the installation of new equipment.

5.62 The first upgraded aircraft is expected to be delivered in 2008, with fleet modernisation complete in 2010.

Current Status

5.63 Upgrade work on the aircraft has commenced.

Costs

5.64 The upgrade is expected to cost around $373 million. The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

C-130 Life Extension

C-130 Hercules on deployment in Afghanistan

Description

5.65 This project will extend the life of the C-130 aircraft by upgrading the avionics and aircraft systems and undertaking some structural refurbishment work.

Policy Value

5.66 The C-130 is a critical enabler for many NZDF operations. It provides essential air transport for the deployment of NZDF personnel and equipment within New Zealand, to the South Pacific, Australia, the Asia-Pacific region and globally. Air transport is a critical capability for a number of roles and tasks, including: supporting counter-terrorist operations; peace support operations; evacuations of New Zealanders from trouble spots; disaster relief and humanitarian operations; undertaking tasks within New Zealand; and supporting New Zealand's Antarctic programme. The C-130 has particular utility where runways are short or in poor condition.

Capability Gaps

5.67 The declining availability of C-130 air transport is a major capability gap that will increasingly impinge on the NZDF's ability to deploy and support personnel. This is due to the age of the airframe and systems. There is a risk of policy failure, particularly in the New Zealand, South Pacific and Asia-Pacific contexts, if this project is not carried out, as the NZDF would not have sufficient air transport to support deployments and perform other tasks.

Links to Other Capabilities

5.68 This project has links to the following projects and capabilities:

- Boeing 727 Replacement / Boeing 757 Modification
- Special Forces Capabilities
- C-130 Self-Protection
- Deployment of other capabilities

Timing

5.69 The first upgraded aircraft is expected to be delivered in 2007, with fleet modernisation complete in 2010.

Current Status

5.70 In December 2004 a contract was awarded to L-3 Communications Spar Aerospace of Canada as the prime contractor for the project. The prototype aircraft has been stripped in preparation for the upgrade.

Cost

5.71 This project is expected to cost around $234 million. The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

New Defence Headquarters Building

Architectural drawing of the New Defence Headquarters building

Description

5.72 This project will provide new Wellington accommodation for the Defence organisations.

Policy Value

5.73 The new Defence Building will accommodate the Defence organisations in modern facilities.

Capability Gap

5.74 The lease on the current Defence building will expire in March 2007 and the Defence organisations are required to relocate.

Timing

5.75 The relocation to the new leased accommodation is expected to be completed by February 2007.

Current Status

5.76 The Chief of Defence Force (CDF), on behalf of the Defence organisations, has negotiated development and lease agreements with Capital Properties Limited, for the construction of a 18,300m^2 commercial standing office building, modified to accommodate tenant specific requirements. The Defence organisations are funding tenant specific requirements for the building and fit out. Construction of the building is now being completed and soft fit out undertaken.

Costs

5.77 The estimated cost to the NZDF of fitting out the new building is $23 million. The estimated life is 18 years, in service through life costs are $120 million, and the total cost of ownership is $140 million.

NZDF Medium Utility Helicopter Capability

NH90 helicopter

Description

5.78 This project will replace the Iroquois utility helicopters with a capability that meets the NZDF's contemporary needs for a medium utility helicopter.

Policy Value

5.79 Utility helicopters provide essential support to the Army, particularly in the South Pacific and in peace support operations. Helicopters are also important for supporting police operations in New Zealand and providing a range of support functions within New Zealand and the South Pacific, such as search and rescue and disaster relief.

5.80 The introduction into service of the MRV will create an additional role for utility helicopters in supporting the Army ashore, especially in the South Pacific.

Capability Gap

5.81 The Iroquois can no longer provide the capability required by a modern, mobile land force. These aircraft are becoming increasingly difficult to support because of their age. With helicopters assuming greater importance for mobility and tasks in peace support operations, there is a risk that the Army will be unable adequately to perform its policy roles and tasks if the Iroquois is not upgraded or replaced to meet current requirements.

Links to other Capabilities

5.82 This project has links to the following projects and capabilities:

- Training/Light Utility Helicopters
- Special Operations Capabilities
- Multi-Role Vessel
- Army Capabilities

Timing

5.83 The replacement for the Iroquois is planned for entry into service in 2010 and will be fully in service by 2013.

Current Status

5.84 Cabinet has signed a contract with NH Industries for eight NH90 helicopters as the replacement for the NZDF's Iroquois helicopters.

Costs

5.85 The fleet of eight NH90 medium utility helicopters will be procured for a total of $771 million which includes logistics and support. The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

6. Projects Approved In Principle by the Government

Joint Command and Control System

Description

6.1 This project is designed to implement an automated command and control system for the NZDF. This information technology (IT) based system will collect, collate, process, display, store, disseminate and protect command and control information in near real-time.

Policy Value

6.2 A Joint Command and Control System (JCCS) is an enabling capability for all of the policy roles and tasks required of the NZDF. A JCCS enables elements from all three services to work together efficiently and effectively by enhancing decision-making processes.

Capability Gap

6.3 The NZDF's current command and control systems are largely manual and paper based. Experience in recent operations and exercises has shown that the NZDF system is dated and inefficient. This has impacted on the effectiveness of the Joint Force Headquarters. The slower and less accurate decision making cycle currently available to commanders is likely to lead to policy failure as it becomes increasingly difficult for the NZDF to plan operations and effectively coordinate its own operations.

Links to Other Capabilities

6.4 The JCCS is an overarching capability that contributes to all NZDF outputs. While the JCCS will give the NZDF the ability to manage command and control information, the project does not provide the ability to communicate data. The JCCS will therefore depend on a suitable communications infrastructure. Linked projects are:

- Joint Communication Modernisation
- Army Tactical Trunk Communications
- Land ISR
- P-3 Mission Systems Upgrade
- Satellite Communications Capability

Timing

6.5 An Invitation to Register is likely to be released in the first half of 2007.

Current Status

6.6 The acquisition strategy for the project is currently being established.

Costs

6.7 This project is expected to cost between $20 - $40 million. The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

NZDF Training/Light Utility Helicopter Capability

Description

6.8 This project will replace the Sioux training helicopters with a capability that meets the NZDF's training and light utility needs.

Policy Value

6.9 A training helicopter is critical to providing a transition for pilots and crew to the NH90 medium utility helicopters and the Navy's Seasprites. Light utility helicopters are important for supporting a range of government and civil agencies in New Zealand.

Capability Gap

6.10 The Sioux training helicopter is of 1950s vintage and is inadequate to meet training needs. It does not provide an adequate step in pilot training progression from the Airtrainer aircraft to operational utility and maritime helicopters and provides no light utility capability.

Links to other Capabilities

6.11 This project has links to the following projects and capabilities:

- NZDF Medium Utility Helicopter
- Special Operations Capabilities
- Multi-Role Vessel
- Army Capabilities

Timing

6.12 There is some urgency to replace the Sioux training helicopter, which is expected to occur during 2008.

Current Status

6.13 Cabinet will make decisions in 2006 on the training/light utility helicopter.

Costs

6.14 The training/light utility helicopter is estimated to cost about $110 million. The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

Ohakea Consolidation

RNZAF Base Ohakea

Description

6.15 This project will consolidate the RNZAF's operational capability at RNZAF Base Ohakea.

Policy Value

6.16 The consolidation will be a core enabler for all RNZAF operations.

Capability Gap

6.17 Ohakea will require extensive improvements to existing infrastructure and additional buildings to accommodate the personnel and functions transferring from Whenuapai. Units transferring to Ohakea include No 40 Squadron (Fixed Wing Transport Force), No 5 Squadron (Maritime Patrol Force) No 485 Wing (command of force elements), Naval Support Flight (naval helicopters), Operational Support Squadron, and a range of technical and administrative support units and elements.

Links to Other Capabilities

6.18 This project has links to the following projects and capabilities:

- NZDF Medium Utility Helicopter Capability
- NZDF Training/Light Utility Helicopter Capability
- P-3 Mission Management, and Communications, and Navigation Systems Upgrades
- C-130 Life Extension

- Boeing 727 Replacement / Boeing 757 Modification

Timing

6.19 This is yet to be finally determined.

Current Status

6.20 A prime project management consultant has just been appointed for the infrastructure development project. The consultant will assist in developing a more refined cost and time estimate for the preferred infrastructure development option to be submitted in early 2007.

Costs

6.21 The project cost is yet to be determined. The estimated life is 50 years, in service through life costs are $330 million, and the total cost of ownership is $750 million.

7. Projects Critical to Avoid the Failure of Policy

Ohakea Base Taxiways Reconstruction

Description

7.1 This project proposes to reconstruct the Ohakea Base Taxiways 'A' and 'C' and their associated hardstandings to keep the airfield fully operational for military and commercial use and to ensure that they meet International Civil Aviation Organisation (ICAO) standards for airfields.

Policy Value

7.2 The Government has agreed in principle to vacate Whenuapai and consolidate the RNZAFs operational capability at Ohakea. Ohakea will be the sole operational airfield for the Air Force supporting the operations of the maritime surveillance aircraft, air transport aircraft, helicopters, and flying training aircraft. It will also serve as the primary base for visiting foreign military and government aircraft.

Capability Gap

7.3 The hexagonal block construction of the taxiways is failing due to the heavier aircraft using them. Up to 30 percent of the original slabs in some areas have been replaced in the past but the slabs are now increasingly breaking in an uncontrolled manner.

7.4 The taxiways have now reached a stage where their use by larger aircraft is limited and is problematic for smaller aircraft. In particular, the taxiway is no longer suitable for routine operation of jet transport aircraft. Restrictions on aircraft operations at Ohakea impact on the ability of the Air Force to operate effectively, particularly as the number of aircraft located at the base increases. It also impacts on the Base's ability to handle and accommodate civil aircraft when required as a diversion airfield.

7.5 In addition, the spacing of the taxiways from the cross runway and the taxiway lighting do not currently comply with ICAO standards.

Links to Other Capabilities

7.6 This project has links to the following projects and capabilities:

- Ohakea Runway Reconstruction (now completed)
- Ohakea Consolidation
- Maritime Helicopter Capability
- NZDF Medium Utility Helicopter Capability
- NZDF Training/Light Utility Helicopter Capability
- P-3 Mission Management, and Communications, and Navigation Systems Upgrades
- C-130 Life Extension
- Boeing 727 Replacement / Boeing 757 Modification

- RNZAF Flying Training

Timing

7.7 Reconstruction work needs to be undertaken in advance of the arrival of the NH-90 helicopters.

Current Status

7.8 A study is underway to assess the magnitude of the work required and to determine a design.

Costs

7.9 This project is expected to cost about $25 million. The estimated life is 50 years, in service through life costs are $22 million, and the total cost of ownership is $46 million.

Joint Communications Modernisation

Description

7.9 This project proposes to modernise the NZDF's long-range and medium-range communications capability to ensure that the NZDF maintains a reliable, integrated, world-wide communications infrastructure.

7.10 The modernisation will support higher data transfer rates and modern communication protocols, with a mix of military and commercial communications services.

Policy Value

7.11 As communication is critical in almost all roles, the modernisation of the communications infrastructure is important in the achievement of defence policy objectives in New Zealand's environs, the South Pacific, the Asia-Pacific region and, potentially, in contributions to global security and peacekeeping. This communications infrastructure will support NZDF deployed forces, ships and aircraft operating outside short-range radio coverage and enable communications between force elements deployed to different parts of a theatre of operations.

Capability Gap

7.12 Current communications systems are Single Service oriented, technologically dated, and comprise ad-hoc and short-term systems. Communications between the Joint Force Headquarters and units deployed or operating beyond short-range radio coverage will not meet requirements, resulting in an inability to exchange information between NZDF units and allies. Deferral of this project will limit the type and timeliness of information that can be exchanged and thus will limit the ability of the NZDF to develop a modern, integrated command control communications and intelligence capability.

Links to Other Capabilities

7.13 Long-range and medium-range communication systems form an essential part of the NZDF communications infrastructure and contribute to all NZDF outputs. This project is dependent on the completion of the Joint Command and Control System project definition study and is linked to the Army Tactical Communications System. Linked projects are:

- Joint Command and Control Systems (JCCS)
- Army Tactical Trunk Communications
- NZDF Satellite Communications Capability

Timing

7.14 This is scheduled for acquisition around 2010.

Current Status

7.15 A study is underway to determine the programme of work required to achieve an integrated communications infrastructure. This study, along with input from the JCCS project, will assist in developing a strategy to implement this project.

Costs

7.16 This project is expected to cost between $40 - $60 million. The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

Army Tactical Trunk Communications

Description

7.17 This project proposes to replace and/or upgrade existing Army short-range communications systems to provide a high bandwidth (high capacity) digital theatre communication system to support command and control requirements of the NZDF Battalion Group operations.

Policy Value

7.18 The Army Tactical Trunk Communications system will provide an enhanced capability to exercise command and control over an NZDF battalion group, as well as communicate with allied forces. It forms an important component of any battalion group deployment, particularly in peace enforcement operations where good command, control and communications enhance the safety and effectiveness of land forces.

Capability Gap

7.19 Current Army tactical trunk communications systems are voice oriented, technologically old, and are comprised of ad hoc and short-term systems. This limits the Army's ability to exchange information between deployed Army sub-units. An upgraded system would provide short-range communications that interface between medium/long range communications and the tactical units. This system needs to be military specification equipment.

Links to Other Capabilities

7.20 The Army tactical trunk communications system has links to:

- Joint Command and Control Systems (JCCS)
- Joint Communications Modernisation
- Satellite Communications Capability

Timing

7.21 This capability needs to be implemented following the outcome of the JCCS project and on completion of a separate study to determine the work required to achieve an integrated communications infrastructure.

Current Status

7.22 Awaiting decisions on the JCCS project.

Cost

7.23 This project is expected to cost up to $20 million. The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

Land Intelligence, Surveillance, and Reconnaissance (ISR) and Tactical C4

Description

7.24 This project proposes to create a land based tactical Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) system (battle group and below) able to exploit the advances in data information exchange. It will acquire a Land ISR capability that will collect and analyse information and tactical C4 system able to provide commanders and subordinates with improved situational awareness, messaging, a common operating picture, collaborative planning tools, fire support measures, and allow joint and coalition interoperability.

Policy Value

7.25 The C4ISR acquisition will result in the establishment of a network-enabled 'systems of systems' that will exploit digital information from a range of sources and consolidate tham under one system to ensure that tactical commanders have the relevant information to make timely and accurate decisions. This system will contribute a fundamental capability as part of all Land Outputs and many Joint outputs.

Capability Gap

7.26 The Army does not have an integrated tactical C2 system at present nor does it have an integrated Land ISR system; although discrete components of both do exist.

Links to other Capabilities

7.27 This project has links to the following projects and capabilities:

- Light Armoured Vehicles
- Light Operational Vehicles
- Multi-Role Vessel
- Combat Service Support Vehicles
- General Service Vehicle Fleet Replacement
- Army Tactical Trunk Communications
- Joint Command and Control System
- Medium Utility Helicopter Capability
- Training/Light Utility Helicopter Capability
- P-3 Mission Management, and Communications, and Navigation Systems Upgrades
- Air Defence Upgrades

Timing

7.28 This project is expected to be implemented over a three-year period from 2009/10 - 2011/12.

Current Status

7.29 The Land ISR element of the project is in the initiation phase and the Land C2 element is in the concept development stage.

Costs

7.30 This project is expected to cost approximately $83 million, phased as follows:

- FY 9/10 - $15 million
- FY 10/11 - $24 million
- FY 11/12 - $44 million

7.31 The estimated life is 10 years, in service through life costs are $33 million, and the total cost of ownership is $116 million.

Replacement of Devonport Naval Base 60hz Power Generation and Reticulation

Description

7.32 This project will upgrade the current 60 hertz (Hz) power generation and reticulation system at Devonport Naval Base.

Policy Value

7.33 All RNZN ships are equipped with an onboard capacity to generate 60Hz power. When berthed, however, it is highly desirable for this power to be generated independently using a shore-based system. Not proceeding with the upgrade of the 60Hz power generation and reticulation system at Devonport Naval Base would make it very difficult for the Navy to maintain its current fleet at the level required to meet the Government's defence policy objectives. The risk of policy failure will increase as the Project Protector vessels enter into service from 2007 onwards.

Capability Gap

7.34 The Devonport Naval Base is currently equipped with a generation and reticulation system that converts 50Hz power supplied from the national grid to 60Hz. But the infrastructure is old and is unable to support the existing fleet. Each ANZAC frigate, for example, consumes half the total output. Temporary generating capacity is therefore hired, at considerable cost, whenever a high proportion of the fleet is berthed at Devonport. This has, however, become increasingly problematic as the permanent system deteriorates and outages become more frequent. Managing this shortfall will become even more difficult once the Project Protector vessels come online.

Links to other Capabilities

7.35 This project has links to the following projects and capabilities:

- Multi-Role Vessel
- Patrol Vessels
- ANZAC Class Self Defence Upgrade
- ANZAC Class Platform Systems Refurbishment

Timing

7.36 This project is intended to proceed as soon as possible and will be completed within a year of commencement.

Current Status

7.37 The project is ready to go to Cabinet.

Costs

7.38 This project is expected to cost between $10 - $15 million. The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

Replacement of Devonport Naval Base Fuel Installation Facilities

Description

7.39 This project will rationalise and modernise the fuel installation (storage, defueling and bilge cleaning capabilities) at Devonport Naval Base.

Policy Value

7.40 The Naval Fuel Installation (NFI) provides an essential strategic fuel storage capability to enable the Navy to condition and distribute the correct fuel. This will have added significance following the delivery of the Project Protector vessels.

Capability Gap

7.41 Existing facilities are inadequate, do not allow provision of a contingency reserve stock (CRS), and there is currently an inability to store fuels unloaded from ships undergoing maintenance.

7.42 Following the decommissioning of the fuel bunker tunnels, the Navy's fuelling arrangements have been undertaken through a commercial supply and waste product disposal contract, or by utilising the tanker HMNZS Endeavour (when available). This leaves the Navy susceptible to the vagaries of commercial delivery and does not allow for holding and control of a CRS or operational stock.

Links to other Capabilities

7.43 This project has links to the following projects and capabilities:

- Multi-Role Vessel
- Patrol Vessels
- Afloat Replenishment
- ANZAC Class Self Defence Upgrade
- ANZAC Class Platform Systems Refurbishment

Timing

7.44 This project is intended to proceed as soon as possible and will be completed within a year of commencement.

Current Status

7.45 The project will go to Cabinet shortly.

Costs

7.46 This project is expected to cost up to $20 million. The estimated life is 50 years, in service through life costs are $11 million, and the total cost of ownership is $4 million.

Advanced Pilot Training Capability (B200 Replacement)

Description

7.47 This project proposes to maintain the ability to conduct advanced pilot training after the expiry of the present B200 King Air lease in 2008. Outsourcing, leasing and purchase options are being examined.

Policy Value

7.48 RNZAF pilot training is a core enabling capability that underlies all other NZDF capabilities reliant on trained pilots. The Advanced Pilot Training capability is critical to the NZDF being able to graduate pilots for Air Force and Navy with the skills needed for transition to the operational aircraft of the NZDF. The B200 King Air provides a multi-engine platform that bridges the skill gap, aircraft performance and cockpit technology between the basic CT4E Airtrainer aircraft and the larger, more complex, aircraft of the NZDF.

Capability Gap

7.49 With the present and projected structure of the Air Force and Navy fleets now defined by other projects, there is an enduring requirement for a multi-engined advanced pilot training. Recently approved aircraft modification and purchase projects have also generated a requirement for training on high technology flight systems. The capability includes a requirement for a flight simulator.

Links to other Capabilities

7.50 This project has links to the following projects and capabilities:

- P-3 Mission Management, and Communications, and Navigation Systems Upgrades
- C-130 Life Extension
- Boeing 727 Replacement / Boeing 757 Modification
- NZDF Medium Utility Helicopter Capability
- NZDF Training/Light Utility Helicopter
- Maritime Helicopter Capability

Timing

7.51 The present B200 King Air lease expires in June 2008. To avoid a gap in the throughput of NZDF trainee pilots, approval of the selected option will be required from the Government in time to implement the solution before the end of lease. In the case of a procurement option this will need to be approved prior to the end of 2006.

Current Status

7.52 Preliminary work is underway to scope the options.

Costs

7.53 This will be dependant on the options identified.

8. Projects Essential to Avoid the Failure of Policy

ANZAC Class Self-Defence Upgrade

Description

HMNZS Te Kaha

8.1 This project proposes to upgrade the ANZAC Class frigates' self defence systems to protect the Naval Combat Force, and ships under its immediate protection, against increasingly sophisticated anti-ship systems, and to address equipment obsolescence.

Policy Value

8.2 The role of the Naval Combat Force is to meet military tasks, particularly in support of the Government's regional and global objectives. The ANZACs are critical to the protection of Australian/New Zealand territorial sovereignty, for participating in Five Power Defence Arrangements activities, supporting our relationships with regional partners, and undertaking peace support operations in the Asia-Pacific region and beyond. These environments contain significantly higher threats to surface vessels than exist in New Zealand's immediate area, including air and sub-surface threats. To continue operating in these environments, and therefore meet the Government's policy requirements, the ANZACs will require an upgrade to their defensive systems to meet the changing threat levels in these areas.

Capability Gap

8.3 By the end of the decade, the increase in air, surface and sub-surface threats, and the sophistication of these threats, within the Australia/Asia-Pacific region and beyond will mean that the ANZACs defensive systems will become increasingly ineffective. Consequently, the operational capability of the ANZACs will decline to the point where their ability to operate in these environments would carry serious risks.

8.4 The design of the majority of self-defence equipment on the ANZACs will be approaching 25 years of age by 2010. Support will become increasingly difficult and operating costs will rise. In some cases, such as the anti-air missile, existing systems are becoming increasingly difficult to support.

Links to other Capabilities

8.5 This project has links to the following projects and capabilities:

- P-3 Air-to-Surface Weapon
- ANZAC Class Close-in Weapon System Upgrade and Refurbishment

Timing

8.6 This project is timed to commence around 2010. The ANZAC Self Defence Upgrade will be conducted in a series of phases. The first phase will address Close-In Weapon System combat viability shortcomings; the second phase will address immediate interoperability and supportability concerns; and, at present, the full scope of the third and fourth phases cannot yet be fully determined.

Current Status

8.7 The potential benefits of adopting those aspects of the Australian Defence Force's ANZAC class upgrade programme, that support NZDF policy based capability requirements, are being studied. The cost of maintaining current systems is also under investigation so that the benefits of the upgrade from a Total Cost of Ownership perspective can be considered.

Costs

8.8 This project is expected to cost between $450-$500 million. The estimated life is 14 years, in service through life costs are $950 million, and the total cost of ownership is $1.4 billion.

C-130 Self-Protection

Description

8.9 This project proposes to upgrade the C-130 self-protection system to provide the ability to detect and counter likely threats, primarily man-portable infrared (IR) missiles.

Policy Value

8.10 The C-130 is a critical enabler for many NZDF operations. It provides essential air transport for a number of roles and tasks, including: supporting counter-terrorist operations; peace support operations; and evacuations of New Zealanders from trouble spots. Many of these operations involve the C-130s landing in locations that are under threat of hostile air defence weapons. Increasingly coalition forces in places such as Afghanistan will not allow aircraft to operate without a credible standard of self-protection.

8.11 C-130s are expensive assets that carry a significant number of people. It is important therefore to protect those assets and minimise the risks to people onboard.

Capability Gaps

8.12 The current C-130 self-protection fit was installed in the early 1990s. Since that time there has been a significant increase in the sophistication and availability of missiles. The current system is no longer appropriate for today's threat environment.

8.13 In the last 15 years, 90 percent of all aircraft lost in combat have been attributed to infrared (IR) guided missiles. Specifically, these aircraft have fallen to man-portable missile systems. These shoulder-launched systems are widespread globally. Lack of a self-protection capability could limit the use of our C-130s in humanitarian or peace support operations globally.

Links to Other Capabilities

8.14 This project has links to the following projects and capabilities:

- P-3 Self-Protection
- C-130 Life Extension

Timing

8.15 The most practicable time to complete this project is during the C-130 Life Extension and Communications and Navigation Systems Upgrade project. Not conducting the projects concurrently risks increased costs and serious restrictions on the employability of the upgraded C-130 across the range of employment scenarios post upgrade.

Current Status

8.16 Work is underway to determine the appropriate self-protection requirement and the most suitable time to equip the aircraft.

Costs

8.17 This project is expected to cost up to $20 million. The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

P-3 Self-Protection

Description

8.18 This project proposes to equip the P-3 with a self-protection capability to counter likely threats, primarily man-portable infrared (IR) missiles.

Policy Value

8.19 The capability provided by the P-3 is critical to meeting many of the roles and tasks required of the NZDF across the range of the Government's defence policy objectives. The P-3 is one of the primary capabilities that contributes to our defence relationships with Australia and Five Power Defence Arrangements partners, and is of high utility for collective global security and humanitarian relief operations.

8.20 P-3s are expensive assets and can carry up to 21 people. It is important to protect those assets and minimise the risks to people onboard.

Capability Gaps

8.21 In the last 15 years, 90 percent of all aircraft lost in combat have been attributed to infrared (IR) guided missiles. Specifically, these aircraft have fallen to man-portable missile systems. These shoulder-launched systems are widespread globally. Lack of a self-protection capability could limit the use of our P-3s in peace support operations globally.

8.22 The P-3 currently has no dedicated self-protection equipment. The aircraft's sensors inherently provide protection from long-range and/or obvious threats. Man-portable missiles are easy to conceal, however, and detection of IR sensors is not possible before the aircraft has closed within range of the weapon. It is therefore necessary to be able to detect the missile launch and use countermeasure techniques to defeat it.

Links to Other Capabilities

8.23 This project has links to the following projects and capabilities:

- C-130 Self-Protection
- P-3 Mission Management, and Communication, and Navigation Systems Upgrades
- P-3 Air-to-Surface Weapons

Timing

8.24 The most practicable time to complete this project is during the P-3 systems upgrade project. Not conducting the projects concurrently risks serious restrictions on the employability of the upgraded P-3 across the range of employment scenarios post upgrade.

Current Status

8.25 Work is underway to determine the appropriate self-protection requirement and the most suitable time to equip the aircraft.

Costs

8.26 This project is expected to cost around $40 million from 2013. The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

9. Projects Necessary to Avoid the Failure of Policy

ANZAC Class Close-In Weapon System Upgrade and Refurbishment

Description

9.1 This project proposes to upgrade the Phalanx Close-In Weapon System (CIWS) which provides a last line of defence and protection from Anti-Ship Missiles (ASM) and strike aircraft. It also has the potential to provide an effective defence against Fast Inshore Attack Craft (FIAC).

Policy Value

9.2 In order to meet policy objectives, the ANZAC class frigates must be capable of operating in environments where there is a risk of attack from ASM and FIAC. To be able to operate in such environments without undue risk or constraint, the frigates must be equipped with a level of self-defence against such threats. The CIWS provides a substantial proportion of this self-defence capability.

Capability Gaps

9.3 The CIWS system needs to be refurbished to rectify capability shortfalls, and should be upgraded to counter advances in the ASM threat and increasing numbers of FIAC attacks. The Phalanx system manufacturer has produced two sequential upgrade packages known as Block 1A, which addresses advances in the ASM threat; and Block 1B, which provides a capability to engage surface targets such as FIAC. Block 1B incorporates Block 1A.

9.4 Availability of the current system is currently well below the level needed to support operations in other than low threat environments, and can be expected to deteriorate further.

Links to other Capabilities

9.5 This project has links to the following projects and capabilities:

- ANZAC Class Self Defence Upgrade

Timing

9.6 The project should begin as soon as possible.

Costs

9.7 The CIWS Block 1B upgrade is expected to cost between $20 - $25 million. The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

P-3 Air-to-Surface Weapons

Description

9.8 This project proposes to equip the P-3 aircraft with an anti-ship missile capability.

Policy Value

9.9 Equipping the P-3 aircraft with an anti-ship missile capability would significantly enhance the value of these aircraft in fulfilling policy roles relating to the territorial sovereignty of New Zealand and Australia, playing an appropriate role in the maintenance of security in the Asia-Pacific region, and participating in the Five Power Defence Arrangements.

Capability Gap

9.10 Disbanding the Air Combat Force has resulted in the loss of the maritime strike capability. The P-3s provide targeting information but do not have an anti-ship capability. The inability to take immediate action against surface threats limits the P-3s ability to provide force protection for New Zealand naval vessels, particularly the frigates and, in future, the MRV.

Links to other Capabilities

9.11 This project has links to the following projects and capabilities:

- P-3 Mission, Communications, and Navigation Systems Upgrades
- Multi-Role Vessel
- ANZAC Frigates

Timing

9.12 The timing of this project is dependent on the completion of the P-3 mission systems upgrade. The modification required to enable the P-3 to launch anti-ship missiles is relatively straightforward and could be done during routine maintenance. Before a missile capability is added, the mission systems upgrade would be necessary to provide sensors capable of locating and properly identifying targets.

Current Status

9.13 A study will be conducted in due course to determine the appropriate weapons for the P-3.

Costs

9.14 This project is not yet costed. The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

NZDF Torpedo Replacement

Description

9.15 This project proposes to replace the torpedoes for the ANZAC frigates, P-3 Orions and SH-2G Seasprite helicopters to maintain the ANZAC's basic self-defence capability against sub-surface threats and the P-3s area anti-submarine capability.

Policy Value

9.16 The role of the Naval Combat Force is to meet military tasks, particularly in support of the Government's regional and global objectives. The ANZACs are critical to the protection of Australia/New Zealand territorial sovereignty, for participating in Five Power Defence Arrangements activities, supporting our relationships with regional partners, and undertaking peace support operations in the Asia-Pacific and beyond. These environments contain significantly higher threats to surface vessels than exist in New Zealand's immediate environs, including air and sub-surface threats. Torpedoes provide a basic self-defence capability against sub-surface threats, and enable the ANZACs to be safely deployed in these environments.

9.17 The P-3s require a torpedo replacement to maintain their current capability to fulfil the above policy roles.

Capability Gap

9.18 The current torpedoes will reach the end of their life around 2008/9, limiting the ability of the ANZACs to be deployed to areas beyond the South Pacific where sub-surface threats may be encountered. This would impact most significantly on the ability of the ANZACs to provide support for peace enforcement operations. It would also limit the utility of the ANZACs as a contribution to the protection of New Zealand/Australia territorial sovereignty.

9.19 The absence of a torpedo capability will mean that the P-3 aircraft will be unable to provide area protection for New Zealand naval vessels against submarine threats.

Links to other Capabilities

9.20 This project has links to the following projects and capabilities:

- ANZAC Class Self-Defence Upgrade
- Multi-Role Vessel
- P-3 Air-to-Surface Weapons
- P-3 Mission Systems Upgrade

Timing

9.21 The current Mark 46 Mod 2 torpedo will not be supportable beyond about 2008/9. A replacement will need to be in service before the current torpedoes become unsupportable.

Current Status

9.22 Work is underway to consider options to replace the current torpedo. A replacement is not likely to be affordable until 2015.

Costs

9.23 This project has not yet been costed. The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

ANZAC Class Platform Systems Upgrade

Description

9.24 This project seeks to ensure that ANZAC class platform systems remain viable. Platform systems, as distinct from combat systems, provide those elements of a warship's capability that enable it to move, float, generate power, recover from damage, and accommodate people.

Policy Value

9.25 A platform systems refit is required to ensure that the ANZACs remain capable of meeting policy objectives. The role of the Naval Combat Force is to meet military tasks, particularly in support of the Government's regional and global objectives. The ANZACs are critical to protection of Australia/New Zealand territorial sovereignty, for participating in Five Power Defence Arrangements activities, supporting our relationships with regional partners, and undertaking peace support operations in the Asia-Pacific region and beyond.

Capability Gap

9.26 Heating, ventilation and air-conditioning systems, propulsion diesel engines, gas turbines, automatic generating equipment, and main machinery control systems will become obsolete and impossible to support. Other systems will simply wear out.

Links to other Capabilities

9.27 This project has links to the following projects and capabilities:

- ANZAC Class Self Defence Upgrade

Timing

9.28 This project can be expected to commence around 2008/2009.

Current Status

9.29 Work is proceeding to determine the optimum schedule for platform system replacement and options are being studies.

Costs

9.30 This project is expected to cost between $50 - $60 million, spread evenly over the period 2008 - 2010. The estimated life is 16 years, in service through life costs are $130 million, and the total cost of ownership is $185 million.

NZDF Satellite Communications Capability

Description

9.31 This project involves the acquisition of a strategic communications capability, particularly X-Band, by engagement in the NZLSAT project. Defence engagement will be by the purchase of dedicated transponders on the satellite for NZDF usage.

Policy Value

9.32 Strategic communications in the form of high band-width capability is required to support NZDF deployments. The NZDF will be able to provide guaranteed secure communications to its operational deployments, in a manner which is interoperable with potential coalition partners, particularly Australia. The NZDF will also be able to provide immediately available strategic communications into the Pacific to support whole of Government operations, such as for humanitarian assistance.

Capability Gap

9.33 Currently the NZDF does not have a guaranteed secure strategic communications capability. To support existing missions, satellite capability is organised on an ad-hoc basis, using commercial or coalition partner satellites. Neither system is able to guarantee secure, uninterrupted capability. The future growth of the NZDF's command and control capability will require significantly more secure bandwidth than currently used.

Links to other Capabilities

9.34 This project will support the Joint Command and Control Systems and provide improved information flow for the P3 aircraft, all RNZN ships and Army components. Ground stations for communications will be procured through the Joint Communications Modernisation project and the Army Tactical Trunk Communications project.

Timing

9.35 Contract signature with NZLSAT is required between December 2006 and March 2007. The satellite will be launched in 2010 and has a scheduled life of 15 years.

Current Status

9.36 Defence is conducting a cost-benefit evaluation of the proposal.

Costs

9.37 This project is expected to cost $100 million. More detailed costs will be available once the specifications have been confirmed. There are options for either direct acquisition (approx $100M) or annual leasing (approx $20M per year). The estimated life, in service through life costs, and the total cost of ownership are to be confirmed.

General Service Vehicle Fleet Replacement

Description

9.38 This will replace the Army's general service vehicle fleet including medium and heavy vehicles, trailers and mechanical handling equipment.

Policy Value

9.39 The general service fleet is a critical enabler for land force operations. This fleet sustains and resupplies forces with fuel, ammunition, rations, personnel and spares and provides maintenance support. The fleet has utility in meeting a wide range of policy objectives.

Capability Gap

9.40 The current fleet of general service vehicles and trailers are approaching the end of their economic life and will require replacement.

Links to other Capabilities

9.41 This project has links to the following projects and capabilities:

- Light Armoured Vehicles
- Light Operational Vehicles
- Multi-Role Vessel
- Combat Service Support Vehicles

Timing

9.42 It is proposed to replace the vehicles beginning in 2011.

Current Status

9.43 Preliminary work is currently underway within Defence to scope this project.

Costs

9.44 The estimated cost of this project is around $550 million. The estimated life, in service through life costs, and the total cost of ownership are still to be confirmed.

10. Projects that have Benefit but are Less Critical to Achieving Policy Objectives

High Readiness Infantry Company

10.1 The Army does not maintain a high readiness infantry company that can undertake many short-notice tasks. This represents a policy gap and affects deployment times.

Short to Medium Range Aerial Patrol

10.2 The Maritime Patrol Review identified a need for a short-medium range air patrol capability to complement the long range P-3. Options include provision of patrol services by a commercial contractor or by the Air Force. These options are currently under consideration by the Government.

Remote Mine Detection

10.3 The Maritime Forces Review identified a requirement to protect New Zealand's major ports by developing a capacity to detect and dispose of mines and other explosives underwater. The Review concluded that the mine countermeasures role should be retained. The capability of the Navy to detect mine-like objects is becoming increasingly difficult as current equipment reaches the end of its economic life. Upgrading this capability would significantly improve the safety of personnel and ships over the current inadequate, emergency only, systems.

Indirect Fire Support Weapon

10.4 Army currently has 81mm mortars and the 105mm artillery howitzer. Based on current usage and firing wear and tear, both weapons are expected to require replacement around 2012. A study will be conducted in due course to determine the appropriate indirect fire support weapon capability.

Infrastructure projects

10.5 There are a range of infrastructure requirements that will need to be addressed over the next ten years. These projects will upgrade or replace existing facilities and may reduce infrastructure and operating costs.

11. Projects Previously on the LTDP and Moved to the Defence Capital Programme - Minors

Army Manoeuvre Range

11.1 A moving target range enables soldiers and commanders to practice skills necessary to conduct motorised operations. The range would allow the practice of low level manoeuvre (up to platoon level) while engaging static and moving targets.

Army Engineering Equipment

11.2 This project will improve the Army's engineering equipment and therefore its ability to support mobility of the motorised land force. Equipment includes:

- Combat engineering tractors
- Rapid gap crossing system
- Water purification/storage

Combat Service Support Vehicles

11.3 This project proposes to provide additional combat service support vehicles and associated equipment to support the Light Armoured Vehicles.

Direct Fire Support Weapon

11.4 The direct fire support weapon project will provide land forces with the ability to engage opposing forces.

NZDF Weapon Replacement

11.5 This project proposes the replacement or upgrade of selected current small arms based weapon systems and the addition of new weapon systems to the NZDF to enhance the NZDF's ability to achieve its required outputs.