



Chapter 4

The Requirements Phase: Defence Capability Plan to First Pass Approval

SECTION 4-1

Overview

- 4.1 The Requirements Phase of the capability life cycle is the phase during which an approved capability need passes through a rigorous process of identification and assessment of options, leading to a decision by the Government to opt for a particular solution to that capability need.
- 4.2 The starting point for the Requirements Phase is entry of a project into the DCP (see Chapter 2). As discussed in Chapter 3, the task of identifying and assessing options for meeting a need identified in the DCP is governed by the “two pass approval” process.
- 4.3 This Chapter outlines the capability definition and assessment process from the time an identified capability need is approved for inclusion in the DCP through to First Pass approval of a set of options for meeting that need. Chapter 5 outlines the process from First Pass approval to Second Pass approval.

SECTION 4-2

Integrated Project Team (IPT) Formation

- 4.4 The formation of an IPT is an important step in the Requirements Phase for all capability development projects. The IPT is established by the capability development branch with CS Div responsible to the project, and should include membership suitable for facilitating and guiding the capability development proposal through the Requirements Phase, as the decision-making process in Defence on capability development issues necessarily involves consultation with a range of stakeholders. IPT membership will generally include a core membership of the supplier (DMO or CIOG), sponsor (CDG) and CM.
- 4.5 The precise time at which the IPT is established is a matter of judgment, but will generally occur early in the Requirements Phase in order for a solid foundation to be established.
- 4.6 Stakeholders may be primarily interested in the particular solution to emerge from the capability development process, or in the efficiency and integrity of the process itself (as ‘gatekeepers’ of the process). Others may be primarily interested in the non-equipment aspects of the project (for example, workforce or facilities implications), or in providing specialist knowledge and skills to support the process and ensure the best outcomes. These interests will mostly align with FIC and relate to the coordinated changes in FIC necessary to realise a capability outcome.

- 4.7 The main purposes in forming an IPT is to provide:
- a. the project desk officer with access to expertise from throughout the Defence Organisation that will assist in the development of capability proposals,
 - b. a common basis for planning and analysis of options for meeting the capability need, and
 - c. early visibility of capability development projects to Defence stakeholders.
- 4.8 For any given project the composition and activities of the IPT should be flexible, so as to accommodate the wide diversity of capability development projects. The level of involvement by individual stakeholders will vary from project to project, however, the following stakeholder groups should, as a matter of course, be consulted, and invited to participate in an IPT in either a full- or part-time, or advisory, capacity:
- a. DMO - because of its acquisition, in-service support and industry development responsibilities, and also its costing and systems engineering expertise;
 - b. The relevant Single Service headquarters (as primary user of the capability and as Capability Managers) - more than one Service Headquarters may have an interest in a particular project, especially for joint capabilities;
 - c. Investment Analysis Branch, CIR Div (as part of their independent assessment role and their liaison role with external agencies);
 - d. Cost Analysis Branch, CIR Division - for providing advice on the financial resource aspects, both capital and operating;
 - e. DSTO - for their technical input to the identification and/or analysis of options and to assessment of technical risk;
 - f. CSIG - for any facilities and infrastructure development, legal, heritage, native title, environmental management, land acquisition/leasing implications and/or through life maintenance and CSIG support of the project;
 - g. DPE - for workforce planning, personnel and/or training issues;
 - h. CFO - for financial policy issues and consideration of private financing;
 - i. CIOG - for acquisition and in-service support responsibilities for specific Information and Communications Technologies (ICT) projects being acquired by CIOG, and implications for the Defence Information Environment for other projects;
 - j. Defence Security Authority (DSA) - for security implications;
 - k. DTRIALS - for test and evaluation issues;
 - l. ADSO - for simulation support;
 - m. Network Centric Warfare Program Office (NCWPO) - for advice and direct assistance in integrating projects into the wider DCP NCW construct; and
 - n. Defence Intelligence Organisation (DIO) - for intelligence implications.
- 4.9 In practice an IPT may consist of a small core team, with other members contributing at particular points in the process depending on their expertise. The important thing is that capability projects are not developed in a vacuum, but in a way that ensures visibility of the project to, and input by, the multiplicity of stakeholders in capability development projects. It is the responsibility of the project desk officer to ensure that all relevant stakeholders have an opportunity to contribute to the work of the IPT.



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- 4.10 The initial tasks of an IPT are to:
- a. identify the proposed broad options for the project and obtain high-level approval to pursue those broad options;
 - b. consider FIC transition management strategies, aligned with the AIS process, for each proposal;
 - c. if appropriate, develop a Project Development Fund (PDF) request to realise these options;
 - d. develop a Project Management Plan (PMP) for achieving First and Second Pass approval;
 - e. for MCE to be acquired by DMO, develop a Material Acquisition Agreement (MAA); and,
 - f. for MCE to be acquired by CIOG, develop a Project Mandate.
- 4.11 The steps involved in carrying out these tasks are outlined below in Section 4-4.

DMO Emerging Project Teams

- 4.12 DMO has established Emerging Project Teams (EPT) within each Branch of CS Div to provide improved teaming arrangements between DMO specialist skills and the CDG professional mastery skills for all pre-First Pass projects.
- 4.13 The scope of the EPT's accountabilities and responsibilities covers specific DMO activities relating to MCE projects during the Needs and Requirements Phases (up to First Pass approval) of the capability life cycle: that this, the phases for which CDG are primarily accountable, but which have a lasting impact on the DMO.
- 4.14 In general, the EPTs will provide specialist skills and expertise in the following areas:
- a. project management;
 - b. systems engineering;
 - c. logistics planning;
 - d. life cycle costing (for acquisition and in service support elements);
 - e. acquisition, procurement and contract management strategies; and
 - f. Defence industry capabilities.
- 4.15 A project-specific MAA is generally not required to engage the support of DMO EPTs in pre-First Pass projects, as their establishment is included in an omnibus MAA. A project specific MAA should only be developed for pre-First Pass projects where the scope of work is outside of the scope of agreed EPT support activities.

SECTION 4-3

Pre-First Pass Project Planning


Develop Project Development Fund (PDF) request

- 4.16 PDF is designed to help CS Div staff to develop capability proposals through to First Pass approval by Government. Specifically, PDF funding is available to develop the options approved by the Troika for investigation and inclusion in the Initial Business Case (IBC) presented at the time of seeking First Pass approval. PDF funding is typically used for:
- establishment and management of IPTs (eg interstate travel to attend IPT meetings and/or working groups);
 - the development of capability development documentation;
 - technical studies, for example, to determine capability performance requirements, assess technical risk, assess risk environmental compliance issues with legislative and policy requirements, conduct simulations, and develop and assess prototypes;
 - market studies, for example, to discover industry capacity and technological expertise;
 - costing studies to produce robust estimates of acquisition and through-life costs, including any facilities, infrastructure and environmental requirements;
 - occupational and training needs analyses that determine the major work force implications of the project; and
 - travel, domestic or international, to investigate capability solutions in other defence forces, and assess industry capability.
- 4.17 PDF money comes from the MCE budget, hence PDF spending does reduce funds available for projects overall albeit not on an individual project basis. The PDF business rules generally limit PDF spending to that required for First Pass project progression, and seek to have an audit trail linking funding to specific IBC documentation outcomes.

Write First Pass Project Management Plan

- 4.18 The PMP is a high-level planning document that provides a summary of the project and how it is to be managed. The PMP states what is to be done, when, by whom, at what cost (budget), and the risk associated with the activities. The PMP should also identify the different project processes and how they fit together to form a complete, integrated management system for the project phase.
- 4.19 It is the responsibility of the relevant desk officer to develop the PMP, in consultation with other IPT members.



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- 4.20 The PMP evolves as the project progresses through its various stages. At the initial phase when the work to reach First Pass approval is being determined, the PMP should include details on:
- a. a work breakdown structure clearly identifying the deliverables (products and services) that must be produced in order to achieve First Pass approval, including a risk management plan covering the risk reduction activities to be undertaken, through the science and technology, test and evaluation, and modelling and simulation programs;
 - b. staffing profile required to achieve First Pass approval including Professional Service Provider (PSP) /Contractor/Consultant requirements;
 - c. a schedule covering the activities, with identified resources; and
 - d. the project budget for conducting First Pass activities.
- 4.21 During the activities leading to First Pass approval, the initial PMP is refined to cover in detail the planned activities leading from First Pass to Second Pass approval. This refined PMP is to be signed off by the major resource stakeholders and included in the First Pass documentation. The PMP included in the First Pass approval documentation should particularly describe risks, and the management strategies to mitigate these risks, in the activities to be undertaken leading up to Second Pass approval. The PMP should include:
- a. the Project Work Breakdown Structure (PWBS) which breaks the project's early years into manageable deliverables (products and services) that can be organised, assigned to individuals, scheduled and monitored; and
 - b. if necessary, network diagrams or other project management tools.

Develop Materiel Acquisition Agreements

- 4.22 A key relationship in the capability development process is that between CS Div and the DMO. The DMO is involved in the Requirements Phase right from the formation of an IPT. The services provided by DMO to CS Div are formalised by means of an MAA or, more correctly, a series of MAAs at different stages of the capability life cycle.
- 4.23 An MAA defines what the DMO (as supplier) will deliver to CDG (as customer) for how much and when. It also provides a means by which performance will be monitored over the course of the project. There are a number of other project management documents, tools and processes that cover how the project is managed. The MAA is about the high-level outputs that DMO has undertaken to deliver.
- 4.24 The initial MAA is concluded between CS Div and DMO early in the life of an IPT. It covers DMO's project related services from the start of the Requirements Phase to the time of First Pass approval, which are generally delivered by the DMO EPTs. Further MAAs are then concluded for DMO's involvement in getting to Second Pass approval and beyond.
- 4.25 Different processes apply for projects to be acquired by CIOG (Information Systems Division). For further information and advice contact CIOG (Director General Information Policy and Plans).

SECTION 4-4

Option Investigation

Identify the Proposed Broad Options

- 4.26 The Requirements Phase involves a lengthy and detailed process of investigation of alternative ways of meeting a previously identified and agreed capability need. Early in the Requirements Phase, it will be necessary to identify and agree a set of broad options that will form the basis for more detailed investigation by Defence and consideration by Government. Getting this set of broad options right is crucial to the project's success, as the initial options set will drive the directions in which subsequent investigative effort is concentrated to achieve First Pass approval. First pass approval will in turn set the capability boundaries for solutions considered at Second Pass, and without further change, for the life of the asset.
- 4.27 The initial set of broad options identified for further consideration for any project will vary based on the type of project. However, it is important for the desk officer and IPT members to think laterally about possible ways of filling the identified capability need, and not simply in terms of replacing the existing capability with a similar, but newer and more advanced, capability.

Option Set

- 4.28 Without limiting the particular options or range of options that might be proposed in a given situation, the Government expects Defence to include in its set of options:
- a. **Off-the-shelf options** - Government requires that the option set include an Off-The-Shelf (OTS) option or options. An OTS product is defined as one that is available for purchase, and will have been delivered to another military or Government body or commercial enterprise in a similar form to that being purchased at the time of the approval being sought (First or Second Pass).
An option put forward at First Pass that was not considered OTS at that time, but which meets the criteria at Second Pass, may be considered as an OTS option at Second Pass.
OTS options provide Government with a benchmark against which to measure the choices presented to them. This is because OTS options are typically lower cost and risk options.
Key considerations regarding the viability of proposed OTS options are whether the options:
 - (1) have the potential to meet the broad capability gap (not the specific requirements as stated in the supporting documentation such as the OCD);
 - (2) are capable of safe and compliant operation in the ADF context (meet specific standards such as environmental and naval certification standards);
 - (3) satisfy specific Government policies and directives with respect to industry or procurement; and



- (4) can deliver the capability solution within the budget and schedule constraints of the DCP.

To ensure that the OTS option is potentially viable, a separate sub-option should be described and any modifications necessary to satisfy legal and safety compliance costed. Additionally, any other changes that are essential in terms of Government policy to deliver the OTS option should be separately identified and costed.

The IBC needs to provide information on the extent of any deficiencies in the OTS solution to provide cabinet with a clear understanding of what the OTS baseline represents. These deficiencies could be addressed in a separate IBC that presented an enhanced capability option.

It should be noted that there will not always be OTS options for every project. In these cases the OTS IBC will need to justify the lack of an OTS solution by explaining why no available solution can meet the broad capability gap.

- b. **'Australianised' off-the-shelf options** - A modified off-the-shelf proposal may be put forward. The modifications might be proposed to meet the particular requirements of the Australian and regional physical environments and the ADF's particular operational requirements. The options presented that propose the 'Australianisation' or modification of equipment must, before being put to Government, explain their rationale, detail the associated costs and risks, and demonstrate better value for money if recommended over an off-the-shelf option.
- c. Where affordable options do not meet the minimum capability needs, an option that fully meets the identified capability need should be presented, even if the cost of that option exceeds the DCP budgetary provision for that capability.

Number of Options Investigated

4.29 The time, effort and expense of examining each option in detail makes it essential to concentrate on investigating only a small number of options, usually three or four. As mentioned above, the option set must include at least one off-the-shelf option (if available) and possibly another that fully meets the identified capability gap. The First Pass documentation should explain why specific options have been selected for investigation and why other alternatives have not been investigated.

4.30 The options identified should focus on those that are affordable within the DCP provision. The DCP provision may need to be reconsidered by Government during the annual review process, if options development work indicates this may be necessary.

Options Type

- 4.31 The types of options presented for First Pass approval depend on whether the project is solution based or effects based:
- a. Solution-based projects tend to emphasise different equipment options as solutions to the capability need. For example, for a solution-based air transport project, the options could be first, maintaining the current C-130H/J fleet; second, acquiring additional C-130J aircraft; and third, acquiring a new heavy-lift aircraft. The majority of projects in the DCP are solution-based projects.
 - b. Effects-based projects tend to emphasise options for different ways of achieving the same effect. For example, for an effects-based long-range transport project, the options could be first, maintaining current airlift supplemented by strategic sea-

lift; and second, extend the life of the existing airlift assets. A third option might be to maintain current airlift capability supplemented by new heavy-lift aircraft; and a fourth, to replace the existing airlift capability with lighter-than-air airships. The work conducted prior to a project's entry into the DCP will generally reduce the scope of effects based projects, and their inclusion in the DCP is therefore limited.


Approval of Broad Options to be Investigated

- 4.32 As indicated above, the First Pass approval process involves the presentation to Government of a broad range of options, and the selection by Government of a narrow options set for more detailed consideration leading up to decision about the preferred solution at Second Pass approval.
- 4.33 But even the determination of the broad range of options to be considered at First Pass approval itself involves a process of selection - in this case of a broad range of options from the full range of available options. This process of selection is to ensure that DCP project schedules are met and resources are not wasted investigating impractical options.
- 4.34 Once the IPT has undertaken some identification and investigation of possible options, the project should prepare a paper for consideration by the Troika. This paper, summarises the possible options for meeting a capability need, and recommends the prospective options for consideration at First Pass approval.
- 4.35 Approval of broad options to be investigated in detail generally occurs at least twelve months before presentation of detailed options to the higher Defence committees for their consideration and recommendation. This lead time is to allow full exploration of the approved broad options in the lead up to First Pass approval.

Investigate the Approved Options

- 4.36 Using the resources available through the relevant IPT personnel, and resources approved through the PDF (if applicable), CS Div staff investigate the set of broad options approved by the Troika. Each option is likely to take between six and twelve months to develop to the specified level of detail for First Pass approval, with the options usually investigated in parallel, rather than sequentially.
- 4.37 The following sub-sections provide information on some of the more important considerations in investigating options in the lead up to First Pass approval.
- 4.38 **Industry Involvement** - Based on the project scope, and cost and schedule parameters provided by the DCP, the Rapid Prototyping, Development and Evaluation (RPD&E) unit within the CS Div's Information Capability Development Branch can be tasked with providing advice on possible development and trialling of prototypes in conjunction with defence industry, as part of the Second Pass process. Any prototype trialling will involve significant test and evaluation (T&E) activities prior to Second Pass, and these must be adequately scoped and resources sought in the First Pass approval documentation.



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- 4.39 **DSTO Involvement** - As the Department's primary S&T organisation, DSTO has significant expertise in many areas of military systems and related technologies, operations research and experimentation, and can offer this expertise to put forward, assess and analyse capability options. It will normally be possible, for example, to quantify the contribution of various options, and thus identify those options that provide a desired minimum acceptable level of capability. These studies would be carried out in conjunction with Service operational staff and IPT members to ensure stakeholders' views are considered, and to ensure wide-ranging ownership of the results. DSTO has several staff embedded in CS Div, who provide technical advice on matters relating to technical risk and on technical studies to investigate capability options.
- 4.40 **Option Acquisition and In Service Support Costing** - When taking decisions on capability options the whole-of-life costs must be presented to and understood by Government. Generally, much of the data produced for First Pass consideration will be derived from open source literature, limited studies, historical experience, allied sources or limited initial consultation with industry. Therefore, for most options, cost data will necessarily be indicative and be presented as cost-bands however, the project cost estimates at First Pass consideration should be of sufficient quality to:
- a. allow valid discrimination between the options and to support the analysis given in the documentation of the cost/capability trade-offs between options, particularly where it is proposed to discard options;
 - b. provide a high degree of confidence that any option(s) approved for Second Pass analysis will not, on deeper investigation, exceed the cost range advised at First Pass approval, particularly if this would result in the option being beyond the DCP provision (where costs are likely to exceed the DCP provision, this should be advised to Government for their decision);
 - c. identify personnel and operating cost offsets from extant capability; and
 - d. capture all known cost risks and assign contingency to each cost element based on assessed cost risk exposure.
- 4.41 **Capability Development Costing** - Detailed estimates should also be provided covering project related activities necessary to conduct further investigations of the option if endorsed at First Pass. Cost estimates for the activities to be conducted between First and Second Pass need to be accurate, as this funding is provided from within the project's DCP allocation and there is little opportunity to increase funding as the project progresses. These estimates must identify the costs to be incurred by DMO and other stakeholders and should include:
- a. the cost of studies or discrete risk reduction activities (including any T&E or environmental studies) to be conducted by the ADO and/or Industry;
 - b. the total DMO and PSP manpower costs (CIOG manpower costs should be included where they will be the acquirer);
 - c. a provision made for the internal conduct of tender activities such as advertising and the hire of resources for evaluation;
 - d. cost of prototype items for testing and analysis;
 - e. the level of contingency required and the risks to which it is allocated; and
 - f. any other costs such as travel or legal.

- 4.42 It is essential that all cost estimates prepared, be they Option Acquisition and In Service Support Costs or Capability Development costs, clearly articulate the:
- associated scope and cost basis,
 - source of the estimate,
 - recency of the estimate, and
 - confidence of the estimate as assured by the source.
- 4.43 All business cases prepared by CS Div are to be based on current values. These current values will then be converted to an estimated future dollar value for Defence Cabinet Submissions - these conversions are prepared by the Programming Section within CIR Div based on data supplied by DoFA.

Key Considerations for Investigating Approved Options - a Checklist

- 4.44 Turning statements of a capability need into realistic, well-defined options takes considerable time and effort, and a degree of trial and error. The process also requires consultation with stakeholders, a willingness to think laterally, and an appreciation of the full range of inputs to the future capability. There are numerous aspects to consider when determining and refining capability options, but among the more important considerations are:
- Operational concepts - *This is the primary consideration when developing a capability proposal.*** Operational concepts look at the proposed capability through the lens of the warfighter and consider *why* the proposed capability is needed, and *how* the proposed capability will be used to meet the identified capability need. CS Div staff need to consult closely with the Single Services headquarters on these issues.
 - Function and performance specifications** - This is an extension of the consideration of operational concepts. Having identified *why* and *how* a capability is to be used, it is important to identify *how well* the proposed capability should perform in an operational environment. The various function and performance parameters of the proposed capability will give an indication of its likely effectiveness (although, in practice, effectiveness depends on the interplay of a wide range of factors). Consideration of both operational concepts, and function and performance specifications, will require close consultation with the Single Services as the primary users of the proposed capability. Function and performance specifications also take into account constraints on performance, for example, to comply with environmental and Occupational Health and Safety (OH&S) legislative requirements.
 - Cost** - The overriding principle for procurement by Commonwealth agencies is that of 'value for money'. Value for money is derived by consideration of the interplay between the operational effectiveness of a capability proposal and its resource cost to Defence. Cost is a highly problematic, but important, consideration when assessing capability options. Ultimately, all capability enhancements are delivered against a budget constraint, and robust costing will allow more informed choices to be made between different capability options.



Costing needs to cover whole-of-capability costs and whole-of-life costs (POC/NPOC). Robust costing is often difficult to achieve, not least because of risk and uncertainty arising from long lead times for key decision points and acquisition, changing technology, and changes in the strategic environment. It is therefore necessary to document the level of contingency required against an option to address the risks identified should they be realised (noting that not all risks can be resolved through additional funding).

- d. **Current capabilities and their FIC.** Capability proposals must address the interfaces with existing capabilities to ensure that the ADF remains a cohesive and interoperable force. New capabilities cannot be considered in isolation from other capabilities, whether in service or also under development, and early identification of any capability interfaces will ensure that interoperability or duplication issues are addressed throughout the capability life cycle.
- e. **Occupational Health and Safety.** Capability development proposals need to address legislated OH&S requirements including human factors design and integration, injury prevention and reduced risks to health or safety associated with systems and equipment. For further guidance on OH&S issues contact the Occupational Health, Safety and Compensation Branch within DPE.
- f. **Acceptance into Service** - AIS is a process that provides the framework upon which the transition of FIC to enable an option's capability outcomes can be planned and then executed. The AIS process encompasses the transition of the materiel system through acquisition and into the In-Service Phase and provides the concepts for interaction between contractors, DMO, CDG and CMs. The transition of other elements of FIC are linked to the materiel system through the AIS process in order to culminate FIC at a point in time and achieve endorsed capability outcomes. The AIS process also provides the basis for consideration of the impact of an option on the finite resources that will limit what is possible in the transition between existing systems, new or upgraded systems and the withdrawal of outdated systems. The Defence AIS process is intended to be promulgated as a Defence Instruction (General) in 2006.
- g. **Workforce Consideration** - An integral and important part of examining options to meet a capability gap is to explore the possible workforce implications and risks. The size, skill sets, training requirements and costs of military and civilian personnel are all important considerations in the acquisition of new platforms and/or weapon systems. Consultation across relevant areas of Defence is important to ensure that workforce planning issues are addressed in a timely and effective way. The DCC has mandated the use of a workforce checklist to ensure that workforce issues are adequately considered in all pre-approval stages of the capability development process. For further information and advice, contact DPE.
- h. **Legal and policy constraints** - Capability development proposals need to be tested against legal and political constraints affecting Australia's use of armed force. Examples include prohibitions on the use of land mines, and nuclear and chemical weapons. For further guidance on legal issues contact the Defence Legal Service. For guidance on political constraints contact the Strategic and International Policy Division.

- i. **Interoperability opportunities** - The ADF needs to be able to operate effectively as a joint force, and also to be interoperable with allies. 'Interoperability' means the ability of systems, units or forces to provide services to, and accept services from, other systems, units or forces and to use the services so exchanged to enable them to operate effectively together:
- (1) **Joint interoperability** - This refers to interoperability between systems, units or forces of the ADF when operating together. Joint interoperability is to be seen as an essential consideration for all ADF capability development proposals; and
 - (2) **Combined interoperability** - This refers to interoperability between systems, units or forces of the ADF and those of other countries. Combined interoperability is to be seen as an important consideration for ADF capability development proposals. The most important other country in this context is the United States. Australia and the United States have agreed to collaborate closely on capability development in support of our shared security interests. The other main countries with which Australia seeks to promote greater interoperability are New Zealand and the United Kingdom. For further guidance, contact the Office of Interoperability within CDG.
- CIOG can also provide advice on information systems interoperability.
- j. **Network Centric Warfare (NCW) Considerations** - CCDG has the responsibility, mandated by the Defence Committee (DC), of ensuring that the ADF develops into a comprehensive network-centric force. Accordingly, each unapproved project in the DCP must be integrated with all other ADF force elements in a manner that is compatible and consistent with this objective. NCW considerations are managed through the following means:
- (1) **Defence Capability Committee** - Authorises high-level implementation and coordination of NCW activities.
 - (2) **NCW Program Office** - The NCWPO provides desk officers with advice and direct assistance in integrating their project into the wider DCP NCW construct. The main tool for integration is the Defence Architectural Framework. Consequently, the NCWPO is charged with maintenance of the ADF Battlespace architecture. The NCWPO leads the NCW compliance process which oversees integration and architecture throughout the capability life-cycle.
 - (3) **Rapid Prototyping Development and Evaluation** - The RPDE program is a collaboration between Defence and Industry whose mission is to *enhance ADF warfighting capability through accelerated capability change in the NCW environment*. While RPDE tasks are generally identified to impact on current problems, they can be used in specific instances to develop and test options for First Pass consideration where solutions from normal processes are likely to be inadequate. Specific tasks for RPDE are filtered through the NCWPO and prioritised by a one star steering group. The NCWPO is the 'anchor' for RPDE into Defence and be consulted on process regarding the entry of tasks into the RPDE program. The focus of RPDE is on producing solutions that can be readily integrated into Defence. The timeframe for RPDE tasks is between 6-18 months from start to completion. Many RPDE tasks can play an important role in risk mitigation for large Defence acquisition projects.



(4) **NCW Australian Industry Aspects** - With the development of network-centric warfare concepts, Australian industry may become more important for systems integration, both at the platform and network levels, to enable newly acquired or newly modified equipment to be interfaced into existing command and control systems and the overarching communications architecture. In general, maximising the opportunities for Australian industry participation in the provision of systems engineering and integration services is desired.

- k. **Facilities, infrastructure, and land issues** - Consideration of new or upgraded platforms or weapon systems requires consideration of possible implications for basing including modification, acquisition or disposal of associated facilities, infrastructure and/or land. Facilities, infrastructure and land also have through-life management costs which must be included in the overall capability cost. Other issues such as leasing options and costs or potential native title implications must also be taken into account when considering facilities and land issues.

Government has agreed that infrastructure consideration should be included within First and Second Pass documentation. The investment costs and lead times involved in providing associated facilities and land will have an important bearing on the whole-of-capability costs and life cycle costs of the proposed capability, the scheduling of the proposed capability, and orderly investment and development across the whole Defence portfolio.

CSIG, as the Defence Group charged with managing facilities, infrastructure and land issues (ie the Defence Estate), has developed a process to assist in defining the project requirement and capturing the through-life-costs. This process is aligned with the DCP 1st and 2nd Pass approval process and has been approved by Government. The starting point for this process is through the development of a Corporate Services and Infrastructure Requirement (CSIR) Part 1.

The Directorate of CSIG Strategic Planning (DCSP) within Infrastructure Division is the entry point into CSIG for all DCP projects. Early engagement with DCSP should occur, including invitations to IPT Meetings, to ensure all CSIG requirements are assessed and identified prior to 1st Pass Approval. Engagement with DCSP is to take place at least six months prior to 1st Pass CDB consideration to ensure appropriate CSIG processes are followed. For further guidance on the process involved to develop a CSIR Part 1, analysing facilities requirements and identifying other issues relating to the Defence estate, visit the Infrastructure Manual (IM) website <http://defweb.cbr.defence.gov.au/im/> or contact DSCP

- l. **Environmental assessment and protection** - Under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) if the Commonwealth undertakes an action that has, will have or is likely to have a significant impact on the environment, it must be referred to the Department of the Environment and Heritage for consideration and possibly approval. Where a referral is not required, there may still be environmental aspects and impacts of the project that require some degree of environmental consideration and management.

Capability development proposals may have environmental impacts that need to be considered under the framework of the EPBC Act. If required, a referral under the EPBC Act can be a lengthy and complex process. Additionally, there may also be a requirement to factor in any associated environmental assessment costs into the overall project budget prior to Government consideration at First and Second

Pass . For these reasons, it is vital that environmental issues are identified and considered at the earliest stage of the planning process.

The introduction of new capability and materiel needs to be approached through an Ecologically Sustainable Development (ESD) framework. The main drivers behind ESD for Defence are:

- (1) sustainable environmental management of training areas so that they are available for the ADF in the future;
- (2) the reduction in costly remediation works and the need to minimise 'whole of life' costs in managing and operating Defence assets;
- (3) reduction in energy use and greenhouse gas emissions;
- (4) maintaining the trust of communities surrounding bases and training areas; and
- (5) Commonwealth environmental legislation that requires Defence to maintain and preserve the environmental issues of Defence land.

For further guidance, contact the Environment Heritage and Risk Branch, CSIG, or visit Defences Environment and Heritage website:

<http://intranet.defence.gov.au/environment/>

m. **Chemical Biological, Radiological and Nuclear Defence (CBRND)**

Considerations. CBRND requirements for major systems should be considered during the production of the CDD. Within the spectrum of major systems, the need to incorporate CBRND requirements may require equipment capable of being operated by personnel wearing the full individual protective ensemble and equipment that is capable of being decontaminated if exposed to CBRN Agents. Major systems should ideally be fitted for, and in some cases fitted with, CBRND facilities, such as collective protection. While acknowledging the cost-capability trade-offs, it is critical that these considerations be made, costed, and incorporated in advice to senior Committees for their consideration. Retro-fitting of CBRND capabilities to major systems is highly cost prohibitive, so design decision are essential early following consideration of the long-term capability requirements. Further guidance on CBRND Considerations is available from the CBRND Steering Committee chaired by Director General Land Division within CS Div.

n. **Industry input** - Consultation with representatives of Australian defence industry on capability development proposals should be an integral part of the capability definition process. Appropriate consultation with industry can help clarify the range of feasible options to meet a capability need, provide information as to emerging technologies, and also provide information that will support the development of robust cost estimates. The primary mechanisms in place to facilitate this consultation are the CDAF and its subsidiary Environmental Working Groups, and the Industry Division of DMO.

o. **Technical risk** - Many future capability options involve a degree of technical risk. This may be, for example, because of the long acquisition lead times in an environment of rapid technological change, a desire to "Australianise" an overseas commercial off-the-shelf (COTS) or military off-the-shelf (MOTS) solution, or a unique 'tailor made' solution involving the development and application of new technology.

It is important to note that the objective is not to avoid technical risk, but rather to identify and manage it, possibly through the implementation of carefully designed



risk mitigation activities. Some degree of technical risk may be necessary to optimise the solution to a given capability gap, especially in circumstances where there is a high rate of technological change, perhaps even the existence of revolutionary technological change. It is mandatory to carry out a technical risk assessment as part of the capability development process. Although DSTO provides formal endorsement on technical risk at First and Second Pass, other stakeholders such as the DMO should be consulted when considering technical risk.

- p. **Schedule risk** - Defence's experience with projects for the acquisition of MCE has shown that schedule risk is an important source of cost overruns. It may not always be possible to avoid schedule risk entirely, especially if related to technical risk, but the aim should be to minimise schedule risk. This should be done both in the interests of meeting Government expectations about projects being delivered 'on time, on budget', and also for reasons of prudent resource management (avoiding unnecessary cost overruns). DMO provides formal sign-off on schedule risk.
- q. **Test and Evaluation** - An appropriate régime of T&E can be used for managing technical risk, in particular, the risk of not meeting the user's needs, as well as schedule and cost risk. Therefore, as part of the capability definition process, it is necessary to determine the test and evaluation criteria that will be used to establish whether a particular capability option will meet the defined capability requirement.

As the capability definition proceeds, T&E will tend to become a more important part of the process. As requirements are progressively refined and the field of options narrowed, the emphasis in the capability definition process correspondingly shifts from generic options and conceptual requirements to more precise, quantitative requirements for prospective solutions. This includes developing a strategy for T&E that contributes to the management of capability risk by providing information to answer critical questions at key project milestones. The initial point of contact on T&E matters is DTRIALS (within CDG).

Testing or trials of capability options may also necessitate some form of environmental impact assessment

- r. **Simulation** - Simulation is increasingly being acquired as a capability to support ADF personnel and equipment readiness and sustainability. It is also being increasingly used to support decision making in the capability development process to evaluate capability options. The initial point of contact on simulation matters is ADSO, within CDG.
- s. **Capability and Technology Demonstrators** - In addition to its scientific research program, DSTO manages a significant program of technology development called Capability and Technology Demonstrators (CTD). Funded from the DCP, CTDs have the purpose of demonstrating the Defence capability potential of various technologies. CTD projects are sponsored by CS Div and are often related to DCP or Approved MCE projects for consideration for transition of their output into Defence capability, or to inform the development of DCP projects. All linked CTDs should be addressed when developing the First and Second Pass documentation for DCP projects. The CTD Program specifically selects technology demonstration projects, involving principally Australian industry, that have good prospects for inclusion in ADF capability development. CTD projects in existence or planned should be included within the capability options set and considered for their potential to form or contribute to an option. Further information and advice is available from the CTD Program Office in DSTO.

- t. **Intelligence** - Proposals may have intelligence implications, and these may or may not be readily apparent. As part of the capability definition process, it is necessary to consider all aspects of intelligence relating to the proposed capability. For further guidance on Defence intelligence considerations, contact DIO.
- u. **Security** - Security issues associated with proposals must be considered, as they can impact on both project budget and schedule. There may be security implications concerning project equipment, facilities and deliverables, personnel security clearances, information and communications technology systems, transmitting information between the project and industry, handling and storing classified information and releasing classified information to foreign nationals or entities. There may also be security requirements that need to be considered in the interaction between projects and contractors, including in request documentation and contracts. Projects will develop a number of documents to assist them in meeting security requirements, including a Project Identification Document and Security Classification Grading Document. For further guidance on any security issues, contact the Capability Projects and Industry section of DSA early in the project's development (DSA.ProjectSecurity@defence.gov.au).
- v. **Acquisition Strategy** - Consideration needs to be given regarding the best way to acquire the proposed new capability. This would draw together many of the individual considerations dealt with above. Defence should present the Government with all the information necessary to select a, acquisition method that maximises value for money. This includes consideration of the potential for innovative contracting options, including an assessment of the scope for private financing. The DC requires consideration of private financing at First Pass approval stage for all MCE and facilities projects. This examination should include a preliminary screening of private financing suitability in terms of operational feasibility, practicality, risk and financial validity. The Private Financing and Commercial Support Directorate in CFO can provide advice during this process. Further guidance on the role of private financing is also available from the CDG Process Map on the CDG web site.

Another consideration is the optimum level of Australian defence industry involvement both for acquisition and in-service support, and how best to secure that involvement. DMO is responsible for advice on acquisition strategies.
- w. **Obsolescence Management** - Consideration of the expected Life of Type (LOT) for the option and an assessment of the likely obsolescence risk and potential treatment options (assessment of risks and agreement on treatment options is required before contract signature, or the project budget is set, whichever is sooner. DI(G) LOG 07-19 provides the formal Defence policy for obsolescence management.
- x. **Defence Information Environment** - Consideration of new or upgraded capabilities requires consideration of the possible implications for the Defence Information Environment. For some projects, CIOG provides formal sign-off on the Defence Information Environment aspects. For further information and advice contact CIOG (Director General Information Policy and Plans).
- y. **Explosive Ordnance** - All new projects that acquire weapon systems or munitions are to make provision for an initial war reserve buy. DGCP within CDG is to be contacted for advice on the means and timing of the production of an initial buy quantity for endorsement by the War Reserve Explosive Ordnance Committee (WREOC). This should occur at least 12 months before scheduled Second Pass approval is sought.



SECTION 4-5

First Pass Documentation

Develop Capability Proposal First Pass and Supporting Documents

- 4.45 Once options have been investigated and refined to the point of submitting them for First Pass approval, CS Div personnel prepare a detailed package of covering and supporting documents. These documents consist of a 'Capability Proposal First Pass' (CPFP) and its supporting documents. The key supporting documents are:
- an Initial Business Case for each option;
 - First Pass capability cost estimates;
 - Preliminary Capability Definition Documents;
 - First to Second Pass Project Management Plan; and
 - Acquisition Strategy.

Capability Proposal First Pass

- 4.46 The CPFP, prepared by CS Div staff, is the key document presented to the DCC, upon which the DCC Agendum and subsequent First Pass Cabinet Submission prepared by CIR Div is based. The CPFP incorporates and summarises the key points of the IBCs for each option and recommends preferred options for further investigation after First Pass.
- 4.47 The content of the CPFP should therefore address:
- the project's background, including the capability gap being addressed, desired high level effects, current means of meeting the requirement (if any) and its life and any short term measure in place to meet the deficiency (if any);
 - previous Cabinet considerations including rationale for entry into the DCP;
 - relevant strategic guidance including White Paper guidance and annual strategic review determinations;
 - the proposed capability in terms of broad high level requirements and desired effects;
 - the options examined in broad detail;
 - a comparison of the options against the requirements and effects described and detailed in the earlier proposed capability section, and including acquisition costs, mature operating cost and a value-for-money assessment;
 - a summary of the risk assessment of cost, schedule, technical, environmental and workforce aspects of each of the proposed options;
 - the options recommended for further examination and an explanation of why these have been selected from the full option set;
 - how the selected recommended option will be investigated further, including the level of funding required;

- j. potential implications for Australian industry; and
 - k. any DCP schedule issues, including an analysis of whether the ISD will be met by the recommended options.
- 4.48 It is essential that project staff have a thorough understanding of the issues within the CPFP, and are able to explain and argue (if necessary) any aspect of the capability proposal or subordinate business cases.

Capability Proposal Supporting Documentation

Initial Business Case

- 4.49 For each option presented to Government for First Pass consideration, there is to be a supporting IBC. In summary, an IBC should contain:
- a. an overview of the option;
 - b. an outline of the key advantages (or disadvantages) of the option (this should relate back to Defence planning guidance contingencies or planning scenarios);
 - c. schedule information for key events/decision points in the Requirements Phase, the AIS milestones in the transition through acquisition to in-service through, ultimately, to the planned withdrawal date of proposed capital equipment;
 - d. estimates and confidence levels for acquisition and through-life costs, broken down by major components of the proposed equipment/system, and contingency levels;
 - e. assessments for technical, schedule, cost, workforce and environmental risk, with endorsement of these assessments by relevant organisations in Defence;
 - f. the expected LOT for the option and an assessment of the likely obsolescence risk and potential treatment options;
 - g. any test and evaluation that could be undertaken prior to Second Pass to mitigate risk;
 - h. advice as to industry implications, including the general intent for both acquisition and through-life support. Industry implications should cover both sectoral implications and regional implications in Australia;
 - i. advice as to proposed subsequent reporting to Government on progress of the project; and
 - j. a strategy for getting from First to Second Pass approval, including studies to be carried out and funding requested to finance these studies. These requests should also include any required science and technology, modelling and simulation, test and evaluation activities and environmental impact assessments.

First Pass Capability Cost Templates

- 4.50 For each IBC presented, there is to be a completed First Pass capability cost template.
- 4.51 The Capability Development Cost Template is completed for the project for First Pass Approval. Both the Acquisition Cost Template and the NPOC Template are completed for each option for First Pass approval, and are updated again for Second Pass approval.
- 4.52 The cost templates are for presentation purposes, and are a mandatory attachment to all business cases. The cost templates are standardised spreadsheets used to present summary level cost information. These cost templates are not cost models.



- 4.53 The cost templates facilitate the presentation of cost model results by providing a standard, generic, summary level structure that is consistent with Defence core business.

Preliminary Capability Definition Documents

- 4.54 The CDD will provide the basis for agreeing the technical requirements of the proposed capability between CDG and the DMO following Second Pass approval, when these documents will provide the Capability Baseline. The CDD consist of the following documents:
- a. Operational Concept Document (OCD);
 - b. Function and Performance Specification (FPS); and
 - c. Test Concept Document (TCD).
- 4.55 The OCD and FPS form the basis for communicating End-user and other stakeholder requirements to the DMO and its suppliers, and are therefore critical documents for the CDG-DMO interface and the DMO-to-supplier interface. The TCD will communicate to stakeholders, the T&E concepts to be funded and employed to achieve assurance that the capability acquired will have the greatest potential of successfully meeting the stated user requirements
- 4.56 Preliminary versions of these documents are required prior to First Pass to support development of the IBCs and associated costs, and to provide a basis on which cost versus capability tradeoffs can be made if required. The level of detail required in these preliminary documents will be influenced by the strategic importance, complexity, technology maturity and technical risk inherent in the capability, although sufficient detail must be provided to support the development of robust business cases and well founded arguments for the level of capability being sought.
- 4.57 **Preliminary Operational Concept Document (POCD)** - The POCD is developed to provide initial definition of the Capability System needs and as such must address all the FIC elements. At First Pass the document should include enough detail to adequately capture the scope of capability need and FIC system changes. The document breath and depth must be sufficient to support the initial cost, schedule and risk assessments, initial cost capability tradeoffs and presentation of possible solutions to Government. Therefore at First Pass the scope of the document may be broad but relatively shallow in depth and content, consistent with the level of project complexity.
- 4.58 **Preliminary Function and Performance Specification (PFPS)** - The PFPS should be developed for each of the Capability Solution Options being considered which provides enough technical analysis and understanding (depth) to support the capability, cost, schedule and risk assessments required to be produced.
- 4.59 **Preliminary Test Concept Document (PTCD)** - The PTCD is submitted as part of the First Pass capability proposal and outlines the T&E strategy to be undertaken following Second Pass approval for each capability option to be considered and, if applicable for that option, the strategy for T&E between First and Second Pass. The associated resource and funding requirements are also identified. Further guidance on the development of the PTCD is provided in Section 7-4 and in the Defence CDD Guide.

First to Second Pass Project Management Plan

4.60 The CPFP also includes a PMP, outlining the activities required to progress the project beyond First Pass. The emphasis in this PMP is therefore on the tasks to be undertaken and products to be delivered between First Pass approval and Second Pass approval.

Acquisition Strategy

4.61 The Acquisition Strategy presented at First Pass provides an outline strategy on how the broader capability could be acquired beyond Second Pass (which may be different for each option) and will also consider strategies for progressing the project from First to Second Pass approval, particularly where solicitation activities are planned before Second Pass.

4.62 The acquisition strategy informs both Government and Defence delegates and builds their confidence that the basis for the acquisition of each capability option is well founded and will effectively support the delivery of the required capability.

SECTION 4-6

First Pass Approval

Defence Committee Reviews


4.63 Once the CPFP and supporting documentation for a particular capability proposal are complete, they are considered by a number of Defence committees to achieve an agreed departmental position. The committees through which these proposals pass are:

- any relevant Single Service committee;
- the CDB;
- the DCC and/or, depending on the size of the project, DCIC; and
- depending on the nature of the proposal, also to the DIECMC, for projects affecting the Defence information architecture; the DISC, for projects with significant facilities (>\$4.5m), infrastructure and/or environmental, native title and heritage management implications; and/or the DPC for projects with significant workforce implications.

Single Service Committees

4.64 As the CM is the eventual owner/operator of the capability and related specialist military equipment in that environment, it is essential that their headquarters are consulted on the proposals that will ultimately affect them. This consultation will already be under way through the inclusion of Single Service representatives in IPTs from the beginning of the capability development project. However, it is also appropriate that there be formal Single Service consideration of the capability proposal at the First Pass approval stage (and later, too, at the Second Pass approval stage).



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- 4.65 The CS Div desk officer responsible for the project should consult with the relevant Single Service headquarters to ensure that the CPFP and supporting documentation are considered by the relevant Single Service committee for that committee's agreement. The principal concerns of the Single Service committee are whether the proposed option set for First Pass consideration will meet the requirements of that Service, the workforce implications and the estimated cost of the proposed options.
- 4.66 In some cases, it may be appropriate for a particular proposal to be considered by more than one Single Service committee, depending on the nature of the proposed capability. For example, Navy manages amphibious ships, but these ships are primarily intended to meet an Army requirement. In that case, both of those Single Service committees should agree any proposal to acquire such ships.
- 4.67 Consideration by Single Service committees would normally be conducted as part of the stakeholder endorsement process, prior to consideration of the CPFP by the CDB.

Capability Development Board (CDB)

- 4.68 The CDB is a key internal decision making and management tool of HCS and consists of HCS as Chair, the CS Div Branch Heads, Director, Capability Operations and Plans (DCOP), Director of Trials (DTRIALS), ASIA and a representative from each of DMO and DSTO. CIOG would be represented on the CDB for projects to be acquired by CIOG (ISD) and DIE projects more generally. CCDG and FASCIR are permanently invited to CDB meetings to provide advice to HCS.
- 4.69 The CDB considers all capability proposals for First Pass approval, following endorsement by relevant stakeholders and prior to consideration by higher Defence committees. The Board is a mechanism that enables HCS to ensure that First Pass documentation produced in CS Div is complete and of a standard that allows the proposals to go forward for consideration.

Higher Defence Committees

- 4.70 As indicated above, the higher Defence committees relevant to capability proposals will normally be the DCC and may also be considered by the DIEC and the DPC. For more strategic or sensitive capabilities, however, the DCIC may review the proposal prior to it being considered by Government.
- 4.71 CS Div officers need to consult with IA Branch about the precise timing, approval and documentation requirements for submitting agenda items to the DCC and DCIC. CS Div officers can consult the Governance and Committees directorate within the Coordination and Public Affairs Division (CPA Division) about the precise timing, approval and documentation requirements for submitting agenda items to other committees. Further details of these committees are available from the Committees section of the CPA Division web site on the Defence Intranet.

First Pass Approval by Government

- 4.72 Once capability development proposals for First Pass approval have been agreed by the relevant Defence committees, these proposals are submitted to Government for First Pass approval. The level at which a particular proposal requires Government approval, that is, by the Minister, the NSC, or the full Cabinet, depends on the nature and likely cost of the proposed capability.
- 4.73 The development of Ministerial or Cabinet submissions and presentation of those submissions for First Pass approval are the responsibility of Investment Analysis Branch in CIR Div. The lead times for approval are subject to the requirements of the Minister, the Cabinet Handbook and the timing of NSC and Cabinet meetings. CS Div officers need to allow a minimum of three months in their project planning to achieve Government approval beyond the Defence organisation approval.
- 4.74 Once Government has given First Pass approval to a particular project, Investment Analysis Branch liaises with CFO (First Assistant Secretary Budget and Financial Planning (FASBFP)) to release funds to DMO and other Defence groups (eg CIOG, DSTO, CSIG) to cover the cost of approved work to refine options for Second Pass approval. CS Div can also draw down funds, within budget allocation, to pursue the approved work.

