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CANADIAN FORCES COLLEGE / COLLÈGE DES FORCES CANADIENNES
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JOINT REQUIREMENTS – IT’S TIME TO PAY THE PIPER.

By /par Maj Donald W Corbett OMM CD

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Abstract

The DCDS Group, designed in the mid-nineties under the Management Command and Control Re-engineering exercise, was to provide strategic command and control to CF Contingency Operations. Structural changes, initiated in most part by the creation of the Joint Operations Group, have caused the DCDS to assume additional responsibilities in terms of the capability programs of Generate Forces, Sustain Forces, Command and Control and Corporate Policy and Strategy. The DCDS Long Term Capital Program requires oversight of some thirty-five projects, with an estimated total program value in excess of \$2.3 billion. In addition to a Miscellaneous Requirements (MR) allocation of some \$20 million, the DCDS has been allocated, beginning April 2004, approximately \$33 million in Non-strategic capital. Despite a recently completed organisational review, the DCDS still does not have a dedicated requirements staff to support Joint Capability Development. To address this deficiency, and to enable the DCDS to participate effectively in the business of military requirements, a purpose designed Joint Requirements Staff must be established, within DGJFD, to develop and coordinate the equipment, construction and MR aspects of the DCDS portion of the Capital Program.

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Part I – Introduction

The Canadian Forces' (CF) Defence Management System (DMS) aims to provide effective management and coordination for what are essentially two Canadian Forces – the CF of Today and the CF of the Future. The CF of Today must be trained and maintained to conduct operations - both routine and contingency. Concurrently, the CF of the Future must be conceived, designed, built and brought into service.

The current DMS has its roots in the changes driven by the Integration and Unification legislation of the mid-1960s. On 1 August 1964, Bill C-90, *An Act to Amend the National Defence Act* established a single Defence Staff, with a single Chief of the Defence Staff (CDS) having executive authority over the Navy, Army and Air Force. With the elimination of the three separate service Chiefs of Staff, this legislation reduced the Minister's span of control to three – the Chief of Defence Staff, the Deputy Minister (DM), and the Chairman of the Defence Research Board. The enactment of Bill C-90 was the first step of a process announced in the *1964 White Paper on Defence* that would eventually lead to the creation of a single, unified defence force. The second major step of the process came in the form of the *Canadian Forces Reorganization Act*, Bill C-243. This legislation, which became effective on 1 February 1968, completely eliminated the three services and created “one Service called the Canadian Armed Forces.”¹

As the newly created CF developed, challenges arose within the integrated headquarters created by Bill C-90 with respect to the management and control of several aspects of defence management, including capital acquisition. To resolve the issue, the

Minister of National Defence (MND), established a Management Review Group (MRG), in June 1971, “to examine the organisation and management of the entire Department.”² The MRG was charged to assess the three areas of the Minister’s responsibility - the Canadian Forces, the Department of National Defence and the Defence Research Board – and to “make recommendations to ensure there exists effective planning and control.”³ The final report of the MRG, *Management of Defence in Canada*, included nine separate sub-reports that covered a broad spectrum of defence management issues, and specifically recommended a “radical realignment of the relationships among the MND, DM, and CDS.”⁴ The work of the MRG fundamentally altered the Defence structure envisioned by unification and led to the creation of “the basic model of NDHQ that has existed to the present, with the management and control of DND and the CF based on the diarchy of the DM and CDS.”⁵

The 1994 White Paper on Defence included specific guidance concerning the “reduction by at least 1/3 of the personnel and resources assigned to headquarters functions and improvements in resource management.”⁶ Moreover it directed that the

¹ Parliament, *National Defence Act (updated to 31 Aug 03)*. Ottawa, available at <http://laws.justice.gc.ca/en/N-5/83501.html#rid-83593>; Internet; accessed 2 Mar 04, Article 14.

² Lieutenant-Colonel Douglas L. Bland, *Institutionalizing Ambiguity: The Management Review Group and the Reshaping of the Defence Policy Process in Canada* (Kingston: Queen’s University, Centre for International Relations, July 1986), 10.

³ *Ibid.*, 10.

⁴ Douglas L. Bland, *The Administration of Defence Policy in Canada 1947 to 1985* (Kingston: Ronald P. Frye & Company, 1987), 65.

⁵ Department of National Defence, B-GG –005-004/AF-000 *Canadian Forces Operations* (Ottawa: DND Canada, 2000), ii.

⁶ Department of National Defence, *Chief Review Services, NDHQ 99: Review of Restructuring and Re-engineering, Vol 1* (Ottawa: DND Canada, February 2001), 1.

“Department will also explore innovative ways to acquire and maintain equipment.”⁷

This direction became part of the mandate for the Management Command and Control Re-engineering Team (MCCRT), whose primary objectives were to engineer a revised, and reduced, command and control structure, as well as an improved resource management process for DND and the CF.⁸ MCCRT began in December 1994 and issued its report in June 1997.⁹ The key findings were that the CF would remain unified and NDHQ would remain integrated; the new structure would deliver operationally effective sea, land and air forces capable of operating in a joint context; and operational HQs would be reduced and Command HQs closed. The environmental heads, called Environmental Chiefs of Staff (ECS), would be subordinate to the CDS and would have specified strategic functions.¹⁰

MCCRT developed a model, consisting of four core processes, to describe all activities contributing to the delivery of the DND/CF mandate of defending Canada and Canadian interests. The four core processes were identified as Strategic Direction, Force Generation, Force Employment, and Corporate Management.¹¹ Each of these processes was assigned to a process owner. With respect to Force Generation and Employment, the DCDS became known as the Force Employer, while the three ECS assumed the role of Force Generator for their respective environments.

⁷ Department of National Defence, *1994 Defence White Paper* (Ottawa: Canada Communications Group, 1994), Chapter 7.

⁸ Brigadier General (retired) G.E. Sharpe and Allan D. English, *Principles for Change in the Post Cold War Period: Command and Control of the Canadian Forces* (Winnipeg: DND Canada, 2002), 15.

⁹ Department of National Defence, *Chief Review Services, NDHQ 99: Review of Restructuring and Re-engineering*, Vol 1..., 2.

¹⁰ Department of National Defence, *Canadian Forces Operations...*, ii.

Following very closely behind the work of the MCCR initiative came the concept of resource management based on capability, vice threat-based, planning. The creation of the *Canadian Joint Task List (CJTL)*, in the mid-nineties, initiated the development of Capability Based Planning (CBP) and resulted in the recently adopted approach “to developing Canada’s military called Strategic Capability Planning.”¹² The evolution continued with the introduction of the first Strategic Capability Investment Plan (SCIP) in November 2003.¹³

While these changes in defence resource management were being developed, the DCDS Group remained focussed on Force Employment. A credit to the MCCRT, the DCDS Group that was born of the re-engineering activity was well designed and equipped to apply the Force Employment Process. However an initiative stemming from the work of the VCDS Command and Control Working Group would, in the year 2000, result in the DCDS’s responsibilities expanding to include the Force Generation role.¹⁴

The catalyst for change was the registering of Project DSP 00002001 Deployable Joint Headquarters in December 1998. By the summer of the year 2000, the Joint Operations Group (JOG), consisting of the Joint Headquarters (JHQ) and the Joint Signal

¹¹ Department of National Defence, A-AD-125-000/FP-001 *Defence Management System Manual* (Ottawa: DND Canada, 1998), Article 1.1.3.

¹² Department of National Defence, *Strategic Capability Investment Plan, Issue 1* (Ottawa: DND Canada, Nov 2003), 1.

¹³ CBP and the SCIP will be discussed in more detail in Part II.

¹⁴ NDHQ Action Directive D12/94, Development of Canadian Forces Joint Operational Level Command and Control Capability established the VCDS Command and Control Working Group. This group developed the idea of tasking 1 Canadian Division Headquarters and Signal Regiment (1 CDHSR) with the secondary task of providing the nucleus of a joint deployable command and control for CF operations. In 1996 a 35-person cadre was added to 1 CDHSR to provide the “joint” capability.

Regiment (JSR), was established and assigned to the DCDS.¹⁵ At this point in time the roles and responsibilities of the DCDS and his Staff expanded to include the Force Generation process. In April 2000, just prior to the JOG stand up, the National Military Support Capability (NMSC) Project (DSP 00000283) was registered. This ongoing joint capability project will establish and equip the next major DCDS formation, the Joint Support Group (JSG) and further increase the DCDS Force Generation responsibilities.¹⁶

The terrorist attacks of September 11, 2001 brought about the initiation of several projects that would further increase the DCDS' Force Generation responsibilities and seriously challenge the DCDS capacity to operate in the realm of the military requirements. In December 2001, as a direct result of the September 11 terrorist attacks, the projects to create the Joint Nuclear, Biological and Chemical Defence Company (JNBCD Coy) (DSP 0000527), to enhance the Disaster Assistance Response Team's (DART) capability (DSP 00000513) and to double the capability of Joint Task Force Two (JTF 2) (DSP #classified) were initiated. Because the DCDS had no established Requirements Staff or project management capability, Officers within DNBCD, JOG and JTF 2 were assigned, as secondary duties, the Project Direction responsibilities. Project Management being provided by the four person NMSC Project Management Team.

Through their efforts, these three high-profile projects progressed quickly and by the end of the summer of 2003, the DCDS had become responsible for approximately

¹⁵ On 14 Oct 97, Armed Forces Council approved the establishment of the National Level Units (NLU) Working Group. On 1 Dec 97, the NLU Working Group began the work that would result, in December 1998, with the registering of project DSP 00002001 Deployable Joint Headquarters.

¹⁶ Department of National Defence, *National Military Support Capability Project Charter AL-1* (Ottawa: DND Canada, 15 February 2002), Article 2.1.

2400 military and 350 civilian personnel, as well as two new deployable formations.¹⁷ Moreover, as the NMSC Project continues to deliver the various elements of the JSG, this figure could increase beyond 3000 military personnel. This would represent a significant increase in the DCDS' Force Generation responsibility without an equivalent increase in his ability to address all the issues, such as of Joint Requirements. It is time to pay the piper and "take some of the hard decisions about the pre-eminence of jointness and the implications of this for command and control, for DCDS organisation and for joint doctrine."¹⁸

This paper will argue that a dedicated Joint Requirements Staff be established within the Director General Joint Force Development Branch of the DCDS Group. It will do so by demonstrating the need for a purpose-designed Joint Requirements Staff that can provide the DCDS with the capability to meet his responsibilities with respect to developing, defining and coordinating Joint Requirements within the Defence Services Program (DSP). To develop the concept of a Joint Requirements Staff, this paper will begin with a general overview of the DMS and the Capital Program. A more detailed examination of Capability Development will serve as a springboard to the discussion of a DCDS Joint Requirements capability and lead to an answer to the question: Is there a

¹⁷ Colonel Steve, Christensen, *Changement au Structure SCEMD – showstopper identification*, Presentation to DCDS Strategy Session, 15 Sep 03.

¹⁸ Vice-Admiral (ret'd) G.L. Garnett, "The Evolution of the Canadian Approach to Joint and Combined Operations at the Strategic and Operational Level", *Canadian Military Journal* 3, no. 4. (Winter 2002-2003): 8.

“need to centralize all joint project management responsibilities under a single
directorate?”¹⁹

¹⁹ Col S. Christensen. *Gaps and Shortcomings Recap – Annex A*. (NDHQ: file 1902-1 (GMS), xx Oct 02), Ser F-21.

Part II - The DSP, the DMS and the Capital Program

To meet its responsibilities, a requirements staff must be capable of managing the development, implementation and maintenance of military capabilities. Considering the huge amounts of time and money that can be invested to bring a new capability into service, trained and experienced personnel, well versed in the complexities of the DSP, the DMS and the associated Capital Projects approvals process, are a valuable asset. The purpose of this section is to provide an historical overview of these issues with a view to framing the process structure within which a Joint Requirements Staff would function.

An overview of the DSP, followed by a brief history of the DMS will introduce the current concept of Capability Based Planning (CBP) and how the Strategic Capabilities Investment Plan supports it. A description of the Capital Program and the associated guiding bodies will serve as an introduction to the current Capital Approvals Process and the changes proposed in the August 2003 report of the Minister's Advisory Committee.²⁰ These proposed changes will affect the eventual employment of a Joint Requirements Staff.

The Defence Services Program

Simply put, "the Defence Services Program (DSP) is the total of all departmentally approved activities and projects, which are deemed to be essential to the delivery of affordable and effective defence services to the Government and Canadians."²¹

²⁰ Department of National Defence, Advisory Committee on Administrative Efficiency, *Report to the Minister of National Defence on Achieving Administrative Efficiency* (Ottawa: DND Canada, August 21, 2003).

²¹ Department of National Defence, *Defence Management System Manual...*, Article 1.4.1.

The resources to execute the DSP come from specific Parliamentary voted funds and include Vote 1 (Personnel, Operations and Maintenance, and National Procurement), Vote 5 (Capital), Vote 10 (Grants and Contributions), and Statutory Accounts.²² Figure 1 shows the breakdown, by Vote, of the total Defence budget. It is based on the 2002-2003 estimates of \$11.83 billion.

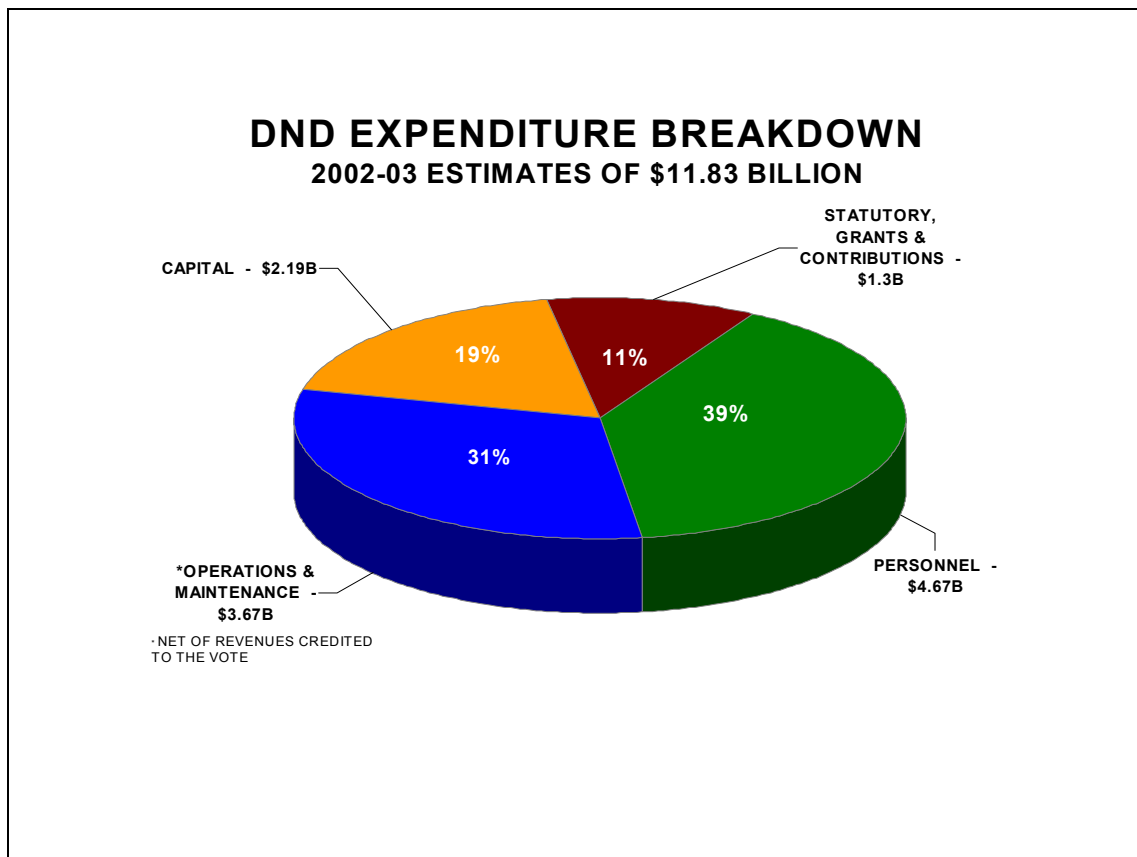


Figure 1 - DND Expenditure Breakdown, 2002-03 Estimates.

SOURCE: Department of National Defence, *Making Sense out of Dollars – 2002/2003 Edition*, (Ottawa: DND Canada, June 2003), 48

The Defence Management System

Today's DMS is the product of nearly forty years of integrated “delivery of

²² Ibid., Article 1.4.3.

defence services to the Government of Canada and Canadians.”²³ The system itself continues to evolve and, for the most part, provides an extremely effective tool for the management of the DSP. Nevertheless, four decades after CF unification and integration, the program continues to operate on what is essentially a tri-service approach. This is far from surprising since prior to the end of the Cold War, although legally and technically unified, the CF was structured, and most often tasked, to be employed in "single service" groupings. Moreover, as the operational focus was “inextricably linked to NATO and North American defence plans in the Cold War context there was no driving impulse for change.”²⁴ It was not until the publishing of the *1994 White Paper on Defence* and the introduction of the force development goal of a Main Contingency Force, consisting of Maritime, Land and Air components controlled by a Joint Headquarters, that the concept of joint operations became a necessity for the CF.²⁵

In 1989, the fall of the Berlin Wall and the subsequent collapse of the Soviet Union established the conditions for major changes in structure and process. In the wake and euphoria of their Cold War victory, Canada and her NATO allies were keen to collect on the so-called peace dividend. Thus major restructuring and force reduction programs became *de rigueur* in the mid-nineties.²⁶ Coincident with these significant and often traumatic changes, there was a major shift towards "joint operations" for the CF and most western militaries as well as a rapid increase in op-tempo. This high op-tempo continues

²³ Ibid., Article 0.0.1.

²⁴ Commander R.K. Taylor, “2020 Vision: Canadian Forces Operational-level Doctrine”, *Canadian Military Journal* 2, no. 3. (Autumn 2001): 36.

²⁵ Department of National Defence, *1994 Defence White Paper...*, Chapter 6.

²⁶ A typical example of direction for restructuring and force reduction is contained in Chapter 7 of *The 1994 White Paper on Defence*.

today, illustrated by the April 2004 figure of 3,382 CF personnel deployed on fourteen separate missions in various locations around the globe.²⁷

In the late nineties, following on from the efforts of the MCCR initiative, the current DMS was introduced to replace the Defence Program Management System (DPMS).²⁸ The most significant change between the old and new systems was the shift from a centralised, demand driven, and process bound system to a more decentralised system based on level-one business plans.²⁹ This process change opened the door to the next major development, Capability Based Planning, which would transform the way new DSP projects are identified.

Capability Based Planning

“Up until recently, project identification has been a bottom-up exercise. That is to say that the demand is driven from the component level and not from the top-level strategic planning process.”³⁰ The introduction of *Force Planning Scenarios*³¹, and the *Canadian Joint Task List (CJTL)*³² marked the beginnings of the capability-based, top-

²⁷ Department of National Defence, “Current Operations,” available at http://www.forces.gc.ca/site/operations/current_ops_e.asp; Internet; accessed 16 Apr 04.

²⁸ On 31 December 98, the DPMS Manual, was superseded by the DMS Manual. (Department of National Defence, *Defence Management System Manual...*, 1.1.1.)

²⁹ Department of National Defence, *Defence Management System Manual...*, Articles 1.1.1 – 1.1.2.

³⁰ Department of National Defence, *Capability Based Planning for the Department of National Defence and the Canadian Forces*. (Ottawa: DND Canada, 2002), 35.

³¹ “While the scenario framework is still in development, eleven scenarios have been outlined which span the spectrum of conflict and operations envisioned for the CF.” Department of National Defence, “Force Planning Scenarios,” available at http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dda/scen/intro_e.asp; Internet; accessed 16 Apr 04.

³² “The Canadian Joint Task List (CJTL) establishes a framework for describing, and relating, the myriad types of capabilities that may be required, to greater or lesser degrees, by the CF.” Department of National Defence, “Canadian Joint Task List,” available at http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dda/cjtl/intro_e.asp; Internet; accessed 16 Apr 04.

down approach that exists today. Moreover this step aligned doctrine and concepts development with the capability delivery process. The importance of the doctrine/capability delivery link will be discussed in more detail in Part III.

The CF effectively completed the transition to Capability Based Planning (CBP) in June 2000 when the document *Strategic Capability Planning* for the CF was published. The most significant change caused by this new approach has been a shift to a top-down planning approach for capability development. This is accomplished by translating Government policy, as outlined in the *1994 Defence White Paper*, through a series of military-strategic level documents into what is called a *Capability Goals Matrix*. The Capability Goals Matrix (Table 1) represents the CF level capability goals for each of the five capability programs of Command and Control, Conduct Operations, Sustain Forces, Generate Forces, and Corporate Policy and Strategy. These five capability programs, also known as business lines, are described in detail in the *Planning, Reporting and Accountability Structure*.³³ The designators of H (High), M (Medium) and L (Low) “indicate the relative importance of different capability programs to DND and the CF in the achievement of the overarching Defence Mission set ...by the Government.”³⁴ The higher the rating, the more the capability must be integral to the CF.

³³ Department of National Defence, *Planning, Reporting and Accountability Structure* (Ottawa: DND Canada, 2001), 8.

³⁴ Department of National Defence, *Capability Based Planning ...*, Article 4.11.

CF Level Capability Goals – 2002

Level	Command & Control		Conduct Operations			Sustain Forces	Generate Forces	Corp Policy & Strategy
	Command	Info & Intel	Conduct	Mobility	Protect			
Military Strategic	H	H	L	H	L	L	M	H
Operational (Domestic)	H	H	M	M	M	M	M	M
Operational (Int'l)	M	M	L	L	L	M	L	M
Tactical	M	M	M	M	M	M	M	H

Table 1 – CF Level Capability Goals Matrix

Source: Department of National Defence, *Capability Outlook 2002 – 2012* (Ottawa: DND Canada, 2002), 4

From this top-level matrix, a separate, and more detailed, matrix for each of the five capability areas is derived. The complete set of Capability Goals Matrices for the current planning period is contained in *Capability Outlook 2002-2012*.³⁵ This document provides a ten-year projection of the gaps, trends and priorities for each of the five capability programs and serves to guide capability development and the efforts of the environmental requirements staffs.

As part of the business planning process, the total voted Defence Budget is allocated across each of the business lines.³⁶ This provides a comprehensive view of the total planned estimates for each capability program and more clearly supports business plan execution. The total Defence Budget, distributed by capability program is shown in Figure 2.

³⁵ Department of National Defence, *Capability Outlook 2002 – 2012...*, 7-26

³⁶ “Business planning is how Defence program objectives are organized and resources are prioritized and allocated. The annual corporate business plan is presented to Parliament as the Report on Plans and Priorities (RPP). Individual Level 1s develop business plans aligned with the annual corporate plan as part of the business planning cycle.” (Department of National Defence, “Business Planning Overview,” available at http://www.vcds.forces.gc.ca/dgsp/pubs/dp_m/bus-plan/bus-plan_e.asp; Internet; accessed 25 Apr 04.)

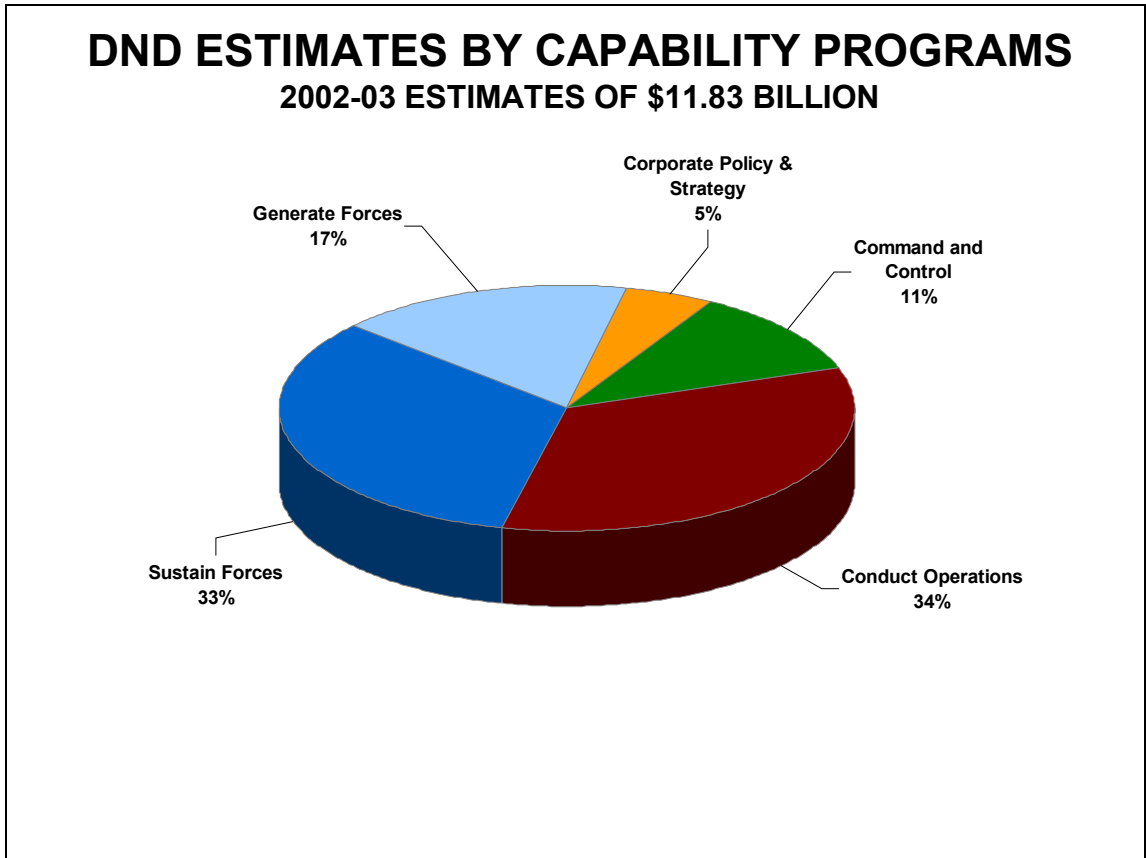


Figure 2 - DND Estimates by Capability Programs.

SOURCE: Department of National Defence, *Making Sense out of Dollars – 2002/2003 Edition* (Ottawa: DND Canada, June 2003), 42.

The Functional Components of Capability (PRICIE)

The capability programs provide a broad descriptor for the separate business lines that combine to form the overall DSP. They do not, however, provide sufficient fidelity to support the development of detailed plans. To address this issue and “to provide a standard way of planning the functional components of capability, DGSP [Director General Strategic Plans] has developed a set of six groupings”³⁷ described by the acronym PRICIE, meaning **P**ersonnel, **R**esearch and Development / Operational Research, **I**nfrastructure and Organisation, **C**oncepts, **D**octrine and **C**ollective Training,

Information Technology Infrastructure, and Equipment, Supplies and Services.³⁸

PRICIE and its applicability to capability development will be discussed further in Part III.

While Capability Based Planning was maturing, “Long Term Capital/Capability Plans were not explicitly linked together and it was arguable whether they were truly strategic in their orientation.”³⁹ The vehicle that would aim to satisfy the requirement to synchronize the effects of subsequent LTCPs was introduced in November 2003 as the *Strategic Capability Investment Plan*.

The Strategic Capability Investment Plan

The SCIP is a significant step in consolidating the top-down approach championed by CBP and makes possible the changes to the capital approval process proposed by the Minister’s Advisory Committee.⁴⁰ These proposed changes will be discussed later in this section. The development of the SCIP was based on a Treasury Board report that recommended the Long Term Capital Plan (LTCP) transition to a strategic investment plan to provide for the “assessment, planning, and prioritization, of all sound investment, re-investment and divestiture options for the department’s capital

³⁷ Department of National Defence, *Capability Based Planning ...*, Article 5.2.

³⁸ *Ibid.*, Chapter 5.

³⁹ Department of National Defence, *Strategic Capability Investment Plan, Issue 1... 2*.

⁴⁰ “The Minister appointed his Advisory Committee on Administrative Efficiency to contribute to his efforts to find \$200 million in internal savings to reallocate from lower to higher priorities within the defence program. The Committee was composed of four experts with experience in private and public sector administration, management, and restructuring, including a former Vice Chief of the Defence Staff.” (Department of National Defence, “Achieving Administrative Efficiency,” available at http://www.forces.gc.ca/site/Focus/AE/indexAE_e.htm; Internet; accessed 25 Apr 04.)

base.”⁴¹ As the SCIP matures, it will likely replace the LTCP and provide a clear linkage “between Capital and National Procurement and cross impacts on ... people and infrastructure.”⁴² While it does not yet replace the LTCP, it is poised to do so, and like the LTCP, the “aim of the Strategic Capability Investment Plan is to set out the departmental high-level plan for investment in defence capabilities for the next fifteen years.”⁴³ The funds allotted to the Capital Program, from the Department’s annual budget are distributed across the Capability areas as shown in Table 2.

DND Capital Spending, 2002-2003 Estimates

Capability Area	Estimate (\$M)
Command and Control	257.1
Conduct Operations	1,029.3
Sustain Forces	107.2
Generate Forces	562.0
Corporate Policy and Strategy	235.8
Total	2,191.4

Table 2 – DND Capital Spending 2002-2003 Estimates.

Source: Department of National Defence, *Making Sense out of Dollars – 2002/2003 Edition ...*, 53.

The Capital Program

Regardless of the amount available for capital acquisition, wise and prudent stewardship of this limited cash resource is always essential. Although it may eventually transition to the SCIP, the basic tool that enables the Capital Program to be managed

⁴¹ Ibid., 6.

⁴² Ibid., 7.

⁴³ Ibid., 1.

continues to be the LTCP. It is the vehicle “through which individual project approvals will routinely be sought.”⁴⁴ At any given time, there will be several projects in various stages of approval, thus requiring effective program coordination and management. The task of coordinating the LTCP and of ensuring these various projects progress, as they should, routinely falls within the tasks of the requirements staff.⁴⁵

While the DSP includes the full spectrum of all departmentally approved activities and projects, the Capital Program is “dedicated to the long-term sustainment of defence capabilities.”⁴⁶ The Capital Program includes Capital Equipment, Capital Construction, Miscellaneous Requirements (MR), and Other Capital. Other Capital does not contribute directly to capability development; thus it will not be discussed further. However, the management and coordination of Capital Equipment, Capital Construction and Miscellaneous Requirements are central to the activities of a requirements staff. Therefore a more detailed look at these three components is required to support further discussion of a DCDS Joint Requirements capability.

- **Capital Equipment.** Strategic and Non-strategic Capital equipment projects are funded from a corporate account entrusted to Assistant Deputy Minister Materiel (ADM (Mat)) as the Departmental custodian. Unless specifically designated otherwise by Program Management Board (PMB), for reasons of risk or importance, Strategic Capital involves equipment projects having individual values of \$100M or more and Non-Strategic Capital are those equipment projects

⁴⁴ Department of National Defence, *Defence Management System Manual...*, Article 6.0.1.

⁴⁵ Department of National Defence, “Major Deliverables – Director of Land Requirements” available at <http://armyonline.kingston.mil.ca/CLS/D16574.asp>; DIN; accessed 12 Mar 04.

having an individual value greater than \$3M and less than \$100M. The sponsoring Level 1 Manager is responsible for planning, scheduling, approving and providing oversight to Non-strategic Capital projects.⁴⁷ While the project sponsor retains the responsibility to ensure that the requirement, as set out in the Statement of Operational Requirement, is being met, once a project moves into the implementation phase, project management activities are normally assumed by ADM (Mat).⁴⁸

- **Capital Construction.** Capital Construction includes construction projects, capital leases and recapitalization of existing assets and are either Level 1 Manager funded projects, or centrally funded projects. Centrally funded projects fall under the auspices of Assistant Deputy Minister (Infrastructure and Environment) (ADM (IE)), while each Level 1 Manager is responsible for the management of all other construction projects in their portfolio. With respect to Business Planning, Level 1 Managers must include a five-year capital construction program with their annual plan. This program is then incorporated into the Long Term Capital Plan (Construction) (LTCP(C)).⁴⁹

⁴⁶ Department of National Defence, *Defence Management System Manual...*, Article 6.0.1.

⁴⁷ “Level 1 Managers (also called Level 1 Advisors) are those senior managers who have direct accountability to the DM or Assoc DM /CDS and for whom the DM or Assoc DM /CDS exercise full authority to assign and adjust tasks, goals and resources. These managers in turn have Level 1 delegated financial signing authority as outlined in the Delegation of Authorities for Financial Administration.” (Department of National Defence, “Senior Manger Structure” available at http://www.vcds.forces.gc.ca/DPOnline/SeniorManager_e.asp?SelectedDPMMenu=5; accessed 25 May 04.)

⁴⁸ Department of National Defence, *Defence Management System Manual...*, Chapter 6, Part 1.

⁴⁹ *Ibid.*, Chapter 6, Part 2.

- **Miscellaneous Requirements.** MRs are those projects where the total project value does not exceed \$3M for one-time acquisition of new equipment, materiel and/or services or when the recurring acquisition of replacement equipment and materiel of an individual item does not exceed \$1M. MR projects are identified, scheduled, funded and approved by the sponsoring Level One Manager. Once expenditure authority has been granted, Level 1 Managers implement their MR projects in accordance with Government of Canada/PWGSC contracting regulations.⁵⁰

The overall DCDS Group capability with respect to these three components of the Capital Program is seriously deficient. For example, despite a LTCP that involves oversight of some thirty-five projects, with an estimated total program value in excess of \$2.3 billion, there is no organised capacity to manage the equipment or construction components. MR funds have been devolved to Business Plan Level 2 and 3 organisations and MR program management is exercised by DCDS Group Management Services.⁵¹ How this deficiency can be resolved through the creation of a Joint Requirements Staff is an issue that will be discussed in detail in Part IV.

Guiding Committees

To assist project sponsors in guiding their projects through to fruition, and to ensure that a project's aim remains in accord with long term departmental strategies, there are three senior committees that provide review and oversight, at various times,

⁵⁰ Ibid., Chapter 6, Part 3.

⁵¹ Major R Wylie (DGJFD LTCP Coordinator), discussion with author, 8 Apr 04.

throughout a project's life span. These committees are the Defence Management Committee, the Program Management Board, and the Joint Capabilities Requirements Board.

- **Defence Management Committee (DMC).** The role of DMC is to provide direction and policy on the broad spectrum of issues at the military strategic level. The deliberations of this body enable the CDS and DM to provide advice to, and coordinate decisions with, the Minister of National Defence. With respect to the Capital Program, DMC is an on-call organization. It generally operates in the two to four year window and will normally review only those projects that are identified as having strategic significance. DMC is co-chaired by the CDS and DM.⁵²
- **Program Management Board (PMB).** The PMB supports the Vice Chief of Defence Staff by providing in-year resource management oversight and direction at the project and activity level of the DSP. Of the three review bodies, it is only PMB that makes recommendations to the MND for financial approval of projects or activities. PMB is chaired by the VCDS.⁵³
- **Joint Capabilities Requirement Board (JCRB).** The JCRB is a relatively new committee that was established to review major projects with a view to providing direction, and a means of coordinating the environmental capital-acquisition

⁵² Department of National Defence, "The Defence Management Committee" available at http://www.vcds.forces.gc.ca/dgsp/pubs/commit/dmc_e.asp; Internet; accessed 2 Mar 04.

⁵³ Department of National Defence, "The Program Management Board" available at http://www.vcds.forces.gc.ca/dgsp/pubs/commit/pmb_e.asp; Internet; accessed 2 Mar 04.

programs with the LTCP and Capability Based Plans. The JCRB is also responsible to maintain the SCIP. The official mandate of the JCRB is, “For strategic projects, JCRB routinely develops a joint understanding of Concepts of Employment/Operations, debates and reaches consensus for Statements of Operational Requirement, and resolves issues of project scope at the corporate level.”⁵⁴ The creation of the JCRB represents a major step forward in establishing a more joint approach to program management and capability development and is a critical component of the Capability Based Planning process.⁵⁵

The Capital Project Approvals Process

A key role of the requirements staff is to shepherd projects through the Capital Projects Approvals Process. The current process is based on the four Project management Phases described in the DMS Manual. Within the parameters of CPB, should a capability deficiency be identified, the first positive step in the process of rectifying the situation, is to articulate the deficiency that is to be addressed and for the sponsoring Level 1 Manager to present a statement of capability deficiency to JCRB. If it meets the necessary criteria, it will be registered on the DSP as a project and incorporated into the LTCP / SCIP. The sponsoring Level 1 Manager provides the resources to begin the project’s journey toward an in-service date. To support this journey, and to provide for effective project management, projects are divided into clearly identifiable phases –

⁵⁴ Canada, Department of National Defence, “The Joint Capability Requirement Board” available at http://www.vcds.forces.gc.ca/dgsp/pubs/commit/jcrb_e.asp#mand; Internet; accessed 2 Mar 04.

⁵⁵ Ibid.

Identification, Options Analysis, Definition, and Implementation.⁵⁶ The transition from one phase to the next is effected by the approval of a decision document. A graphic description of the phases is shown in Figure 3.

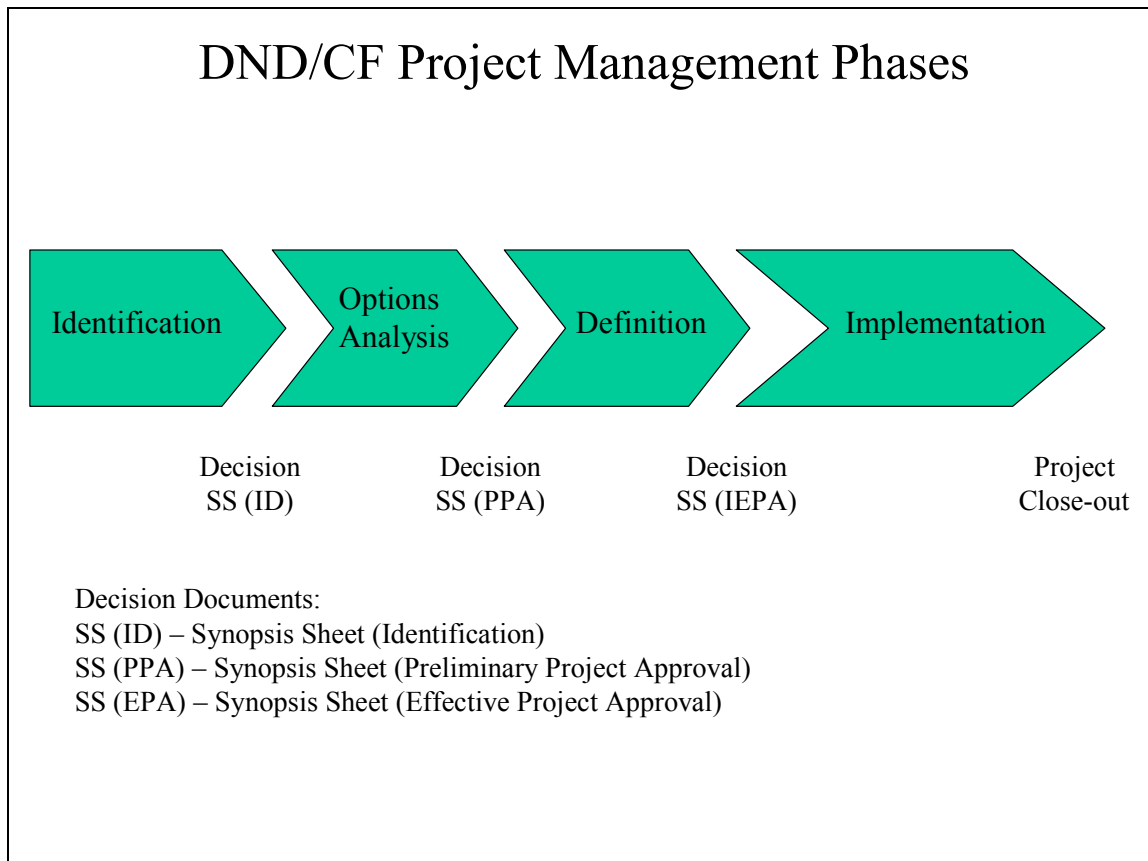


Figure 3 - DND/CF Project Management Phases.

SOURCE: Department of National Defence, A-AD-125-000/FP-001 *Defence Management System Manual ...*, 7-3.

The Project Management phases deal strictly with bringing a capability into service and do not include two other phases often found in allied process – in-service management and disposal. Even though these are not an integral part of the DMS project management phases, a thorough understanding of Life-cycle management becomes a

⁵⁶ Department of National Defence, *Defence Management System Manual...*, Article 7.1.2.

critical input to the project definition phase. Failure to consider the capability requirements through to its eventual disposal will likely result in unforecast costs and may reduce the potential in-service time.

Figure 4, developed from the DMS Manual by the Minister’s Advisory Committee, shows an alternate view of the existing process. In their report, the Minister’s Advisory Committee described the existing process as “often slow, resource intensive and characterised by a ‘one size fits all’ approach.”⁵⁷

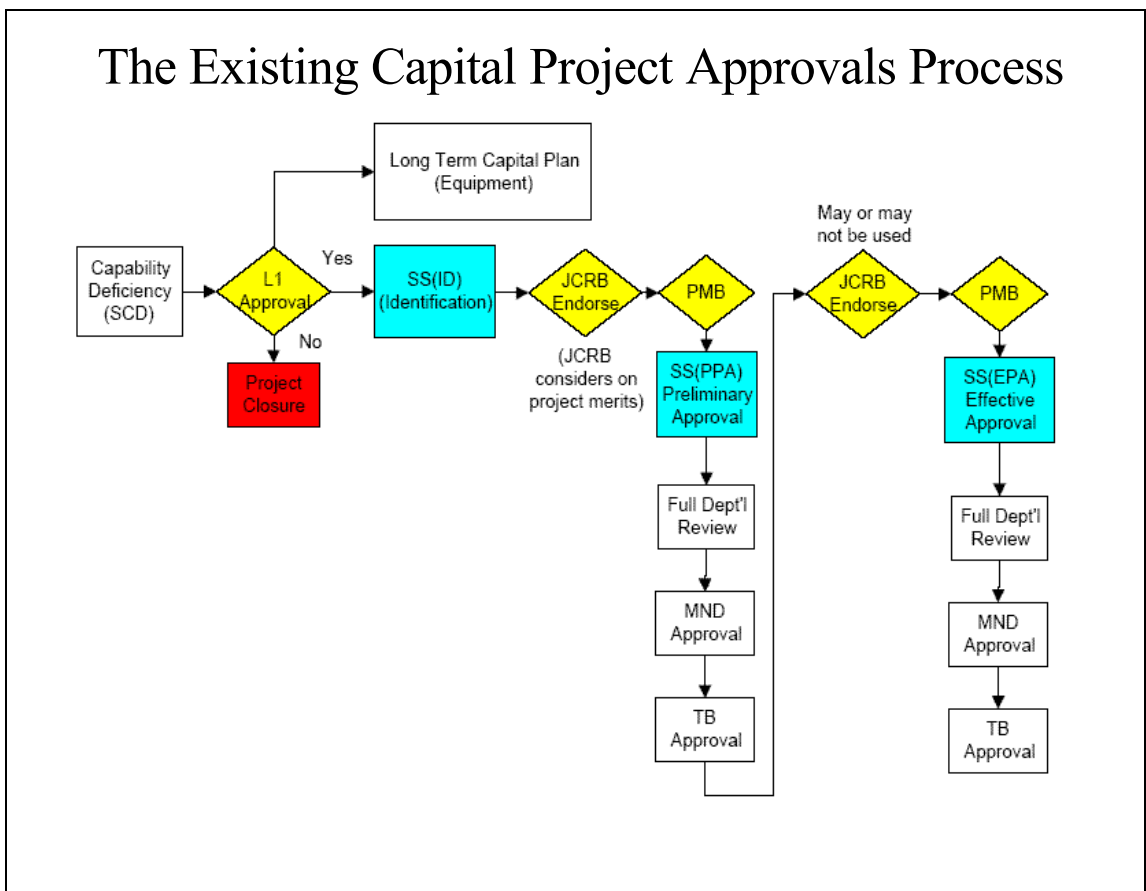


Figure 4 - The Existing Capital Approvals Process.

SOURCE: Department of National Defence, *Achieving Administrative Efficiency ...*, 119.

⁵⁷ Department of National Defence, *Achieving Administrative Efficiency...*, 119.

In general terms, the observation made by Minister's Advisory Committee is correct. The current process can be an unpredictably slow and frustrating process for the requirements staff, especially when they are trying to match the in-service date of one capability with the out-service date of another. However the process is not totally inflexible. In fact when the requirement is clear and a ready-made, low-risk solution is at hand, the process allows for the project to seek a waiver of the Synopsis Sheet Preliminary Project Approval (SS (PPA)) and proceed directly to effective approval.⁵⁸ The flexibility of the DMS process was well demonstrated by the Light Armoured Vehicle (LAV) III project that was authorised to proceed with a directed buy of a new fleet of armoured personnel carriers.⁵⁹

The Minister's Advisory Committee proposed a revised Capital Projects Approval Process that would bring it in-line with CBP and the SCIP. Shown in Figure 5, is the proposed process that, if adopted, could improve both the efficiency and effectiveness of the requirements staff by reducing the time expended to take a project from conception to delivery and by providing a regular review process that allows staffs to focus their efforts on projects deemed valid and in accordance with strategic plans and priorities.

⁵⁸ Department of National Defence, *Defence Management System Manual...*, Article 7.2.33.

⁵⁹ Major J. Craig Stone, "An Examination of the Armoured Personnel Carrier Replacement Project", *Canadian Military Journal* 2, no. 2 (Summer 2001): 62.

The Proposed Capital Project Approvals Process

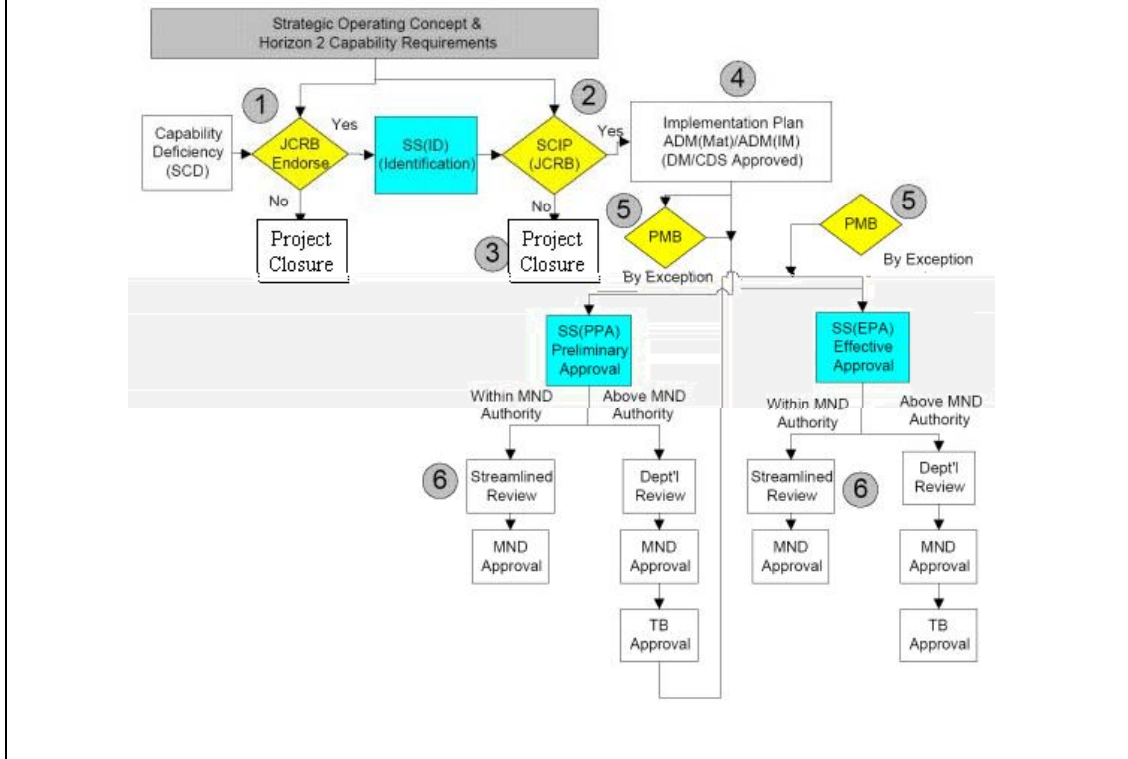


Figure 5 - The Proposed Capital Project Approvals Process.

SOURCE: Department of National Defence, *Achieving Administrative Efficiency...*, 119.

As the proposed and current processes are significantly different, the following notes are provided to assist in a clear understanding of the proposal. The paragraph numbers correspond to the circled numbers in Figure 5.

- (1) In the proposed process, a Statement of Capability Deficiency (SCD) would be presented to JCRB for endorsement. This creates an opportunity for early prioritization as well as to identify similar or compatible projects that could either be flagged for detailed coordination, or combined. To ensure that a proposal remains relevant, requirements staffs would be allowed no more than two years to complete the Synopsis Sheet –

Identification (SS (ID)). Approval of the SS (ID) would grant the project a place on the Strategic Capabilities Investment Plan (SCIP).⁶⁰

- (2) Even though a project's SS (ID) has been approved, it must pass through an annual review and requirement validation process to remain on the SCIP.⁶¹
- (3) A project that fails to pass the annual review would be removed from the SCIP and cancelled.⁶²
- (4) Assuming that a project remains on the SCIP, it becomes part of a two-year rolling implementation plan managed by Assistant Deputy Minister (Materiel) and the Assistant Deputy Minister (Information Management). As long as the project continues to pass the annual review it can expect to be funded in accordance with its planned schedule and the LTCP (eventually SCIP). Within two-years of the SS (ID) approval, a project would normally be expected to seek expenditure authority for the Definition Phase through a completed Synopsis Sheet – Preliminary Project Approval (SS (PPA)). Under the proposed timelines, requirements staffs would have no longer than three years of Definition before submitting the Synopsis Sheet – Effective Project Approval (SS (EPA)).⁶³
- (5) With the combination of the JCRB annual review and the rolling implementation plan, PMB would only need to be consulted when a project

⁶⁰ Department of National Defence, *Achieving Administrative Efficiency...*, 120.

⁶¹ *Ibid.*, 121.

⁶² *Ibid.*, 121.

has a significant change in scope, forecasts cost over-runs, or requires changes to its planned cash-flow. Thus, projects going before PMB would be the exception rather than the rule.⁶⁴

- (6) Unlike the current system, only those projects requiring Treasury Board approval would be subject to a full Departmental review. All projects within Ministerial authority would have the benefit of a streamlined approval process.⁶⁵ This, combined with the ADM (Mat) initiative to reduce acquisition time, will bring new capabilities into service in much less time than before.⁶⁶

While the process described above may not be implemented exactly as shown, it addresses many of the issues related to the current Capital Project approvals process, and represents a reasonable and implementable change. The Joint Requirements Staff structure proposed in this paper will be based on the assumption that future joint projects will have to work within the proposed process, or something very similar.

Summary

The aim of Part II was to introduce the framework within which a Joint Requirements Staff would have to function. The interrelationships between the DSP, the DMS and the Capital Program are complex and constantly evolving. For example,

⁶³ Ibid., 121.

⁶⁴ Ibid., 122.

⁶⁵ Ibid., 122.

⁶⁶ Patricia Stewart, *Reducing Capital Acquisition Cycle Time*. Ottawa: 2nd Annual DND Project Management Seminar 2002, September 2002.

between 1998 and 2003 the DMS replaced the DPMS, the *Joint Task List* and *Force Planning Scenarios* were developed and defence planning has shifted from commitment-based to capability-based. Based on the recommendations of the Minister's Advisory Group, the capital projects approvals process may also undergo significant change in the near future. To maintain currency with the nuances of this dynamic program requires constant study and practice. In addition, each Level 1 Manager is responsible to sponsor and provide direction for all equipment and construction projects in direct support of their Defence Plan objectives. Therefore, to depend on a part-time requirements function for anything but the smallest of capital portfolios, is to risk failure in achieving assigned objectives. In addition to capital projects, a Level 1 Manager must ensure that the MR funds, allocated as part of his annual operating budget, are efficiently and effectively managed.

The limited amount of the overall defence budget that is allocated to capital acquisition demands wise and prudent stewardship to ensure its effective use in pursuing new capability initiatives. Whether or not LTCP and MR management responsibility is discharged through a dedicated and capable requirements staff, is a decision that each Level 1 Manager must make based on the size and complexity of their particular portfolio.

Part III – Capability Development and the Business of Military Requirements

The CF defines capability as “a function of the ability of a force to preplan a mission and its capacity to do so. It is generally a function of force structure (organization and equipment) plus training and logistic support.”⁶⁷

This section will discuss Capability Development and the business of military requirements. It will begin by introducing the Chief of Land Staff’s (CLS) Capability development process as a potential model for Joint Capability Development, followed by a more detailed discussion of the functional components of capability (PRICIE) introduced in Part II. An overview of the business of military requirements, based on the example of similar staffs within the three ECS organisations, will serve as a lead in to a conceptual role, characteristics and structure of a Joint Requirements Staff. A general analysis of the ECS structures will allow for the identification of capability gaps in the current DCDS Group, supporting the development of a structure for a Joint Requirements Staff.

Capability Development

As part of his transformation plan, CLS has introduced a Capability Development Process that is based on the four pillars of Conceive, Design, Build, and Manage as shown in Figure 6. While Capability Development covers all four pillars, the activities of the requirements staff are generally associated with the Design, Build and Manage pillars.

⁶⁷ Department of National Defence, “Defence Plan Online - Lexicon” available at http://www.vcds.forces.gc.ca/DPOnline/Lexicon/Intro_e.asp?sltr=C; Internet; accessed 26 May 04.

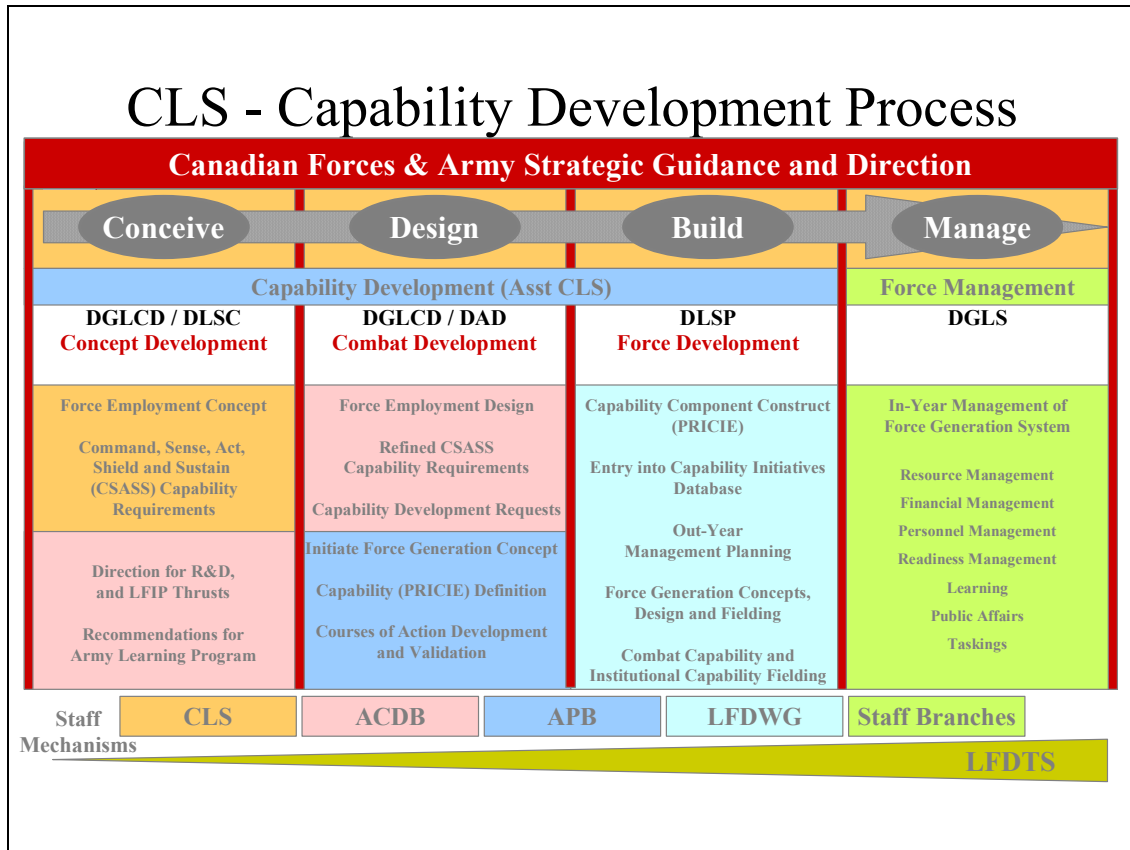


Figure 6 - CLS Capability Development Process.

SOURCE: Colonel Fred Lewis, *Directorate of Army Doctrine*, Presentation to Canadian Forces College, 15 Sep 03. (with permission)

By incorporating PRICIE in both the Design and Build pillars, the CLS process is clearly integrated with CBP. The overall process provides a formal and coordinated link between doctrine, the acquisition process and in-service management. In addition, this process provides a workable model for a conceptual Joint Capability Development process and the framework within which a Joint Requirements Staff would function.

The Functional Components of Capability (PRICIE).

The functional components of capability and the PRICIE acronym were introduced in Part II. While every capability program will have elements of all functional

components, their interrelationship will vary between different programs and with the environment in which the capability program is being developed. “For example, developing conduct operational [sic] capabilities for employment in land environments will frequently require a greater emphasis on the personnel component than would be the case for conduct operations capabilities in the air or at sea.”⁶⁸ Furthermore, most functional components are interrelated.

PRICIE provides a simple and accepted framework against which to assess the DCDS structure, and identify capability gaps with respect to a Joint Requirements capability. However, to facilitate the upcoming analysis in Part IV, it is necessary to provide a slightly expanded description of PRICIE.

- **Personnel (P).** Personnel, involves “human resources – recruiting, training, and retaining the military and civilian personnel required to complement the CF’s force structure and accomplish assigned missions and tasks.”⁶⁹ The training mentioned here is individual training; the “C” component addresses collective training. From a requirements perspective there is no direct involvement in this component. However, as new capabilities may demand changes to individual skill requirements, an understanding of the processes and contacts within the involved agencies are essential.
- **Research & Development/Operational Research (R).** Research & Development “endeavours to increase knowledge of natural phenomena, the

⁶⁸ Department of National Defence, *Capability Based Planning ...*, Article 5.1.

⁶⁹ *Ibid.*, Article 5.2.1.

environment and technological processes.”⁷⁰ Operational Research (OR) is “the scientific field concerned with the collation of information, the transformation of information into knowledge, and the provision of knowledge to decision-makers.”⁷¹ R&D is particularly important in the early stages of capability development whereas OR can provide requirements staffs with valuable knowledge of how various options might perform in a particular scenario, thus reducing risk in the early stages of a project. To effectively perform their duties, requirements personnel require access to both R&D and OR capabilities.

- **Infrastructure & Organisation (I).** At first blush the relationship between infrastructure and organisation may not be obvious. However a new organisation’s size and composition, although a product of the capability development process, directly affects its infrastructure requirement. While overall responsibility for the CF Infrastructure program falls to ADM (IE), requirements staff must be capable of integrating organisational design with an appropriate infrastructure solution and of enfiE)nf

authoritative, but requires judgement in application.”⁷² Peter Kasurak, in his book *Legislative Audit for National Defence*, writes “Well thought-out doctrine is essential so that all the pieces of a combat system, like a brigade group, function together.”⁷³ Collective training involves developing the ability of units and formations to generate combat power. Lessons learned in training may drive changes or modifications to equipment and structures. Requirements staffs that maintain close contact with the concepts, doctrine, training and lessons learned organisations will be in a better position to incorporate these issues into the Capability Development Process.

- **Information Technology Infrastructure (I).** “Information Technology Infrastructure ... orchestrates ... the computing, communication and information systems critical to the rapid development and dissemination of knowledge.”⁷⁴ This area is of particular interest to requirements staffs, who must keep abreast of emerging technologies be able to leverage their effects. Conversely, it is dangerous for requirements staffs to be overly dependent on technology and therefore believe “that an edge in technology itself is enough.”⁷⁵ Ensuring, through technical training, that requirements officers have a solid understanding of the relationship between technologies and the fielding of a military capability can mitigate the risk of this situation arising.

⁷² Department of National Defence, *Canadian Forces Operations...*, GL-E-4.

⁷³ Peter. Kasurak, *Legislative Audit for National Defence: The Canadian Experience*. (Kingston: Queens University, 2003), 28.

⁷⁴ Department of National Defence, *Capability Based Planning ...*, Article 5.2.5.

⁷⁵ Elinor C. Sloan, *The Revolution in Military Affairs: Implications for Canada and NATO*. (Montreal and Kingston: McGill-Queens’s University Press, 2002), 30.

- **Equipment, Supplies & Services (E).** The equipment portion involves “furnishing and maintaining the non-expendable items needed to outfit an individual or organisation to accomplish assigned missions or tasks.”⁷⁶ While this aspect is the bread and butter of the equipment requirements officer, in terms of projects, MR and Unforecast Operational Requirements (UOR), the issues of expendable national procurement type items must not be neglected as a capability is developed. In addition there is a requirement to ensure that in-service, deployable fleets are effectively managed.

The Business of Military Requirements

The business of military requirements is a key element of Capability Development and plays a significant role in the building and managing of capabilities. Success in this business is achieved when a newly fielded capability incorporates a properly integrated blend of the six functional components of capability (PRICIE). Integration of these components into an effective capability requires time, money and the efforts of a well trained and experienced requirements staff. Most often, new capabilities are brought into being under the umbrella of a project. The Project Management Institute (PMI) defines a project as “a temporary endeavour undertaken to create a unique product or service.”⁷⁷ Throughout its life, a project passes through a number of steps, or phases. The indicator that a project is ready to move from one phase to the next is the completion

⁷⁶ Department of National Defence, *Capability Based Planning ...*, Article 5.2.6.

⁷⁷ Project Management Institute. *A Guide to the Project Management Body of Knowledge*. (Newtown Square, USA, 2000), 4.

of a particular set of clearly definable deliverables. These deliverables are used as the foundation for the subsequent phase.⁷⁸

It is absolutely critical to ensure a proper match between the stated requirement and the technology that will enable the user to perform the doctrinal function. Since equipment and “weapon systems tend to stay in the inventory for a long time – more than 30 years is no longer exceptional for aircraft, ships and land vehicles,”⁷⁹ troops will often have to live with an improper match for most of their careers. The close relationship between doctrine, structure and equipment is another important factor in developing a requirements organisation. On this issue, Commander R.K. Taylor wrote that “doctrine ... evolves in response to changes in the political or strategic background or as a result of technology, and finally that it influences the way in which ... forces are organised and trained and equipment procured.”⁸⁰ This is of particular importance to requirements staffs, as failing to respect this critical interrelationship can result in an innovative capability being misemployed and subsequently failing. Such was the case with the *mitrailleuse* and its introduction to the French Army in 1869. Despite the fact that it was accurate to 500 metres, with a 300 round per minute rate of fire and designed for the infantry, it was heavy and therefore fitted with an artillery-style carriage. As it resembled an artillery piece, it was allocated to the artillery, who employed it in accordance with their traditional doctrine. Consequently the *mitrailleuse* had little impact on the outcome

⁷⁸ Ibid., 11.

⁷⁹ Peter. Kasurak, *Legislative Audit for National Defence: The Canadian Experience*. (Kingston: Queens University, 2003), 25.

⁸⁰ C

of the Franco-Prussian war. “Had the innovation not been aborted by the failure to adapt organizationally, it might have averted the disastrous French defeat.”⁸¹

This anecdote demonstrates the importance of a close working relationship between all those involved in Capability Development, including the Research and Development, Doctrine, Training and Requirements staffs. Because the requirements staff are generally associated with the Design, Build and Manage pillars of the Capability Development model, they become key enablers to the whole process. Without a requirements staff, Capability Development is an almost impossible task.

The Requirements Staff.

To permit the ECS to execute their requirements responsibilities with respect to Capability Development and the Capital Program, each have a dedicated requirements staff. They all have similar mandates that involve the acquisition and management of equipment and systems that contribute to the sustainment of a multi-purpose combat capable force.⁸² These environmental requirements staffs are directly responsible for the Identification, Options Analysis and Definition phases of a project (Figure 3). While ADM (Mat) is responsible to manage the Implementation phase, the requirements staff retain the project direction responsibilities.

While organisational structures of the individual requirements staffs vary slightly and are usually organised along capability or functional lines, their common role is to guide their projects through the DMS until the new equipment or capability is delivered

⁸¹ Edward Luttwak, *Strategy : the Logic of War and Peace*. (Cambridge, Mass: Belknap Press of Harvard University Press, 2001), 100.

and brought into service. The CMS and CAS requirements staffs are generally organised along capability lines. For example the Director Air Requirements (DAR) has sections assigned to the Transport and SAR, Maritime Air, Air Surveillance and Communication, Fighters, Trainers, and Electronic Warfare, as well as Modelling and Simulation capabilities.⁸³ Whereas the Director Land Requirements (DLR) is primarily organised along functional lines, with sections representing the combat arms, combat-support arms and combat service-support as well as separate project offices for certain requirements such a *Clothe the Soldier*.⁸⁴ Whether the requirements staff is organised functionally or by capability, the most important aspect is that the structure and staffing must support their Defence Plan assigned responsibilities. They must not only be able to accomplish the work required to develop and manage their particular capabilities, but they must also be able to address their corporate responsibilities in terms of the DMS. The management of in-service capabilities, combined with the corporate responsibilities establishes a baseline workload. However the total workload is directly proportional to the number and complexity of projects that are being managed in any given timeframe. This variable workload is catered for through a system of temporary, project-funded positions, called Project Management Personnel Resource (PMPRs)⁸⁵, thus allowing for a smaller permanent staff. Regardless of the size of the requirements organisation, as soon as there

⁸² Department of National Defence, *Air Staff Standing Orders*. (Ottawa: DND Canada, 2002), 35.

⁸³ *Ibid.*, 35.

⁸⁴ Maj A. Jensen, *DLR Organisation and Role*. Generic Information Presentation, 9 September 2003.

⁸⁵ Department of National Defence, *Defence Management System Manual...*, 7G-1.

is more than one project in progress, a program⁸⁶ exists and the potential for schedule and resource conflicts arises. To mitigate this potential problem and to ensure smooth progress through the approvals process, each of the ECS staffs employ a requirements coordination function that, among other tasks, performs the role of the Group's Capital Program manager. This position can also provide for centralised management of the MR program; such is the case in DLR.⁸⁷

Although each ECS has a dedicated requirements staff tailored to support their particular Capability Development programs and Force Generation responsibilities, the DCDS does not. The DCDS is accountable for joint Capability Development and Force Generation but does not have the benefit of a requirements staff to support these responsibilities.

To prevent the eventual erosion of newly created joint capabilities, such as the JOG and JSG, it is essential that a full-time Joint Requirements Staff be established as soon as possible. In general terms, a Joint Requirements Staff would require a similar role and structure to its counterparts within the ECS organisations. Based on the key observations made in the preceding parts of this paper, the ideal Joint Requirements Staff should possess the capabilities and characteristics listed in Table 3.

⁸⁶ A program is defined as “a group of related projects managed in a coordinated way.”(Project Management Institute. *A Guide to the Project Management Body of Knowledge...*, 204).

⁸⁷ Department of National Defence, *CLS Provisional Work Description – DLR Programme and Resource Coordination* (NDHQ: 03 Oct 02).

The Ideal Requirements Staff

	Program Area	
	Equipment	Constru

Requirements Staff would function and by conducting a more detailed analysis of the functional components of capability (PRICIE), the generic capabilities and characteristics of a requirements staff began to emerge. These generic concepts were coupled with the known roles and structures of the requirements staffs within the three ECS organisations; then organised within the three major components of the Capital Program (Equipment, Construction and MR projects) to form the baseline list of capabilities and characteristics that will be used to support the development of the structure for the Joint Requirements Staff.

Part IV – The Joint Requirements Staff

“Canadian Forces restructuring over the past years has left the DCDS Group with a flat structure and a broad span of control... Defence Tasks and Change Initiatives in Defence Plan 02 assign the DCDS force employment, force generation, force development and corporate responsibilities, at both the operational and strategic levels. Documentation and structure have not kept pace the advancing complexity of the DCDS Group.”⁸⁸

Background

In 1998, the DCDS initiated a major capability development project with the registration of the JHQ Project (G2001); in fact it was the first one of its kind in a very long time. This project had its foundation in the newly published CF (Joint) Doctrine Keystone Manual *CF Operations*. The aim of the JHQ Project was to create a deployable operational-level joint headquarters, thereby eliminating or at least reducing the practice of establishing ad-hoc organizations for contingency operations.⁸⁹ The project was to deliver a capable command and control organization that would serve as the framework for the Task Force Headquarters of the Main Contingency Force (MCF) as described in the *1994 Defence White Paper*.⁹⁰ When established, the JHQ would become responsible to the DCDS and allow the ECS to focus on the generation of the combat components.

“The planning period [Options Analysis Phase] for what is now the Joint Operations Group (JOG) ... consumed three years of considerable effort and no little

⁸⁸ Col S. Christensen, *DCDS Group Command and Administrative Structure Review – Estimate of the Options*. n.d.

⁸⁹ Department of National Defence, *Project Charter DSP 2001, CF Joint Headquarters/Joint Task Force Headquarters* (NDHQ: file 3136-00002001 March 1999).

⁹⁰ Department of National Defence, *1994 Defence White Paper*. Ottawa: Canada Communications Group, 1994, Chapter 6, Objectives.

angst.⁹¹ At times, sheer parochialism or stubborn institutional resistance to the project's aim was so significant that it threatened to cause serious delays.⁹² In fact, at one point, to restore project momentum, the DCDS and the CLS co-addressed the project SRB and made clear their personal commitment to the changes the project was driving.⁹³ By March 2000, the scope of Project G2001 had been expanded to create both the JHQ and the Joint Signal Regiment as part of a new formation to be called the Joint Operations Group (JOG), significantly increasing the challenges facing the small project team.⁹⁴

One of the main challenges for the project arose from the fact that there was not a requirements staff within the DCDS establishment; the full weight of driving the change fell to two officers in the Joint Doctrine cell.⁹⁵ The lesson that an established requirements team would have improved the effort was learned in sufficient time to avoid similar challenges for the National Military Support Capability (NMSC) Project (G0283). This project, registered in the DSP in April 2000⁹⁶, is currently in the process of defining and creating the doctrinal National Support Units that are described in *CF Operations*.⁹⁷ These units, as they are formed, will be incorporated into the JSG. Benefiting from the

⁹¹ Vice-Admiral (ret'd) G.L. Garnett, "The Evolution of the Canadian Approach to Joint and Combined Operations at the Strategic and Operational Level", ...: 6.

⁹² An example of the issues that threatened to delay this project can be found in a 19 Jan 00 memo from the Project Manager of the JHQ Project advising that previous SRB decisions were being questioned and consequently the project was in danger of falling behind schedule. (Maj D.W. Corbett, *CF JHQ Project* (NDHQ: 3136-00002001 (PM), 10 Jan 00)).

⁹³ Department of National Defence, *CF JHQ Project – Record of Discussion for SRB 08* (NDHQ: file 3136-6-00002001, Feb 00), Item I.

⁹⁴ Department of National Defence, *SS (PPA) DSP 00002001 Joint Headquarters Project* (NDHQ: file 3136-00002001, Mar 00).

⁹⁵ Department of National Defence, *CF JHQ Project – Record of Discussion for SRB #7* (NDHQ: file 3136-6-00002001, Dec 99), Item I.

⁹⁶ Department of National Defence, *SS (ID) – National Military Support Capability Project AL-1* (NDHQ: file 3136-6-00000283, Oct 2003), para.8.

JHQ Project experience, when the NMSC Project was established it did so with six full-time positions (similar to PMPRs) that allowed the formation of separate Project Direction and Project Management teams.⁹⁸

In the wake of the terrorist attacks of September 11, 2001, the DCDS assumed the additional responsibility for the three new joint capability development projects. These high-profile projects involved the creation of a new unit called the Canadian Forces Nuclear, Biological and Chemical Defence Company (CF NBCD Coy),⁹⁹ the enhancement of the existing Counter-Terrorism and Special Operations (CTSO) capability¹⁰⁰ as well as adding a domestic response capability to the DART.¹⁰¹ The work of managing and implementing this entire portfolio fell upon the shoulders of the small NMSC Project Management team of four officers and one or two individual staff officers working in other sections of the DCDS Group. Despite the relative success of these projects to date, such an ad-hoc approach to Joint Requirements should not be considered indicative of a desirable structure or method to deal with the long-term effects of an emerging Joint Requirements program.

The move to CBP has brought a top-down focus to Capability Development and for the selection of projects to proceed beyond the identification phase. This is a positive

⁹⁷ Department of National Defence, *Canadian Forces Operations...*, 7-1.

⁹⁸ Department of National Defence, *National Military Support Capability Project Charter...*, 2.6.2.

⁹⁹ Department of National Defence, *SS (PPA) – Nuclear Biological and Chemical Defence Services (Phase I)* (NDHQ: file 300000527, Feb 02).

¹⁰⁰ Department of National Defence, *SS (PPA) – Counter Terrorism and Special Operations Enhancement (Phase I)* (NDHQ: file details classified).

¹⁰¹ Department of National Defence, *SS (PPA) DSP 00000513 DART Enhancement Project*. (NDHQ: file 3136-6-00000513, 13 Jan 03).

step towards improving coordination of the capability development activities of the maritime, land and air requirements staffs. The DCDS Group that was born of the MCCRT was specifically designed to support the deployed, contingency operations aspects of Force Employment. Conversely, it is a well understood fact that the DCDS “Group is not as well organized to function as an effective headquarters: to exercise NDA authority, and to direct and guide routine force development, generation and sustainment activities.”¹⁰² Furthermore, the lack of a Joint Requirements capability has not gone unnoticed. Vice Admiral (Retired) Garnett wrote in the *Canadian Military Journal*, “At present the vast majority of the requirements staff belong to the ECS, while at the same time the development of Joint Requirements falls to the DCDS.”¹⁰³ Later in the same article, he further qualified the problem by stating “Any organisational review [of the DCDS Group] should also examine the area of equipment requirements.”¹⁰⁴

Despite the most recent restructuring efforts, a review of the DCDS Group structure today would show that the DCDS still does not have a dedicated Joint Requirements Staff to promote and coordinate the Capital Equipment and Infrastructure requirements programs. Left unresolved, this deficiency may well lead to a long-term disconnect in the overall force development process and a slow decay of current capabilities. This issue has already raised the concern that “The JOG and the JSG are new capabilities that need to develop after project completion if they are to remain

¹⁰² Col S. Christensen, *DCDS Structure Study – Estimate of the Options*. n.d.

¹⁰³ Vice-Admiral (ret’d) G.L. Garnett, “The Evolution of the Canadian Approach to Joint and Combined Operations at the Strategic and Operational Level”, ...: 8.

¹⁰⁴ Ibid: 8.

relevant.”¹⁰⁵ In terms of the need for a dedicated capability to staff equipment and infrastructure requirements, the size and complexity of the field forces currently assigned to the DCDS as well as the potential for additional units from such projects as the National Military Support Capability, will increase the size of the DCDS Group and its Capital portfolio to where it is comparable to those of the ECS. Consequently, the question arises as to whether or not the DCDS Group should have its own dedicated Joint Requirements Staff, and if so, how should it be organised? Placing the latter question aside for the moment, the monumental structural changes and population growth combined with a significantly broader mandate, leave the DCDS little choice but to take positive action in dealing with the deficiency in his military requirements capacity.

This section will introduce the DCDS structure that came into effect on 1 April 2004, as well as the Capability Development responsibilities assigned to the DCDS. An examination of the overall DCDS structure, with a focus on the Director General Joint Force Development (DGJFD) Division, part of Chief of Staff Joint Force Generation (COS JFG), will serve to reveal the current gaps and deficiencies in the ability of the DCDS Group to participate in the business of military requirements. This analysis will be based on the list of capabilities and characteristics developed in Part III and compared with the findings of the *DCDS Group Command and Administrative Structure Review (Structure Study)*. From this, recommendations will be presented to resolve the situation.

¹⁰⁵ Col S. Christensen. *Gaps and Shortcomings Recap...*, Ser G-10.

The DCDS Group Structure

“The mission of the DCDS Group is to excel in the conduct of contingency operations through Joint Force Planning, Generation, Enhancement and Development.”¹⁰⁶

To enable the DCDS to execute this mission, the group is established with a broad spectrum of capabilities: intelligence planning and analysis; strategic planning and operations control; deployable joint operational-level command, control and communications units; and the ability to plan and execute Counter-Terrorism and Special Operations. In terms of command and control, the DCDS is responsible for two large personnel groupings – the DCDS Group itself and those formations, units and individual personnel currently deployed on Contingency Operations. Normally, the largest group consists of those deployed on Contingency Operations. While this has a wide variance, in the past few years the number has been as high as four thousand. As of April 2004, there were 3,382 CF personnel deployed on fourteen separate missions around the globe.¹⁰⁷ To provide National level command and control to these operations, as well as to run the DCDS Group’s internal operation, there is a full-time permanent organisation (staff and units) of some 2400 military and 350 civilian personnel.¹⁰⁸ The DCDS’s Force Generation responsibilities include deployable Joint Operational-level Command, Control and Communications, Counter-Terrorism and Special Operations, joint Nuclear, Biological and Chemical Defence, Disaster Assistance Response, and deployable National-level (joint) Support.

¹⁰⁶ Department of National Defence, “Deputy Chief of Defence Staff – Mission Statement” available at <http://dcds.mil.ca/default.asp>; DIN; accessed 14 Apr 04.

¹⁰⁷ Department of National Defence, “Current Operations,” available at http://www.forces.gc.ca/site/operations/current_ops_e.asp; Internet; accessed 16 Apr 04.

More recently, and within much the same staff numbers, the DCDS became responsible for Joint Capability Development, as well as for coordination of the operational research program. At the October 2002 DCDS Fall retreat, the DCDS recognised the need for a coordinated approach to the issue of CF “jointness when he, as one of his top four priorities, elected to “champion JOINT [sic] force generation, force development and joint operations.”¹⁰⁹ These additional responsibilities were key factors in the decision to restructure the DCDS Group. In the same timeframe, the DCDS initiated a study called the *Review of the DCDS Group Command and Administrative Structure* that was to “develop an efficient command and administrative structure for the DCDS Group.”¹¹⁰ This study produced a comprehensive list of gaps and shortcomings covering the complete spectrum of command and administration within the DCDS Group. Thirteen items specifically discussed issues related to military requirements and the Capital Program.¹¹¹ The DCDS Group’s structure at the beginning of the study was as shown in Figure 7.

¹⁰⁸ Colonel Steve, Christensen, *Changement au Structure SCEMD...*, 15 Sep 03

¹⁰⁹ MGen J.O.M. Maisonneuve, *Record of Discussion – DCDS Fall Retreat* (NDHQ: file 1180-3, 08 Oct 02.), Item 10.

¹¹⁰ MGen J.O.M. Maisonneuve. *Charter for the Review of the DCDS Group Command and Administrative Structure* (NDHQ: 13 Sep 02.), 1.

¹¹¹ Col S. Christensen. *Gaps and Shortcomings Recap...*, A1-16.

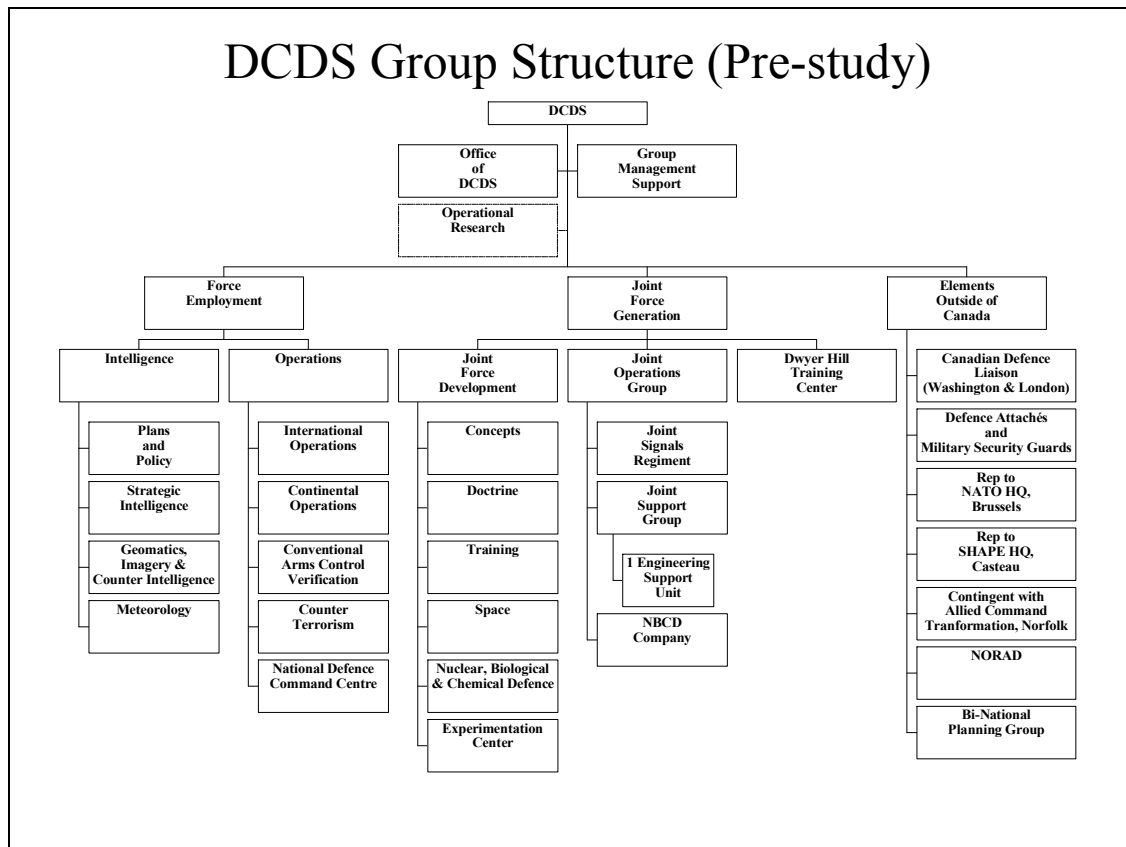


Figure 7 - DCDS Group Structure (Pre-study)

SOURCE: Colonel Steve, Christensen, *Changement au Structure SCEMD...*, 15 Sep 03.

In the analysis phase that followed, several options were developed to address the full spectrum of gaps and shortcomings. From an organisational and ‘unity of command’ perspective the study assessed that “With certain important exceptions, intermediate level commanders are focussed on well defined tasks that fall within the five capability programs and are clearly accountable for the success or failure for those tasks.”¹¹²

Following a thorough review of the estimate by all stakeholders within the DCDS Group, the structure shown below was selected and subsequently implemented on 1 Apr 04.

¹¹² Col S. Christensen. *DCDS Structure Study...*, para 9.

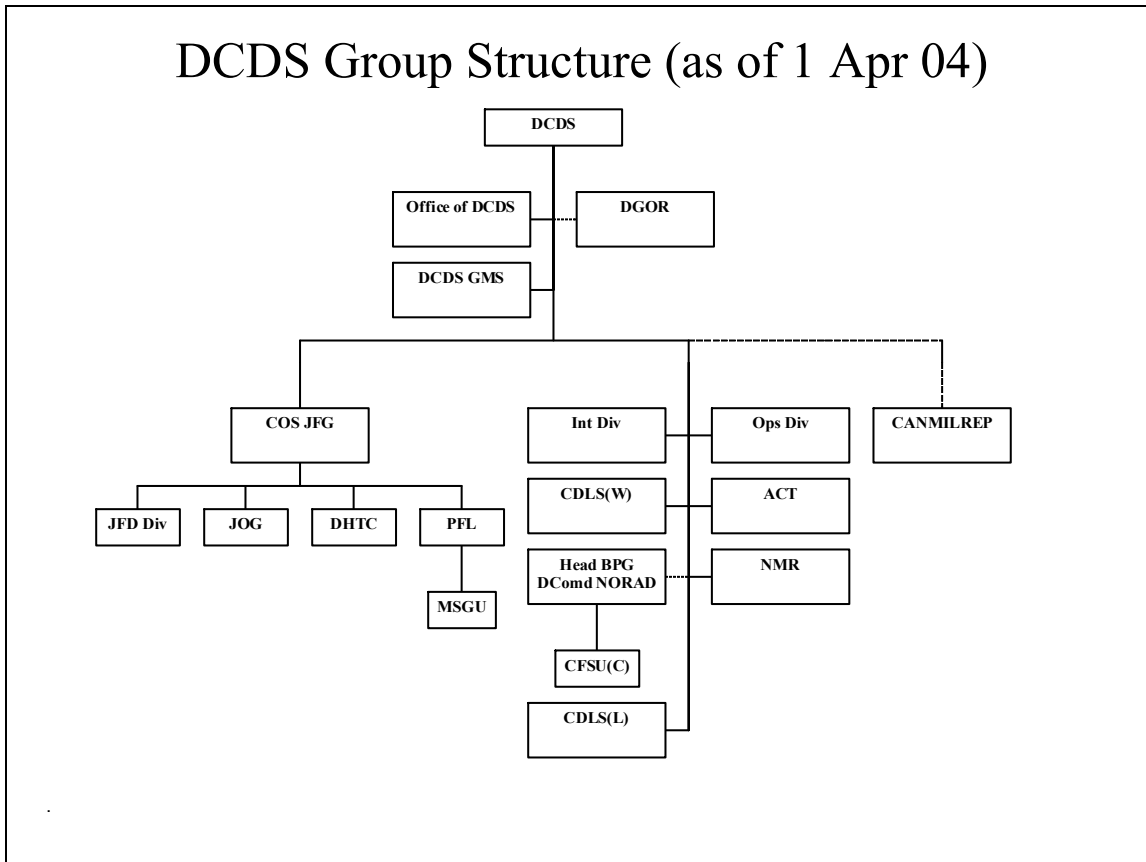


Figure 8 - DCDS Group Structure (as of 1 Apr 04)

SOURCE: Colonel Steve, Christensen, *Changement au Structure...*, 15 Sep 03.

While this restructuring will most likely improve the organisation’s ability to function in most administrative areas, it neither addresses the need to integrate joint concepts and operational requirements into the DSP, nor provides a staff to coordinate DCDS projects and bring new capabilities to fruition. Traditionally the DCDS had been included in the group known as the “Small L1s” – essentially this meant he had a minimal responsibility for Capital Program management. However, this fiscal year (FY 05), the DCDS received, for the first time ever, an allocation of some \$33 million in Non-

strategic capital over and above the existing MR allocation of some \$20 million.¹¹³ This additional allocation adds further substantiation to the requirement for a Joint Requirements Staff who can provide a more “hands-on” approach to the DCDS Capital Program management.¹¹⁴

It has already been established that the business of military requirements is an integral part of capability development. The responsibility for joint capability development, within the COS JFG, has been assigned to the Director General Joint Force Development (DGJFD). One of the exceptions noted in the ‘unity of command’ portion of the *DCDS Structure Study* was with respect to the DGJFD Division, where it was noted that “tasks span the conduct of operations, sustainment, force generation and corporate policy, and where it is not clear where operational and strategic tasks begin and end ...”¹¹⁵ In the revised organisation, “DGJFD will continue to be responsible for the coordination of the DCDS Group Capital Program (less local Vote 5 expenditures).”¹¹⁶ It would therefore be a logical assumption to consider this organisation as a potential home for a Joint Requirements capability. “In organizational terms, DGJFD is a relatively new organization that still needs to mature.”¹¹⁷ However, with a \$2.3 billion LTCP, consisting of some thirty-five projects, a Non-strategic capital budget of some \$33

¹¹³ BGen J.G.J.C Barabé, discussion with author, 20 Apr 04. (The Government’s fiscal year (FY) is the period between 1 April of one year and 31 March of the following year. A particular FY is identified either by both calendar years (FY 04/05), or by the closing year (FY 05).)

¹¹⁴ While these amounts are relatively small in terms of the overall Capital Program, they still demand responsible management and coordination.

¹¹⁵ Col S. Christensen. *DCDS Structure Study ...*, para 9.

¹¹⁶ Col S. Christensen, *JFG Strategy Session* (National Defence Headquarters: file 1948-1 (GMS), 29 September 03), 2.

¹¹⁷ BGen J.G.J.C Barabé, discussion with author, 20 Apr 04.

million plus another \$20 million in the MR program, the much-needed Joint Requirements capability needs to mature quickly.¹¹⁸

A DCDS/DGJFD Joint Requirements Staff

To enable the DCDS to participate effectively in the business of military requirements, a purpose designed Joint Requirements Staff is required. Since the business of military requirements is an integral part of capability development, a DCDS Joint Requirements capability logically falls within the mandate and responsibility of DGJFD. This notion is supported by the Director General Joint Force Development who indicated:

“I want to create a *Director Joint Requirements* organization within DGJFD. I see it as an organization similar to DLR with a Colonel as the Director and perhaps a mix of five to eight military/civilian positions. Currently, the capability development activities within DJFC, DNBCD and D Space D cover the spectrum of Conceive, Design, Build and to some extent Manage; each have their own “program coordination” functions within their requirements cells. The general idea would be allow these organizations to focus on Conceive/Design by consolidating the Build/Manage functions under DJR.”¹¹⁹

There are, of course, some changes that would be required to make this a reality.

In a very general context, any organisation created for this purpose must be able to address all three components of the Capital Program. As of April 2003, there is no organised capacity within the DCDS Group to address any portion of the equipment component. It is essential that an equipment management capability be established. There is also no existing capability to address the management of maintenance to existing

¹¹⁸ Major R Wylie (DGJFD LTCP Coordinator), discussion with author, 8 Apr 04.

¹¹⁹ BGen J.G.J.C Barabé, discussion with author, 20 Apr 04.

reality assets, or the coordination of requirements for new construction projects. It is essential that this complete capability gap be provided with sufficient resources to address the situation. As well, MR funds have been devolved to Business Plan Level 2 and 3 organisations and the MR program management is exercised by DCDS Group Management Services (GMS), an organisation completely separate from DGJFD. MR management is part of the business of military requirements and therefore a logical solution would be to re-assign MR management responsibility, along with the associated human-resource, from GMS to the Joint Requirements Staff. All of these issues would need to be addressed in any new Joint Requirements Staff within DGJFD.

In addition to possessing the capability to manage the Capital Program components there is a need for an overall coordination function to ensure the Equipment, Construction and MR components as well as the remaining corporate responsibilities are integrated into an effective requirements program.

The Joint Force Development Division

An organisation not only needs a home, but it also requires a structure. In terms of organizational systems, *A Guide to the Project Management Body of Knowledge* describes three broad potential structure types, Functional, Matrix, or Projectised.¹²⁰ In general terms, the current DGJFD structure, shown below, most closely resembles the functional approach where the staff has been grouped by their particular speciality.

¹²⁰ Project Management Institute. *A Guide to the Project Management Body of Knowledge*...18.

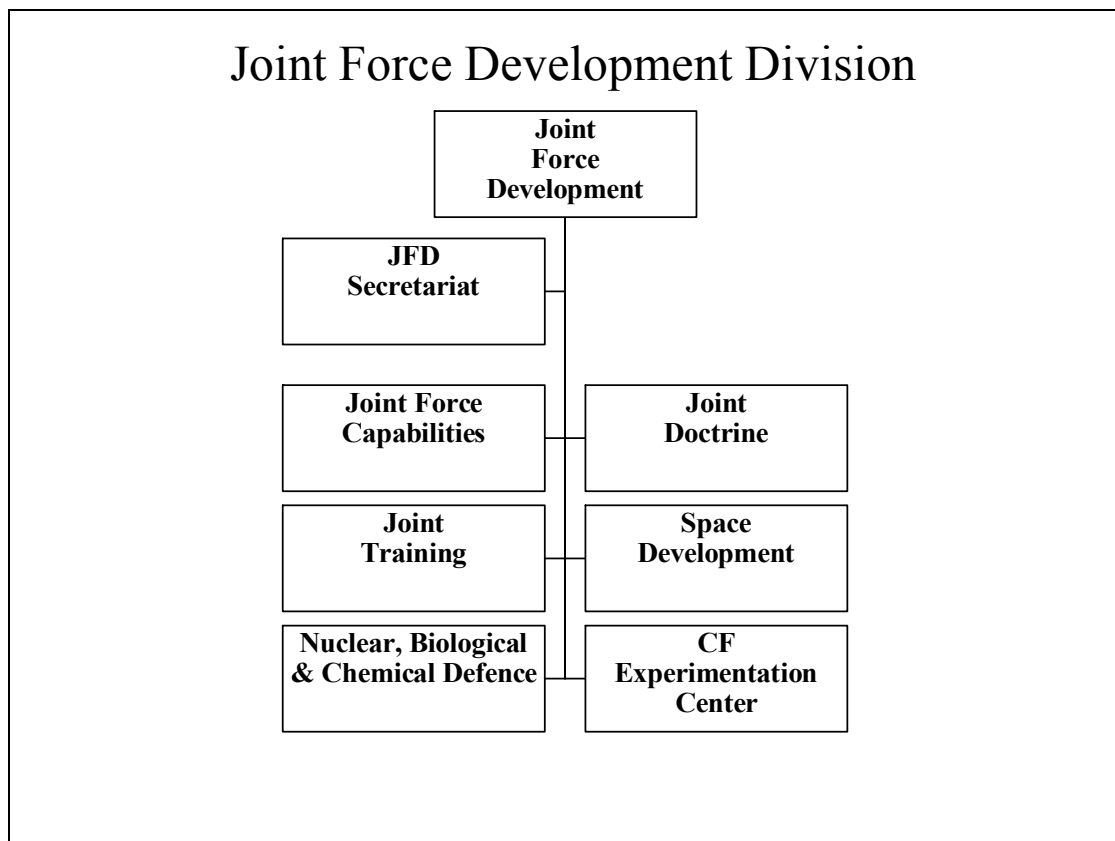


Figure 9 - Joint Force Development Division.

SOURCE: Colonel Steve, Christensen, *Changement au Structure ...*, 15 Sep 03.

Because of the nature of business within NDHQ, there is a matrix component in the JFD Secretariat, and despite the functional structure, there are examples of a projectised element within the Director Nuclear Biological and Chemical Defence (DNBCD), where most of the elements of the requirements business related to the NBCD capability reside. Similar projectised situations exist in the Director Space Development (D Space D), who is wholly responsible for all issues relating to space development activities within DND¹²¹; and also within Joint Force Capabilities where the project offices for several of the CF Command and Control projects reside. In fact, in terms of

¹²¹ Department of National Defence, "D Space D – Mandate, Vision and Mission." available through <http://dcds.mil.ca>; DIN; accessed 14 Apr 04.

the CLS Capability Development model introduced in Part III, these three organisations individually cover the full spectrum of Conceive, Design, Build and, to some extent, Manage.¹²²

While there is a semblance of requirements coordination for these functional elements, there is nothing to bring them together at the program level. DGJFD has recognized the need for overall program coordination and has used his own resources to identify the scope of the DCDS Capital Program, begin to develop procedures to access the DMS and to establish control of DMS documentation. At present there is one officer dedicated to coordinating the DCDS portion of the LTCP and staffing for a civilian position is in progress.¹²³

The *mitrailleuse* anecdote demonstrated the need for a close working relationship between all those involved in Capability Development. As the DCDS / DGJFD Division is responsible for both doctrine development, through the *CF Doctrine Board*, and joint training, via the *Strategic Collective Training Plan*, a Joint Requirements Staff assigned to the same Division may avoid a similar doctrine – training – technology mismatch. Notwithstanding the fact that Joint Requirements logically falls within the mandate and responsibility of DGJFD, the organisation has not been provided with the necessary resources to do the job. For example, the current organisation has insufficient capacity to conduct, with any degree of effectiveness, such functions as coordination of the DMS corporate activities, management and coordination of infrastructure and real property

¹²² BGen J.G.J.C Barabé, discussion with author, 20 Apr 04.

¹²³ Ibid.

issues, or in-service equipment management.¹²⁴ In terms of personnel, the management and coordination of the DCDS portion of the LTCP is currently assigned to a single officer in the DGJFD Division.¹²⁵ Moreover, while DGJFD is responsible for the coordination of the DCDS Capital Program, a second stakeholder outside of the DGJFD Division (DCDS Group Management Services) controls the MR program.¹²⁶ This split of responsibilities requires close coordination between the two stakeholders to ensure that the DCDS Capital Program is implemented effectively and without duplication of effort. This is an area that could be incorporated within a single Joint Requirements organisation. While there may be some potential for reorganising within the DGJFD Division to carry out the role of a Joint Requirements Staff, it will likely require additional resources as the existing staff is fully employed on other activities. Regardless of the potential resource challenges, to meet the concurrent challenge of maintaining the CF's in-service joint capability and of conceiving, developing and implementing future capabilities, the DCDS Group can no longer afford to maintain the status quo and must be willing to invest in a solution.

Establishing the Gaps and Deficiencies

To provide the DCDS with the ability to conduct the business of military requirements, the gaps and deficiencies identified in the *DCDS Structure Study* must be addressed. The possible courses of action will lie along a single continuum and represent

¹²⁴ Col S. Christensen. *Gaps and Shortcomings Recap...*, Ser L-28.

¹²⁵ Major R Wylie (DGJFD LTCP Coordinator), discussion with author, 8 Apr 04.

¹²⁶ Col S. Christensen, *JFG Strategy Session...*, 2.

the degree to which the capabilities reside within the organisation (projectised / functional) or are “contracted out” to other NDHQ agencies (matrix).

“There is no clear process to develop a DCDS non-strat [sic] capital project.”¹²⁷

Although there may not be a set of procedures within the DCDS Group, the process exists within the DMS and simply needs a trained requirements staff to use it. The first step in providing such a capability is to determine which components of the business of military requirements are already being addressed by the existing organisation. As a result of the *DCDS Structure Study* several gaps and deficiencies were identified and will be analysed against the list of generic requirements staff capabilities and characteristics developed in Part III to produce the recommended options.

Organisational Capabilities.

As a minimum, a requirements organisation must be capable of ensuring that the issues of Capital Equipment, Capital Construction and MR are addressed.

- Capital Equipment.¹²⁸
 - **Capable of managing the Group’s LTCP (E).** “Is this better done by JFD Div ... or someone else does this because of its link to the Bus Plan and the VCDS staff that apply that?”¹²⁹ In asking this question, the Command and Administrative structure review acknowledges a deficiency

¹²⁷ Col S. Christensen. *Gaps and Shortcomings Recap...*, Ser G-2.

¹²⁸ The NMSC Project Management team has, on request, provided limited, ad-hoc support to the DCDS Capital Equipment program. However, due to the workload associated with managing four capital projects, the support provided is for critical issue management only and cannot be considered as anything more than a stopgap measure.

in this area. With respect to the question of responsibility, it was demonstrated in Parts II and IV that the LTCP (E) is very much related to Capability Development and the business of military requirements. While there is clearly a link to the Business Planning process, because of its direct link to capability development, it is suggested that the execution of this task best falls within the purview of the requirements staff.

- **Capable of providing project direction.** The availability of competent Project Directors to complete options analysis and project definition is critical to reducing risk and ensuring project success. The *DCDS Structure Study* admits that the DCDS Group has “Insufficient staff ... to function as proper project offices to prosecute the joint projects we must deliver.”¹³⁰ It would be inefficient to have a pool of Project Directors waiting for the next good idea to be conceived, but there should at least be sufficient capacity in a requirements staff to avoid the situation that currently exists in the Joint Signal Regiment where “Unlike almost any other major unit in the Canadian Forces, the JSR must invest significant effort in the development of its own future capabilities.”¹³¹ This employment of unit personnel in what is clearly a requirements staff function is likely to the detriment of the demands of their operational role. The lack of capacity to support Definition activities is further highlighted by the example of the DART Enhancement Project, when during the early

¹²⁹ Col S. Christensen. *Gaps and Shortcomings Recap...*, Ser L-28.

¹³⁰ *Ibid.*, Ser F-3.

stages of this project a less than successful attempt was made to double-hat a JHQ staff officer as the Project Director.¹³²

- **Coordinating and managing the equipment R&D program.** The *DCDS Structure Study* did not present any specific concerns regarding this capability. Nevertheless it becomes a task that must be included in the detailed design of the Joint Requirements Staff. The same consideration must be applied to ensuring there is a capability of coordinating National Procurement planning.
- **Coordinating in-service, field-deployable equipment management.** The issue of equipment management is not addressed directly by the *DCDS Structure Study*, however it does specifically state, “there is a need for a DCDS focal point for such issues as UCRs. [Unsatisfactory Condition Report]”¹³³ In addition, equipment management could include such tasks as liaison with LCMMs and coordination of Un-forecast Operational Requirements (UORs).
- Capital Construction
 - **Capable of managing the Group’s LTCP (C).** The case for a requirements-based approach to LCTP (C) management is the same as was

¹³¹ Ibid., Ser G-16.

¹³² The weakness in this area is described in the SS (PPA) for the DART Enhancement Project. A full-time Project Director is now in place. Department of National Defence, *SS (PPA) DSP 00000513 DART Enhancement Project* (NDHQ: file 3136-6-00000513, 13 Jan 03), para 20.

¹³³ Col S. Christensen. *Gaps and Shortcomings Recap...*, Ser G-4.

made for managing the LCTP (E). A question posed in the *DCDS Structure Study* asked whether “management of DCDS infrastructure in static locations ... and acquisition of new, which includes JHQ, CFEC, Fusion Centre, [and] NMSC”¹³⁴ should be performed centrally within the DCDS? In response to this question, it is strongly suggested that centralised management would not only be more efficient, but more effective, as there are similar activity sets and contacts involved in managing existing infrastructure holdings and developing and managing the LCTP (C).

- **Capable of providing project direction.** “As a force generator the DCDS Gp requires a clear and well-understood process for proposing and dealing with minor and major construction projects.”¹³⁵ The process exists and is fairly well documented in the *DMS Manual*; what is not in the manual can easily be determined in consultation with ADM (IE) staff. What is required therefore is a construction project direction capacity within the requirements staff that understands both the DMS and ADM (IE) processes for all construction projects.
- **Capable of coordinating infrastructure management with ADM (IE) staff.** ADM (IE) has advised “the DCDS Gp needs to establish its own dedicated IE staff officer post for the full range of realty asset and

¹³⁴ Ibid., Ser F-12.

¹³⁵ Ibid., Ser G-1.

associated environmental issues for a Commander of a Command.”¹³⁶ It is strongly recommended that the DCDS heed this advice; in doing so he would be in a much better position to execute his responsibilities with respect to infrastructure management.

- Miscellaneous Requirements
 - **Capable of managing the Group’s MR program.** The allocation of Vote 5 (MR) funds as part of the annual budget provides Level 1 Managers with a certain degree of flexibility in achieving their capability goals. It was previously mentioned that responsibility for MR management falls to DCDS GMS. However, there is more to MR management than the financial aspects. Effective MR management must be requirements-based and coordinated with the remainder of the Capital Program. With this in mind, a logical move would be to re-assign MR management responsibility, along with the associated human-resource, from DCDS GMS to the Joint Requirements Staff.

Organisational Characteristics.

In terms of addressing the desired organisational characteristics, this new organisation requires access to R&D and Ops Research capabilities, collective training expertise, the lessons learned process and the doctrine development process. All of these capabilities fall within the DGJFD Division. Therefore it is recommended that the Joint Requirements organisation also be assigned to DGJFD.

¹³⁶ Ibid., Ser L-9.

Personnel Characteristics.

“The increased sophistication and complexity of warfare and operations makes it necessary to have skilled personnel who can use, maintain and influence the acquisition of these defence resources in the future.”¹³⁷ Those experienced in the business of military requirements understand the importance of remaining current with the nuances of the DSP, DMS and Capital Program management. Furthermore they know the importance of maintaining a customer focus. With respect to skills and knowledge, within the current structure of the CF, it is normally within the general military specifications for the CF’s engineering occupations that the skill sets inherent in the conduct of the requirements business, and of project / program management activities are found. That is not to say that only these military occupations can function in the business of military requirements. With the appropriate training any individual with the aptitude for this type of work can be employed as part of a requirements staff. However, to minimise the requirement for additional and recurring training, it is strongly recommended that the pre-existing skill sets of the CF’s engineering occupations be taken into account.¹³⁸

Taking this analysis a step further and looking at the types of equipment that DCDS formations and units will have in their inventory, they are generally land-centric in

¹³⁷ Department of National Defence, “Royal Military College of Canada - Department of Applied Military Science” available at http://www.rmc.ca/academic/ams/index_e.html; Internet; accessed 20 Apr 04.

¹³⁸ The five military engineering occupations mentioned in this paper all require engineering or science degrees as a basic entrance requirement. This coupled with the technical orientation of their military qualification training provides a solid grounding for work in the requirements field with minimal additional training. Additional information on these occupations is available from. (Department of

nature and fall into the broad categories of vehicles, weapons, surveillance, target acquisition, night observation, communications, and information technology. These categories of equipment relate mostly to the military occupations of Electrical Mechanical Engineers, Signals, Communications and Electronics Engineering (Air), and to a limited degree Engineers. The management of infrastructure is firmly within the realm of the Military Engineering community, either Engineers or Airfield Engineer, with a slight edge going to the Airfield Engineer. In addition to a reasonable capability in infrastructure management, the military occupation training for Engineers provides its officers with a thorough understanding of land-based operations as well as engineer equipment management. All five occupations have a good understanding of contracting and financial management from their military qualifying courses and it is highly likely that individuals will also have practical experience in these areas. With respect to specific training in the business of military requirements, the three land-centric occupations (Engineers, Signals and Electrical Mechanical Engineers) have access to the Land Force Technical Staff Program¹³⁹ conducted at RMC, while Communications and Electronics Engineering (Air) and Airfield Engineer do not. All occupations have access to the ADM (Mat) sponsored training in the DMS process, and in project management. Because the bulk of the DCDS units equipment holdings are land-centric, and since access to training in the business of military requirements is an inherent part of the career paths of Engineers, Signals and Electrical Mechanical Engineers, it is suggested that

National Defence. "Careers" available at http://www.recruiting.dnd.ca/html/careers/career_profiles/index.html; Internet; accessed 24 Apr 04)

¹³⁹ The Land Force Technical Staff Programme at RMC provides land force officers with the ability to understand the technologies and involved in the capability programs as well as the ability to work with the DMS. (Department of National Defence, "Royal Military College of Canada - Department of

populating the Joint Requirements organisation with officers from these occupations would provide the DCDS with a consistent capability with little or no additional training required.

Summary

The DCDS Group has no organised capacity to address the equipment or construction aspects of the Capital Program. MR funds have been devolved to Business Plan Level 2 and 3 organisations and the MR program management is exercised by DCDS Group Management Services (GMS). As this organisation completely separate from DGJFD, careful coordination of the overall program is essential.

To address this capability gap, there needs to be an established structure, within DGJFD, with sufficient capacity to address the Build/Manage aspects of DCDS Capability Development. This new organisation – call it *Director Joint Requirements* – should be responsible for overall coordination of the DCDS Capital Program. It should be functionally organised with individual sections responsible for:

- Overall coordination of the DCDS Capital Program,
- Capital Equipment acquisition projects and in-service fleet management,
- Capital Construction projects and DCDS infrastructure management, and
- MR program management.

Applied Military Science” available at http://www.rmc.ca/academic/ams/index_e.html; Internet; accessed 20 Apr 04.)

To determine the exact size, structure, rank requirements, and the optimum blend military/civilian positions, a detailed task analysis would be required. However, based on personal experience, and the discussion with DGJFD and his staff, it is estimated that somewhere between four and eight positions would reasonably address this critical deficiency. There is no doubt that there will be resource challenges and resistance to the necessary changes. Nevertheless, with the requirement to manage and coordinate a Capital Program in excess of \$2.3 billion, the DCDS has little choice but to invest in a solution. By establishing a purpose designed *Director Joint Requirements*, capable of addressing the issues discussed above, the DCDS will be able to engage in the business of military requirements, and will have provided an answer to the question “Who is looking at DCDS unique Capability Development?”¹⁴⁰

¹⁴⁰ Col S. Christensen. *Gaps and Shortcomings Recap...*, Ser G-10.

Part V - Summary & Conclusion

This study proposes that a Joint Requirements Staff be established to provide the DCDS with the capability to meet his responsibilities with respect to developing, defining and coordinating Joint Requirements and capabilities within the DSP. The paper began with a general overview of the DMS and the Capital Program. A more detailed examination of Capability Development provided a springboard to the discussion of establishing DCDS Joint Requirements capability.

The interrelationships between the DSP, the DMS and the Capital Program are complex and constantly evolving. For example, in the past few years, Defence planning has shifted from commitment-based to capability-based and in the near future, based on the recommendations of the Minister's Advisory Group, the Capital Projects approvals process may undergo significant change. To maintain currency with the nuances of this dynamic program requires constant study and practice.

The limited amount of the overall defence budget that is allocated to Capital acquisition demands wise and prudent stewardship to ensure it is used effectively in pursuing new capability initiatives. Whether or not LTCP and MR management responsibility is discharged through a dedicated and capable requirements staff is a decision that each Level 1 Manager must make based on the size and complexity of his particular portfolio. To depend on a part-time requirements function for anything but the smallest of capital portfolios, is to risk failure in achieving the Defence Plan assigned objectives.

Through a discussion of Capability Development, followed by a more detailed examination of the functional components of capability (PRICIE), the generic capabilities and characteristics of a requirements staff began to emerge. These generic concepts, coupled with the known roles and structures of the requirements staffs within the three ECS organisations provided for the development of a baseline list of capabilities and characteristics that were used to support the development of the conceptual structure for the DCDS Joint Requirements Staff.

The DCDS Group designed under MCCR was to provide strategic command and control to CF Contingency Operations. Structural changes and population growth, have since forced the DCDS to focus on a much broader area of responsibility and consequently to adopt a new mission statement that includes his additional responsibilities in terms of the other capability programs of Generate Forces, Sustain Forces, Command and Control and Corporate Policy and Strategy. A recent DCDS organisational review provided for a newly adopted command and administrative structure that mitigated many of the gaps and shortcomings created by these additional responsibilities. Nevertheless, the DCDS structure continues to lack a dedicated Joint Requirements Staff to support Joint Capability Development.

To address this deficiency, and to enable the DCDS to participate effectively in the business of military requirements, a purpose-designed Joint Requirements Staff is required. Since the business of military requirements is an integral part of capability development, a DCDS Joint Requirements organisation logically falls within the mandate and responsibility of DGJFD. As there is no organised capacity in either the equipment or construction components of the Capital Program, it is essential that these capabilities

be created. Although MR funds are currently devolved to Business Plan Level 2 and 3 organisations and MR program management is exercised by DCDS GMS, outside of the DGJFD organisation, a more effective approach would be to re-assign MR management responsibility, along with the associated human-resources, from DCDS GMS to the Joint Requirements Staff. To ensure the three Capital Program components as well as the remaining corporate responsibilities are integrated into an effective program, a requirements coordination function must be created. To minimise training requirements and provide for a consistent capability, this paper argued that the most appropriate military occupations to support Joint Requirements are Engineers, Signals and Electrical Mechanical Engineers.

This paper has demonstrated that to enable the DCDS with the capability to meet his responsibilities with respect to designing, building, managing and coordinating Joint Requirements, a purpose-designed, dedicated Joint Requirements Staff must be established. By proposing that this staff be established as the Director Joint Requirements, and that this organisation be assigned to DGJFD, this paper has answered “Yes” to the question: Is there a “need to centralize all joint project management responsibilities under a single directorate?”¹⁴¹.

The DCDS can no longer afford to maintain the status quo; he must pay the piper and invest in establishing a Joint Requirements capability.

¹⁴¹ Col S. Christensen. *Gaps and Shortcomings Recap...*, Ser F-21.

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