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EXERCISE NEW HORIZONS

Shortening the Department of National Defence's Acquisition Cycle: Performance Measurement and Acquisition Staff Competence

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Abstract

The DND acquisition system has been heavily criticized over the past two decades for the length of time it takes to acquire major capital equipment - currently about fifteen years according to a 2003 internal study on administrative efficiency. Numerous initiatives to improve the status quo have been implemented, but reductions to the acquisition cycle have been elusive thus far. This paper asserts that DND will not successfully transform its acquisition system unless it aggressively adopts the best practices of industry and defence Allies in two foundational areas: the establishment of a regimented system of project performance measurement, and the institution of a formalized framework of training, development, certification and career management of acquisition personnel. Implementing these two measures will impart accountability and competence to DND's acquisition workforce, thereby establishing the necessary foundation on which to achieve real and measurable improvements to the acquisition cycle. Given that numerous weapons platforms are reaching the end of their useful life and will require urgent replacement in the near future, the acquisition reforms advocated herein should be adopted as a matter of highest priority.

> The procurement system is sick. Something dramatic needs to happen to change it.[1]
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> - Ex-Chief of the Defence Staff, General (Retired) Paul Manson

Introduction

The acquisition of capital equipment in the Department of National Defence (DND) has been attracting a great deal of public attention recently, but unfortunately for negative reasons. Despite a clear and urgent need to replace major weapons platforms that are beyond – and in some cases, well beyond – their normal useful life, and notwithstanding the promise by the current Government to provide a desperately-required infusion of money into the Defence budget, there is significant concern that DND's acquisition system will not be able to deliver new equipment quickly enough to meet operational requirements. According to a 2003 internal study on administrative efficiency, it has been taking DND over fifteen years on average to procure major equipment.[2] From the Auditor General to defence associations, veterans' associations, academia, the media, the Chairman of the Senate Committee on National Security and Defence and DND itself, everyone seems united: the acquisition system is in need of reform.[3] However, this complex system involves a variety of processes and government

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[1] Chris Wattie, "Lobbying, politicking delay air force planes," *National Post*, 16 November 2005.

[2] Minister of National Defence, "Minister's Advisory Committee on Administrative Efficiency, Section 1 – Management Enhancements," http://www.forces.gc.ca/site/Focus/AE/report/sec1-2_e.htm; Internet; accessed 18 March 2006.

[3] The following references are in the same order as the individuals or organizations mentioned: Office of the Auditor General of Canada, "National Defence – Upgrading the CF-18 Fighter Aircraft," In *2004 Report of the Auditor General*, http://www.oag-bvg.gc.ca/domino/reports.nsf/html/20041103ce.html; Internet; accessed 19 March 2006. Canadian Defence Industries Association, "Brief to the House of Commons Standing Committee on National Defence and Veterans Affairs November 1, 2005," https://www.defenceandsecurity.ca/public/docs/2005/Nov/SCONDVA05bpdf (subscription required); Internet; accessed 8 March 2006. Bercuson, "Time to Wake Up on Procurement," *Legion Magazine*,

departments and, as a result, there is somewhat less unanimity about exactly what should be done to rectify the situation. The need for reform has been identified for at least the last forty years and although a number of changes have been implemented, in macro terms the acquisition system does not appear to be any more efficient than it was in the distant past.[4] Why is the successful transformation of military procurement so elusive, and what measures should be implemented now that would lead to real and measurable improvements?

This paper will not provide a panacea for addressing these broad questions; the topic of procurement reform has been the subject of numerous in-depth studies over the years and there are very few aspects, if any, that have not already been addressed. Importantly, one of the largest causes of schedule delay, that of the influence of politics on military procurement, cannot be influenced to any significant extent by DND.[5] Notwithstanding the difficulties, if DND is to achieve any significant reduction in the acquisition cycle, there must first be vast improvement in two foundational areas: performance measurement and management of the competency of acquisition personnel.

November 2005, http://www.legionmagazine.com/features/militarymatters/05-11.asp; Internet; accessed 8 March 2006. Douglas Bland, "Transforming Defence Administration," In *Transforming National Defence Administration - The Claxton Papers, No. 6*, edited by Douglas Bland (Kingston: Queen's University, 2005). Also, Barry Cooper and David Bercuson, "Helicopter Replacement Fiasco," In *Fraser Forum*, June 2003; available from http://www.fraserinstitute.ca/admin/books/chapterfiles/Helicopter%20Replacement%20Fiasco-cooper0603.pdf; Internet; accessed 8 March 2006, 28-29. Chris Wattie, "Lobbying, … ." Senator Colin Kenny, "How to Clean Up Our Military Mess," *Ottawa Citizen*, 23 February 2006; available from http://www.canada.com/ottawacitizen/news/opinion/story.html?id=40d2596f-5621-46a3-84bd-7e25d9f3449a; Internet; accessed 8 March 2006. Department of National Defence, "National Defence 2005-2006 Report on Plans and Priorities," available from http://www.vcds.forces.gc.ca/dgsp/00native/rep-pub/ddm/rpp/rpp05-06/rpp05-06_e.pdf; Internet; accessed 12 March 2006, 47. Also, see the 6 April 2005 comments from the former Minister of National Defence, Bill Graham, from the Minister's Speeches Archive, available from http://www.forces.gc.ca/site/newsroom/view_news_e.asp?id=1631; Internet; accessed 8 March 2006.

[4] R.F. Drummond, "Project Managers in DND: Time for Total Quality, Total Commitment," (Toronto: Canadian Forces Command and Staff Course New Horizons Paper, 1992), 5.

[5] There are numerous sources to back up this statement; for example, see footnote 1 and the Bercuson, Bland and Senator Kenny articles referred to in footnote 3.

More specifically, to ascertain where procurement delays are occurring so as to prioritize improvements and foster accountability, a more rigorous regime of performance measurement of acquisition processes is necessary; and to ensure that DND procurement is conducted expeditiously *and* effectively, a formal framework for the training, development, certification and career management of personnel involved in the acquisition process is required. To arrive at these deductions, some background on DND's acquisition system will be provided, followed by an analysis of the data available to guide acquisition improvement and leading to the requirement for performance measurement; the topic of acquisition staff competence will then be examined by analyzing the acquisition reforms of three Allies, followed by recommendations for an adaptation of the best of these practices to the Canadian situation. The paper will conclude by proposing that the recommendations for improving performance measurement of acquisition processes and competence of acquisition personnel will lead to real and measurable improvements in DND's acquisition system and should, therefore, be implemented without delay.

Background

The 2003 DND Minister's Advisory Committee on Administrative Efficiency found that the internal DND acquisition process accounts for as much as nine years out of the average fifteen to sixteen year process required to acquire major equipment. The Committee concluded that DND's process for defining requirements and approving capital projects:

> … takes too long, involves too many authorities and committees, occupies too much senior management time for little added value, and fails to distinguish between processes on the basis of risk and complexity.[6]

(A brief overview of the acquisition system[7] referred to by the Committee is provided at Annex A.) Clearly, this lengthy acquisition cycle - approaching the expected life cycle of some weapons systems - is unacceptable, and to many must appear as incomprehensible and inexcusable. Why hasn't something been done to remedy the situation?

In fact, as a result of many Auditor General criticisms of the DND acquisition system in numerous audits over the last two decades, many reforms have been initiated, including provision of procurement guidance to personnel by means of an electronic Acquisition Desktop; adoption of Equipment Program Management and Integrated Project Team concepts whereby personnel from different disciplines are focused into cohesive teams; a move to procurement of Commercial Off The Shelf (COTS) products where possible; performance-based (vice specification-based) contracting; and the establishment of a centre of excellence for procurement, the Director Materiel Acquisition and Support Program (DMASP).[8] Yet, despite these reforms, the Minister's Advisory Committee's findings make it clear that DND has not made progress in reducing the amount of time required to acquire capital equipment. How can this be the case? In a text by Warren Chin of the United Kingdom's Joint Services Command and

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[6] Minister of National Defence, "Minister's Advisory Committee … ."

[7] Within DND, the terms procurement and acquisition are often used interchangeably. The US DoD Defense Acquisition Handbook (http://akss.dau.mil/dag/DoD5000.asp?view=document) defines procurement as "the act of buying goods and services for the government"; it defines acquisition as "the conceptualization, initiation, design, development, test, contracting, production, deployment, logistics support, modification, and disposal of weapons and other systems, supplies, or services to satisfy DoD needs, intended for use in or in support of military missions." To convey the larger context that the latter definition encapsulates, the term 'acquisition' is used preferentially in this paper.

[8] V. Poter, "National Defence Analysis – Procurement Reform," http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/analysis/procur/intro_e.asp; Internet; accessed 8 March 2006.

Staff College, pessimistically entitled *British Weapons Acquisition Policy and the Futility of Reform*, the question of why British defence acquisition has been similarly afflicted by cost escalation and delay is addressed. In brief, Chin contends that the rising complexity of weapons systems coupled with reducing production volumes are driving prices up significantly; as a direct result, there has been a trend in military procurement to shift as much risk as possible to the manufacturer, which in turn usually leads to increased schedule.[9] The Australian Defence Force has identified the same problem.[10] Thus, the problem of schedule delay is not unique to the Canadian situation. Notwithstanding, it is contended that there are immediate – and relatively straightforward – foundational measures that, if implemented, would lead to an improvement in the DND acquisition cycle performance. Given this background, these ideas will now be discussed.

The Need for Performance Measurement of Project Processes

When considering causes of schedule delay, both internal and external factors influencing the DND acquisition process must be considered. External factors are obviously more difficult to control and can have a significant effect on schedule; therefore, they should be clearly identified as being separate from internal factors. DND currently does itself a disfavour by not making this distinction. For example, it may at first appear that the DND process for approval of projects up to the commencement of the

[9] Warren A. Chin, *British Weapons Acquisition Policy and the Futility of Reform*, (Aldershot, UK: Ashgate publishing Limited, 2004), 74, 139, 162, 180.

[10] After auditing over one hundred years of data, the Australian Defence Force has shown that the cost of major capital equipment such as fighter aircraft and warships is rising at nearly four per cent per annum in real terms (i.e., accounting for inflation), and that this has had a direct impact on acquisition schedule. Daniel Cotterill, "DMO upbeat on turnaround story," *The Australian*, 10 December 2005, http://www.theaustralian.news.com.au/common/story_page/0,5744,17479007%255E5002142,00.html; Internet; accessed 14 March 2006.

Implementation Phase is strictly internal to DND and therefore within its power to control;[11] indeed, the Minister's Advisory Committee stated in its report that:

> Defence's internal process for defining requirements and approving capital projects … are wholly within the purview of Defence to revise and can, therefore, be readily addressed as a priority.[12]

However, as specified within the DND Project Approval Guide, all procurements that exceed the relatively small amount of only $2M must be reviewed for potential opportunities to support industrial and regional development and other national objectives.[13] As a result, one of the key activities of the DND Options Analysis phase is the conduct of socio-economic studies to support these objectives.[14] Consider the following passage, taken from the Industry Canada guide to procurement in Canada:

> The government recognizes that companies need time to develop an understanding of government needs and to define an effective and affordable solution, including time to form alliances with other companies and to negotiate teaming agreements and develop long range business plans, a key ingredient in the development of an effective and successful IRB [Industrial and Regional Benefits] program.[15]

Thus, Industry Canada acknowledges that there could be schedule delays imposed due to industrial, regional or national objectives in what would otherwise appear to be an internal DND process. For procurements in excess of $100M the situation is exacerbated, as a Senior Project Advisory Committee (SPAC) must endorse the project's procurement

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[11] Refer to Annex A for an explanation of the Implementation Phase.

[12] Minister of National Defence, "Minister's Advisory Committee … ."

[13] Department of National Defence, *Project Approval Guide*; available from http://www.vcds.forces.gc.ca/dgsp/pubs/pag/pag_e.asp; Internet; accessed 2 April 2006, 7-46.

[14] Ibid.

[15] Industry Canada, *Industrial and Regional Benefits Guide*, http://strategis.ic.gc.ca/epic/internet/inad-ad.nsf/en/ad03664e.html; Internet; accessed 18 March 2006.

strategy in order for the project to proceed to both the Definition and Implementation phases.[16] The composition of a SPAC is typically as follows:

> Chair:
> - Project Leader and Assistant Deputy Minister (Materiel) (ADM (Mat)) or Assistant Deputy Minister (Information Management) (ADM (IM))
>
> Membership:
> Assistant Deputy Minister level from following departments:
> - Public Works and Government Services Canada (PWGSC)
> - Industry Canada
> - Western Economic Diversification
> - Atlantic Canada Opportunities Agency
> - Canada Economic Development for Quebec Regions
> - Assistant Deputy Minister level from other department/agencies:
> - Human Resources Development Canada
> - Privy Council Office
> - Treasury Board Secretariat
> - Department of Finance[17]

The importance of considering socio-economic benefits given the large sums of public money that are expended on military procurements is not being debated here; at issue is the potential for delay to the DND acquisition system given the diversity of goals of these Other Government Departments. According to Douglas Bland,

> …evidence in a host of government reports and studies illustrates plainly that defence administrators and the defence procurement system are overwhelmed by procurement policies and procedures directed at goals far removed from defence policy. These impediments add cost and years to defence decisions, and in some cases produce inferior outcomes in all respects.[18]

Accepting that these governmental impositions are a reality of the DND acquisition system, what can be done to mitigate their effect on project schedule? Even more elementary, what *is* their effect on project schedule? The latter question cannot be

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[16] Department of National Defence, *Project Approval Guide*, 7-60.

[17] Department of National Defence, "Terms of Reference, Senior Project Advisory Committee," http://www.vcds.forces.ca/dgsp/pubs/commit/spac_e.asp; Internet; accessed 18 March 2006.

[18] Bland, "Transforming Defence Administration," 2.

answered with any degree of accuracy because of the current lack of a project performance measurement regime to track and publish such data. The same is true for factors strictly internal to DND that affect project schedule. The key lies in establishing increased individual accountability through the establishment of such a performance measurement regime, as will now be substantiated.

Encouraging adherence to project schedule within DND is accomplished through goal setting. It is beyond question that the establishment of clear, outcome-orientated goals with associated timelines and levels of product quality required is absolutely fundamental to the control of project schedule. However, goal setting alone is not sufficient to ensure adherence to schedule - it must be accompanied by a system that promotes individual accountability for the schedule once set. As an example, there is a guide to project approval timelines in the Project Approval Guide;[19] while this guide may be useful for setting project staff expectations as to the minimum amount of time it might take to receive approval of project documentation once submitted to higher authorities, it does not provide incentive to individuals in the approval chain to minimize their portion of the accumulating schedule. Listing approval response times of one to two days may seem impressive, but just how often is this achieved? Any one person's contribution to schedule delay in the acquisition system tends to go unnoticed because detailed process performance data is not tabulated and, therefore, not reported. The purpose of calling for such data to be measured and reported is not to embarrass, as there may be compelling reasons for delay such as staff shortages or budget shortfalls; however, in the absence of and despite such delays, every individual in the acquisition chain has a duty to minimize schedule and should not object to scrutiny of their performance in this regard. Reporting

[19] Department of National Defence, *Project Approval Guide*, 7-29.

performance would encourage an atmosphere of individual ownership of project schedule and allow identification of key causes of delay, thereby facilitating process improvement.[20]

It will be argued by some that DND already performs performance measurement of key project parameters; however, consider the following comments from the Auditor General after the most recent major audit of DND:

> National Defence has a Capabilities Initiatives Database to track how well projects are performing, but we found the information it contains is not always reliable and is easily changed to reflect actual rather than expected performance. As a result, it is not possible to measure whether a project is meeting expectations or if it needs help. Senior management cannot rely on the database to determine if projects are meeting milestones or where delays are occurring.[21]

The parameters that are measured in the Capabilities Initiatives Database are top-level performance indicators, such as the achievement of major milestones, and do not facilitate comprehension of why the project schedule has slipped; refinement of the parameters measured, along with strict control of baseline data, is required.[22]

A direct consequence of the lack of meaningful data with which to respond to criticisms of acquisition system delays can be damage to DND's reputation as a prudent manager of taxpayers' resources. For example, during the election campaign in December 2005 the Opposition defence critic, in reference to the DND acquisition system, made the comment, "The biggest waste of time is in the Defence Department.

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[20] For example, consider a Project Manager who declares that her project documentation is ready to proceed to a Senior Review Board (SRB) for approval, but has to wait four months until an SRB will consider the project; this delay and the reason for it (insufficient frequency of SRB sittings, SRB members over-tasked, low priority of project etc.) should be captured.

[21] Office of the Auditor General of Canada, "National Defence – Upgrading the CF-18… ."

[22] In addition to schedule parameters, there are other ways in which to think about and capture performance within acquisition organizations; for example, consider the "Procurement Excellence Pilot," available from the following link: http://www.ogc.gov.uk/embedded_object.asp?docid=838; Internet; accessed 8 April 2006.

They're spending four years to arrive at a document that says this is what we want."[23] Such comments are damaging to DND, but are perhaps deserved since there is not the data available to prove otherwise. By way of contrast, the United Kingdom appears to robustly measure project performance and is therefore able to explicitly identify why certain project schedules have slipped, and by how much. For example, according to the UK National Audit Office, budgetary pressures caused the Harrier aircraft acquisition to be delayed by three months, the EH-101 by twelve months, and the Joint Tactical Information Distribution System by sixty months.[24] Other categories of delay cited include changing of specifications, political desire to preserve certain key capabilities in the defence industrial base, international collaboration, internal approval delays, technical complexity, and use of fixed and firm price contracts.[25] If the data were available to demonstrate, as an example, that of the four years on average required to complete a specification for a major capital acquisition within DND, an average of twenty-two months were attributable to resolving affordability issues and a further four months were required to address socio-economic issues, it might contribute to a restoration of public faith in DND's ability to manage acquisition.[26]

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[23] Stephen Thorne, "Win-win Situation for Military," *Ottawa Citizen*, http://www.canada.com/topics/news/story.html?id=8f7e31d6-68af-4754-8ec5-fd98e222e04f; Internet; accessed 8 March 2006.

[24] Chin, *British Weapons Acquisition Policy…*, 227.

[25] Ibid., 227, 230-231. Also, see page 34 of the July-August 2003 edition of *Program Manager* for a discussion on how requirements and budget stability are key to acquisition, available from the following link: http://www.dau.mil/pubs/pm/pmpdf03/july/jul-aug03.pdf.

[26] To illustrate the point, consider the case of CF-18 Modernization. In the 2004 audit of the project (Office of the Auditor General of Canada, "National Defence – Upgrading the CF-18 Fighter Aircraft"), the first sentence of the report emphasizes that it will have been 14 years since the inception of the project and the completion of Phase 1 of two phases. However, nowhere in the report is it indicated that the project was delayed for years because of questions over its affordability and due to an impasse between the Government and DND over the Maritime Helicopter Project (MHP). On this latter point, because the

The lack of performance measurement data is not a problem unique to DND alone; after reviewing twenty-three audit reports since 1982, a Task Force conducting a Government-wide review of procurement in 2004 noted that:

> Another frequent concern of the Auditor General is the need to improve performance reporting, to support conclusions about whether procurement performance is getting better or worse, or if desired objectives are being met; and to ensure that there is credible and relevant information needed to manage.[27]

The team also concluded that government procurement data was out of date, inaccurate and incomplete, and therefore was inadequate for analysis and management. Conversely, when canvassing commercial enterprises as to their approach,

> … the Task Force heard repeatedly of the absolute requirement to have good management information: baseline measurements of corporate performance, ongoing benchmarking against other organizations; and performance measurement seamlessly built into the business.[28]

Clearly, industry takes a different approach to performance measurement than does government. Time-to-market is key for manufacturers, and the management of their business processes reflects this. If DND is to achieve reduction in its acquisition cycle, it must adopt the same philosophy and methodologies.

Given the blurring of accountability under the current DND acquisition system, who is responsible for schedule delay? It seems everyone is; *therefore, no one is*.

MHP was DND's number one Major Crown Project (MCP) priority, all other MCPs were held in abeyance while approval of MHP was sought. As a result, project staffs overseeing upgrades to airframes such as the CP-140 and CF-18 sought means to repackage their projects into numerous smaller projects, with the hope that each individual project would not be considered an MCP. The many name changes to the CF-18 upgrade project - initially called the CF-18 Mid-Life Update, then CF-18 Systems Life Extension, then CF-18 Incremental Modernization and finally CF-18 Modernization – are indicative of the numerous attempts that were made to have the project approved. These significant delays to the acquisition process went unreported by the Auditor General because there was no data to quantify them.

[27] Public Works and Government Services Canada, "Government-Wide Review Of Procurement: Redesigning Canadian Procurement, Introduction and Mandate," October 2004, http://www.pwgsc.gc.ca/prtf/text/presentations/21-23oct04-e.html; Internet; accessed 18 March 2006.

[28] Ibid.

Effective goal setting must be coupled with accountability to improve performance, but accountability can only be generated if specific results can be compared against baseline performance data. Capturing such data would be relatively simple, as suitable Information Technology tools are already utilized by acquisition staff within DND. Data capture would undoubtedly be enhanced by mandatory usage of a barcoding system to check-in and check-out project documentation as it proceeds along the approval process. To be effective, such a performance measurement regime must have the full support and active participation of the highest levels of the Department. Performance statistics should be published on at least an annual basis, and good performance should be rewarded. Given the relative ease of collecting performance management data compared to the potential benefit that can be derived from its exploitation, the adoption of a project performance measurement regime should be embraced by DND as a matter of priority.

The Critical Nature of Acquisition Workforce Competency

> The foundation for all acquisition improvement efforts depends on a highly capable and qualified workforce that conducts the business of government in an atmosphere of transparency and integrity. … I am convinced that an integrated, strategic focus on people is a necessary and important requirement for improving acquisition outcomes and processes. Workforce capability is a reflection of the right quantity and the right skills and competencies.[29]
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> - Ken Krieg, US Under Secretary of Defense (Acquisition, Technology and Logistics)

[29] United States, Defense Acquisition University, "Testimony of Kenneth J. Krieg**,** Under Secretary of Defense (Acquisition, Technology & Logistics) Before the United States Committee on Armed Services Improvements and Excellence in Acquisition," *Defense AT&L*, January-February 2006; available from http://www.dau.mil/pubs/dam/01_02_2006/jan-feb06.pdf ; Internet; accessed 19 March 2006, 18.

The above quotation conveys a simple truth: there is a direct relationship between acquisition staff competence and their performance.[30] This message is clearly not groundbreaking, and yet how determined has DND been to develop, train and manage the careers of its acquisition personnel? The 1998 Report of the Auditor General noted that despite previous audits in 1984, 1987 and 1992 showing the need to improve the capital acquisition process, DND was slow to implement improvements. Citing an internal DND study, the Auditor General noted that the following problems continued to exist, amongst others:

- Inadequately trained project managers;
- An ineffective and untimely staffing of project management offices;
- Poor procurement practices; and
- Poor application of project risk evaluation and risk management principles.[31]

These are obviously fundamental problems that directly impact on the ability to manage projects. In light of these issues, the Report recommended that:

> The Department should ensure that it has assessed the skills required to manage major equipment acquisitions, has a human resource plan in place, has its new recruitment and development programs operating and has information systems to support human resource management.[32]

These are sound recommendations that, if fully implemented, would lead to improved acquisition performance. DND responded to these criticisms and recommendations as follows:

> The Department is pursuing a number of initiatives to address this recommendation. Specifically, the re-engineering of the Department's materiel

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[30] Competent - "The ability to perform activities to the prescribed standards using an appropriate mix of knowledge, experience, skill and behaviour." From the UK MoD *Acquisition Training Sponsor's Guide*, http://www.ams.mod.uk/ams/content/docs/peopacq/ats/content/atsguide.pdf; 39.

[31] Office of the Auditor General of Canada, "National Defence – Buying Major Capital Equipment," In *1998 Report of the Auditor General*, http://www.oag-bvg.gc.ca/domino/reports.nsf/html/9804ce.html; Internet; accessed 19 March 2006.

[32] Ibid.

> acquisition and support processes allowed DND to clearly identify those skills, knowledge and abilities required for project management. The Department can now better determine where new recruitment and development programs are needed and refine internal training and development programs for existing staff. The DND Materiel Civilian/Military Information System currently supporting the Department's human resources planning and data base requirements will be replaced by PeopleSoft, which will better address the Department's human resource management needs.[33]

DND also stated that it intended to have a highly effective and efficient project management capability in place by 1999 that would reduce the average acquisition cycle time of the process from its then-current average of twelve years to five years or less.[34] While these assertions from DND sounded very promising, the reality has been quite different: there is no evidence that a highly effective and efficient project management capability has been created and, as discussed in the first part of this paper, the average acquisition cycle time has actually *increased* since 1999. To be fair, additional (but voluntary) project management training was introduced and PeopleSoft implemented; however, the key recommendation of the Auditor General, that of specifically assessing the skills required to manage major equipment acquisitions and then using human resource management tools to train and develop competent personnel to meet these requirements, has not been undertaken in a structured and rigorous way. DND's reform initiatives, therefore, have not had full effect in improving the acquisition system.

The direct relationship between competency of acquisition staff and project success cannot be overemphasized.[35] Staff that are trained and experienced in correlation with the complexity of the project to which they have been assigned can be expected to

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[33] Ibid.

[34] Ibid.

[35] Numerous project lessons-learned reports confirm this relationship; for many such citations, see Drummond, "Project Managers in DND…," 13.

appropriately apply sound project management principles that will minimize adverse affects on project cost, schedule and performance. Conversely, staff that do not have adequate training or experience may be wholly unaware of the tools and techniques available to manage acquisition. For example, a key aspect of project management that has been widely cited as being critical to the acquisition cycle is the effective management of risk.[36] The Auditor General's 1998 Report emphasized this point, concluding that many DND projects were not following rigorous risk management processes and that, as a result, the effectiveness of project management was reduced. The report recommended that DND should ensure the adoption of a clear and consistent risk management process in all major capital projects.[37] DND responded as follows:

> Since 1993, projects are required to include an Integrated Risk Management Plan and are subjected to a standard methodology and reporting system as part of the departmental risk management process. A risk analysis report is mandatory for approval of all projects over $30 million and project staff are expected to report on a regular basis throughout the life of the project. Risk management is fundamental to effective project management and is essential to ensure successful achievement of project objectives.[38]

Yet, despite these assurances, the latest Auditor General's audit of a major DND capital project, that of CF-18 Modernization in 2004, noted that the Risk Management Plan had only been produced just prior to the audit.[39] For a $2.5B project that was well into the Implementation Phase, this major deficiency is a serious finding. It is contended, however, that due to their inexperience the project staff were simply unaware that a

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[36] For example, Chin (*British Weapons Acquisition Policy…*, 250) emphasizes the need for an effective risk reduction strategy if cost and schedule control is to be achieved.

[37] Office of the Auditor General of Canada, "National Defence – Buying Major Capital Equipment."

[38] Ibid.

[39] Office of the Auditor General of Canada, "National Defence – Upgrading the CF-18… ."

formal Risk Management Plan was either required or would provide benefit. The Auditor General identified this lack of experience as a major cause of the problem:

> Project management experience is not common and we found that about 80 percent of the CF-18 project staff arrived with little or no project management experience. Internal reports to the Assistant Deputy Minister (Materiel) group identified the lack of experienced staff as a serious problem facing many projects. Even though the Department's acquisition project offices are staffed mainly by military members, there is no long-term training path for developing project manager or director skills. National Defence needs a project management progression path so that staff can learn skills and be ready to apply them to large, complex projects such as the CF-18 modernization, rather than spending much of their project time learning about this. Staff could start by working on smaller projects to gain this experience and demonstrate their capacity to progress to larger, more complex projects.[40]

The lack of a formalized framework for the training, development and career progression of a pool of competent acquisition personnel has inevitably led to an inability to provide qualified staff for complex acquisition tasks. As concluded by the Auditor General:

> …the current military staffing system cannot ensure that project offices receive the right people, with the right skills, at the right time, to achieve optimal project management delivery. Project managers have no assurance that vacancies, even critical ones, will be filled by qualified candidates.[41]

As harsh as these criticisms may seem, based on personal experience they are an accurate reflection of the current reality. Clearly, despite the observations of numerous audits, DND has not resolved its inability to ensure that acquisition projects are staffed with personnel that have the requisite qualifications and experience for the tasks they are expected to perform. Further, placing inexperienced individuals with inadequate training into demanding acquisition positions often leads to frustration and potential aversion to future acquisition-related postings. This situation is untenable and must be addressed

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[40] Ibid.

[41] Ibid.

immediately if DND is to successfully acquire the major capital equipment it so desperately requires.

Undoubtedly, such criticisms raise the ire of many within DND who have worked hard to improve the acquisition system by bringing a variety of reform initiatives to fruition. What are often so easily proffered as *the* solutions to the competency problem - increased use of public servants and dedicated acquisition career paths for military personnel - are not as straight forward as they might at first appear: a proper balance between the experience and understanding of the operational requirement that military personnel possess and the tenure stability that is possible through use of public servants must be struck;[42] and the relatively small numbers of project managers within each Environment would appear to make career progression under dedicated military acquisition career paths inequitable with opportunities available to established occupations.[43] These considerations do complicate the development of a workable solution to the problem of acquisition staff competency, but they do not render a solution impossible. Other countries, faced with similar circumstances, have adopted reforms that surmount these difficulties. For example, consider the following observation from the Government-wide review of procurement in late 2004:

> Many departments have in-house training programs supported by their own personnel or private firms. However, this training and certification is often optional for staff, and at this time completion of the Professional Development program is not a specific requirement to be a procurement specialist. … In contrast, other countries place heavy emphasis on training and certification (the

[42] Research conducted on the practices of three Allies, the US, UK and Australia, has determined that all three strive for a balance between the sustainment and operational experience of military personnel and the requirement for tenure.

[43] This idea has previously been investigated within DND - see Drummond, "Project Managers in DND…," 17.

> Task Force is assessing the approaches of the U.S., Australia, and U.K., and the Chartered Institute of Purchasing and Supply.)[44]

This Government-wide review did not focus on the unique problems inherent to defence acquisitions; however, research conducted for this paper has verified that the defence departments of the US, UK and Australia do, in fact, place considerable emphasis on training and certification as the foundation of their acquisition systems. An analysis of the acquisition workforce reforms that each of these nations has undertaken - a synopsis of which is provided in Annexes B to D - reveals an additional focus on career management of those personnel that have acquisition experience. While there are some differences in the specific implementation of each country's reforms, the underlying frameworks are remarkably similar.[45] The basic concepts of these initiatives will now be summarized, with a view to how DND could adopt the best practices of these nations to further its own goals of improving its acquisition process.

Within each of the acquisition systems of the US, UK and Australia, there is a clear recognition that the competence of their personnel is the very foundation upon which the success of the system rests.[46] As a direct result, each country has initiated

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[44] Public Works and Government Services Canada, "Government-Wide Review Of Procurement... ."

[45] It is acknowledged that there are some clear differences between the acquisition systems of the US, UK and Australia in terms of scale and scope, which obviously affects the potential reforms available to each of them. For example, the US has the most detailed program, with Environments having dedicated occupations for acquisition such as 'Acquisition Manager' within the US Air Force (see US Air Force, "Officer Careers," http://www.airforce.com/careers/job.php?catg_id=1&sub_catg_id=4&af_job_id=31; Internet; accessed 8 April 2006.) Such a structure is best suited to the enormous size of the US Department of Defense and the developmental nature of many of its projects. However, notwithstanding the differences, the underlying structure of all of the reforms of these nations is similar in many respects.

[46] As an example, consider that of the numerous 'Defence Values for Acquisition' listed in the UK Ministry of Defence's (MOD) Smart Acquisition Handbook, the very first is: "recognise that people are the key to our success; equip them with the right skills, experience and professional qualifications." - United Kingdom, Ministry of Defence, *The Acquisition Handbook*, Edition 6, October 2005; available from http://www.ams.mod.uk/ams/content/handbook/maintext.pdf; Internet; accessed 9 March 2006, 3.

substantial reforms to improve acquisition workforce competency: the United States Congress enacted the Defense Acquisition Workforce Improvement Act in 1990, the UK Ministry of Defence (MOD) initiated Smart Acquisition in 1997, and Australia implemented a program to professionalize its acquisition workforce in 2004. At the core of all of these reforms is a formalized framework for the training, development, certification and career progression of acquisition personnel. The structure of each framework is similar: each acquisition workforce position is assessed as to the generic competencies required and one of either three or four skill levels is assigned to the position based on the complexity of the associated tasks.[47] Common to all three frameworks is the requirement for the incumbent to either possess, or within a certain time period attain, the competencies associated with the position in question. This allows incumbents to secure priority for training and apply for certification in one or more acquisition fields dependent on the generic tasks associated with the position.[48] These formalized frameworks therefore allow for the systematic training and development of individuals as they progress to increasingly more demanding positions. Additionally, the declaration of competencies associated with a position aids in ensuring that personnel are not inappropriately placed in positions that they are not qualified for.

Under these acquisition workforce frameworks, once an individual has the requisite training and some experience in the position they can apply for certification of

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[47] For example, in the case of the UK MOD Acquisition Competence Framework, an engineer within a project office may be required to be a 'Practitioner' of generic project management skills, whereas the project manager may be required to be an 'Expert'.

[48] It should not be assumed that the frameworks of the three nations are identical, for there are subtle differences between each of them. For example, in the US case all DoD personnel employed in acquisition are formally identified as being in the Acquisition Workforce and are therefore subject to the DoD framework; in the UK MOD personnel voluntarily elect themselves to be members of their Acquisition Stream; and in the Australian Defence Materiel Organisation (DMO) all project managers, engineers and financial managers must become *professionally* certified to a designated level.

their newly acquired competencies. The particular approach of Australia in this regard is noteworthy - certification is not attained simply by virtue of having attended the specified courses and having been employed in a designated position for a specified period of time. Qualified assessors conduct an assessment of whether an individual has learned to appropriately apply the skills they have been taught by observing the candidate's performance in the workplace. If a work task applicable to the assessment is not immediately available, a suitable scenario is created. Once satisfied, the assessors grant certification for the competency under evaluation. Such an approach confirms effectiveness of training, assures consistent standards are being met and builds confidence in the validity of the certification.

The establishment of training and certification for acquisition personnel, while important, is only one portion of the workforce reform initiatives implemented by the US, the UK and Australia. Critical to the success of any acquisition program is the competency of its senior leadership; therefore, underpinning the training and certification frameworks just discussed are initiatives to establish viable career path progression for acquisition personnel.[49] The clear establishment of the competence prerequisites for the incumbent of every position itself provides incentive for those that aspire to higher levels of responsibility with the acquisition field – individuals can quickly identify what training and experience they require to successfully apply for a more challenging position. For those that seek critical acquisition positions, the qualification requirements are such that one must have had prior experience and extensive training in acquisition to be selected. For example, the UK has established a development program for a subset of its overall

[49] The establishment of a career path in the US is not an issue given that there are dedicated acquisition occupations; however, motivating personnel to seek additional responsibilities and achieve continuous improvement requires close and ongoing management.

acquisition workforce, the Acquisition Leadership Development Scheme; to be selected for senior acquisition positions, one must be a member of this scheme. To motivate personnel to strive for such leadership positions, there are opportunities provided for advanced education in acquisition up to the Masters level. To encourage the attainment of maximum potential for those that demonstrate acquisition leadership, the UK and Australia have also established systems of mentorship. It is important to note that under these frameworks, it is not necessary, nor even desirable, to maintain continuous employment in the acquisition field; once attained, qualifications are not lost.[50] However, in contrast to the Canadian system, the critical importance of the skills and experience of competent acquisition leaders to the success of the military procurement system is recognized by way of advancement in rank as opposed to penalizing individuals for lack of breadth in their operational employment.[51]

As a last point on the acquisition reforms of the US, UK and Australia, it should be noted that in each case there is continual evaluation of how successful the initiatives have been (made possible through the use of project performance measurement) in improving the acquisition system. In short, there is clear conviction on behalf of each nation that the competency of their acquisition workforce is fundamentally and inextricably linked to the success of their acquisition system. As a result, there is steadfast commitment to improving the competency of their acquisition workforce by

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[50] For example, the USAF is encouraging technical officers in the acquisition field to seek an operational tour to better understand underlying requirements; see the following link for details: http://www.af.mil/news/story.asp?storyID=123016660.

[51] As an example of the emphasis placed on the development of acquisition as a career path, consider that the UK MOD is recognizing the attainment of a Master of Science degree in Defence Acquisition Management as an alternative to the Advanced Staff and Command Course. (United Kingdom, Ministry of Defence, *Personnel Management Agency Presentation to Royal Air Force Personnel*, 9 June 2004.)

assuring that the necessary resources are dedicated to their development.[52] While relatively small adjustments have been made over the years, the overarching structure of the acquisition frameworks has remained intact due to firm conviction that the reforms are successfully increasing performance in an acquisition environment that is growing evermore complex.

Given the similarities of the Canadian defence acquisition system to those considered above, particularly Australia, the potential benefits of adopting similar reforms within DND are readily apparent. It is therefore recommended that a number of steps be adopted to establish an acquisition workforce framework within DND. First, all Capital Equipment Program projects should be split into at least four categories based on risk, complexity and acquisition strategy instead of the current two categories (Strategic and Non-Strategic Capital). Doing so will not only facilitate the assessment and designation of acquisition competencies required by associated personnel, it will facilitate the setting of realistic goals for major milestone accomplishment by Senior Review Boards.[53] Second, all positions involving acquisition and project management activities, to include sustainment positions, should be formally assessed for the type and level of competencies required and included in a formalized DND Acquisition Competence Framework. Only in exceptional circumstances should an individual be posted into a position that requires other than basic level competencies without having first been

[52] As an example, the USAF has offered qualified members of its acquisition workforce retention bonuses for staying within the military; see the following link for details: https://www.safaq.hq.af.mil/news/marchapril03/retentionbonuses.cfm.

[53] For example, it should take far less time to develop performance specifications for a project if the requirement can be met with a COTS product than would be the case if a capability has to be developed.

certified at the lower level.[54] Third, all incumbents should undergo mandatory certification by qualified assessors against the requirements of their position within a standard set timeframe. Certification levels achieved must be formally documented in the member's Military Personnel Record Resumé.[55] Fourth, candidates for critical acquisition positions, such as Project Managers of Major Crown Projects, should be selected based on qualifications and demonstrated acquisition performance. Last, but of critical importance, members should be encouraged to pursue a career in acquisition by developing measures to ensure that they are given equitable treatment for career advancement compared to other members of their occupation that may have accumulated more operational experience.

Some of the steps described above are relatively inexpensive and can be taken almost immediately, such as the assessment of competencies and skills required for each acquisition position. Other steps will require more time and resources. Regardless, it is time to address with vigour the fully-justified criticisms of the Auditor General with respect to how DND manages its acquisition personnel. Facing similar problems, the defence departments of the US, the UK and Australia have adopted formalized frameworks for the development of their acquisition workforces; furthermore, they are convinced that these reforms are bearing positive results. They have based these frameworks on a strategy of skills assessment, development, and retention through viable career progression, with subsequent evaluation to assure improved acquisition performance. With some effort, DND can and must institute similar measures. To be

[54] The career management system's success in this regard should be tracked as a performance measure.

[55] Ideally, given a requirement to fill an acquisition position, a career manager could quickly generate a list as to who was qualified to fill the position by filtering PeopleSoft data using the position's competency types and skill levels.

successful, there must be full recognition that acquisition excellence is of such critical importance to the Department that only by taking such foundational measures can the acquisition system truly improve.

Conclusion

Recent increases to the DND budget, with promises of more increases to come, are a positive harbinger that financial resources will be available to replace the many major defence platforms that are rapidly approaching the end of their useful lives. However, numerous audits of the Department's acquisition system have identified systemic deficiencies that inhibit its ability to acquire major defence equipment in a timely and successful manner. Notwithstanding the implementation of several acquisition reforms, DND has not sufficiently addressed the root causes of these deficiencies. As a result, the acquisition system has not improved, and there is increasing public awareness of this failure at a time when DND desperately needs extensive and rapid replacement of its major platforms.

To achieve significant reduction in its acquisition cycle, DND must aggressively adopt the best practices of industry and defence Allies in two foundational areas: the establishment of a regimented system of project performance measurement, and the institution of a formalized framework of training, development, certification and career management of its acquisition personnel. With respect to the first area, there are numerous internal and external factors that can negatively impact the schedule of a project, but DND cannot currently quantify the effect of these factors because the necessary data is not collected with sufficient detail or fidelity. Adopting a system of

performance measurement that promotes individual accountability and facilitates identification of sources of project delay is relatively straightforward and can be undertaken forthwith. With respect to the second area, the lack of a formalized framework for the training, development and career progression of a pool of competent acquisition personnel has inevitably led to an inability to provide qualified personnel for projects. The US, the UK and Australia have demonstrated how commitment to the implementation of a competency framework can result in measurable improvement to the acquisition system. Mimicking their efforts will require time and financial resources given the training it entails; however, the creation of the framework structure can be undertaken relatively quickly and inexpensively.

There can be no argument that timely and successful acquisition of defence equipment is critical to the operational effectiveness of DND. However, there needs to be greater understanding that the acquisition of highly complex modern weapons systems is a difficult task, particularly given the current financial, legal and safety regulatory environment, requiring a highly competent acquisition workforce. If DND desires a true transformation of its acquisition system, it needs to directly address the well-founded criticisms of the Auditor General and adopt the best practices of Allies and industry with energy and urgency. By implementing the two measures outlined herein, DND will establish the necessary foundation on which to achieve real and measurable improvements in its acquisition system; they should therefore be adopted as a matter of utmost priority.

Annexes

Annex A – The Defence Services Program
Annex B – US Department of Defense Acquisition Workforce Reforms
Annex C – UK Ministry of Defence Acquisition Workforce Reforms
Annex D – Australian Defence Materiel Organisation Acquisition Workforce Reforms

Annex A – The Defence Services Program

The Defence Services Program (DSP) includes all departmentally-approved activities and projects. A major component of the DSP is the Capital Program, which is dedicated to the long-term sustainment of Defence capabilities. In turn, the Capital Equipment Program is the largest component of the Capital Program and covers all equipment, materiel and service projects that are valued at more than $5M. Capital Equipment Program projects are notionally divided into two categories: Strategic Capital, for projects that have values of $100M or more, or that have been designated as important or as having an element of significant risk; and Non-Strategic Capital, for projects that are valued between $5M and $100M, or that have been deemed to be of low risk or importance. The focus of the Capital Equipment Program is on transitioning projects to the Implementation Phase, the point at which they have received expenditure authority from the Minister of National Defence or from Treasury Board depending on the approval level required. DND's Project Approval Guide details the various processes that must be followed and the approvals that must be achieved in order to progress a project to the Implementation Phase. In brief, there are five main phases for most projects: Identification, Options Analysis, Definition, Implementation, and Close Out. In order for a project to progress to the next phase, it must gain Departmental approval at the end of the current phase in accordance with the Project Approval Guide.[56]

[56] Department of National Defence, *Project Approval Guide*; available from http://www.vcds.forces.gc.ca/dgsp/pubs/pag/pag_e.asp; Internet; accessed 2 April 2006.

Annex B – US Department of Defense Acquisition Workforce Reforms

To improve the effectiveness of personnel working in the acquisition system, the Defense Acquisition Workforce Improvement Act (DAWIA) was enacted by Congress in 1990. This law mandates the professionalizing of the acquisition workforce through education, training, and work experience.[57] In response to the legislation, the Acquisition Workforce Education, Training, and Career Development Program was established to implement the structure, policies, and procedures required to enable the acquisition workforce to achieve and maintain the competencies required to serve successfully in acquisition positions.[58] A Defense Acquisition University (DAU) was established under the authority, direction, and control of the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)) to implement and provide policy support for the Program. By providing practitioner training and career management services, the DAU has enabled the acquisition, technology, and logistics community to make smart business decisions and deliver timely and affordable capabilities to the warfighter.[59]

Under the Program, senior acquisition executives are responsible to ensure that the level of responsibility and expertise required for each acquisition workforce position have been assessed and documented. This designation of acquisition workforce positions forms the framework for all other aspects of the Program, allowing the incumbents of the positions to secure priority for training, apply for acquisition tuition assistance, or become certified in one or more acquisition career fields. Acquisition workforce members must be certified in one of thirteen acquisition career fields and to one of three certification levels (Basic, Intermediate and Advanced) required for their position.

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[57] Within the DoD, the term "acquisition workforce" has been replaced by the term "Acquisition, Technology and Logistics (AT&L) Workforce" to reflect the breadth of functions performed by employees in acquisition (i.e., AT&L) positions; this according to the AT&L Workforce Desk Guide, cited below. For simplicity and to facilitate understanding, the term "acquisition workforce" will be used here.

[58] United States, Department of Defense, *A Desk Guide for Acquisition, Technology, and Logistics Career Management*, 10 January 2006, http://www.marcorsyscom.usmc.mil/sites/acqworkforce/documents/ATL_Workforce_Desk_Guide_01-10-06.pdf; Internet; accessed 19 March 2006.

[59] United States, *Department of Defense Directive 5000.57*, 8 February 2006, http://www.dtic.mil/whs/directives/corres/pdf/i500057_020806/i500057p.pdf; Internet; accessed 19 March 2006.

Certification should be achieved prior to being posted to an acquisition position; however, a member who is not certified has a grace period of up to 24 months to become certified.[60]

To ensure that there is a robust cadre of competent acquisition professionals available to fill key leadership positions, a Defense Acquisition Corps has been established. Membership is limited to the ranks of Major/Lieutenant Commander and above, and civilian equivalents. Further, membership is limited to persons having a college degree with at least 24 semester credit hours of business management, and at least four years of acquisition work experience. In addition to assessing the level of qualification required of each acquisition position as noted in the preceding paragraph, senior acquisition executives within the DoD also identify a subset of these positions as Critical Acquisition Positions (CAPs). CAPs must be filled by Defense Acquisition Corps members.[61]

The implementation of the DAWIA has evolved over time. For example, in 1998 the requirements for training and education of the acquisition workforce increased under a "Reform Through Learning" policy instituted by the Undersecretary of Defense for Acquisition and Technology, Jacques Gansler. Mr. Gansler stated in 1999 that:

> As we move to more sophisticated processes and empower acquisition employees to assume greater responsibility, it is imperative that we couple these increased demands on the workforce with the kinds of training, education and professional development that will enable them to assume these new roles.[62]

The policy requires managers to ensure and certify that acquisition workers are being provided with the opportunity for enhanced professional development, education and training throughout their careers. In addition, it requires that all personnel who have completed the certification requirements for their positions earn a minimum of 80 continuous-learning points every two years. Acquisition personnel can meet this

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[60] United States, Department of Defense, *A Desk Guide for Acquisition…* .

[61] United States, *Department of Defense Directive 5000.52*, 12 January 2005, http://www.dtic.mil/whs/directives/corres/pdf/d500052_011205/d500052p.pdf; Internet; accessed 19 March 2006.

[62] Daniel Verton, "Defense gets tough with acquisition training criteria," *Government Health IT*, 25 January 1999, http://www.govhealthit.com/article67314; Internet; accessed 19 March 2006.

requirement through participation in in-house training, academic courses at colleges and universities, individual development assignments and professional activities.[63]

The implementation of the DAWIA and subsequent acquisition policy reforms has not been without some problems. Due to continued cost and schedule increases of major programs, the Defense Acquisition Performance Assessment (DAPA) Project was initiated in the summer of 2005 to investigate if acquisition reforms were working and what further improvements could be made. The project team's overall conclusion was that a successful program requires a professional workforce with subject matter expertise. Importantly, the team noted that since 1990, there has been a concerted effort to reduce the government acquisition workforce. It was concluded that as a result, the acquisition workforce has become increasingly overburdened as the demands have increased with the nature and complexity of the acquisition system. The team recommended immediately increasing the number of federal employees focused on critical skill areas, such as program management, systems engineering and contracting.[64]

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[63] Ibid.

[64] United States, Department of Defense, *The Defense Acquisition Performance Assessment Project Report*; available from http://www.acq.osd.mil/dapaproject/documents/DAPA-Report-web/DAPA-Report-web-feb21.pdf; Internet; accessed 19 March 2006, 12.

Annex C – UK Ministry of Defence Acquisition Workforce Reforms

The United Kingdom Ministry of Defence (MOD) has long recognized the key role that competent personnel play in the acquisition process. In 1997 the Secretary of State for Defence, Geoffrey Robertson, initiated the Strategic Defence Review, which included as part of its mandate the analysis of defence procurement. One theme of the findings of the analysis was the following:

> …project management arrangements were singled out for criticism in terms of the caliber and training of staff, the lack of a career path in project management, and the limited power of project managers to manage their programmes.[65]

To address the identified issues, the Smart Procurement Initiative, later renamed to Smart Acquisition, was initiated.[66] The aim of Smart Acquisition is to acquire Defence capability faster, cheaper, better and more effectively integrated.[67] As will be explained in the paragraphs that follow, Smart Acquisition is based on a strategy of skills assessment, development, attraction and retention, and subsequent assurance of improved acquisition performance.[68]

To underpin personnel development, training and selection processes in acquisition, an Acquisition Competence Framework has been created. This framework provides a common benchmark for all those in the acquisition community, both military and civilian, by establishing in a single source all the competencies that support acquisition. Under the Acquisition Competence Framework, all positions in the acquisition field have been assessed as to the generic competencies required and assigned one of three associated skill levels: Awareness, Practitioner or Expert. By assessing themselves against the Acquisition Competence Framework, personnel can identify suitable training or development opportunities to further their career aspirations. To facilitate career development and employment opportunities, personnel can voluntarily

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[65] Chin, *British Weapons Acquisition Policy…*, 251.

[66] Ibid., 242-246.

[67] United Kingdom, Ministry of Defence, "About Defence – Smart Acquisition," http://www.mod.uk/DefenceInternet/AboutDefence/Organisation/KeyFactsAboutDefence/SmartAcquisition.htm; Internet; accessed 8 April 2006.

[68] United Kingdom, Ministry of Defence, *The Acquisition Handbook*, 47.

elect themselves to be members of the Acquisition Stream, which necessitates that they keep a Personal Development Record.[69]

To assure that there exists a select cadre of competent acquisition professionals suitably qualified to assume key leadership positions within the Acquisition Stream, an Acquisition Leadership Development Scheme (ALDS) has been initiated. The ALDS has been divided into three stages: Foundation, Core and Expert. Members of ALDS are selected by competition on an annual basis. As members progress they graduate from one level and continue their self-development before entering the next through competitive selection. A couple of key features of the ALDS are mentoring, with more experienced members mentoring junior members; and formal feedback on development progress, with all members of the ALDS required to submit their Personal Development Record for annual review.[70]

To provide for advanced acquisition training and education, an Undergraduate Acquisition Diploma Qualification Programme has been established. Announced in July 2004, the Diploma in Acquisition is an undergraduate qualification awarded by Oxford Brookes University. It is based on existing MOD training and covers the following areas:

- General Management;
- Project Management;
- Commercial Management;
- Logistics Management; and
- Resource Management.[71]

Each module of training includes the requirement to complete an assignment focussed on issues important to acquisition. The Diploma is attained by attending the relevant courses in each module and successfully completing the assignments.[72] Previous training can be accredited, but module assignments must still be completed. The Diploma must be completed within a 4 year period and is open to anyone in an acquisition role. There has

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[69] Ibid., 47-48.

[70] Ibid., 49-50.

[71] This training is provided primarily by Defence Procurement Management Training (DPMT), http://dpmt.org.uk/defaultintro.htm; and Defence Business Learning (dblearning), http://www.da.mod.uk/DCMT/organisation/dblearning/.

[72] United Kingdom, Ministry of Defence, "Diploma in Acquisition Modules and Courses," http://www.ams.mod.uk/ams/content/docs/peopacq/aeo/content/dipacqmod.htm; Internet; accessed 8 April 2006.

been a strong interest in the program: 75 military and civil service personnel applied for the 10 available slots in 2005. 40 slots are being offered in 2006, and in 2007 it is planned to offer 60 positions.[73] For those who aspire to senior leadership positions in acquisition, a Master of Science (MSc) degree in Defence Acquisition Management is offered at the Defence Academy.[74]

[73] United Kingdom, Ministry of Defence, "Ministry of Defence Acquisition Qualification," http://www.ams.mod.uk/ams/content/docs/peopacq/aeo/content/docs/acququal.htm; Internet; accessed 8 April 2006.

[74] United Kingdom, Ministry of Defence, *The Acquisition Handbook*, 50.

Annex D – Australian Defence Materiel Organisation Acquisition Workforce Reforms

A variety of perceived failures in the Australian defence acquisition system resulted in a comprehensive study being undertaken, entitled the 'Defence Procurement Review 2003.' Citing cost overruns and significant schedule delays in the procurement of major capital equipment, the study pointed to the key role of project managers in the successful acquisition of defence equipment. Specifically, it stated that project managers within the Defence Materiel Organisation (DMO) have often lacked the skills and experience necessary to manage the technical complexity and financial risk associated with the project for which they are responsible. The Review pointed to the internal career paths for project managers as a particular problem, and concluded that the DMO must develop project management as a major resource, requiring high quality people with the requisite skills and experience.[75]

The Chief Executive Officer (CEO) of the DMO, Dr Stephen Gumley, has instituted a number of reforms as a result of the Defence Procurement Review. Key amongst these reforms has been his goal to professionalize his workforce through the chartering and certification of program managers, engineers and financial managers through approved professional associations such as the Australian Institute of Project Management, Engineers Australia and CPA Australia.[76] With respect to project management in particular, the DMO contracted the Australian Institute of Project Management to design and implement a Program Managers Certification Framework that would professionalize and standardize the training, development and qualification of acquisition and sustainment program managers. The framework is loosely based on the United States' Defense Acquisition University and is seen to be a major investment in program management as a vital career stream in the DMO.[77] Given the increasingly

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[75] Australia, Department of Defence, *Defence Procurment Review 2003*, August 2003; available from http://www.defence.gov.au/publications/dpr180903.pdf: Internet; accessed 24 March 2006, 39-40.

[76] Australia, Department of Defence, "The journey's well under way - Materiel World, Dr Stephen Gumley," *Defence Magazine*, December 2004, http://www.defence.gov.au/defencemagazine/editions/011204/groups/dmo.htm; Internet; accessed 24 March 2006.

[77] Australia, Department of Defence, "DMO-AIPM Program Managers Framework A First," Defence Media Release (Canberra: Department of Defence, 11 October 2004); available from

complex technical and regulatory environment, Dr Gumley feels that the requirement for professionalizing of his workforce is more pressing than ever and has therefore directed that all personnel involved in project management be qualified project managers by Christmas 2006. He has clearly emphasized that the project management certification program is not open to debate: "If we are to deliver on the challenges before the DMO, this is the way we are going to go."[78] As of March 2006, there were 388 project managers enrolled in the certification program.[79]

Under the DMO framework, all capital equipment projects are separated into one of four acquisition categories based on their strategic importance, cost and technical complexity. Corresponding directly to these project categories, there are four levels of certification under the Program Managers Certification Framework: Certified Professional Program Manager (CPPM) Levels 1 to 4. CPPM education requirements are a tertiary degree in addition to Project Management qualifications from Diploma to Masters Degree. Experience requirements are a minimum of 3 years to over 10 years. Further, all project manager roles at CPPM Levels 1 - 4 will be open to competition based on merit.[80]

Certification is based on an assessment against the DMO Project Management Standards. These standards specify the education, experience and competency requirements of project managers for each category of project. Accredited assessors confirm the appropriate application of competency standards by observing evidence of skills being applied (such as in written reports and policy papers) or by creating a scenario where the candidate performs activities to the required level. The important distinction is that individuals are not certified by virtue of attendance at training courses,

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http://www.aipm.com.au/resource/DMO-AIPM%20%20Media%20Release.pdf; Internet; accessed 24 March 2006.

[78] Australian Institute of Project Management, **"**March Forum Review - Project Management Policy & Certification," *Chapter in Focus*, March 2005; http://www.aipm.com.au/resource/ACT%20News%20Mar%2005%202.asp; Internet; accessed 26 March 2006.

[79] Daniel Cotterill, "Two Years as CEO of a Risky Business," *Australian Defence Magazine*, Volume 14, Issue 3, March 2006; available from http://www.yaffa.com.au/defence/current/3-109.htm; Internet; accessed 28 March 2006.

[80] Australian Institute of Project Management, **"**March Forum Review… ."

but because they have demonstrated an ability to apply the required knowledge in the workplace.[81]

All individuals who achieve CPPM status are assigned to a pool of positions managed by the CEO.[82] The pool is structured to guide their professional development and align the project management capacity to anticipated requirements for project staff. [83] The DMO is also establishing a dedicated coaching team of 12 professionals, who have a blend of both project management experience and good interpersonal coaching skills, to be mentors to those that have achieved CPPM status.[84]

There is some evidence that Australian focus on competency of their acquisition staff is beginning to pay dividends. In 2005, the a project team from the RAAF won a national 2005 Project Management Achievement Award from the Australian Institute of Project Management for its management of the project to equip the C-130J Hercules transport aircraft with Electronic Warfare Self-Protection systems. The project was completed more than two months ahead of schedule and $4 million below the estimated cost. This is not an isolated success story – projects to acquire early warning and control aircraft, armed reconnaissance helicopters and the Armidale class patrol boats are also progressing well. In fact, according to its CEO, the DMO recovered about a third of its schedule deficit last year. The DMO's leadership believes the award vindicates the reforms undertaken over the past two years, and in particular the drive to professionalise the organization by raising the project management and technical skills of its staff.[85]

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[81] Australia, Australian Public Service Commission, "Public Sector Training Package," http://www.apsc.gov.au/learn/pstp.htm; Internet; accessed 28 March 2006.

[82] While this pool of personnel has not been given a formal name, it is similar to the US DoD Defense Acquisition Corps and the UK MOD Acquisition Stream.

[83] Australian Institute of Project Management, **"**March Forum Review… ."

[84] Australia, Department of Defence, "DMO Leading the way in Project Management," *Defence Magazine*, October 2005; http://www.defence.gov.au/defencemagazine/editions/20051001/groups/dmo.htm; Internet; accessed 28 March 2006.

[85] Gregor Ferguson, "Herculean task wins DMO a top manager's gong," *The Australian – Defence*, 10 December 2005; http://www.theaustralian.news.com.au/common/story_page/0,5744,17479117%255E5002142,00.html; Internet; accessed 28 March 2006.

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