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Foreign Affairs, Defence and Trade Committee
Senate Inquiry Into DMO Procurement Procedures
Parliament House
CANBERRA ACT 2600

SUPPLEMENTARY SUBMISSION INTO
THE EFFECTIVENESS OF THE DEFENCE MATERIEL ORGANISATION (DMO)

The attached submission is supplementary to my submission of 5th April 2011, and is made in response to the additional Term of Reference given to the Committee - the effectiveness of the DMO. My original submission:

- Analysed, as a current example, the root cause behind the failure of Defence and the DMO to maintain Australia's naval capabilities.
- Identified a number of causal factors behind Defence/DMO's systemic failures in the management of capability definition, acquisition and sustainment.

My submission also drew the attention of the Committee to a series of analyses of all DMO Major Project Reports issued to date, as well as the JCPAA Hearings that followed. These, with the three reviews and analyses appended, should have gone a long way towards answering the new Term of Reference. Importantly, my original submission highlighted the fact that the DMO and its performance cannot be looked at in isolation. The DMO forms but one element in the life cycle management of military capability definition, acquisition and sustainment, and thus its effectiveness must be examined within the effectiveness of the over-all Defence management.

At present, I am finalising a further analysis that more clearly identifies the root cause behind Australia's failing Defence structure, as well as DMO's failed capability and sustainment management. This identifies systemic failure of the management and governance models developed within Defence and the DMO as being the root cause behind the progressive decay in Australia's defence capabilities, and the repeated failures in capability definition, acquisition and sustainment within Defence and the DMO. Parts of this draft, as yet unpublished paper are attached as Annex A.

In a nutshell, doing more of what has been done without success over the past decade or more will not fix the serious problems that are now maturing - especially when those things are being done by people who do not have the management or technological skills and competencies required for the job. Finally, the real question is not whether the DMO is effective - that has largely been answered. The critical question is how the capability acquisition and sustainment function should best be organised, resourced and managed.

I wish the Committee good hunting and emphasise the critical importance of your conclusions and recommendations to Australia's national security.

Kind Regards,

(E.J. Bushell, Air Cdre RAAF, Rtd)

SUPPLEMENTARY SUBMISSION INTO THE EFFECTIVENESS OF THE DEFENCE MATERIEL ORGANISATION (DMO)

1. MATTERS ARISING FROM THE NAVY CASE STUDY

ANAO Audit Report 5 - 2010 - 11.

In its conclusions, ANAO Audit Report No 5 - 2010-11 advises that ".. *since 1988, Defence has sought to put in place the seamless management of ADF capability from requirements definition through to withdrawal from service."* The report then goes on to list a wide range of areas where the objectives of this policy have had no impact. After 23 years of trying, unsuccessfully, to achieve seamless management, this raises the question as to whether current Defence/DMO management structures and their methodologies will ever be capable of managing their functions seamlessly.

Within both bureaucracies, there are far too many levels and areas of executive involvement that overlap, fulfill no real function, and cannot be held accountable for either their action or their inaction. The result has been a proliferation of interfaces requiring an even greater proliferation of processes that need to be integrated, and come together completely and effectively in time and space, generally in the face of changing circumstances, for any function to have any chance of being managed seamlessly. A similar diffusion of functional interfaces, each with its need for seamlessly integrating processes, exists throughout the Services.

Processes for all of these functional interfaces have to be scoped and written, reviewed, and updated on a continuing basis by persons having the specialist skills and competencies relevant to their specific areas of responsibility, as well possessing a clear, current, accurate and detailed understanding of how his functional area fits into all interfacing functions throughout the total organisation, so that his and their processes will fit together seamlessly. This is far too ambitious an aim in terms of pure mass and effort, but more so when the current diffusion of functions and the resulting demand for integrating processes (the cause) stemmed from a lack of those specialist skills and competencies in the first place.

Both Defence and the DMO seem to confuse process with management. Process, particularly in the Public Service, is a means of administering relatively simple and repetitive tasks in a bureaucracy by means of a set of steps and directions aimed at reducing skills and training costs. Management, however, is, broadly, the organisation and direction of the skills and competencies required to meet the objectives of a (usually technology-dependent) organisation. There is a world of difference between them.

The ANAO report goes on to make eight important recommendations, notably those highlighting the importance of adopting Project, Systems, and Engineering management methodologies under the control of personnel with the required technical and management skills and competencies. Defence, as is generally the case, agreed with all recommendations. However, with both Defence and the DMO locked into a 'commercial', contract administration model, it will be quite impossible for these recommendations to be implemented in the manner intended.

The current management models used by Defence and the DMO will have to change to achieve the results sought.

The Rizzo Report.

This report and its Plan to to Reform Support Ship Repair and Management Practices (July 2011) goes deeper into the organisation, tasking, functional interfaces, and skills problems within Navy. It recommends many long - overdue reforms, especially that in regard to the re-establishment of the Naval Technical Services (Engineering) function that was disbanded (along with the Technical Services function in RAAF), following the Sanderson Review of June 1989. This single action has led directly to the progressive deterioration in capability acquisition and sustainment seen in all three Services, and is a major cause for the widespread problems that have matured in Defence, the DMO and the Services.

The Report also notes *"that the systemic breakdown ....is a result of institutional failures rather than a contemporary failure by individuals."* However, this comes across as a rather contrived, if diplomatic, attempt to cloud the accountability of those responsible within both Government and Defence. As analysed in my original submission, the situation facing Rizzo resulted directly and inevitably from decisions taken consciously by Defence and accepted by Government at clearly identifiable points during the 'reform' of the defence forces. Defence and Government should accept full accountability for what has transpired; if they do not, then why should anyone within Government, Defence, or the Services feel that they should accept accountability for their actions? However, Defence and Government both avoided any scent of accountability when the Secretary and the CDF presented their 'Causal Factors', which blamed Navy for the whole debacle, and this position was accepted and promoted publicly by the Minister.

The Rizzo Report also raises the problem of diffused functions and their associated processes. Over 74 stakeholders were interviewed, with Fig 11 (page 42) identifying the bewildering number of tangled functional interfaces involved. Here, the Committee should note that Rizzo was looking at only one activity in Navy - that of Support Ship Repair and Management Practices. One can only imagine the size and complexity of a functional chart that shows how Navy is managed as a Service, and then shudder at the number of processes that would have to be in place and effective to ensure that Navy was being managed 'in a seamless manner'. Rizzo brings back memories of the 759 findings, and the 256 recommendations to be implemented by 27 Implementing Authorities, all in relation to the single maintenance error that resulted in the Sea King accident in 2005. This incident was also announced to be the sole fault of Navy - not the inevitable and foreseeable result of Defence policies that had Government blessing.

While Defence, not surprisingly, has accepted fully Mr Rizzo's recommendations, the implementation of the Rizzo recommendations will inevitably encounter great problems as their operational and technical imperatives and objectives are skewed to align with Defence/DMO contact - centric management models and forced to fit the many processes that will need to be raised with an eye to the continued protection of those who wish to gain maximum authority, but avoid accountability.

The DMO makes much of its benchmarking practice, but in this case any benchmarking undertaken would seem to have been to no advantage. In fact, the countries against which the DMO benchmarks itself are all 'failed states' insofar as capability acquisition and sustainment are concerned. From Canada, we now hear *"The problem with Canada's failed submarine program is that neither the military nor the government acknowledges that there is a problem."* ('*Billions at Stake in Military Plans*', Times Columnist, 02 August 2011). The Canadian report goes on to identify rusted out hulls limiting operational capabilities, maintenance planning problems restricting the availability of one boat to less than a month per year, another in repair for much of its life, being in service for only 115 days in 10 years, and another that killed a sailor as it was being delivered in 2004 and has been in dry dock since.

Australia has done, and must again do much better than it is doing now. The common factors that have given rise to the failures emerging here, and those plaguing other Western nations are, simply:

- **The reorganisation of the Military to bring it under civilian (as opposed to civil) control, where technological illiterates take highly technology-dependent decisions.**
- **The de-skilling of the Services in all their functions, especially in the management of technology (their engineering branches), together with the loss of their Support Commands.**
- **The transfer and control of Service resources to an unwieldy, centralised and incompetent bureaucracy.**
- **The adoption of inappropriate, 'commercial' commodity industry, management models, and the outsourcing of capability acquisition and sustainment functions.**
- **The adoption of Total Life Support contracts that are high in cost, high in capability and sovereign risk, and result in the erosion of national self reliance.**

Navy is simply showing the direction in which Defence/DMO management is driving Australia's military capabilities.

2. SOME OBSERVATIONS ON THE DMO

Where we Are.

The DMO has been functioning for a decade, although central control of the Services' capability acquisition and sustainment functions were transferred to the Department of Defence many years previously. Since this shift in responsibilities, and the adoption of a 'commercial', business - like approach to these functions, there has been a string of systemic problems in the way that Defence and the DMO have managed Australia's military capabilities. Delays and deficiencies with projects have left gaping holes in our security plans and capabilities, and poor decisions and management problems have left similar gaping holes in the public purse. Defence and the DMO, throughout this period, have commissioned interminable reviews and inquiries, generally conducted by or under the control of those who actually presided over the problems under investigation. Sham reviews have been conducted by Defence and put to Parliament, the Department seemingly immune from Australia's governance mechanisms,.

Despite a decade plus of 'learning' and 'maturing processes', central management of capability acquisition and sustainment has shown little, if any, improvement, and no improvement will be possible until those involved possess the appropriate project and systems engineering management skills and competencies, and projects are managed as technology - dependent projects and not as simple public service purchasing contracts more appropriate to the supply of commodity products such as pens and paper.

Projects of Concern.

Defence has now turned its attention to its "Projects of Concern List" - a list of 18 major projects that have failed and will now come under 'reforms' that will fix everything. Put simply, the plan is to:

- Increase executive oversight to ministerial level.
- Involve the Minister for Defence Materiel, as well as the CEO DMO and Industry.
- Establish an Independent Project Performance Office (which will have to be formed and

then raise and negotiate a raft of processes to ensure 'seamless' management).

In the end, *"Defence will provide Government with recommendations on how to fix the problems with the project."*. The Committee should recall here that Defence caused the problems and presided over them, year after year, without being able to fix them, so how is Defence expected to be able to fix them now?

In short, the solution to the problem of failed projects is the standard approach taken by Defence and the DMO:

- Increase the level of executive oversight.
- Form a new organisation.
- Write manuals and instructions and raise a raft of processes.

There is no mention of the role and importance of project management or systems engineering analysis and planning, so Defence has indeed learned nothing.

Finally, the Committee should recall that projects such as these had been managed by the Services, over decades of change and 'complexity', by junior and mid-ranking officers, with limited higher direction, without encountering the problems that Defence and the DMO have encountered constantly. The reason? - Project and engineering management formed the core function, and those involved were competent in their specialist fields - the resulting contact was thus a simple one, with the risks low and manageable.

The Competition for and Availability of Core Skills and Competencies.

The DMO is but one element in the chain of management of Service capabilities and their sustainment, if the major one in terms of criticality and cost. The organisation's main interfaces are Defence, the Capability Development Group (CDG), and a group of dependent organisations. In brief:

- DFG defines capability requirements, based upon inputs from 'stakeholders', the Services, and strategic guidance. Outputs comprise statements of functional and performance requirements that form the basis for the development of options for the Government to consider.
- DMO acquires and sustains capabilities and supporting systems approved by government. DMO interfaces with private sector firms, the Services for regulatory requirements and the CDF for readiness and sustainability requirements. DMO also processes requirements through Defence for government decision.

Each of these organisations requires a detailed grasp of the operational capability required and the technologies involved, as well as the project and engineering management procedures that will bring the capabilities required and their sustainment, to fruition. **Analysis of DMO Major Project Reports shows that projects continually fail for the same elemental reasons - essentially requirements are wrong or incomplete, the technology is not understood, a lack of ability to manage project and engineering matters ("complexity" and integration), and an inability to determine if the system delivered actually meets requirements and can be sustained.** The major problem here is that the contract management processes in use do not recognise the critical role of project and engineering management . Conversely, even if this role were recognised, it would be totally impossible to provide and maintain the skills and competencies required in all the areas where they are needed.

To the extent that these skills and competencies have been allowed to survive by Defence and Government decree, they reside within the three Services, where they rightfully belong. They are not available on call from OEMs or Industry, and never will be. The Services must thus be recapitalised in skills sets, especially by bringing back their Technical Services Branches, and employing their engineers in critical project and engineering and maintenance management roles.

The Proposed Future of the DMO.

Recent media attention reported a proposal to bring the DMO under Defence, ending its status as a prescribed agency, and putting the organisation under the executive oversight of two "super assistant secretaries". Hopefully, this Senate Inquiry is not aimed at 'ticking' this proposal, as such a move would not improve the organisation's performance, but would lead to an even less effective organisation - one that will become vulnerable to even more vested and conflicting political, bureaucratic and commercial pressures.

As with fixing the projects of concern problems, this 'solution' follows the standard political/bureaucratic method for fixing problems:

- Raise the level of executive oversight.
- Form a new organisation.
- Construct a web of processes, supposedly to make the organisation work, but also to diffuse and avoid accountability.

In short, Defence will simply use the opportunity to expand its organisation and increase overheads rather than fix the real problem. The proposal also boils down to Defence (and Government) simply doing more of what has been done so unsuccessfully before, which will not improve the DMO's performance, but worsen it.

Management of the DMO.

Annex A raises the question of the appropriateness of the models being used for the management of the acquisition and sustainment function within Defence and the DMO, as well as the commercial, "business - like" approach that has been pursued. The general observations that follow expand the findings at Annex A.

The Role of the Original Equipment Manufacturer.

There is a general belief that the OEM of a capability knows all about it, and so is best placed to support the capability over its life - a low risk bet. This is a myth, an expensive one for the customer but a lucrative one for the OEM. In reality, OEMs possess manufacturing skills and, to a lesser degree, integration and design skills. They know NOTHING about support, which demands an entirely different set of skills and competencies. This myth also spills over into the expensive fallacy that all spares must be purchased from the OEM. In reality, the OEM is not the design authority for the vast majority of spares. He simply outsources spares orders, which usually incurs several mark-ups in price.

The Through Life Support "Turnkey" contracts so popular with Defence and the DMO are thus less effective than they should be and cost more. Defence, the DMO and the Services, having committed to these very long - life contracts, can do nothing about it, and so the DMO becomes merely a conduit through which public money is channelled to foreign

OEMs. This does not identify a smart buyer, but it does identify an organisation that seems unconcerned about the impacts of its business - like, contract centric management model on military capabilities and national security.

The Committee should note that the end aim of all foreign OEMs is the maximising of their share of sustainment work to maximise shareholder profits, which can come only at a direct cost to indigenous control of Australia's prime, strategic military capabilities.

Acquisition Contracts.

Acquisition contracts were allowed to become increasingly lenient on schedule and payment, with Defence agencies largely reduced to irrelevance because the capability and its sustainment was marketed successfully to government where knowledge was scant and no hard questions were raised. The DMO is thus reduced to the level of ineffectiveness, and the organisation does not possess the project and engineering management skills and competencies needed to redress the situation.

Navy has resisted the intrusion of external organisations into its capability sustainment functions for reasons now obvious, and rightly emphasises the need for Australia to regain tight, organic control of its maritime capabilities.

RAAF, on the other hand, is totally under the thumb of global OEMs. The loss of its Technical Services Branch, and the dispersement and mis-employment of its engineers is clearly reflected in the poverty of the air power capability and sustainment decisions that have been taken since. History will record the premature retirement of the F-111, the Super Hornet decision, the decision to abandon standard capability analysis procedures and gamble on the JSF, and the disposal of the Caribou (quite able to be upgraded and retained), and the purchase of an essentially useless replacement, as gross failures that will impact Australia's air power capabilities adversely over the next three decades, unless corrected.

The Real Question.

While the environment within Defence is often analytic, it is inconclusive - everything is connected to everything else. As a result, everything is always in a state of flux as attempts are made, by adding new functions and developing more and more processes, to bring everything together. This has been the situation since the Tange changes, and it has only accelerated over time. With its current management models and commercial approaches, the Defence/DMO bureaucracies are powerless to to control effectively either the drain of taxpayer monies into the coffers of foreign OEMs, or the steady erosion of Australia's military capabilities. Government and Defence have together created and sustained the situation where industry does not now support operations, but operations now supports industry.

The important question is not whether the DMO is effective - that question has substantially been answered. The DMO has never been, and will never become, effective, so simply continuing to do what has been unsuccessful to date makes no sense.

The critical question is how the capability acquisition and sustainment function can be made once again efficient, effective and economic.

(E.J. Bushell, Air Cdre, RAAF, Rtd) 10th August 2011

Annex A: Extracts from Draft, Unpublished Paper (APA 2011-04, Air Power Australia).

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ANNEX A

EXTRACTS FROM:

AUSTRALIA'S FAILING DEFENCE STRUCTURE

AND MANAGEMENT METHODOLOGY

EXECUTIVE SUMMARY

There have been many inquiries into the Department of Defence, the Services and the Defence Materiel Organisation (DMO), over the past two decades and more - none of which has resulted in any significant improvement. Most, if not all, have merely called for more inquiries and reviews, added more administrative process, increased the number and level of executive oversight bodies, and facilitated further civilian intrusion into matters critical to military efficiency and effectiveness. No root and branch functional review has ever been permitted.

The civilian management model that has evolved within the Defence bureaucracy has now become more of a Service Industry one, structured along common user lines, and reliant upon widespread outsourcing - a solution that has failed in Australia as well as in the US and UK, nations used as benchmarks by Defence and the DMO.

Furthermore, the DMO, which also functions within this overarching model, has departed from accepted project and technology management systems and adopted a contract-centric, process-driven, 'business' model administered by generalists, which has resulted in the organisation making the same costly mistakes in capability acquisition project after project. The deficiencies seen in the DMO's ability to provide critical through life support of weapon systems, where the bulk of Defence funds is spent, may also be traced to the same factors.

The management models that have evolved within Defence, the Services and the DMO are wholly inappropriate for the functions they perform, and represent the root cause behind the major problems being seen increasingly in all three areas.

Under these models, accountability and objective measures of performance are largely avoided in Defence and the DMO, while the Service Chiefs, who carry primary responsibility for the force capabilities required by Government, are made unable to exercise their accountability.

Until these models are redesigned and rationalised to align authority and resources with accountability, structural and performance weaknesses and failures will continue and increase.

While this situation is able to be reversed, a pre-condition must be an open and honest acceptance of the fact that the fundamental models used in the management and governance of Defence and the DMO do not work and can not be made to work.

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INTRODUCTION

Over the past decade or more, there has been an increasing flow of Press reports of major Defence acquisition and sustainment problems and failures that have affected all three Services as well as Australia's national security.

In March of 2003, the Foreign Affairs, Defence and Trade Reference Committee noted that there was relatively poor visibility on the progress of Defence major projects as far as Parliament and the Australian public were concerned, and as a result it called for the Attorney - General to produce an annual report on the progress of major Defence projects.

The Defence Materiel Organisation (DMO) has now raised three Major Project Reports (MPRs). However, detailed analysis of these reports indicates that nothing of substance has been achieved that will improve Defence/DMO major projects transparency and public accountability, or project management performance.

Both Defence and the DMO are locked into a process - driven, contract - centric, 'business' approach to acquisition and sustainment that, under contract and 'generalist' managers, has not been successful. Serious project problems and failures have continued to arise within the two organisations.

The root cause for this situation may be traced to the abandonment, over the period 1998 to 2001, of the successful project and engineering based management systems, skills and competencies that had been built up within the three Service Departments over decades of experience, coupled with the introduction of 'commercial' approaches controlled by generalist managers. At the same time, Project Management Boards were replaced by Project Governance Boards - bodies that also lacked critical project and engineering skills and competencies - resulting in internal governance systems that have not only proven to be ineffective, but are compounding problems and failures.

Similar problems have been encountered increasingly in the higher management of Australia's Military Services following the structural changes introduced by Sir Arthur Tange during the early 1970s. Under these changes, and those imposed later under the DRP and CSP, the Military have come increasingly under civilian (principally Public Service) control rather than civil (Parliamentary) control, blurring the historical, constitutional boundary that existed between Military and civil (Parliamentary) roles and responsibilities.

The impacts of these changes on the management of Defence,the DMO and the Services have been corrosive and are increasingly being shown to be quite unsuited to the management of Australia's military during both peace and hostilities.

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THE CULTURAL CLASH AND ITS IMPACTS

As Service officers (above Group Captain/Captain/Colonel) vie for higher rank, they are selected by Defence not upon their military professionalism, but rather on their ability to become military bureaucrats. Under this system, senior officers are required to shift their primary allegiance from their Service to the Defence bureaucracy, becoming 'affably compliant' members of the Minister's staff.

The affect of this upon Australia's Services has been threefold:

- Senior officers are put into a position of conflict of interest, and must follow the Department's line (whether or not it be in the best interests of their Service), or suffer the career consequences.
- Their shift in loyalty does not go unnoticed within their Service, as ambitious officers moving up the ranks seek advantage by adopting and demonstrating civilian rather than military behaviours and values.
- Such changes in approach are also noted down the ranks, giving rise to a general feeling that members can no longer rely upon their officers, the chain of command, or the Service generally to protect them or their interests.

The result of Defence's two-pronged efforts to replace Australia's traditional military culture with a civilian culture has been to weaken the ethics, ethos, morale and trust central to military professionalism, and so erode the system of command and control within the Services. This may well be the major cause behind the attitudes and behaviours seen with the LPA debacle, as well as other Navy, RAAF and Army personnel management problems.

Certainly, the statement made by the CO Cerberus following the recent fatal motor accident involving Navy trainees strengthens the perception that command and control of Navy has been eroded severely. As CO, he would be expected to fix any problem with alcohol abuse summarily. Instead, like a true bureaucrat, he advises:

> *"We continually look at ways to improve our business and we'll look at this incident like any other in the context of how we might learn lessons from it. But we have a review process and that will be looked at, and a review will be undertaken."*

This failure to take prompt corrective action mirrors the approach adopted throughout the DMO, under which generic acquisition problems that arise are allowed to accumulate on a Lessons Learned Database and later given a generic Category of Systemic Lessons. Attempts are then made to avoid the mistakes 'identified' through amendments to administrative process. However, the core problems, which in the main relate to the use of 'generalist managers' and the absence of Project and Engineering Management Systems, skills and competencies, are avoided studiously.

This type of culture is being is being driven home at all levels of the Services, under Defence policies being implemented by the Diarchy.

It is bizarre that in the centennial year of the Anzac Spirit, Australia's Department of Defence, with government approval, is well along the way to destroying the very culture that gave rise to the Anzac Spirit.

MANAGEMENT METHODOLOGIES WITHIN DEFENCE AND THE DMO

The analysis above concentrated upon the actual causes behind the LPA debacle. This section will now analyse the way in which the management methodologies adopted by Defence and the DMO have increasingly eroded the capabilities of all three Services as well as Australia's national security.

Department of Defence Management Trends

Pre-Tange, the Services were organised strictly along functional lines. Each Service Chief was supported by a Board, the members of which managed the critical dependencies of the Service - such as Operations, Technical Services, Supply, Personnel, and so on. Civil oversight was provided directly by a Service Minister, with his Secretary being a member of the Service Board. This organisational structure was direct and responsive, with short lines of communication and control, and the Service Chief had control of the resources he needed to discharge his responsibilities. Civil oversight and governance were both direct, visible and effective.

Post-Tange, the new Defence organisation changed to a highly centralised bureaucracy administrating all aspects of the Services through a 'common user' concept, notwithstanding the many major differences between the Services in function, operational environment and support needs, technologies, skills and competencies, and Service ethos and morale. Under the new organisation, the critical dependencies of the Services were centralised along common user lines, and managed largely as cost centres accessed only through a maze of public service administrative processes that materialised as organisational, functional, cultural, and financial interfaces that had to be negotiated by the Services. As each of these interfaces acts as a separate element in the reliability chain of functional management, the overall management system reliability and effectiveness must inevitably degrade rapidly to an unacceptable level.

The management methodology that has evolved within Defence has thus departed from the traditional Australian Public Service administrative model to become more of a Service Industry model, much along the lines of that adopted for the management of other government departments. Under this approach:

- The three Services were centralised to become the Australian Defence Force, and the management structures within the Service Offices were standardised to facilitate central administration and control by the Department.
- The Services' materiel acquisition and sustainment functions, including their Support Commands, were centralised and moved under Defence.
- Cultural change was then imposed upon the Services, particularly at senior ranks, so that this level of management would better identify with and support the culture and processes within the Defence bureaucracy.
- The Services' integrated operational capabilities were broken down to become small Force Element Groups reporting to the Chief Defence Staff (CDF) - so becoming the 'supported capabilities'.
- Support was 'simplified' along 'common user' lines without regard for the unique needs of the Services..

- The provision of capability and sustainment 'services' were centralised and then largely outsourced to major foreign prime contractors in an attempt to avoid risk.

Whether in Defence, Education, Health or any other department, this model, in the hands of unskilled generalists, has proven to be a failure, as attested by the string of representative critical reports issued by the Australian National Audit Office. However, in Defence, management failures at any level will translate directly into weaknesses in Australia's national security, and an unacceptably high risk to military capabilities as well as the safety of those who have to take them into combat.

Civil Versus Civilian Control of the Military

The major restructuring of Australia's higher defence machinery implemented by Sir Arthur Tange during the early 1970s was contentious then and has remained contentious since. Rather than evolve the structure that had proven fundamentally sound during and since WWII:

> "*Tange used the opportunity of the impatient Whitlam Government, and the anti - military atmosphere of the Vietnam War, to force through without due process the abolition of the statutory Service (and Supply) Boards - and the direct Minister to Service Chief (and vice versa) strategic, financial and moral accountability (and mutual knowledge) that existed".* In effect, the tight and effective civil (Parliamentary) control of the Services that existed was lost and not adequately replaced.

Dr T.B. Miller, a well-respected defence analyst at the time, warned that the Tange changes would result in "*A giant step along the road to Public Service (as opposed to Parliamentary) control of the armed forces.*" An so it has come to pass.

Having absorbed the Service Departments, Defence, via the DRP and CSP, then proceeded to downsize and de-skill the Services and take over their capability acquisition and sustainment functions as well as their Support Commands. Throughout this process, the constitutional separation between civil (Parliamentary) control of the Military and Military command of the Services has become blurred and eroded . The result has seen civilian (principally Public Service) intrusion into Military affairs, and even Ministerial abrogation of Military authority. The importance of preventing this happening seems to have gone either unnoticed or ignored by both Defence and Parliament.

> *"Civil control of the military is a constitutional function limited to Ministers (representing parliament) alone, not one that can or should somehow be shared with public servants or civilians generally. Our tried and tested Westminster constitutional model deliberately separates control and command. This has long removed the gun from politics and the party politics from the institutional culture and operations of our military.*"

The Spread of Generalist Managers

Traditionally, technology-dependent organisations were characterised by having a strong technological backbone, with technical tasks being managed by technologically skilled engineering professionals. This management model was followed by Australia's Military Services, where it was underpinned by technical policies, systems and procedures for all phases of the equipment life

cycle, developed and honed through experience over time to meet the changing needs of each Service.

However, from the mid-1970s, the Department of Defence, with the consent of the Whitlam Government, and all successive governments, swept this management structure aside, replacing its technology skilled engineering professionals with technologically unskilled generalists, both civilian and military.

Under the traditional management model, technology managers (in conjunction with operational staffs) were wholly focussed upon achieving required outcomes - essentially the specification of functional and engineering requirements, and the subsequent management of evaluation and selection, and acquisition and sustainment activities, to meet those requirements. Equipment manufacturers, in turn, interfaced with their Service customers primarily through their operational and engineering organisations, manufacturers' marketing arms playing only a minor role in the evaluation, selection and sustainment phases.

The introduction of the generalist manager, however, led to marked changes in the relationship between the customer and the manufacturer:

- The generalist, being technologically illiterate, and consequently having an inadequate grasp of the functional and technical requirement or the technologies involved, is unable to communicate coherently with the manufacturer's engineering organisation. Hence, the generalist is unable to understand and evaluate what he is being told (and sold), and can not identify the appropriate questions to ask - an ideal customer to any commercial enterprise.

- In addition, the generalist is forced by his technological illiteracy to rely upon the detailed documentation and formalised processes for which he is nominally responsible, as well as the accreditation of those processes by supposedly competent third parties. As a result, the generalist is alienated from the detail of his responsibilities.

- As a result, the point of contact between the generalist customer and the manufacturer is shifted to the marketing division, where seemingly 'complex' technology aspects are pushed into the background and replaced by comforting, simplistic statements of promised capabilities. These now form the basis for any subsequent discussion and contract negotiation and management. The era of the PowerPoint Presentation had arrived.

- The marketing organisation also noted that, in most Western nations, the decision process had moved up to government level, so marketing effort is now increasingly directed not at the operational customer with his technical requirements, but directly to government. In Australia, the Super Hornet and JSF procurement decisions, for example, reflect this clearly.

- Not surprisingly, manufacturers' system performance claims often become ambiguous at best and highly inflated at worst, but the generalist has little, if any, ability to identify, qualify and quantify any false and misleading claims. Again, the Super Hornet and JSF are excellent examples.

- However, having accepted a manufacturer's proposal, the generalist also takes ownership of it, as well as any ambiguous, absent or inflated capabilities embedded within it. Should any

operational or technical aspects of the system being procured be subsequently questioned, the generalist then feels constrained to defend his decision, calling upon the manufacturer to provide any refuting 'evidence'. The generalist and the manufacturer thus begin to function as one, avoiding governance or due diligence mechanisms.

- Where criticism is valid, but the generalist and the manufacturer as well as government refuse to admit it, all become progressively divorced from reality, and so major risk to the project soon matures.

Under these circumstances, the generalist, the contractor, and government too frequently display a hypersensitivity to criticism, which in turn prompts inappropriate defensive behaviours, ranging from ignoring soundly-based criticism, denigrating the critic (playing the man, not the facts), making threats and 'blackballing', to shifting blame, usually to 'complexity' or contractor shortcomings.

Indeed, 'complexity' has now become one of DMO's principal pleas for its problems, reinforcing its earlier plea of '*immaturity of its systems*'. Complexity is now embedded in a DMO Complex Risk Management Standard, as well as the recently - commissioned Helmsman Report, both of which attempt to formalise 'complexity', now appearing in many new guises, as the key factor behind the many problems that it keeps encountering. In fact, both the Standard and the Report merely identify an organisation lacking appropriate project and engineering management systems and disciplines.

One measure of the extent to which inappropriate responses have been allowed to become characteristic of Defence and the DMO is the size of the Public Relations arsenal formed "*to shape journalists' perceptions of issues and manage the story.*" - not to identify and correct the problem. In this way, ambiguity, misleading information and disconnects from reality are triggered and spread widely. In mid-2009, there were 98 civilians, four contractors, and 64 military personnel employed in Defence PR, with more added since.

It should be noted that the replacement of technologist managers by generalists has also occurred in both government and private enterprises, especially throughout Western nations, but the adverse effects have been more entrenched and costly in government organisations because they are not measured against any commercial yardstick of solvency, or open to proper public scrutiny.

Generalists manifest themselves as comfortable people in air conditioned offices who are indifferent to the affects of their actions and who avoid accountability.

Management in the Defence Materiel Organisation (DMO)

In March 2003, the Senate Foreign Affairs, Defence and Trade Reference Committee reported on materiel acquisition and management within Defence, finding that there was relatively poor visibility on the progress of major projects as far as Parliament and the public are concerned. The Committee then called for the Auditor-General to produce an annual report on the progress of major Defence projects. The first of these reports (a trial) was issued on 20th November 2008.

Since then, two further reports have been issued, the last covering 22 major projects for the period 2009-10. All three reports have been qualified by the Auditor-General. The problems

encountered by the DMO have been attributed consistently to '*the immaturity of DMO's management systems*', now reinforced by '*terrible complexity'*, giving rise to the proposal that the organisation, after a decade, has yet to learn more lessons to populate its Systemic Lessons Learned data base, which in turn will indicate where systemic changes in process need to be made. The DMO suggests that it may take another five years or so before the problems that it is encountering will be identified sufficiently before any improvement in performance becomes apparent.

All three Major Projects Reports, as well as the evidence given before the JCPAA hearings that followed them, have been analysed to provide a detailed history of the problems that have been encountered by the DMO and Defence in major projects and their causes.

Examples of the problems being encountered by the DMO may be seen in extracts from an Analysis of DMO MPR 2009-10. This identifies the reasons behind DMO's failure to demonstrate any improvement in its capability acquisition and sustainment functions over the past decade. DMO's repeated problems stem directly from its entrenched, process-driven, contract-centric approach to acquisition management, in preference to traditional Project, and Engineering Systems Management methodologies which were developed specifically for managing technology - dependent projects.

The problems that have been encountered by the DMO have been institutionalised firstly by the fundamental models used in the management and governance of the acquisition and sustainment bureaucracy, both within Defence and the DMO, and secondly by the practice of replacing technologically-skilled engineering professionals with technologically unskilled generalists. That is, the imposition of bureaucratic administrative processes over professional project and systems engineering management.

The decline seen in the management of Defence and Defence capability development, acquisition, preparedness, and sustainment (both in Australia and overseas) may also be traced in an analysis conducted by a group of three senior (retired) RAAF officers in 2009.

Some Realities of DMO's 'Business' Approach

When delivering services, businesses adopt business processes designed to maximise return on investment, normally measured as profit. However, within Defence and the DMO, a vacuum is seen in regard to the motives of its generalist management for adopting business processes in service delivery, as maximising profit is surely not the aim. As a result, the reason for Defence and the DMO adopting business processes is, prima facie, incomprehensible. Indeed, there may well be a basic incompatibility between the aims of business and those of the DMO, assuming that the DMO will ever be able to enunciate any credible, identifiable and measurable aims.

This incompatibility flows from the observation that profit is maximised when business processes have been standardised, made repeatable, and have all variability, as well as redundant and surplus resources, stripped from them. Although the DMO has an ostensible need to eliminate surplus or redundant resources for efficiency of its operations, particularly in its sustainment services, this need conflicts with the critical requirement for operational readiness, sustainment and flexibility and for reliable surge capabilities. In short, an organisation cannot be at maximum efficiency and at the same time have any flexibility or surge capability.

There are many instances where the DMO, in its various requests, seeks an ever more efficient service from Industry, one that can be provided only by excluding flexibility and surge requirements. Industry, for its part, unless contracted otherwise, will always adopt a minimum resource approach. In high technology projects, effective reconciliation of these two conflicting business models raises complex technical compromises that that are well beyond the competence of generalist managers to resolve.

This is but one example of how the imposition of unskilled bureaucratic process over military imperatives impacts force capability and sustainment.

In summary, the DMO has focussed upon an inappropriate commercial, contract/purchasing, process-driven, 'business methodology', rather than adopting technology-focussed project and systems management methodologies that focus upon outcomes in both equipment acquisition and sustainment, and the adverse results on military capabilities of this approach are now becoming increasingly evident.

CONCLUSIONS

In conclusion, the problems that have arisen increasingly at the operational 'sharp end' of the Services, such as in Navy, are symptomatic of systemic failures in the management and governance models used within both Defence and the DMO.

The root cause may be traced to the policies that led to the restructuring of the Defence Departments under Tange, followed by the DRP and CSP changes that resulted in the widespread restructuring, downsizing and de-skilling of the Services, particularly:

- The reorganisation of the Service Offices.
- The disbandment of the Service Technical Services Branches.
- The loss of Service Support Commands.
- The replacement of technical professionals by generalists.
- The imposition of a civilian bureaucratic culture to replace traditional military values, which carries the potential to destroy Australia's capability to counter future military challenges.

Within the DMO, failures in capability procurement and sustainment may be traced primarily to:

- The move from Australia's traditional capability and evidence-based, technology-focussed, project management driven methodology to a commercial, 'business' - orientated, contract-centric methodology.
- A lack of relevant project, systems and engineering management skills and competencies.
- The use of 'generalists' managers following largely rigid process, and the adoption of project review boards, both lacking in required technology and management skills and competencies.
- The resulting inability to manage projects having any hint of complexity, especially those carrying system integration challenges.
- An inability to manage sustainment (engineering, maintenance and supply) requirements.
- The adoption of through-life support policies that dictate against Australia ever becoming self-reliant, and will result in the Services and Industry being further de-skilled and

downsized.

Both Government and the DMO have failed to recognise:

- The importance of technological and project management skills and competencies, and that these are bred, not bought.
- The fundamental models being used in the management and governance of Defence and the DMO, with their premise that technologically skilled engineering professionals may be replaced with technologically unskilled generalists, and that process takes precedence over management, have been shown not to work and indeed cannot be made to work.

While able to be reversed, Parliament, Government, and Defence need firstly to understand and accept that the fundamental models used in the management and governance of Defence need to be changed, and generalists replaced by those having the technological and project management skills and competencies critical to the management of military capabilities.

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