SUBMISSION TO

THE FINAL REPORT OF THE

FOREIGN AFFAIRS, DEFENCE AND TRADE REFERENCES COMMITTEE

INTO

PROCUREMENT PROCEDURES FOR DEFENCE CAPITAL PROJECTS

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8Th March 2010

EXECUTIVE SUMMARY

The Senate Committee should be commended for the manner in which it has approached this important inquiry into Defence capital procurement procedures. Its Interim Report opens up Defence/DMO management to the light of day for the first time. In particular, it highlights the large number of reviews that have taken place which have not produced any significant improvement in capability acquisition or sustainment, but only resulted in an ever-increasing number of processes and committees, a bewildering degree of administrative complexity that has dictated against improving outcomes, identifying who is accountable for what, and has frustrated good governance.

However, Defence/DMO procurement problems come not only from Defence/DMO shortcomings, but stem directly from the poverty of operational and technical skills and competencies that now reside within the three Services following the Tange structural changes of the early 1970s, and the subsequent Defence Reform and Commercial Support Programs.

The cumulative effects of these changes have been chronic and widespread, impacting adversely the ability of the Service Chiefs to *'deliver force capability for the defence of Australia and its interests, ... and enhancing the force's reputation and positioning the force for the future'.* Command, control and discipline within the Services have also been degraded by civilian, masquerading as civil, and intrusion into all aspects of military management. The erosion of Service skills and competencies is the primary cause behind the poor strategic and capability analysis, and the poor acquisition and sustainment management now seen throughout both Defence and the DMO.

If the Committee is to initiate effective and lasting improvements in capital project procurement procedures, the current Defence/DMO/Service structures and accountabilities will need to be reviewed to align primary accountabilities with management responsibilities and resource allocation. As Service skills and competencies represent the foundation upon which all other defence functions must depend, the Committee's recommendations should include the need to:

- Recapitalise the Services by rebuilding their Operational and Technical Services organisations.
- Abandon the existing General List for promotions so that competent, professional military engineers may be bred.
- Reintroduce maintenance units so that a greater depth and span of engineering knowledge and experience may be gained and maintained.
- Reintroduce Service Support Commands to enable critical operational and support functions to be coordinated and managed properly across all force elements.
- Finally, devolve primary responsibility for capability procurement and sustainment to the Services.

Investing in Service skills and competencies will give far quicker and better returns than investing in more bureaucratic process.

SUBMISSION TO THE FINAL REPORT OF THE

SENATE INQUIRY INTO

DEFENCE CAPITAL PROJECT PROCUREMENT PROCEDURES

INTRODUCTION

The Senate Committee should be commended highly for the manner in which it has approached its inquiry into procurement procedures for Defence capital projects. The Committee's Interim Report notes the large number of internal and external Defence/DMO reviews and inquiries that have taken place over the years which have not produced any significant improvement in the management of capability acquisition and sustainment, but have only introduced an ever-increasing number of committees and processes, and a bewildering degree of administrative complexity that dictate against achieving the required outcomes or identifying who is accountable for what.

Mr Coles, in his review of the Collins Class submarine debacle, revealed the inevitable result of all this when he noted that no amount of business process refinement could overcome the loss of critical submarine expertise that had been allowed to occur. Mr Rizzo, in his inquiry into the supply ship debacle also highlighted the effects of the disbandment of the Navy's Engineer Branch and the downsizing and dispersion of its remaining engineering resources.

The Interim Report, in opening up Defence/DMO management of capability acquisition and sustainment to the light of day encourages debate as to what has gone wrong and how management may be improved. However, allowing more time for the multitude of recommendations made in the multitude of reviews and inquiries to bear fruit is not an option, as the problems cannot be fixed through process, especially 'business' process. Current problems will yield only to operationally and technically skilled and experienced people working along project management and engineering lines, rather than administrative or commercial, 'business' lines.

The Committee's Interim Report, as well as in the many reports to which it refers, have also highlighted the of lack skills and competencies at every stage of the acquisition and sustainment life cycle. However, it is infeasible to imagine that these skills and competencies can ever be made available, as and when required, across all the different capability types, with their unique operational and technology dependencies and drivers, at each stage in the capability life cycle.

Australia can afford to establish, maintain and evolve only one primary source of project and technical skills and competencies, and that should be in the organisation primarily accountable (in the case of the RAAF) "*to deliver Air Force capability for the defence of Australia and its interests, including the delivery of aerospace capability, enhancing the Air Force's reputation and positioning the Air Force for the future."* That is, within the Services.

However, under their current organisations, their degraded operational and technical skills and competencies bases, and their charters, the Service Chiefs are currently and demonstrably unable to achieve this. If this is to be reversed, widespread action will be needed to:

- Recapitalise the Services, by rebuilding their Operational and Technical Services organisations and functions, centralising technical support functions under a Technical Services Chief responsible for technical standards, efficiency and effectiveness across all force elements. The latter is broadly in line with the recommendations in Mr Paul Rizzo's inquiry into the RAN's Support Ship management, which also apply to all three Services.

- Abandon the existing General List for promotions so that competent, professional military engineers may be bred for both Service and higher level responsibilities.

- Re-introduce Maintenance Units (as appropriate) where a greater span and depth of engineering, maintenance and management knowledge and experience may be gained.

- Reintroduce Service Support (or Systems) Commands to manage core capability development, training, engineering and project functions across all force elements, including the management of all repair and overhaul arisings.

- Devolve primary responsibility for capability acquisition and sustainment to the Services under a Transition Plan.

While these changes may appear to be revolutionary, they are less so than those that led to the current unacceptable situation, and they have been demonstrably highly successful in the past.

Finally, the failures seen within Defence and the DMO indicate that the Tange changes introduced during the 1970s, and later expanded under the Defence Reform and Commercial Support Programs, have not delivered their promised improvements in efficiency, effectiveness, or cost, and thus must be revisited and rectified.

SUBMISSION STRUCTURE

This submission is structured in two parts:

1. Comments on the Committee's Preliminary Report, and

2. Thoughts on what needs to be done (based on the RAAF).

PART 1-COMMENTS ON THE PRELIMINARY REPORT

OVERVIEW

As part of its inquiry, the Committee should review how the current Defence and DMO organisations came about and with what objectives, and then determine whether the Tange structural changes, and those later imposed by the DRP and CSP, have been achieved and at what cost, or whether those objectives were inappropriate and are never likely to be achieved.

It may be useful here to retrace briefly the Defence (and Government) policy decisions that resulted in the current maze of committees and processes, and the entrenched lack of critical skills and competencies within the Services, Defence, the DMO, and Defence Industry. A deeper analysis is at (1).

The root causes behind the current problems were:

- The de-skilling and downsizing of the Services, which reduced their skills and competencies bases to the lowest possible level (for a perceived reduction in manpower and training costs).
- The disbandment of the Services' Technical and Materiel Branches, together with their supporting policies, systems and procedures, as well as their Support Commands.
- The introduction of a 'General' List for senior officers, which resulted in higher-level technical and project management functions being managed by unskilled 'generalists', at progressively higher levels of rank, not having the required technology and engineering management skills and competencies.
- The outsourcing of support tasks, particularly engineering, maintenance and supply to foreign prime contractors, which has further reduced organic skills and competencies in the Services and Industry.
- The trend for Defence to conduct itself as a proxy sales and marketing agency for the contractors supplying equipment rather than performing proper management and due diligence tasks, mandated by best practice in procurement and engineering, thus exposing the taxpayer to risk through contractor mistakes.

One of the driving policies behind the de-skilling and downsizing of the Services and the outsourcing of their support was that the skills and competencies lost would be provided by Industry under the Commercial Support Program. In justifying Defence's outsourcing decisions, the cost of support within the Services included all training overheads, whereas support from industry did not include any training costs. The assumption was that the skills and competencies needed would be available from within industry as and when needed. The widespread consequences of outsourcing are analysed at (2).

History has shown that this proved to be wrong. Industry skills and competencies soon eroded as they could no longer be drawn from the pool that used to exist within the

Services, and then fell victim to the 'unintended' consequences of Defence/DMO supply and support contracts, as well as the absorption of local industry by major foreign primes. Hence, we have the current, widespread, expensive and ill-judged attempts by Defence to recover critical skills and competencies in all areas of Defence, the DMO and Defence Industry through a maze of 14 different initiatives.

The architects of the Defence Reform Program repeatedly overlooked or chose to ignore the fact that technological expertise must be created by education, training and many years of practical experience, and that historically, the engineering branches of the Services were the only entities capable and willing to make the necessary investments in personal education, training, and skills development to meet evolving national needs on the required scale.

Each project embodies a uniqueness determined principally by the operational requirement, the technologies involved, and the extent to which systems need to be integrated, tested and accepted. Project managers and their staff thus need to have a sound background of knowledge and experience in the particular operational and engineering disciplines of their specific project (at both equipment and system levels), and such skills cannot be replaced by any generic training or generic processes, or the illusion surrounding paper-thin 'Masters of Military Systems Integration' or 'Masters of Systems Support Engineering'.

It is thus infeasible to imagine that Defence or the DMO will ever be able to establish and maintain the range and depth of the skills and competencies required for the proper management of projects over their entire life cycle, within the Services, Defence, the DMO, the DSTO, and in Defence Industry, under current, fractured processes and vague accountabilities. Current approaches are misguided and are bound to fail, and fail expensively. Any Defence requirements for professional operational, technical and support expertise must come from a central core re-established within the Services where primary responsibility for the provision and sustainment of military capabilities rests. Defence Industry expertise will need to be re-established for tasks in direct support of, and under the direct oversight of, the Services.

This will require the devolution of the DMO's capability acquisition and sustainment tasks back to the Services. There is sufficient evidence to show that, after more than a decade, the centralised capability acquisition and sustainment organisation, and the commercially-focussed processes that have evolved, have failed to demonstrate any improvement in capability and sustainment efficiency, effectiveness, or economy. The result has been a monolithic overburden of bureaucracy and processes that has led to expensive, endemic failures and problems that have degraded Service capabilities and generated, for the first time, a lengthy "Projects of Concern List."

COMMENTS ON THE PRELIMINARY REPORT

THE STRATEGY ANALYSIS AND NEEDS STAGE

General Comments

Chapter 4 identifies a large, typically complex, process-driven, administrative organisation, charged with the responsibility for providing government with the information it needs "*to assess the consequences of strategic decisions in terms of required defence capability, within the context of its overall budget."* However, experience to date has shown that the Defence organisation introduced by Tange, and expanded rapidly by the Defence Reform and Commercial Support Programs (with Government approval), has not been successful in achieving that objective. Coherent strategy has been lacking, capability proposals have not been soundly based, and capability analysis, selection, procurement and costing have too often been premature, overly optimistic, and managed poorly.

Capability costs can only be as accurate as the definition of all the elements comprising the capability and its sustainment – a Capability Configuration Baseline Development and Life Cycle Costing exercise. The whole strategy and needs stage thus depends upon having a good grasp of the capability in all its operational and technical aspects. Analyses of DMO Major Projects, however,(3 and 4) show that the vast majority of project difficulties stem from an inadequate understanding of the operational and technical requirements of the capability, and poor project management.

The independent costings conducted during this Stage raise questions as to the methodology used and their accuracy and completeness-that is, their usefulness. In the absence of a sound understanding of the capability, such costings cannot be accurate. The applicability of the Cost Spreadsheet used must also be questioned; as such spreadsheets must reflect the project, not the reverse. Costing should be developed by those having tight control of the operational and technical requirements, not second-guessed from afar.

Stage Documentation

The provision of information by Defence to enable government to match strategic priorities with defence capability rests primarily upon:

- Force Structure Reviews.
- Defence White Papers.
- Defence Planning Guides.
- Defence Capability Plans.

However, the soundness and consistency of each of these documents will depend upon the soundness and consistency of the operational and technical baselines used, as well as the cost estimates underlying each capability option being considered. To achieve this, each

document should be based upon the same underlying (and evolving) baselines in regard to operational and technical requirements, costs, and project management milestones.

It would be unreasonable to expect that dedicated skills and competencies can ever be established and maintained at each stage, or that the stages can be integrated and interfaced in an efficient and effective manner, as the Defence organisation adopts administrative process rather than management approaches. Furthermore, far too many pressures arise as a result of differences in viewpoint and executive imperatives for this to be possible. The Committee is thus faced with a need to simplify and integrate the minimum Defence functions needed to provide the information required by government, while drawing upon the Capability Managers to provide the majority of the data required throughout the Strategic Analysis and Needs Stage.

After all, *"Capability Managers will develop some of the documents that make up the capability proposals which define the requirements of each of the Fundamental Inputs to Capability (FIC) elements of the capability system. They identify the requirements to generate capability including personnel and workforce requirements, organisation, collective training, major systems, supplies, facilities and training areas, support, and command and management. They are also responsible for detailing the risks for each option."* (5)

However, Capability Managers also carry primary responsibility for raising, training and sustaining their forces, and have an overarching role across the capability development cycle to ensure that it all comes together as a complete capability – as well as having responsibility for the in-service realisation of the capability.

As mentioned previously, the big problem is that none of the Capability Managers now possesses the organisation or the skills and competencies base required to discharge their responsibilities. They can be organised, manned and skilled to do it, but until then the function cannot be done satisfactorily. This has also been identified clearly in the analysis of the common reasons behind major project difficulties identified in DMO MPRs, (1) – Attachment 1 to Annex A).

Skills and Competencies (Including in Defence Industry)

The need for critical skills and competencies has been a feature of many, if not most, of the reports reviewed by the Committee, as well as in internal Defence/DMO and Defence Industry reports. The result has been a proliferation of expensive training schemes that will not produce the required practical results because there are no breeding grounds where practical application and experience may be gained. In the Defence Industry area, Defence currently administers a suite of 14 programs, under its "*Policy for a Smarter and More Agile Defence Industry Base"*. (6) Defence/DMO's inability to establish and maintain the required skills and competencies across the range and depth of technologies operated and supported is a core reason behind the problems that have beset both organisations since their formation.

At present, the Department has called for consultants to review the 14 programs currently being administered, to:

- Map the current suite in order to better understand their focus, stakeholders, objectives and how they relate to other programs.
- Consider whether they could be adjusted or restructured to achieve greater impact.
- Consider mechanisms in which to measure and assess the overall effectiveness of the progress of the programs as a composite response.

In short, the Department wants someone to tell it where its 14 programs are, whether they are being effective, and what needs to be fixed. This is another good case study of an organisation that does not know where it is, what needs to be fixed, and how to fix problems. This is hardly an organisation that will ever be able to develop a *"Smarter and More Agile Defence Industry Base."*

The Role of Procurement in Project Management

Project Management is based upon the tightly-integrated planning, organising, directing and controlling of all the functions related to the evaluation, specification, sourcing, acquisition, testing and acceptance of military capabilities. Once introduced into service, the sustainment of capabilities should become a function of the Service operating it, project management being re-adopted periodically should the capability require major updating or a life extension. The extent to which project management applies will depend wholly upon the nature of the capability and the technological and operational challenges that it will present.

Project management is a technical function, undertaken by a team having sound knowledge and experience of the technologies comprising the capability, working under the guidance of skilled and experienced operators. Procurement is an activity that must be undertaken under close project management control. It is undertaken only as and when project management is satisfied that what it approves for procurement has been demonstrated to meet project management specified operational and technical requirements.

Defence, with government approval, has broken the project management chain by forming an independent commercial organisation to administer capability acquisition and sustainment (the DMO). The DMO has endeavoured to fit tailored and truncated project and risk management functions into its commercial, 'business' administration model to overcome persistent problems and failures. However, the results have been expensively disastrous, leading to entrenched poor performance and bloated Defence/DMO organisations drowning in process and unable to identify what is happening and why.

The Role of the DSTO

The DSTO is a principal source of advice on capability development decisions during this initial Stage, producing preliminary Test Concept Documents and providing independent advice on technical risk. However, the DSTO has been subjected to downsizing, de-skilling and outsourcing along lines similar to the Services, so it is infeasible to expect that the DSTO possesses the range and depth of operational and technical skills and competencies required across all the capabilities and technologies that move through the two-pass system.

Historically, DSTO worked closely with the Services, and comprised a mix of engineers and scientists. The organisation undertook a wide range of independent research and development projects intended to yield capabilities directly, as well as develop the skills base and experience necessary to perform hard, objective assessments when called upon, such as in the critical fatigue assessment and management area. The shift towards being more of a consultancy organisation than a research organisation has produced damage very similar to that produced by the 'de-engineering' of the Services.

The difficulties that are endemic throughout Defence major projects would indicate that the DSTO's capability development, test and acceptance and technical risk assessment and management input have not been adequate. Such tasks were historically, and still are, a natural extension of the fundamental responsibility of the Capability Managers for 'raising, training and sustaining force'. DSTO certainly has a role to play, but it is one that supports the Capability Managers, not replacing or double-guessing them.

THE REQUIREMENTS STAGE

The Interim Report describes an incoherent Babette's Feast of process and committees none of which possesses the range and depth of skills and competencies required for what is essentially a straight-forward project management task. CDG is the focal point, but despite drawing heavily upon the Services for the specialist knowledge required, it is unable to get capability requirements properly identified, scoped, costed and risk assessed as they pass through. This is because the Services no longer possess the operational or technical skills and competencies that existed before the DRP and CSP 'reforms', and so cannot analyse and provide the baseline capability requirements information required.

The DSTO has been called in to assist, staffing a Joint Decision Support Centre, providing detailed technical/technology analysis of options, and risk by providing a Technical Risk Indicator.

The DMO also becomes involved, in providing independent advice to government on cost, schedule, risk and commercial aspects.

Industry also becomes involved, in establishing availability in the marketplace and providing an indication of whole-of-life costs and any innovative options.

Finally, the Department of Finance and Deregulation has a specialist staff responsible for evaluating the costs and financial risk associated with Defence capability procurement proposals.

Throughout all this, the poor Capability Manager who, while having responsibility for raising, training and sustaining his force (7), has to provide the core project and technical skills and competencies required by the CDG, and is also expected to undertake an overarching role across the whole of the capability development cycle to ensure that it all comes together as a complete capability. All this from downsized Services not organised or skilled for these tasks.

Any hope that the complexities embedded at this or subsequent stages in the capability life cycle may yield to internal process is dispelled by the evidence given the Committee by Defence, DMO and Service executives. Instead of providing informed and incisive observations and advice based upon a sound background of experience and knowledge of military operations and the management of technology, all responses reflect only a preoccupation with further bureaucratic, administrative process and a desire to put the best face upon events. That is, too often senior Service officers are constrained to speak as members of the Defence Executive Team rather than professional military officers with a primary responsibility to their Services.

It has not taken the Minister for Defence long to announce that his department had commenced implementing the recommendations of the Black Review, or the Secretary to direct that a comprehensive, end-to-end review of Defence's capability ***business*** process would be undertaken as recommended by Black. However, as identified in the Committee's Preliminary Report, nobody knows how this process works, so the inevitable result will only be to heap further process upon process, and increase the level of executive oversight, without identifying and rectifying the underlying problems with Defence management. As Mr Coles concluded in his Collins Class Inquiry, *"no amount of business process refinement could overcome this loss of experience.*"

Tensions between departmental capability development analysists and professional military operators and technical realists existed well before Tange introduced his structural changes, and it still persists today. The challenge for the Committee will be to obtain a balanced view of what is involved, and identify a simple organisation (ie, with the fewest 'stakeholders') that will bring together the two views in a constructive way, ensuring that tensions become productive.

The Role of Regulatory Authorities

This important subject was raised by the ANAO (Interim Report, Para 5.49). However, the Committee needs to be very clear on the role of technical regulation in regard to the RAAF's DGTA-ADF and Navy's newer Seaworthiness Board. Airworthiness/Seaworthiness is not a '*concept*', as Defence now sees it. It is a state of being that must be demonstrated before it can be declared.

Regulatory authorities are responsible for auditing and thus ensuring that Airworthiness/Seaworthiness standards are being maintained or not. The regulator is not responsible for establishing and maintaining the Airworthiness or Seaworthiness organisation, policies, systems and procedures needed for the proper management of Airworthiness/Seaworthiness. These are the responsibility of the Services. The regulator has to be careful that he does not cross this line, as it would place him in a grave conflict of interest.

The problem is that neither RAAF nor Navy, following the disbandment of their Technical Services Branches, now has the organisation, policies, systems, or procedures that will ensure Airworthiness/Seaworthiness across all their capabilities. Case studies of this problem and its consequences are included, for Navy's LPA debacle and the loss of the Sea King at Nais Island, at (1) and (6).

RAAF has certainly evolved a sound regulatory authority, which may well form the framework for the resurrecting a Technical Services Branch, but by itself it forms only part of the answer.

THE CAPABILITY ACQUISITION STAGE

The decision by Defence (with government approval) to move from a project/engineering management methodology to commercial, 'business' – driven process took place over the period 1999 to 2001. The resulting subjugation of project and engineering management under 'business' processes led inevitably to:

- The inadequate specification of project operational and technical requirements, resulting in:
- Poorly defined and premature contracting, which has resulted in:
- The need for subsequent variations to the operational and technical scope of the contract, resulting in:
- Changes in capability, cost and schedule, revealing an:
- Inability within the DMO to understand and manage the technology comprising the project, especially any risks (and opportunities), resulting in:
- An extreme aversion to risk in all its forms, particularly where any perceived technical complexity, hardware or software integration, or test and acceptance activities are involved, resulting in:
- Compromising the required capability outcomes by mandating MOTS/COTS capabilities quite unnecessarily, by introducing multiple Capability Milestones, and mandating 'supply and support' contracts, which have resulted in:
- Further de-skilling of the Services, and withering of Australia's Defence Industry base, while embedding a wide range of potential risks during the life of such contracts, over which Australia will have little, if any, control.

Each of the above, singly and together, not only led to acquisition complexities, but has degraded the scope, clarity, and accuracy of the information in the documents upon which Parliament, Government and Defence take critical capability decisions, especially at Gate Reviews and at the ever-escalating levels of executive oversight that are now triggered when projects get into difficulties.

The acquisition phase of any technology-dependent project should form part of project management planning, where contracting should take a relatively minor and supporting role. The key phases in project management relate to getting the operational and technical requirements established fully and accurately, evaluating contending systems against those requirements, and then developing the Project Management Plan (and its sub-plans) that details how the acquisition of the system selected will be managed. That is, all project

activities, including procurement, proceed under project management control, and payments may be made only when the Project Manager certifies that the contractor has achieved the requirements specified for each milestone. Under this arrangement, the customer knows exactly what he wants, the contractor knows exactly what is expected of him, and the project flows in an unbroken continuum from need to satisfaction.

However, the formation of a centralised organisation responsible for acquisition and sustainment, placed outside the project management discipline, has destroyed any ability to manage projects as an unbroken continuum from need to satisfaction.

Instead of commercial activities being integrated into, and driven by, project management, the DMO has had to develop a raft of processes and performance indicators in an effort to appear to fit its activities into some form of project-like framework. However, as the DMO's primary focus is commercial; everything is seen from a commercial (contract management) point of view. Not surprisingly, the DMO has faced the same lack of project and engineering skills and competencies as the Strategy Analysis and Needs and Requirements Phases – skills and competencies that cannot be made available or maintained.

As identified in the Interim Report (Page 68), as soon as a project is passed to the DMO, the management axis shifts from project management to commercial (contract) administration, which places the DMO in a position where it encounters project management challenges which it cannot meet. For example:

DMO Responsibility	Primary Responsibility
Release Tender Document.	Project Management.
Complete tender evaluation.	Project Management.
Contract Negotiation.	Project Management (with commercial input)
Contract Signature.	Administrative function.
Contract Management:	Project Management.
Change Management.	Project Management.
Risk Management.	Project Management.
Performance Management.	Project Management.
Project Management.	Project Management.
Milestone Management:	Project Management
Review Management (Requirements, Design, System Integration, Test and Acceptance.	

Delivery of Capability (now Materiel only).	Project Management.
Project Closure.	Project Management.

In short, the DMO is charged with managing what are, and always must be, project management functions that require a very high level of operational and engineering skills and competencies, which the DMO does not have and will never have.

Many of the reports referenced in the Interim Report exhort the DMO:

- To achieve a more 'business-like focus throughout the organisation', and
- To align contracting to commercial practice.
- Work with Industry to identify key procurement and contracting issues that do not align with commercial practice.
- Adopt Public Private Partnerships (PPPs); in this, the DMO liaises with a PPP Center of Excellence in the Defence Support Group.
- Create the management incentives for performance improvements and structure contracts to retain competitive tension at prime, second and third tier contract levels, as well as ensuring contracts include incentives for annual improvements.

Just what is meant by 'a more business-like focus', with what practical objectives and how these objectives might be measured for military capability acquisitions, is not defined. More importantly, the nature (the technology) of military capabilities, their specification and comparative analysis, their selection, procurement, and their operation and sustainment give challenges that no non-military commercial enterprises will usually encounter. Furthermore, the project management methodology was developed specifically to determine, what is required, how the requirement may best be achieved, which contractor is best placed to meet the requirement, and at what cost. Under this approach, risk is minimised and commercial input is limited largely to the Commercial Terms and Conditions to be included in the contract

The commercial model adopted by the DMO may be applicable for contracting consumable, commodity product supplies on the open market, but it is not, and will never be, appropriate for the acquisition and sustainment of highly technology-dependent, military capabilities, usually procured in small numbers. This subject is further explored at Part 2 of this submission.

Under current processes, following Second Pass approval, management responsibility for the project is transferred, in accordance with a Project Directive signed by the Secretary and CDF, to

- The Capability Manager (CM) for overall responsibility for the in service realisation of the capability.

- The CEO of DMO through terms and conditions in the Materiel Acquisition Agreement, agreed between the CM, DMO and CDG.
- Other key enablers including the Chief Information Officer and Capability Development Scientists for provision of Fundamental Inputs to Capability.

It would be difficult to imagine a more convoluted process for what is essentially a straightforward project management phase.

The challenge to the Committee will be to establish whether the DMO is, or ever will be, a viable organisation that represents good value for money. It could never be judged this were it a commercial enterprise, or any military organisation.

THE SUSTAINMENT STAGE

The DMO's responsibility for capability acquisition was extended by the Minister at the time to include in-service support, on the grounds that he did not wish to have two purchasing organisations. The difference in roles between the two functions, and what was best for the Services, could not have been more misunderstood or ignored.

Since being given the additional responsibility, the DMO has encountered chronic difficulties in providing in-service support in scope and time, and has pleaded that it may take years to establish the sustainment.

Historically, the Services simply:

- Identified all support requirements as part of their project management activities.
- Developed a Support Requirements Sub-Plan of the Project Management Plan, such that all requirements were managed so as to be in place by the time that the capability entered service.
- Developed and maintained the System's Configuration Baseline, from which maintenance engineers could assess the range and quantity of spares needed to support the capability in accordance with defined maintenance policy, and also provided the data items needed to drive through-life replenishment activities (defined through provisioning categories on the supply data base).
- Co-ordinated operational and maintenance effort such that all maintenance was planned and managed on time to give maximum weapon system availability with minimum impact on operations.

It is thus difficult to understand just why the DMO should encounter such chronic problems.

The inability of the DMO to discharge its sustainment responsibilities, both during the capability acquisition phase and throughout the in-service sustainment phase, has resulted

in cases where major (Naval) capabilities have been allowed to deteriorate to the point of failure, leaving gaping holes in Australia's security.

However, of equal concern, is that under current political/bureaucratic administration, responsibility for this was sheeted home to Navy, whereas primary responsibility rested wholly with the Minister, the Secretary, the CDF, and the DMO, and the root cause was the inevitable result of the Tange and subsequent changes that denuded the Services and introduced the current Defence/DMO organisations.

Defence's response to sustainment problems has been to establish a Sustainment Reinvestment Office "*to integrate and oversee delivery of the Smart Sustainment Program*"; more high-sounding words for more process at higher levels of oversight by people who have no idea of the problem or its solution – a typically ineffectual response to what is a straight-forward, indeed elemental, project engineering task.

The evidence given by the DMO before the Committee (Interim Report Page 80) on sustainment can be described only as the ramblings of someone who has no idea of what to do, for example, it ends:

".....there may be a series of reviews that we put in place to oversee significant decisions that need to be made, but we have not got that detail."

At the same time, the DMO sets itself to be the *"premier program management, logistics and engineering services organisation in Australia."* (Interim Report, Page 74).

The challenge to the Committee will be to establish whether the DMO is, or ever will be, a viable organisation that represents good value for money. It could never be judged this were it a commercial enterprise.

Finally, throughout its discussion of sustainment, the Committee notes that "*Air Force has not been hollowed out in engineering and technical skills as the other Services, particularly Navy, and tends to breed its specialists"*, and *"has been able to retain its engineering and technical focus."*

There may be some basis for this judgement in relative terms, but the de-skilling and downsizing must be viewed in terms of their absolute impact on each Service. As the RAAF had achieved a higher level of technology management than the other Services, the impacts on the RAAF have been far more reaching than appear. Decisions and statements made by senior Air Force members evidence a remarkable lack of informed engineering advice when compared with that which was evidenced when the Chief of Air Force had a Chief Engineer with a Technical Services Branch to advise him. Poor engineering advice will always be evidenced by poor operational advice. Furthermore, the problems that have been encountered with every AIR project from the C-130J may be traced directly back to inadequate Air Force project and technical skills. The judgement of some senior officers is thus not supportable.

The challenge for the Committee here will be to identify the absolute span and depth of the skills and competencies base needed in the Services for their proper and safe operation and support.

PART 2

SOME THOUGHTS ON WHAT NEEDS TO BE DONE

(WITH PARTICULAR REFERENCE TO THE RAAF)

The impacts of the Tange and subsequent changes on the organisation and the skills and competencies base of the RAAF, with their affects upon capability acquisition and sustainment, were analysed in detail at (9). Part 2 of this submission will thus only highlight some of the more important factors that should be noted during the Committee's inquiry.

THE DEPARTMENT

The problems entrenched within Defence and the DMO reflected in the Committee's Interim Report, as well as the reviews to which it refers, relate to poor management, poor governance and inadequate skills and competencies, all problems that have arisen since the Tange structural changes were introduced and the DRP/CSP imposed.

Pre-Tange, the Service Chief reported directly to his Minister. The Service Chief managed his service through a Service Board which included the Secretary and comprised the Chiefs of his dependent functions, especially his Chief of Air Force Technical Services. There was usually a close bond of understanding and a strong sense of shared responsibility between the Service Minister and his Secretary and the Service Chief, and there was generally a good measure of faith and confidence in those relationships. There was also a strong sense of unity of direction. These arrangements resulted in:

- Direct civil governance of the Service.
- A direct command and control relationship between the Minister and his Service Chief.
- A direct Minister to Service Chief (and vice versa) strategic, financial, and moral accountability.
- An effective span of control.
- A trust born of mutual knowledge and responsibility.

Today, Defence has evolved to become a monolithic bureaucracy that shares none of the attributes that existed before. The security of Australia is now run by a Minister supported by 14 Deputy Secretaries and two Associate Secretaries, supported in turn by 14 civilian and six military bureaucrats at 'three star' level, who are in turn supported by 134 Senior Executive Service civilians and 178 'star ranked' military bureaucrats. Beneath them lies a web of public servants and military staff responsible for the administration of the accelerating mass of process and higher-level committees that have evolved as a result of perpetual major reviews (33 since September 2010).

As management of the Services has become centralised under the Minister, the Secretary, and the CDF, any day-today problems likely to cause embarrassment are pushed up the line where they demand the attention of the Minister and his executive leadership in an attempt to limit media attention, and divert accountability. The Department may feel that this is the way 'to keep the Services in their place', but it is really only a sure way to ensure that the Services become and remain militarily neutered.

The Services remain under-skilled, under-manned and ill organised to discharge their responsibilities. Their Chiefs are now simply extensions of the Defence bureaucracy, their priorities reviewed and set annually by the Secretary and the CDF in the form of an Organisational Performance Agreement, and their performance measured against these priorities. The Chiefs are also responsible for developing leadership behaviours that advance and embed the 'Results Through People' leadership philosophy. (7) Qualifications for promotion to higher ('Star') ranks have shifted from recognising and promoting the best military professionals to promoting those who will become good, 'affably compliant' team members of the Ministers leadership executive. All this has gone a long way towards killing military professionalism in the Services.

Much of this has come about as a result of '*civil control of the Military'* being corrupted within the Defence bureaucracy to mean '*civilian control of the Military'*, leaving the way open to civilian bureaucrats (acting in the name of the Minister who alone should exercise civil control) to justify improper interference in professional military responsibilities, in the command of the ADF by its uniformed commanders, and in the constitutional and ministerial control of those commanders and their troops by Ministers of the Crown. (10) This has spread throughout the Services as a result of the Secretary being given responsibility for the administration of the Services. Hence, all Instructions for example are now issued as Defence Instructions, rather than Service Instructions, breaking the Service chain of command and control.

Combined with the severe reduction in military skills and competencies, the result has been poor strategic analysis, poor capability analysis and poor capability acquisition and sustainment, as well as a continued decline in Service command and control, discipline, ethos, ethics and capabilities, and a withering of Australia's Defence Industry base and national self reliance. The overheads involved in manpower, costs and lost opportunities can only be imagined, and yet the Department still insists that "*The series of reforms instituted over the past twelve months to strengthen procurement processes and improve accountability within Defence, which include the appointment of an Associate Secretary Capability, will build on the Kinnard and Mortimer Reforms".* (11)

The Committee thus needs to recognise that the DMO question forms but part of a wider malaise which, if not identified and corrected, will frustrate any move to improve DMO in isolation. The Committee is faced with a Defence organisation that has lost its way, is unable or rather unwilling to reform itself, and has to depend upon continuing reviews (and their resulting multitude of new, ineffectual processes) to find out what has gone wrong and how things might be fixed. The organisation appears to have been structured so as to obscure or avoid accountability, and to resist governance. The Department is still moving along lines that will only further damage Australia's military capabilities and standing in the world.

THE RAAF

The organisation of the RAAF that existed pre-Tange evolved through long experience during peace and war, and was driven mainly by the challenge to support a relatively small

number of aircraft flying a relatively small number of hours in the absence of any significant support from organic Defence Industry, and operating at great distance from the manufacturer. Because of our small numbers of aircraft, the loss of a few (unserviceable) aircraft represented a significant percentage loss of operational capability. The RAAF also insisted upon a high standard of serviceability and airworthiness, that is, aircraft must be maintained in a serviceable condition at all times. This was to ensure that when launched, the aircraft could be depended upon to achieve their mission successfully, return, and be launched again – not fall in a heap. These factors led to the RAAF becoming a strongly maintenance-based service, with engineering, maintenance (and associated technical supply support) becoming critical force enablers, and managed accordingly.

The establishment of RAAF Maintenance Squadrons and Aircraft Depots provided the RAAF with the range and depth of technical skills and experience critical to the support the RAAF's fleets, the mastery of evolving technology and the management of new capabilities. They also generated (with support from local industry) the repairable items that must be available immediately to support operations. These facilities thus contributed, in large measure, to ensuring Australia's independence of operations and self-reliance.

The USAF, on the other hand, was from the start a production-based organisation, drawing heavily upon a large, established, local Military Industrial Complex. Maintenance under this arrangement received less importance in supporting force availability. The USAF, with its much larger aircraft numbers, also had the advantage of being able to mount and sustain effective operations while carrying higher losses and unserviceabilities. Aircraft and equipment needed to support operations were available from organic aircraft and equipment manufacturers, so industry became the major force enabler, not maintenance. USAF technical training could thus be much shallower than that need by the RAAF, which trained in depth to obtain flexibility in employment over aircraft types and depths of maintenance.

Australia's Defence policy, which at every turn tries to make the RAAF like a smaller USAF, is misguided. It ignores the differences in their primary force enablers as discussed above, and probably rests upon a view of a USAF that no longer exists, as it has been impacted adversely by bureaucratic changes similar to those faced by the RAAF. The view is characteristic of those formed when ill-informed bureaucrats speak to bureaucrats. The RAAF used always to keep abreast of developments in the USAF, but adapted rather than adopted only that which was considered useful. The RAAF had a well-founded belief that what the USAF could do, the RAAF could do better.

The RAAF, while no longer an Air Force, but a provider of force elements, still remains a maintenance-based organisation, despite the loss of its engineering and maintenance skills base, as well as its Maintenance Squadrons, its Aircraft Depots and its Support Command. In their place, the RAAF must now rely upon a web of contracts for its critical engineering, maintenance and supply support and management, all generating potential single-point failure nodes should the RAAF be put under any stress, such as the need to conduct genuine, medium to high combat operations within our region.

Throughout its capability analysis and selection procedures, the RAAF historically waited until contending aircraft had been in production long enough for design and production

problems to have been resolved, the configuration baseline established, support requirements defined, and the operational performance demonstrated. As a result, capability acquisition and sustainment risk was close to zero.

However, the Defence/DMO assumption has been that what is appropriate to the USAF must also be appropriate to Australia, which is wholly misplaced and inappropriate. This has led to the adoption of US terms and project management concepts that were designed to manage the complete design, development, and test and acceptance of major new capabilities where risk is highest – procedures that are inappropriate if Australia conducts its capability analysis and selection as above. The risks that so terrify Defence and the DMO are self-inflicted and spring largely from their complete lack of understanding of how high-technology should be managed, and their innocent (naive) dependency upon Manufacturer's marketeering.

As a result, and lacking required skills, the DMO has undertaken capability acquisitions that were overly ill-timed, ambitious, not understood, and managed under the wrong project management approach. The abandonment of the RAAF's operational and technology-based acquisition and sustainment systems has also led directly to consistently poor airpower decisions. For example, government policy states (12):

6.2 "*The Government has reaffirmed that the primary priority for the ADF to maintain the capability to defend Australian territory from any credible attack, without relying on the combat forces from any other country."*

8.39 "*The Government believes that Australia must have the ability to protect itself from air attack and control our air approaches to ensure that we can operate effectively against any hostile forces approaching Australia.*"

8.37 "*Air combat is the most important single capability for the defence of Australia, because control of the air over our territory and maritime approaches is critical to all other types of operation in the defence of Australia.*"

However, the Defence/DMO response, supported by senior RAAF officers, has been to:

- Fabricate the premature retirement (and literal burial) of the F-111, denying Australia a major strategic deterrent capability that could have been extended so as to avoid any need for an interim capability pending the acquisition of the JSF.

- Acquire the Super Hornet on the basis that Australia is 'Hornet Country', and that its acquisition would be easy. Easy, but the aircraft is outperformed throughout the world, not purchased by any other country than Australia and the US, and cannot satisfy the strategic requirements stated above.

- Commit Australia to the JSF, an aircraft that still has no known cost, no known capability, and no known schedule, is already two generations behind its potential threats, and continues to face intractable design and test challenges.

In fact, there has not been a successful AIR Capability project since before the C-130J, with one unsuccessful project failing to the tune of well over $1Billion.

The mismatch between government policy and airpower planning is symptomatic of either poor operational and technical advice given by Air Force, or arbitrary executive decisions taken within Defence/DMO, or both.

The Committee should look closely at the impacts that the Tange and subsequent changes have had on the Services and their inability to be held accountable for '*raising, training and sustaining force'.* Experience in the RAAF with airpower development, and Navy for submarine and LPA capabilities, present good case studies.

References:

(1) Bushell E.J., "Australia's Failing Defence Structure and Management Methodology", Air Power Australia Analysis 2011-04, 28th December 2011. This included a case study of Navy's LPA debacle, with comments on the Navy Seaworthiness Board.

(2) Bushell E.J., "The Widespread Consequences of Outsourcing", Air Power Australia Analysis 2010-03, 31st December 2010.

(3) Analyses of DMO Major Project Reports submitted to the Joint Committee, Public Accounts and Audit for 2007-08, 2008-09, 2009-10, and 2010-11

(4) Bushell E.J., R.G Green and B.J. Graf, "An Analysis of DMO Major Projects Management and What Needs to be Fixed", Air Power Australia Analysis 2009-05, 5th September 2009.

(5) Defence Capability Development Handbook, August 2011, Page 111.

(6) See the Defence and Industry Policy Statement 2010 *(Building Defence Capability: A Policy for Smarter and More Agile Defence Industry Base.)*

(7) Charter for the Chief of Air Force.

(8) Bushell E.J., "The Never Ending Story of Airworthiness Versus Murphy's Law", Air Power Australia Analysis 2007-04, 12th November 2007. This includes a discussion of the mistaken impression of the Inquiry of the role of the DGTA-ADF.

(9) Bushell E.J., "Rebuilding the Warrior Ethos", Air Power Australia Analysis 2008-10, 27th December 2008.

(10 Defence Brief 141, Bulletin of the Australian Defence Association, mid-Winter 2010.

(11) Reported in 'The Advertiser', 27th January 2012.

ANNEX A: ABOUT THE AUTHOR

(E.J. Bushell, Air Cdre (Rtd)) **8th March 2012**

ABOUT THE AUTHOR

Air Commodore E.J. Bushell AM (Rtd) left the RAAF in 1983 as the last Senior Maintenance Staff Officer, Headquarters Support Command (Later Logistics Command). He joined the RAAF in February 1948 as a member of the first course of RAAF Engineering Apprentices, and on graduation served with No 3 Aircraft Depot, No 1 BFTS, No 78 (F) Wing Malta, and NO 1 Aircraft Depot. He was commissioned into the Technical Branch as an Engineer (Aeronautical) in 1957.

After a tour at Headquarters Maintenance Command in repair and overhaul, he was posted to the Guided Weapons Curse at the RAF Technical College, Henlow, UK, as a precursor to joining the RAAF Bloodhound missile team in the UK. From there he joined NO 30 (SAM) Squadron at Williamtown. Following a period with the Directorate of Guided Weapons Engineering at the Department of Air, he completed the RAAF Staff College Course before being posted as the Chief Technical Officer at No 1 BFTS, Point Cook.

This was followed by a tour as the RAAF Resident Engineer at Aeronautica Macchi, Italy, during 1968-69, and then as the Command Maintenance Officer at Headquarters Support Command. From there, he took up the post of Commanding Officer No 486 (Hercules) Squadron, Richmond. Returning to Maintenance Command, he was appointed Staff Officer Technical Spares Assessing (including project support), and then Staff Officer Aeronautical Equipment Engineering. An Air Force Office posting as Director of Technical Staffs – Air Force followed. He then returned to Headquarters Support Command as Senior Maintenance Staff Officer for what was to be his last appointment.

He is a graduate of the RAAF Staff College, the Australian Administrative Staff College and the Defence Industrial Mobilisation Course.

On his retirement, he worked with BHP Aerospace and Electronics RAAF, and later BHP Information Technology, on defence major projects, before joining MACE, a consulting firm involved with defence as well as commercial projects.

Air Commodore Bushell co-authored the '*Shaft of the Spear: Evolution of the RAAF Technical Services to the End of the Second World War'*, published in 2004, which is the definitive work on the early history of the RAAF's Engineering Branch.