

2013

Australian Defence Organisation

DMO Transformation Opportunities



10/07/2019



Executive Summary

The Australian Government is facing an issue common to many nations – the need to improve the efficiency and cost effectiveness of its defence organisation to maximise value of money and minimise burdens on taxpayers. Based on a number of studies, a key target for improvement is the Defence Material Organisation (DMO) which has historically had difficulty delivering to agreed cost and schedule baselines.

This same issue has been experienced by the UK Ministry of Defence (MOD) Defence Equipment and Support (DE&S) group, which is responsible for all UK defence procurement and in-service support activities. After several years of analysis, the UK government has concluded that the best way to transform DE&S is to form a government-owned, contractor-operated (GOCO) organisation and hire a private-sector company to help manage it. In June this year the MOD announced the formal launch of the procurement process to select a GOCO contractor with the right combination of programme/project and acquisition management expertise.



Bechtel has been assisting the UK MOD with its analysis process for the last four years and is one of the competitors for the GOCO contract. Considering this experience, in conjunction with Bechtel's expertise working in Australia and with the US government, we would like to engage with the Australian Defence Organisation to explore potential avenues through which we may provide assistance.

This paper summarises Bechtel's early thinking on potential ways we could assist DMO and provides limited highlights of our relevant experience.

DMO Issues Analysis

DMO, which was formed in 2000 when the Defence Acquisition Organisation merged with Support Command Australia, is responsible for purchasing, through-life support and disposal of military equipment assets. Its annual budget is approximately A\$9.1b with A\$3.7b spent on purchasing new equipment, A\$5.3b on sustainment and through-life support and A\$129m on management services and policy advice. The organisation employs more than 7,400 military, civilian and contracted staff.

Longstanding concerns about inefficiency and inability to deliver to agreed cost and schedule baselines have led to the perception that Defence/DMO is poorly managed. Further exacerbating this situation are current financial constraints that require reductions in capital acquisition costs as well as civilian workforce staffing. These concerns and recommendations have been addressed in:

- The Kinnaird Review (2003)
- The Mortimer Report (2008)
- Audit of the Defence Budget (SRP 2009)
- Review of the Defence Accountability Framework, undertaken by Rufus Black (Black 2011).
- Collins Class Sustainment Review (Coles 2011)
- Plan to Reform Ship Repair and Management (Rizzo 2011)

Despite the range of the studies, there are common themes including deficiencies in Defence's management systems, no overarching plan to integrate many lower lever plans, flawed procurement practices, poor programme management, major skills shortages, significant programme delays, cost overruns and poor through-life support planning.

With DMO responsible for managing acquisition and sustainment worth over A\$115B during the next decade, the Government has agreed the following improvement goals:

- Professionalise the workforce and encourage life-long learning
- Re-prioritise work for efficiency
- Standardise program and business practices
- Benchmark against Australian and international best practice
- Improve industry relationships and industry performance, encourage open and honest dialogue and reward good performance
- Lead reform and embrace change

The Australian Government is now considering a range of alternatives for providing these remedies, and Bechtel can assist in this effort by bringing its lessons learnt from assisting with similar issues in the US nuclear weapons and naval reactors programmes and UK Ministry of Defence (MOD) sites.



Potential Solutions to DMO’s Challenges

The goals and objectives for improvement identified by the various Defence/DMO reviews have been encountered by Bechtel both in its internal operations and its work for various US and UK government and private-sector customers. As the table demonstrates, Bechtel has specific core competencies and experience directly applicable to each stated objective for improving Australia’s Defence/DMO.

Defence/DMO Objectives	Potential Solution	Bechtel Experience
Professionalise workforce and encourage life-long learning	<ul style="list-style-type: none"> ▪ Apply matrix management to separate programme/project and discipline-specific functional management ▪ Focus programme/project managers on delivering on time and on schedule at agreed quality levels ▪ Empower programme/project managers to form multidisciplinary integrated project teams (IPTs) matched to their needs by drawing from functional department resources—and to release resources when no longer needed ▪ Focus functional managers on creating discipline-specific professionalism through consistent training and development ▪ Use functional management to create, maintain, and upgrade consistent procedural framework including processes, tools and systems including learning from experience (LFE) and continuous improvement ▪ Use functional management to provide oversight of the technical work performed by his/her employees that are deployed to IPTs ▪ Functional management is responsible for rightsizing its organisation to meet needs of project teams 	<ul style="list-style-type: none"> ▪ Used by Bechtel Group to manage/integrate five global business units (GBU) with annual turnover of over US\$30 billion ▪ Used by all five Bechtel GBUs to manage/integrate their programmes/projects portfolio ▪ Used on individual Bechtel programmes and most major projects ▪ Implemented to transform major US DOE sites including Los Alamos National Laboratory (LANL), Y-12 Nuclear Security facility and others ▪ Used on UK MOD Cost Assurance and Analysis Service (CAAS) contract to assess and upskill workforce
Re-prioritise work for efficiency	<ul style="list-style-type: none"> ▪ Conduct “challenge teams” to take fresh look at current priorities and schedules and challenge the status quo to find innovative ways to increase value for money ▪ Use Six Sigma to roadmap processes and streamline workflow by eliminating obstacles, inefficiencies and non-value added activities ▪ Conduct stakeholder partnering meetings to align commands and DMO goals, objectives and priorities and to understand drivers and constraints ▪ Apply zero base budgeting to force annual review of priorities and develop realistic costs and schedules to complete work ▪ Apply Bechtel-style programme/project management systems to re-sequence work to most efficiently accomplish desired priorities (i.e., lowest installed cost, lowest life-cycle cost, shortest schedule, risk reduction, supply chain optimisation, etc) 	<ul style="list-style-type: none"> ▪ 47G [REDACTED] ▪ Six Sigma has saved US\$2.9 billion since introduction ▪ Formal, facilitated partnering meetings have been used to align customers, stakeholders, suppliers as first step in taking over management of US government sites ▪ Zero base budgeting used on major projects to support US government 3-year budgets ▪ Bechtel has delivered projects others couldn’t (Channel Tunnel, Kuwait Oil Fires, LANL, Jubilee Line, etc) ▪ Used to help establish UK Nuclear Decommissioning Authority

Defence/DMO Objectives	Potential Solution	Bechtel Experience
Standardise program and business practices	<ul style="list-style-type: none"> ▪ Apply matrix management to create structure where there is one person responsible for each discipline (i.e., engineering, procurement, construction, safety, security, sustainability, programme management, etc). ▪ Each functional manager is responsible for creating and maintaining standardised practices, tools, systems, and procedures ▪ Each functional manager is responsible for training his/her employees on proper use of standardised practices ▪ Each functional manager is responsible for ensuring acceptability of work performed by his/her employees when deployed to IPTs (reviews, audits, checks, etc.) 	<ul style="list-style-type: none"> ▪ Used by Bechtel Group to standardise practices across GBUs ▪ Used by each Bechtel GBU to standardise practices across its portfolio of programmes and projects ▪ Implemented to standardise practices across major programmes such as LANL, Y-12, Pantex, UK MOD CAAS and more
Benchmark against Australian and international best practice	<ul style="list-style-type: none"> ▪ Use “challenge teams” to assess current performance, establish applicable industry baselines, and perform gap analyses between benchmarks and current performance ▪ Compare historical performance and productivity baselines to current Defence/DMO performance ▪ Use functional managers to routinely benchmark the performance of their deployed resources to other IPTs, other projects, and across GBUs ▪ Apply earned value measurement systems to monitor and correct performance on near real time basis 	<ul style="list-style-type: none"> ▪ Challenge teams used to benchmark and improve performance on Pantex, Hanford, LANL, and other sites ▪ Bechtel management systems collect data from labour time record systems, contractor accruals, procurement cards, invoices, and other expenses in near real time to enable daily monitoring and correction
Improve industry relationships and industry performance, encourage open and honest dialogue and reward good performance	<ul style="list-style-type: none"> ▪ Apply formal system such as Bechtel Procurement System (BPS) for cradle-to-grave supply chain management ▪ Apply proven subcontract management and expediting approaches for better integration with industry suppliers ▪ Apply full range of reimbursement mechanisms (cost reimbursement, fixed price, lump sum, fixed unit price, target cost, fixed fee, incentive fee, award fee, pain/gain share, cost savings sharing, etc) to deliver best value for money considering various scoping and risk identification scenarios ▪ Stabilise programme baselines to make bidding and delivery cycles more predictable and deliverable. This will improve relationships with industry and encourage more competition. ▪ Fully understand and verify performance data from industry providers and then work cooperatively with them to improve performance ▪ Where needed, use Bechtel-like EVMS, quality, safety, and other proven tools to help enhance supplier performance 	<ul style="list-style-type: none"> ▪ Bechtel spends and manages ~ US\$20 billion per year with the supply chain (\$4 billion in goods and services for the US gov't and \$15 billion for commercial customers) ▪ Bechtel has 1500 procurement professionals globally, including dedicated expediting and logistics professionals ▪ Bechtel Global Supplier Information System contains information on 93,000 subcontractors and suppliers ▪ 47G [REDACTED] ▪ 33 (a)(iii) [REDACTED]
Lead reform and embrace change	<ul style="list-style-type: none"> ▪ Apply Performance-Based Leadership (PBL)-style programme to motivate workforce to embrace change and assist with transformation ▪ Apply transition and transformation approaches developed for use in reforming US DOE sites when M&O contractors are changed out ▪ Apply employee engagement approaches such as those used when Bechtel introduced PBL, Six Sigma, and Build a Better Bechtel initiatives 	<ul style="list-style-type: none"> ▪ PBL has been provided to all supervisors in 53,000-person Bechtel organisation ▪ Successfully transitioned 19 US government sites with 63,000 employees ▪ Corporate initiative roll outs to significantly alter workforce culture effective on 53,000 employees

UK Ministry of Defence Acquisition Reform Initiatives

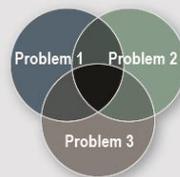
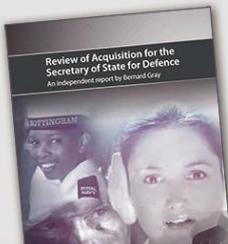
The problems and challenges facing DMO are directly analogous to those facing the UK MOD. Over the last four years, UK MOD has been in dialogue with Bechtel to explore various approaches to improve its performance. These discussions have included:

- Exploration of the benefits that matrix management could deliver to improving workforce professionalism and performance.
- Definition of the benefits of introducing more rigorous portfolio, programme and project management practices, systems and tools.
- Analysis of various contracting options to achieve the transformation including consultancy/advisor, shadow management, pilot programme, support partner, government-owned-contractor-operated (GOCO) and privatised DE&S. A GOCO approach was determined to offer the best transformative potential in the shortest timeframe.
- Evaluation of implementation issues associated with the GOCO approach including defining scope and boundaries, roles for military personnel, mitigating conflicts of interest, retention of intelligent customer responsibilities, transition and transformation timeframes, political difficulties with GOCO method (primarily size and annual turnover), skill infusion, contractor selection criteria/process and others.

Issues

Problem 1 The overheated programme

- Planned requirements exceed planned funding
- This is due to current incentives within MOD



Problem 2 Interface between customer and deliverer

- Interface between the customer (Front Line Commands and Department centre) and DE&S does not promote optimal outcomes

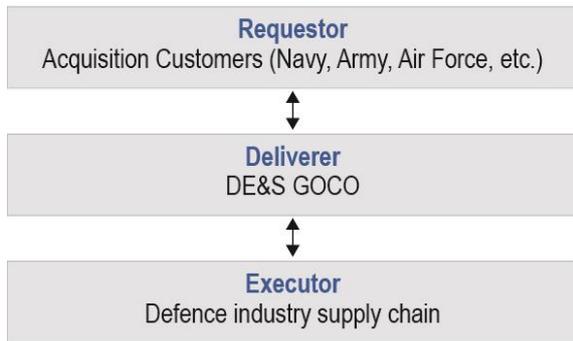
Problem 3 Difficulty in planning and executing projects

- DE&S requires significantly greater business capabilities
- Core functions such as Project Management, Finance, Cost Estimating and Contracting lack necessary skills
- Tools, particularly management information systems, are inadequate

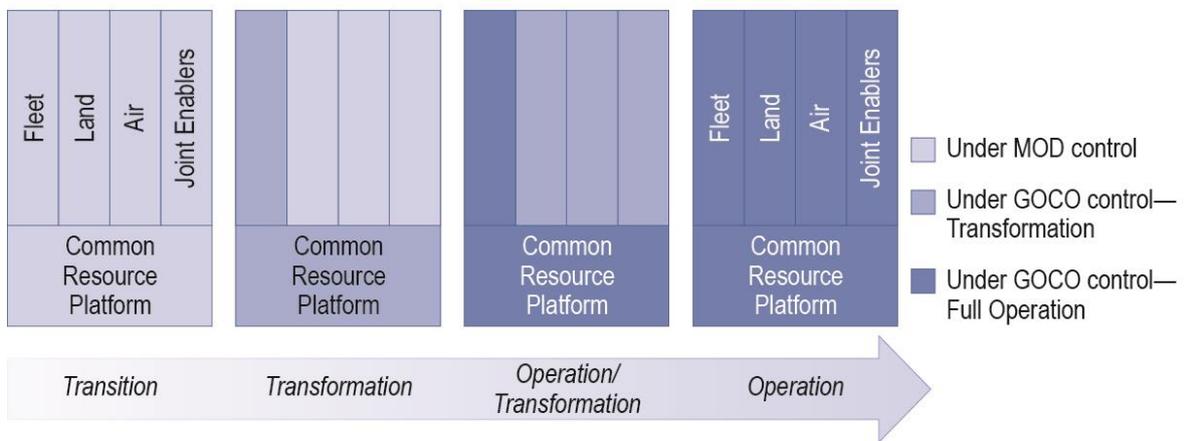
In June 2013 the MOD published a 'Better Defence Acquisition' White Paper, confirming its intent to implement the DE&S GOCO in order to, amongst other things: *"bring in incentivised private sector expertise to improve the delivery of the MOD's equipment programme by introducing systems and ways of working that provide staff with the best access to the necessary skills, processes and tools to enable them to do their jobs better, driving value for money in equipment projects"*.

The MOD has now begun the process for selecting a contractor to operate the entire DE&S organisation as a GOCO operation. It has clearly stated that it is looking for an operator with exemplary programme/project management skills typical of large engineering/construction firms that consistently procure large quantities of materials and deliver completed projects on time and on schedule, and it has now completed a Pre-Qualification process which has selected a small number of teams, including a Bechtel-led group, to progress to formal negotiations.

DE&S GOCO Architecture



Phased DE&S GOCO Implementation Process



About Bechtel Globally

Bechtel offers its customers the experience, expertise, and best practices it has developed through the completion of over 22,000 projects in 140 countries since its founding in 1898. During these 115 years of engineering, procurement, construction (EPC) and operations leadership, the financial stability of the company's private ownership has enabled us to continually expand our range of capabilities. As a result, we have brought our programme management tools, approaches, and resources to bear on complex programmes in a broad spectrum of industries: defence and space, infrastructure, nuclear and fossil power, mining and metals, petroleum and chemicals, telecommunications, and environmental management.

As a result, Bechtel is organised according to global business units (GBUs), or market areas, and within each GBU we execute a number of different types of projects. The variety and number of projects we have executed, the facilities we have constructed, and the services we have offered are illustrated by the following selected facts:

- Our Mining and Metals GBU, which is headquartered in Australia, has completed 369 major projects as well as 1,390 studies on six continents, enabling customers to produce everything from aluminium to uranium. The GBU excels at completing logistically challenging projects, often in remote areas, and doing it on time and within budget.
- Our Civil GBU has performed EPC for 27,000 kilometres of highways, 9,500 kilometres of railways, 150 dams, 80 ports and harbours, 80 airports, 25 bridges, and 25 new towns.
- Oil, Gas, and Chemicals has been responsible for 375 major chemical and petrochemical projects, 275 refinery expansions or modernisations, and 50 major oil and gas field developments (20 offshore) and has constructed 40 per cent of the world's LNG capacity.
- Our Power division has performed EPC for 356 fossil-fired power plants, 150 nuclear plants, and 48 hydroelectric plants.
- Our Bechtel National, Inc. (BNI) organization provides services for the U.S. government, including managing DOE facilities involved in research and development, **33 (a)(iii)**

BNI also manages defence and space programmes, including satellite launch facilities for NASA; design, construction, startup, and operation of facilities to destroy U.S. stockpiles of chemical weapons; and management of numerous projects to secure, control, and when possible eliminate chemical, biological, and nuclear weapons in FSU countries.

Today, Bechtel's 53,000 employees are executing 260 projects in 50 countries worth US\$32.9 billion in annual revenue—60% of which is outside of the United States—and maintain an order book of over \$100 billion. Based on rankings by the *Engineering News-Record* magazine, Bechtel has been the United States':

- Top EPC contractor for the last 14 years
- Top power contractor for the last 18 years
- Top transportation contractor for the last 9 years
- Top contractor working abroad for the last 6 years
- Top construction management contractor for the last 5 years
- Top federal contractor for 12 of the last 14 years

About Bechtel in Australia and New Zealand

Since 1954, Bechtel has completed a succession of groundbreaking resource projects and have helped Australians and their neighbours enjoy a more secure energy supply. It has designed, built, and managed some of the biggest infrastructure projects in Australia and surrounding countries—its work can be seen everywhere from the mountains of New Zealand's South Island, to the remote Gulf of Carpentaria, to the jungles of Papua New Guinea.

Bechtel projects have often been Australian or industry firsts. Some have set new records for size or capacity and many were in remote, undeveloped locations far from major services. At Lake Manapouri in New Zealand, Bechtel built what was then the Southern Hemisphere's largest underground power station. In Brisbane, it built Queensland's first refinery, also the first to be financed entirely by Australian capital. The company's ground-breaking labour agreements in New Zealand set the standard for years to come.

Bechtel projects helped open up the rich iron ore deposits of the Pilbara and extract and ship the coal of the Bowen Basin, and its aluminium expertise has helped Australians extract and process their bauxite reserves.

Bechtel innovation has overcome many of the environmental, technical, and social challenges of this country and the Oceania region. Bechtel has devoted resources to both Australian projects and Australian people. Our Mining and Metals Global Business Unit is headquartered in Brisbane and Bechtel has secured agreements with major producers to develop a host of projects in Australia and beyond.

In its six decades in Australia, Bechtel has achieved the following:

- Completed 511 projects worth \$70.8 billion in revenue
- The average project size is \$139 million
- Work has involved every Bechtel business unit (Power; Mining and Metals; Oil, Gas, and Chemical; Civil and Infrastructure; Telecommunications; Pipeline; and Environmental)
- Completed \$22 billion of work in 2010 and \$16 billion in 2011

Bechtel is currently executing three major LNG projects simultaneously on Curtis Island – one each for Queensland Curtis, GLNG and Australia Pacific. The engineering, procurement and construction of these three projects on Curtis Island, which is accessible only by water, represents the greatest concentration of Bechtel projects anywhere in the world. The LNG projects sit side-by-side, with the first plant scheduled for completion in 2014.

The Curtis Island LNG projects each have joint procurement, human resources, travel, accounting, legal, and community relations teams servicing them. This ensures efficiency and a quality service to our clients, reducing costs and streamlining processes and procedures. We work closely with the community, clients, key stakeholders, and government representatives to ensure a positive social impact for the duration of these projects.

At the peak of construction, the workforce will be 8,800 strong. These projects are also delivering a range of training and upskilling programs for the workforce. Bechtel will intake 400 adult apprentices through the National Apprenticeships Program (NAP) to work on the three LNG projects. We are also accessing and integrating a global LNG supply chain to achieve these massive Curtis Island projects.