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17 July 2014

Committee Secretary
Senate Economics Legislation Committee
PO Box 6100
Parliament House
CANBERRA ACT 2600

Attention: Dr Kathleen Dermody

Thank you for your email dated 14 July 2014 regarding the Senate Economics References Committee Inquiry into the future of Australia's naval ship building industry, in which you sought a submission from the Australian Industry & Defence Network (AIDN). I'm pleased to be able to provide a submission to Part I of the inquiry, which is attached.

The Australian Industry & Defence Network Inc is the peak industry association for small-to-medium enterprises (SMEs) wishing to do business in the Defence and Security sectors. Established in 1995, AIDN represents the interests of Australian SMEs in the defence and security industry sectors by advocacy, representation and member services.

AIDN is made up of State and Territory chapters with a combined membership in excess of 800 principal SME companies. Its chapter structures are optimised to reflect the nature of the defence and security industries in each State and Territory, which ensures that its national direction is informed by a full range of industry views.

Representatives of the AIDN are willing to attend hearings related to this inquiry.

Should you need any additional information, I invite you to contact Sue Smith, Executive Officer, AIDN.

Yours sincerely

Alan Rankins
AIDN President

Australian Industry & Defence Network Inc (AIDN)

Submission to the

Senate Economics References Committee

on the

Inquiry into the future of Australia's naval ship building industry Part 1

17 July 2014

Introduction

The Australian Industry & Defence Network (AIDN) welcomes the opportunity to make a submission to the Senate Economics References Committee on its inquiry the future of Australia's naval ship building industry.

The inquiry is appropriate and timely, noting that it provides an opportunity to offer constructive views on the state of, and additional measures to improve, support to Australian Defence related small and medium enterprises (SMEs) within the naval ship building sector.

Preamble

Naval shipbuilding is an important contributor to the Australian economy. It directly employs some 6,000 people, and indirectly nearly 15,000 people. The industry makes a contribution to the Australian economy of between (conservatively) $1.5 billion up to around $2.3 billion (based on total multipliers) per annum.

Around 7,400 full time equivalent (FTE) jobs across Australia can be attributed to the production of naval vessels by the five largest prime contractors in the industry. In addition, up to 7,560 FTE jobs can be can be attributed to the activities associated with through life support of naval vessels. Thus, the total FTE jobs generated across Australia – and including

direct employees, contractors and other flow-on jobs – is nearly 15,000. Because this is based on the sample of the five large contractors only it is a conservative estimate.
Of the potential $2.3 billion contribution from naval shipbuilding and through life support to the economy, the majority comes from the production side ($1.3 billion); however, the contribution from TLS is still highly significant ($975 million).

Supporting the prime contractors for each major naval shipbuilding project is an extensive network of suppliers, especially small to medium enterprises (SMEs). Historically, the level of Australian industry involvement in naval shipbuilding has been high; approximately 70 per cent of the total contract value of the ANZAC, Minehunter and Collins programs was met by Australian industry. For the ANZAC and Minehunter projects there was also a high level of Small to Medium Sized Enterprise (SME) involvement (approximately 90 per cent in each instance). Although in recent ship builds i.e. AWD & LHD this figure will not be as high due to contractual issues around using overseas suppliers.

Australian SMEs are finding it much more difficult to be involved in ship building projects in Australia because more often than not the Defence Department's Value for Money (VFM) criteria only considers the short term acquisition costs and this drives procurement often to an overseas supplier. A more holistic "Whole of Life" VFM criteria would ensure a more realistic appraisal of competing bids. In addition, the administrative processes to procure internally via the Foreign Military Sales (FMS) process is so streamlined when compared to the overly bureaucratic and risk averse process of procurement direct in country, hard-working public servants will, naturally, take the easier path.

Successive Governments have championed a healthy Australian defence industry, including the need to foster essential in-country industry capabilities for defence self-reliance. AIDN welcomes this as an ongoing, desirable policy commitment but sees little progress or adherence to the current Industry Policy in a practical sense, noting this government has yet to finalise its industry policy and signs are encouraging.

As one AIDN member pointed out: 'Like most industry members, I was absolutely shocked by the latest Federal Government announcement on the purchase of replenishment ships excluding any Australian industry participation.

From my perspective, this is absolutely appalling and most likely another low point in the future of the Australian Defence Industry.

After many months of industry consultation in regards to the unsustainable workload of Australian ship yards this outcome was a kick in the guts from the Government. Only recently the Government said that it will not be pressured in regards to an announcement awaiting the release of the Defence White Paper scheduled for next year.
The reasons given (lack of competitiveness) for this decision are also not credible given that one of the ship yards, ASC is government owned. Not only has the government the responsibility to address the issues at ASC but over the last few years, it has actively undermined attempts by the industry to rationalise the number of companies building ships in Australia. As an example, Tenix prior to selling their ship building assets approached the Government with the intent of buying ASC. This was declined and Tenix sold those assets to BAE Systems.

The other reason given is that Australia lacks the industry capability and capacity to build these ships. This is another wrong statement as we have world leading ship designers and builders such as Austal who are currently designing and building ships for the US Navy.'

Response to Part 1 Inquiry Points

(a) The reasons for the Government's decision in June 2014 to exclude Australian-based defence industry from tendering for the replacement of HMAS Success and HMAS Sirius, and instead have a restricted tender for Spanish and South Korean shipbuilders.

AIDN response: The reasons for this decision can only be provided by DMO.

(b) The capacity of Australian shipbuilding to carry out, in part or in full, the construction and fit-out of two auxiliary ships to replace the Navy's HMAS Success and HMAS Sirius.

AIDN response: Over the last year there has been considerable discussion around the 'valley of death' for naval ship building with the completion of the block builds for AWD, and the completion of the LHDs, which will all be completed in 2016. AIDN has regularly promulgated that there should be a continuous ship build primarily motivated by recognition that this approach could improve the throughput economies of local build and, in particular, could eliminate the substantial ramp up/ramp down costs associated with local batch building.

The current gap between projects (AWD & LHD) may force every major Australian naval shipbuilding company, with the exception of ASC, to 'start ramping down production' and with considerable job losses. Industry representatives have raised concern that there will be considerable loss of skills, talent and industrial capability as a result. In some extreme instances the period of low demand may force the closure of infrastructure and facilities supporting the industry.
Important also here is the fact that volatile demands for shipbuilding can work against the capacity of Australia to sustain the full range of SMEs that might be commercially viable, and competitive, under a continuous build model that supports greater confidence in continuing demand for key services.
It is essential for Australia's sovereignty that we maintain some form of ship building and repair capacity in Australia.

(c) The role of the Department of Finance and/or Department of Treasury and/or Department of Defence, the Finance Minister and/or the Treasurer and/or the Defence Minister, in the Government's decision to exclude Australian defence industry from tendering for the auxiliary ship replacement project.

AIDN response: As mentioned previously Defence/DMO's Value for Money (VFM) criteria only considers the short term acquisition costs and this drives procurement often to an overseas supplier. A more holistic "Whole of Life" VFM criteria would ensure a more realistic appraisal of competing bids. Department of Finance and Department of Treasury also need to recognise the economic values for VFM.

(d) The feasibility of including Australian industry participants in the tender process for the replacement auxiliary ships.

AIDN response: It is essential for the ship building industry that Australian industry participants are given the opportunity to tender. Because their tenders will be over $20M they will also have to include an Australian Industry Capability plan, which should also be enforced over the life of the project, if an Australian company is the successful tenderer.
The Minister for Finance recently commented on Professor Winter's report to Government: 'Now the main problems with the project (AWD) as we have inherited it is that there were problems with the initial program plan, there were problems with inadequate government oversight, there were problems with the alliance structure which seemed incapable to manage issues if and as they arose and there were also problems with the performance and capabilities of ASC and major subcontractors. As the Government, we are totally committed to ensure that this program is put back on track, that it is delivered in the most cost effective way possible, which is why we have decided to adopt the recommendations made by the Winter Review in principle while we now proceed with working through some of that detail.'
Currently the Australian naval ship building industry is not a level playing field.
AIDN recommends that the Winter Review should be released to industry so that they are aware of the implications of recommendations made by Prof Winter.

(e) The management and performance of DMO that contributed to the Government's decision to exclude Australian industry from tendering for the replacement auxiliary ships.

AIDN response: The reasons for this decision can only be provided by DMO.

(f) Any related matters.

AIDN response: We will provide more information for Part 2 of this inquiry.

Conclusion

Due to the very short time frame for responses to Part 1 of this inquiry we have provided some input. However, we fully intend to make a more formal/detailed submission to Part 2 'Broader inquiry into the future of Australia's shipbuilding industry'.

Attachment A – Gary Stewart & Lean Design Australia submission

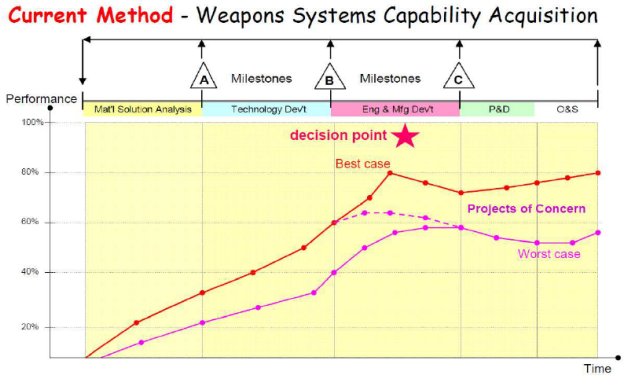
4th February 2014

Executive Overview - A **Red Team** approach to Defence Procurement:
Acquisition Improvement and Sustainment. (or how to save $10b in Cost in SEA 1000)

Defence Weapon Systems acquisitions have been on the high risk list for many years – simply because despite efforts at acquisition reform since the Collins program, far too many current acquisition programs still experience cost overruns, schedule delays, and capability and performance shortfalls.

These cost overruns, missed deadlines and failed programs are symptoms, not root causes.
Unless the root causes are addressed, no amount of additional oversight, extra regulation, rearranging of organisation boxes, creation of new offices, or changes to processes will help future programs.
In fact they will most likely make things worse.

All of these past problems in acquisition programs share a common dynamic: - moving forward with programs before the knowledge needed to make better decisions is sufficient. Yet constrained future budgets will demand a culture of better decision making across all future acquisition programs.



Current acquisition methodology sees the final decision point for acquisition occur about midway through the engineering & manufacturing development stage of the program development, with target MRL & TRL of 6 (60%) being achieved at the Milestone B target.

This final decision point is based on "should-cost" from here estimates, and "should-be-capability" and producibility predictions as the program nears milestone C (Production).

But the results being achieved in many current and past programs show that typically weapons acquisition programs do not ever achieve this "best-case" performance level, and more typically follow the "worst-case" line, or fall somewhere in-between.

Additionally many programs, even those at "best case" will suffer many producibility problems, capability shortfalls, cost overruns, time delays and will become "projects-of-concern" which must then be remediated as best they can be, given the difficulty of recovering the program so late in the design and development of the total program.

All of this presents something of a major dilemma for the Government. Today in times of austerity the government must husband every available dollar and put it to its most efficient use. It can no longer afford, nor tolerate, a defence acquisition system that is seen as costly, overly-complex, and slow to respond to an ever-changing world or that results in massive cost overruns and long program delays.

Improving Defence Weapons Acquisition best practice (WSARA2009)
WSARA2009 (Weapons System Acquisition Reform Act 2009)

In the USA, GAO and Defense Acquisition University studies of weapons acquisition programs indicate that more than 85% of both the acquisition and total lifecycle cost of a weapons system program is determined and already locked-in by the time the first requirements are finalised - before milestone B.

As a result, the USA has enacted the Weapons System Acquisition Reform Act 2009 to overcome these deficiencies. This has mandated a change in US Defence Acquisition processes to provide a far more robust and methodological decision making framework, far earlier in the development cycle. This requires the DOD to conduct a root cause analysis of the cost, schedule and performance for all weapons acquisition systems using realistic cost estimating, prototyping, and systems engineering practices that will in turn confirm that their technologies are mature, their designs stable, their production processes are in control, which will result that the desired capability will be delivered to the war-fighter.

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However development did not stop there, and in the intervening 5 years OSD (Office SecDef) and its partners have added a vast amount of research, new ideas, new functionality, additional features and risk maturity modeling far above and beyond the capability of the WSARA2009 legislated program.

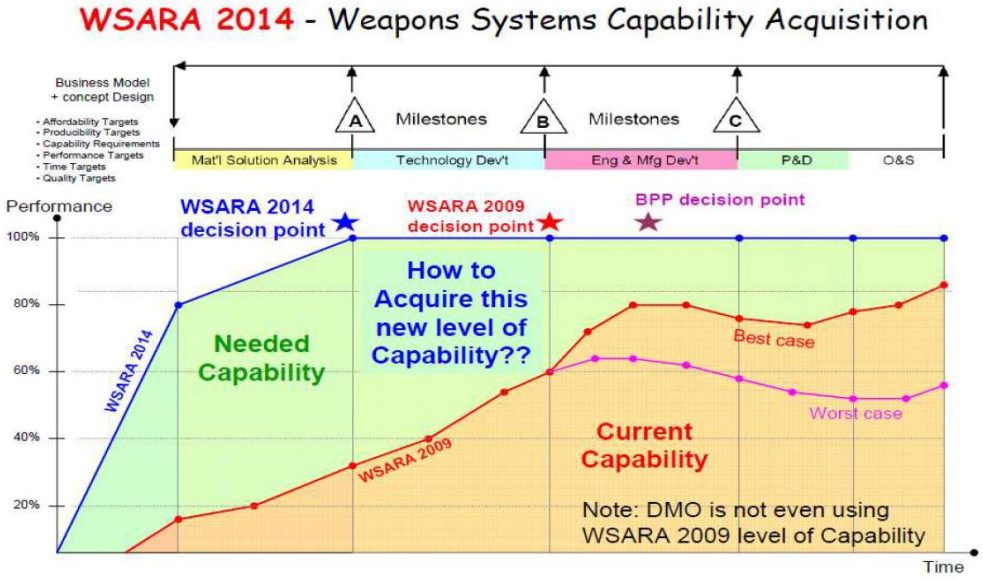
At the same time a commercial world evidence based industry best practice program based on the same thinking has determined that it is the Initial Concept Design that creates up to 90% of all program cost structures & cost problems, with all Time delays and Quality and performance problems flowing from this point. This suggests that cost and producibility outcomes are in fact locked-in before Milestone A.

Improving industry best practice Acquisition from OSD and Commercial world (WSARA2014)
WSARA2014 (Weapons System Acquisition Reform Act 2014)

This new Frontier Defence based program now updated to the much higher performance WSARA2014 level has developed a very robust Affordability and Producibility modeling methodology, with a highly evolved Risk maturity modeling capability, which consistently delivers 30% lower cost outcomes, while delivering far better performance, operational and warfighter outcomes.

…in truth this new frontier for weapons systems will deliver far better capability to the warfighter … simply ecause Cost, Time, and Producibility can be entirely eliminated as limiting factors in all acquisitions …"

Its aim - eliminate any repeat of the JSF (or Collins) programs cost, time, performance or capability debacles.



The difference in thinking and methodology are made immediately clear in this graphic.

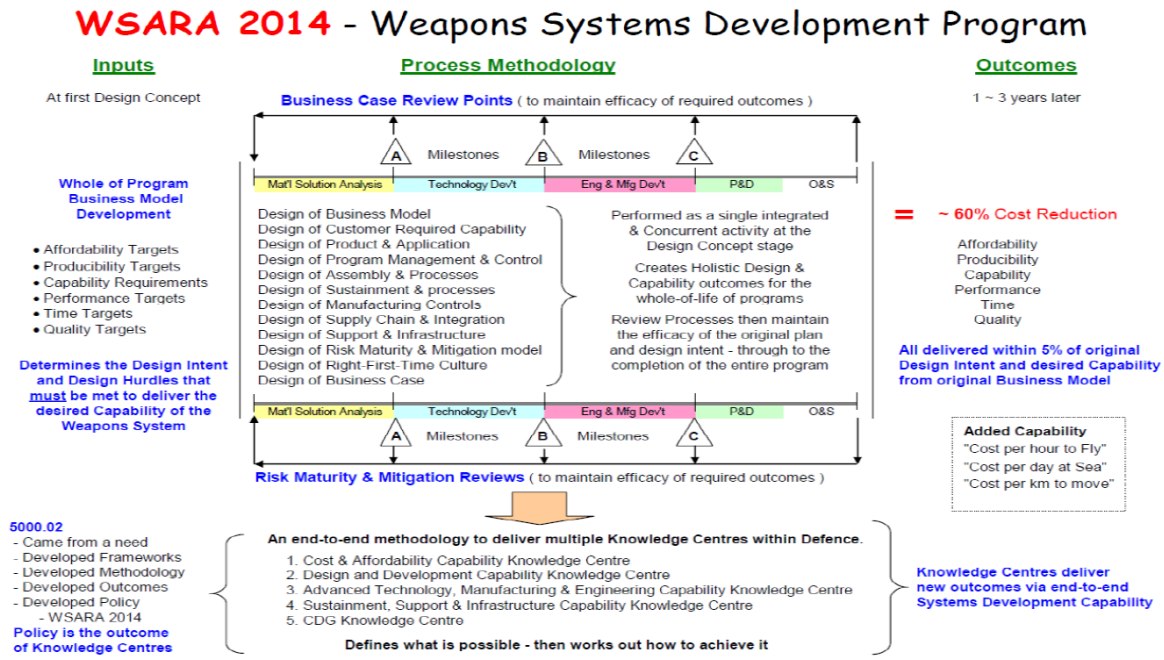
WSARA2014 (Blue line) has moved the decision point to far earlier in the program before Milestone A. Affordability and Producibility modeling have dramatically lifted the predicted performance outcomes to 100% by milestone A, and the risk maturity modeling maintains that level through until the program is completed and the weapons system is fully active in the hands of the warfighter.

Even when compared to WSARA2009 (Red line) this is a very major shift in the culture of better, far earlier decision making dynamics occurring across all future acquisition programs. **The difference in program capability and decision-making between these methods is represented by the Green area.**

At all performance levels and time points throughout the Weapons program development WSARA2014 is a very significant step-change in best practice thinking about how Defence weapons systems should be acquired with much better decisions, much lower costs, in less time, with far better producibility, better operability and capability, and with minimum risk to both the Government, and war-fighter capability.

WSARA2014 is an extremely robust weapons system acquisition break-through for Defence.

WSARA2014 new thinking process and methodology is demonstrated below.



Rather than just designing the equipment – first we design the business model for the weapons system – set all of the holistic hurdles and capability requirements that the entire weapons system must meet over the whole of its development and working lifecycle.

Once this is completed we begin the process methodology

Every design now has a series of very robust design hurdles that must be achieved and maintained throughout the whole development process.

The methodology and the very robust risk maturity modeling system maintain the efficacy of the required outcomes until the weapons system program is completed

WSARA 2014 Target + Hurdle System

- *Design for Cost - Target Cost – 5 to 50%* ⇩
- *Design for Time – Target Time – 10 to 40%* ⇩
- *Design for Quality – 40 to 90% Improvement* ⇧
- *Design for Simplicity – 50-80% Improvement* ⇧
- *Design for Producibility – >90% Improvement* ⇧
- *Design for Risk maturity - >95% Improvement* ⇧
- *Design for Confidence - >95% Improvement* ⇧

Typically outcomes of this WSARA2014 process are within 5% of the original targets and hurdles set before the milestone A decision point. A remarkable improvement over current program methodology.

WSARA2014 capability will allow Defence to design to the specific needs of the warfighter – not to what the prime wants to sell to Defence.

The only way that new weapons systems acquisition and sustainment procurement methodologies can prevent the failures of the past and achieve far better outcomes for all future Defence programs, and eliminate "projects of concern" is if these new industry best practice methodologies, which already exist, (WSARA2014) are adopted for all future weapons systems acquisition programs in Australia.

Improving program Acquisition to world best practice (or how to save $10b in Cost)

Given the financial pressures that face the government in funding the vast array of needed future Defence capability, which includes SEA 1000 & SEA 5000, when combined with the need for more affordable program sustainment outcomes, Defence will need to find new best practice methodologies like WSARA2014 that can deliver this much needed program capability in ways that are much more affordable to the government and with far less risk or problems than Defence's current methodologies.

Full details of each part of the proposal and its contents are explained in the full document