18 September 2012

VADM P. Jones AO DSC RAN
Chief Capability Development Group
Department of Defence
Canberra ACT 2600

Dear Vice Admiral Jones,

PROPOSAL FOR THE DEVELOPMENT OF INNOVATIVE CAPABILITY FROM DEFENCE INDUSTRY

The Australian Business Defence Industry Unit (ABDIU) represents a wide range of Australian-based companies undertaking defence work in Australia. These companies are distributed across the country and extend from the major Prime Contractors to very small businesses comprising only a few personnel. On behalf of this diverse membership base the ABDIU submits the attached proposal for the better development of innovative defence capability from within Australian industry.

At the most recent Capability Development Advisory Forum (CDAF) I briefly spoke to you about a proposed method to handle and foster the development of innovative technologies. This was followed up at a meeting on 18 September 2012 where the options were discussed in more detail.

The proposed mechanism under which Defence could assess and develop innovative technologies of interest is shown at Annex A to this letter. This approach is believed to fill the existing developmental void between Technical Readiness Level (TRL) 5/6 and TRL 8. Furthermore the proposed approach is compatible with existing Defence initiatives such as the Capability Technology Demonstrator (CTD) program, the Rapid Prototyping, Development and Evaluation (RPDE) program and the Priority Industry Capability Innovation Program (PICIP) whilst adding value to Defence – Industry engagement through the Environment Working Groups.

I commend this proposal for your consideration.

Should you wish to discuss any of the issues presented in this response please contact me at Graeme.dunk@australianbusiness.com.au or on (02) 6230 1137.

Yours sincerely

Graeme Dunk
Manager

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Annex A to ABDIU letter
Dated 18 September 2012

PROPOSAL TO HARNESS DEFENCE INDUSTRY INNOVATION IN AUSTRALIA

A complimentary initiative to the current Capability Technology Demonstrator (CTD) program is proposed in order to encourage and promote innovation from defence industry. It is called the Defence Industry Challenge. The CTD program as currently structured takes proposals from Technical Readiness Level (TRL) 2 through to TRL 4 or 5. The Rapid Prototyping, Development and Evaluation (RPDE) program can advance technologies through to TRL 7. The lack of ongoing development funding under existing programs means there is a high risk that technologies of interest to Defence will not achieve qualification through test and demonstration to qualify them at TRL 8, the level at which they are ready for introduction into service. This new initiative would provide a mechanism to consider proposals at a minimum of TRL 5/6 and advance them to TRL 8. In this way the proposal fills an existing "development gap" while maintaining consistency with current Defence initiatives.

The aim of this proposal is to provide a mechanism to introduce innovative technologies into current and/or new Department of Defence (DoD) acquisition programs in order to improve military capability.

The proposal is based upon the proven US Foreign Comparative Testing System, a program that has resulted in 105 programs being deployed on operations in the last 10 years. In essence the proposal will assess, procure and field lifesaving or game-changing capability.

The value of this initiative is that it provides an opportunity for cost effective analysis of ideas that have potential to make a real difference instead of rejecting ideas as a result of "qualified hunches" from individual staff officers. The proposed structure will provide industry with a common access point into DoD, stimulating innovation with a focus on "assess, then procure", and thereby dovetailing perfectly with Adaptive Acquisition. The mechanism will ensure that industry costs in the proposal stages are minimised. Moreover, the Defence Industry Challenge program would provide a structured, common means to assess successful CTDs and RPDE tasks for additional funding support.

The requirement for proposals to be at TRL 5/6 will ensure that industry has sufficient faith in their proposal to have invested in development of a representative model or prototype system that has been tested in a relevant environment. Similarly, developments funded under the CTD program will be around this technical readiness level on successful completion. Proposals would be supported through "dollar for dollar" funding from industry selected. This 50/50 funding is standard practice with most Government and State grants, and is consistent with the approach taken under the Priority Industry Capability Innovation Program (PICIP). Funding would be focused on developing proposals with user input to allow the system in its final form to be proven to work under expected operational conditions through a field trial (TRL 8). Moreover, as for PICIP, given the advanced nature of the developments taking place under the proposed Defence Industry Challenge, repayment of the grant money once a significant sale is achieved could be considered with repaid funds being reinvested in the ongoing program.

As an aside, this proposal will not impact on the selection or management of CTD projects as these developments commence from a much lower TRL level. The continuation of the CTD program, or some similar scheme, would continue to be required in order to develop capability concepts of interest.

Successful completion of a field trial will mark the Milestone at which a decision could be made by Defence for implementation. Options would include staffing it as an Urgent Operational

Requirement, including it in a current program through contract change proposal, drafting a new requirement for inclusion in the DCP, progression as a Minor Project, or no further development.

The proposed mechanism for the Defence Industry Challenge program is as detailed below:

1. Proposals submitted to Capability Development Group (CDG) using a single page PowerPoint Quad Chart template for ease of evaluation prior to the first meeting of the relevant Environmental Working Group (EWG) in any calendar year.
2. If required an initial filtering of proposals would be undertaken within CDG to ensure that the EWGs are not over-burdened with proposals. Given the advanced entry point and the "dollar-for-dollar" funding this is not considered likely.
3. At the first meeting in the calendar year of the relevant EWG, companies would individually be given 10 minutes to present their proposal to a Defence Environmental Panel of Experts. This panel could comprise representatives of Capability Development, the relevant Capability Manager, DSTO and an independent industry representative.
4. Shortlisted companies would then be requested to develop a detailed proposal defining, *inter alia*, project schedule, milestones, etc and test and acceptance criteria (specifications).
5. Successful projects would be nominated within six months of the initial EWG presentation and completed within a maximum of a further 18 months.
6. Following successful demonstration at TRL 8, and hence demonstration of operational suitability, Defence would have five courses of further action, namely:
    a. No further action,
    b. Acquisition as an Urgent Operational Requirement,
    c. Implementation through an existing project as a Contract Change,
    d. Acquisition as a Minor Project; or
    e. Implementation as a project through the DCP process.

The proposed flow for the development of innovative proposals is shown at Figure 1 below.

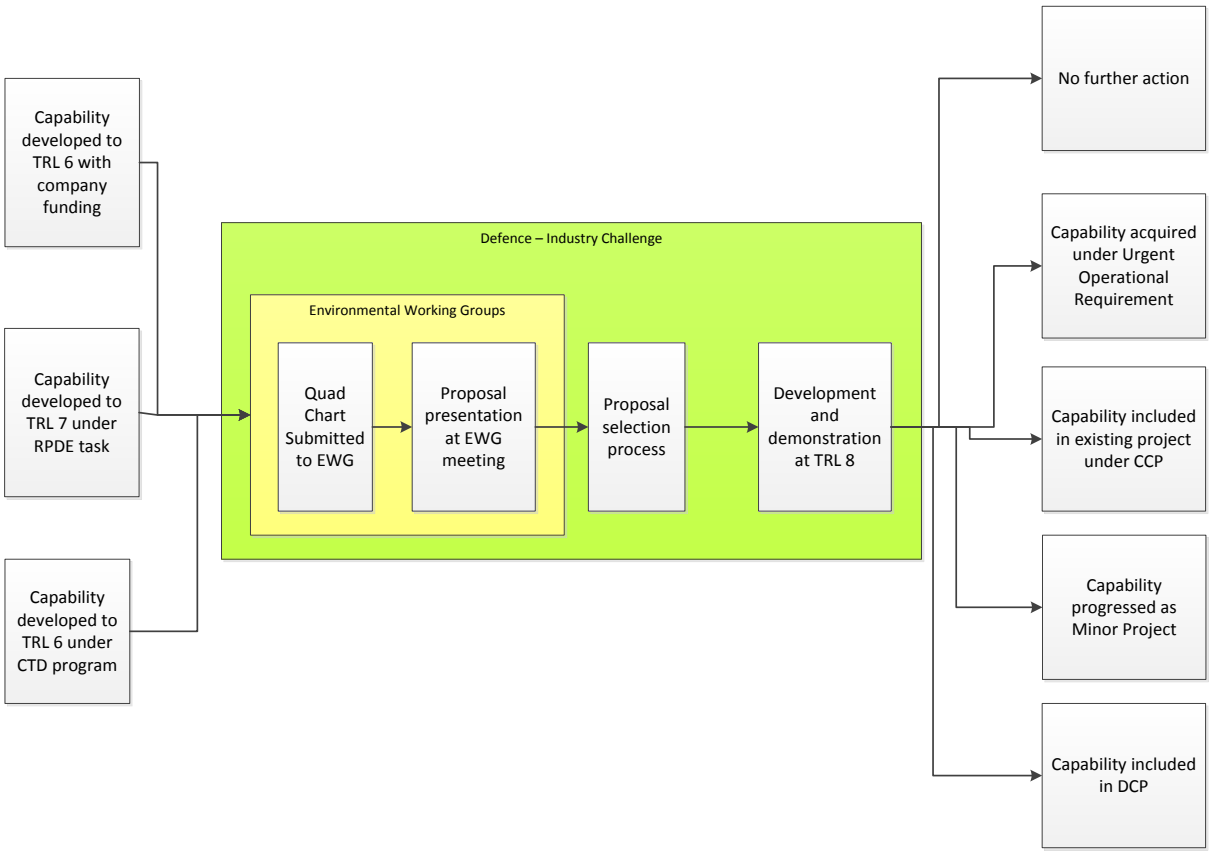

Figure 1 – Development of Innovative Capability Proposals

The utilisation of the EWG meetings is proposed as these are already well-supported by industry, and currently serve as a vehicle to bring Defence and industry into the same time and space. An added benefit to Defence from this proposal would therefore be an increase in the value of the Defence-Industry engagement through the Environmental Working Group process.