

# Defence Materiel Organisation and Capability Development Group

## Background

- 5.1 The Defence Materiel Organisation (DMO) supports the Australian Defence Force (ADF) through the provision of acquisition and sustainment services for specialist military equipment. It uses a purchaser-provider model, underpinned by service agreements, to deliver commercial, engineering, logistics and project management services.<sup>1</sup>
- 5.2 The Capability Development Group (CDG) delivers and manages the Government's plans for future defence capability as outlined in the Defence Capability Plan (DCP). It is responsible for developing capability proposals, funding guidance, legislation and policy for consideration and approval by Government.<sup>2</sup>
- 5.3 In January 2012, CDG launched its Capability Development Improvement Plan (CDIP). The CDIP sets out a range of initiatives to improve the performance and efficiency of the capability development process. These include the introduction of rigorous portfolio management, simplified documentation, enhanced project initiation board, improved committee effectiveness, costing policy agreement with central agencies, avenues for early industry input in the Defence Capability Plan (DCP), increased capacity and expertise through industry support, process and information management alignment, and the ongoing professionalisation of the capability development workforce.<sup>3</sup>

---

1 *Defence Annual Report 2012–13*, p. 177.

2 *Defence Annual Report 2012–13*, p. 73.

3 *Defence Capability Development Handbook*, Department of Defence, 2012.

## CDG's response to internal and external reviews

- 5.4 Since 2012, the DMO and CDG have been subject to two external reviews. The Senate Standing Committee on Foreign Affairs, Defence and Trade tabled its report into procurement procedures for Defence capital projects in 2012. The response from Government was tabled in October of the same year.
- 5.5 The Australian National Audit Office (ANAO) also conducted a review into capability development reform as part of its performance audit for the 2013-14 financial year.<sup>4</sup>
- 5.6 The Senate inquiry and ANAO audit produced a total of 221 recommendations. In addition to these, Defence also considered further recommendations from its own internal reviews on the Strategic Reform Program and Capability Development Improvement Program.<sup>5</sup>
- 5.7 Defence informed the Committee that it has currently addressed 81 per cent of recommendations from its internal reviews, the Senate inquiry and ANAO audit.<sup>6</sup>
- 5.8 A common theme of these recommendations was the need for Defence to streamline the internal process of capability development. Through the implementation of the CDIP, Defence has sought to improve the internal process by reducing the number of committees and adopting the Project Initiation and Review Board.<sup>7</sup>
- 5.9 In reference to the ANAO audit, Defence clarified that recommendations 5, 6 and 7, which related to reporting and accountability have been addressed; recommendations 1 and 4, which related to workforce skills and transparency remain open, and recommendations 2 and 3, which related to assessment process, have submitted closure cases.<sup>8</sup>

## CDG Workforce

- 5.10 Representatives from the Australian Strategic Policy Institute (ASPI) voiced concern over the current workforce structure of the CDG:

Defence's Capability Development Group continues to be staffed predominately by military personnel with short tenures and

---

4 ANAO Audit Report No.6 2013-14: *Capability Development Reform*, October 2013.

5 Vice Adm Jones, Department of Defence, *Transcript*, 6 June 2014, p. 42.

6 Vice Adm Jones, Department of Defence, *Transcript*, 6 June 2014, p. 42.

7 Vice Adm Jones, Department of Defence, *Transcript*, 6 June 2014, p. 43.

8 Department of Defence, *Submission No. 4*, p. 14.

limited experience in capability development – despite successive recommendations to the contrary.<sup>9</sup>

- 5.11 While recognising the importance for military expertise to inform the CDG of the operational realities of defence technologies, ASPI believes CDG should develop initiatives to diversify its workforce. Specifically, it should look towards accommodating staff skilled in the defence acquisition proposal process and civilian analysts to offer non-military perspectives.<sup>10</sup>
- 5.12 ASPI elaborated on this point at the public hearing:
- Capability Development Group is...acting as a service provider for the services – the services tell them what they want them to do and Capability Development Group goes forward and develops proposals to that end. It is not entirely clear to me that a model where the ideas come from the services and are implemented through Capability Development Group necessarily assumes that the development of the ADF is in line with broader strategic imperatives.<sup>11</sup>
- 5.13 In light of projections for capital investment in defence, ASPI also stated that CDG and DMO will be managing a range of complex Defence acquisition projects in the future. In order to effectively meet the challenges associated with these projects, ASPI recommended that there should be longer tenure for military officers and civilian employees working within the CDG.<sup>12</sup>
- 5.14 Defence sought to address concerns raised by ASPI by detailing the current structure of the CDG workforce. Two statistics were presented:
- Of the 322 members of the CDG, 51 per cent are military personnel and 49 per cent are public servants; and
  - 38 per cent of the CDG workforce has served in the organisation more than once.<sup>13</sup>
- 5.15 To ensure it is well versed in the skills necessary for efficient capability development, the CDG encourages its workforce to complete a one year master's course in capability technology management at the Capability and Technology Management College (CTMC). This is an area CDG hopes to streamline further into its workforce structure.<sup>14</sup>

---

9 Australian Strategic Policy Institute, *Submission No. 2*, p. 4.

10 Australian Strategic Policy Institute, *Submission No. 2*, p. 5.

11 Dr Thomson, Australian Strategic Policy Institute, *Transcript*, 6 June 2014, p. 2.

12 Dr Thomson, Australian Strategic Policy Institute, *Transcript*, 6 June 2014, p. 2.

13 Vice Adm Jones, Department of Defence, *Transcript*, 6 June 2014, p. 43.

14 Vice Adm Jones, Department of Defence, *Transcript*, 6 June 2014, p. 43.

## Mitigating risk in the DMO and CDG

### Partnering Defence with industry

- 5.16 Since the release of the CDIP in 2012, Defence has sought to strengthen its relations with the private sector through CDG Industry Partnerships.
- 5.17 One company involved in the CDG Industry Partnership has been the Australian-owned professional service provider Nova Systems. In their submission to the Committee, Nova Systems noted that they have worked with CDG on over 150 prospective tasks. This has resulted in approximately 100 contracted activities in areas such as cost estimation, scheduling, capability development documentation authoring Australian Defence Test & Evaluation Office trials management support, risk management and training needs analysis.<sup>15</sup>
- 5.18 In their evidence to the Committee, representatives from Nova Systems noted that a common problem for private industry when partnering with Defence was the relatively short notice given for support requests, and a lack of sufficient forward resource planning. However, Nova Systems was optimistic:

Sometimes the tasking was quite short notice. That is certainly an improving facet and a maturing of the relationship between CDG and support organisations. I think there are always improvements to be made there; because the more forward notice that we can receive the better we can secure resources in a more timely manner to satisfy their needs. It is definitely an improving area of the partnership.<sup>16</sup>

### Test and Evaluation

- 5.19 Test and Evaluation (T&E) plays a key role in ensuring that all ADF capabilities are fit to perform to their required standard throughout their lifecycle. An important feature of T&E process is its ability to identify, prepare and adjust to any risk associated with the development of complex capabilities.
- 5.20 Based on their own experiences, Nova Systems highlighted the importance of having a rigorous T&E process throughout the lifecycle of a capability. In particular, they noted that Defence does not always implement T&E in the early stages of capability development.

---

15 Nova Systems, *Submission No. 3*, p. 3.

16 Mr Robinson, Nova Systems, *Transcript*, 6 June 2014, p. 16.

One of the lessons that we keep learning is that, if a rigorous test and evaluation process is at least planned early, issues not only associated with operational capability but also associated with sustainment, logistics and engineering can be addressed early... Certainly, our belief is that ADTEO, the Australian Defence Test and Evaluation Office, appreciates that and is doing its best to increase that culture through Defence and hopefully address many of the issues associated with a lack of thorough T&E early in the process.<sup>17</sup>

5.21 The Committee was interested to hear whether industry should be playing a greater role in T&E procedures for Australia's defence capabilities. While disclosing their commercial interest, representatives from Nova Systems felt industry could play a greater role in T&E given their high level of capability and expertise.<sup>18</sup>

5.22 This view was shared by witnesses representing QinetiQ:

I believe that taking a similar partnership to the running of test and evaluation facilities can reduce the direct costs to Defence, improve delivery efficiency and, again, guarantee the availability of sovereign niche skills.<sup>19</sup>

5.23 QinetiQ reaffirmed the importance for Australia of possessing a sovereign T&E capability in order to ensure that all potential risks associated with capability procurement are identified in the early stages of development.<sup>20</sup>

## Transparency and accountability

5.24 One concern brought to the Committee's attention was transparency and accountability throughout the life cycle of a capability project. Witnesses representing QinetiQ recognised that while there are individual reviews and boards in place to evaluate the progress of capability projects, there needs to be a single common organisation at the macro level that assesses progress across the entire life cycle of a capability.<sup>21</sup>

5.25 The Committee sought to explore the recommendation made by QinetiQ in having external players in the form of review boards and individual experts involved in the long-term review of capability projects. QinetiQ clarified this recommendation:

---

17 Mr Robson, Nova Systems, *Transcript*, 6 June 2014, p. 16.

18 Mr Whalley, Nova Systems, *Transcript*, 6 June 2014, p. 17.

19 Mr Woolford, QinetiQ, *Transcript*, 6 June 2014, p. 10.

20 Mr Whalley, Nova Systems, *Transcript*, 6 June 2014, p. 17.

21 Mr Woolford, QinetiQ, *Transcript*, 6 June 2014, p. 11.

I believe there is a place for external support to play inside those project teams, to support those project teams across all parts of the capability life cycle. This is partly because there happens to be a national and, in some cases, international shortage of niche skills and the availability of them at any particular point of time, but also to create greater continuity that is not affected and impacted by the posting cycle – for example, for uniformed staff. Looking at the layer above that, at the independent scrutiny level, I think the key word there is ‘independent’, associated with scrutiny. That could be across the entirety of the enterprise. In my mind, it is more likely to be associated with key projects, high-value projects, high-risk projects, and complex projects and programs, but it could be applied across the entirety of the enterprise.<sup>22</sup>

- 5.26 The Committee mentioned the role of bodies such as the Australian Defence Test and Evaluation Office which reports through the CDG. When asked whether this kind of body should be involved in the long-term oversight and accountability of a capability project, QinetiQ stressed the importance of an independent reporting and review line.<sup>23</sup>

## Disclosure of dissenting views

- 5.27 The Committee questioned how CDG takes into account alternative points of view when undertaking an informed decision on capability development. The Committee was particularly interested to understand whether dissenting views, even where discounted by Defence, were disclosed to policy-makers.
- 5.28 Defence responded:
- Yes. There are occasions where people will have a dissenting view and, indeed, where organisations will have a dissenting view. In some of those cases...I then bring that forward to the secretary. We will bring projects to the Defence Capability and Investment Committee, the high-level committee, to have it out there, if you like, in a constructive way.<sup>24</sup>
- 5.29 Defence went on to explain that they are developing a culture of transparency and open discussion. This has contributed to a strong sense of accountability within the CDG.<sup>25</sup>

---

22 Mr Woolford, QinetiQ, *Transcript*, 6 June 2014, p. 11.

23 Mr Woolford, QinetiQ, *Transcript*, 6 June 2014, p. 11.

24 Vice Adm Jones, Department of Defence, *Transcript*, 6 June 2014, p. 44.

25 Vice Adm Jones, Department of Defence, *Transcript*, 6 June 2014, p. 44.

5.30 While noting the self-assessment presented by Defence, the Committee referred to Seasprite and Multi-Role Tanker Transport as cases where the high risk associated with their development was not adequately considered by CDG, nor presented to key decision makers including Government, despite evidence from other organisations within Defence and external parties. Defence responded:

The vast majority of projects progress forward with a medium risk and schedule, a medium risk on cost and a medium technical risk. We do have some projects which go with a high risk. Probably a case in point which would make sense would be ANZAC Anti-Ship Missile Defence. There was a developmental radar which went with a high risk, but it was accompanied by a mitigation strategy of how that risk would be treated because the prize of getting a world-leading radar in a ship was worth that. But there was a very transparent discussion. So I would say certainly CDS [Chief Defence Scientist] would have had a red in his report, and that has to go to government.<sup>26</sup>

5.31 Defence also made it clear that there needs to be realistic expectations that take into account the various complexities involved in the acquisition of large military capabilities. The Secretary of the Department offered the following comments:

I do not think you could expect the CDF and myself and others to have visibility on all dissenting views; the organisation is too big. If you were to expect to have transparency of all dissenting views, you would probably have difficulty whether there are dissenting views that are of such an order that they ought to be brought to attention. Sometimes that happens; at other times, I think we could probably do better.<sup>27</sup>

5.32 In terms of accountability within the capability acquisition process, Defence acknowledged that this remains an area for improvement:

I think we struggle with individual accountability... But the lead times involved on some of these projects are so big that it is simply unrealistic to expect that 15 years into a project, when you discover something that might have gone wrong, people have moved on. And that is just inherent when you are dealing with projects that can take 20 years from conception through materielisation of final operating capability.<sup>28</sup>

---

26 Vice Adm Jones, Department of Defence, *Transcript*, 6 June 2014, p. 45.

27 Mr Richardson, Department of Defence, *Transcript*, 6 June 2014, p. 46.

28 Mr Richardson, Department of Defence, *Transcript*, 6 June 2014, p. 46.

## Managing commercial risk

- 5.33 One of the risks associated with the commercial procurement of defence capability is the potential for defence materiel providers to produce technologies that do not meet Defence's capability requirements. ASPI noted that the failure of firms to meet Defence's delivery or capability expectations has a negative impact on the image of DMO.<sup>29</sup>
- 5.34 ASPI offered the following recommendation to better bridge DMO with commercial firms:
- To my mind, each and every procurement should have a contracting approach calibrated to the nature of the procurement. In some instances, it may well be both prudent and possible to transfer risk to the supplier.
- What you really want in contracting is a balance which provides sufficient incentives for the supplier to be efficient and to deliver on time and to specification. But that does not present an unrealistic of transfer risk.<sup>30</sup>
- 5.35 The Committee asked Defence what engineering practices, quality assurance systems, risk management strategies and contractual mechanisms the DMO has to identify, assess, mitigate or counter commercial risk.
- 5.36 Defence offered the following response:
- In every platform we have those obsolescence management programs going on. Remember, of course, that in many cases those platforms came to us from an overseas supplier. Collins is a case in point, where we have obsolescence management programs.<sup>31</sup>
- 5.37 While commercial off-the-shelf acquisitions have the potential to reduce costs, the Committee was concerned about the risk of having insufficient opportunities for engineering graduates to develop competence across the range of disciplines required to sustain a sovereign capability management and design assurance.

## Compliance

- 5.38 As a means of maintaining efficiency and consistency, it is critical that CDG projects comply with existing policy frameworks. The Committee
- 

29 Dr Thomson, Australian Strategic Policy Institute, *Transcript*, 6 June 2014, p. 1.

30 Dr Thomson, Australian Strategic Policy Institute, *Transcript*, 6 June 2014, p. 7.

31 Mr King, Department of Defence, *Transcript*, 6 June 2014, p. 50.

sought insight into the internal checks and balances that are in place to ensure policy compliance.

- 5.39 Defence acknowledged that this remains an area for improvement. It stated that one of its goals is to ensure a more formal basis for compliance exists so that CDG projects are aligned with policy frameworks:

This is something that ANAO picked up more broadly when they said that the capability development process is in a handbook when it should be in a manual so there is a clear compliance requirement. The same went for T&E. That was agreed, so we are now in the final throes of prepublication for the capability development manual.<sup>32</sup>

- 5.40 Following their internal analysis of various projects, Defence informed the Committee that it is working to ensure that compliance is more effectively integrated in the capability development process before it progresses through the first pass and second pass approval stages.<sup>33</sup>

## SEA 1000

- 5.41 SEA 1000 is a long-term project seeking to modernise Australia's standing fleet of submarines. The Government was presented with four options to consider:

- Option 1: Military-Off-The-Shelf;
- Option 2: Modified Military-Off-The-Shelf;
- Option 3: Evolved Military-Off-The-Shelf; and
- Option 4: New Design Submarine.

- 5.42 In providing an update on the current status of SEA 1000, Defence informed the Committee that work on Option 1 and Option 2 had been suspended or set aside. Instead, Defence is pursuing Option 3, which is to evolve the Collins Class submarine in cooperation with Swedish-based ThyssenKrupp Marine Systems, and Option 4, which is the design of a new submarine capability.<sup>34</sup>

- 5.43 Defence acknowledged that they have limited choices for Military-Off-The-Shelf conventional submarines currently available on the market. For this reason, Defence described Australia's situation similar to that of the United States and the United Kingdom:

---

32 Vice Adm Jones, Department of Defence, *Transcript*, 6 June 2014, p. 45.

33 Vice Adm Jones, Department of Defence, *Transcript*, 6 June 2014, p. 45.

34 Mr King, Department of Defence, *Transcript*, 6 June 2014, p. 46.

On this project we have to deal a lot more with what I would say friends of ours – the UK and the USA, for example – have to deal with all the time. They do not have the luxury that there is someone that has a product out there they can buy. They have to take on that risk. They have to develop something for themselves. For us, solving the submarine problem is much more akin to that.<sup>35</sup>

- 5.44 To properly advise government on a submarine capability relevant to Australia's strategic circumstances, Defence has established a Defence and industry Integrated Project Team (IPT) made up of experts to inform the development of SEA 1000:

They are working on two things, fundamentally. The team is about 80 strong now... They are doing two things: they are producing a design brief for a future submarine that matches the functional requirements to the capability... and they are looking at what potential industrial and commercial industries there might be... for executing a project along those lines.

The design brief has three potential uses and any of them could be the one that we use it for. One is it could be the basis of a concept design for a new submarine. It could simply be a yardstick by which to which you measure the difference between that that set of functional requirements and capability requirements would do and what an off-shelf solution might do, so you really understand where you are. In doing that we then create an internal capability to do the design approval authority's safety certification and all of those tasks in the future.<sup>36</sup>

- 5.45 Defence reaffirmed that there has been no change of direction in SEA 1000 as a result of the change of government.<sup>37</sup>

## **First Principles Review of Defence**

- 5.46 The Government will undertake a First Principles Review of Defence (FPR) commencing in 2014. Covering all the major elements of Defence, the FPR will identify areas where greater efficiency improvements can be made, such as the streamlining of services and removal of overlapping bureaucratic competencies.

---

35 Mr King, Department of Defence, *Transcript*, 6 June 2014, p. 47.

36 Mr Gould, Department of Defence, *Transcript*, 6 June 2014, p. 47.

37 Mr Richardson, Department of Defence, *Transcript*, 6 June 2014, p. 47.

- 5.47 ASPI told the Committee that the FPR will need to evaluate the future role and structure of the DMO as an institution of Defence, particularly if consideration is given to a commercially-operated model:

One of the big questions that the first principle review will have to look at is whether a more radical approach to DMO is required. A government-owned, commercially-operated model has been floated. There may be some merit in that, but I am sceptical that there is a one-size-fits-all solution. To outsource your acquisition would require you to know with a high degree of precision ahead of time exactly what you wanted...However, very often that is not the case. The future submarine would be the archetype example, where the actual project itself is a voyage of discovery, refinement and progressive definition of what is required, and that is not something that you can outsource.<sup>38</sup>

- 5.48 Defence advised the Committee that there is currently a 'tension of competing objectives' within the Department in regards to its internal structure and functioning. To effectively address and prioritise these competing objectives, it was noted that the FPR is likely to have significant implications for DMO in terms of its internal structure, processes and location within the broader business chain of Defence. The Chief Executive Officer of DMO noted that any structural reform of DMO will be guided by the outcomes of the FPR:

But at the moment it is most important that this review is done, in my opinion, and that the direction is clearly established. Then we can make sure that our people are the right mix and the right balance...<sup>39</sup>

## Committee comment

- 5.49 The Committee does not believe that the disclosure of dissenting views of stakeholder organisations in the acquisition process of large capabilities is unachievable. Defence will receive feedback from internal reports and/or professional service providers involved with the project management or oversight functions. Where there is a documented concern with the current approach, Defence must either address the concern to the satisfaction of the relevant stakeholder or make a conscious decision not to. Where the stakeholder concerns are not addressed, decision makers at

---

38 Dr Thomson, Australian Strategic Policy Institute, *Transcript*, 6 June 2014, pp. 1-2.

39 Mr King, Department of Defence, *Transcript*, 6 June 2014, p. 41.

all levels through to the Minister should be advised of who the stakeholder was, their concern and why Defence chose not to address it.

- 5.50 The Committee is of the view that there should be one compliance/assurance process within Defence which follows the particular capability through its whole life cycle from CDG through acquisition, service and disposal. Currently these functions are spread across agencies using different procedures.
- 5.51 The Committee commends Defence for its establishment of the Defence and industry Integrated Project Team (IPT) to inform and support the development of SEA 1000. In the context of paragraph 5.50 above, this is a classic case where the views of the IPT must be communicated to decision makers in the National Security Committee of Cabinet (NSC) in a timely and transparent manner.
- 5.52 The Committee is aware of the important challenges facing Defence. Although defence funding is increasing, it will never match all the demands posed by sustainment of current infrastructure, current capabilities and the long-term capability development. The Committee notes that Defence is implementing additional measures to train and a skill the CDG workforce.
- 5.53 The Committee notes the current CDG and DMO initiatives to engage the technical expertise residing in the private sector. The Committee is of the view that these initiatives could be expanded to, particularly in relation to risk identification and management and T&E. The level of private sector involvement in the ADF's capability development process contrasts with the experience of other countries of which the Committee is aware. The Committee believes more could be done to improve new capability proposals through the utilisation of external and independent contributions.
- 5.54 In relation to the FPR, the Committee notes that Defence has been reluctant to implement structural changes that have been recommended by previous reviews. The Committee urges the Government to be prepared to make 'first principle' changes in response to the recommendations from the FPR.

**Recommendation 5**

The Committee recommends that the Department of Defence increase the use of private sector expertise, particularly in the areas of test and evaluation, risk management, review and business case development, in order to enhance the capability development process and new capability proposals.

**Recommendation 6**

The Committee recommends that the Vice Chief of the Defence Force own a process that harnesses and coordinates the oversight and review functions currently exercised by the Capability Development Group, the Defence Materiel Organisation and the Services in order to integrate a whole of life approach to capability assurance.

**Recommendation 7**

The Committee recommends that the Department of Defence continue to build on the capabilities and processes that have been developed within the SEA 1000 industry Integrated Project Team (IPT) and ensure that the views of the IPT are transparently communicated to the National Security Committee of Cabinet as part of procurement decisions.

