

## Chapter 7

### Sustainment

#### Overview of the sustainment phase

7.1 The third phase of the capability life cycle concerns sustainment of the capability and involves through-life maintenance and support. The capability is supported, modified and managed by Defence's Capability Managers throughout this phase whilst responsibility in relation to sustaining materiel systems and equipment rests with the DMO.<sup>1</sup> Mortimer estimated that through-life or whole-of-life maintenance and support account for more than half of the DMO's annual budget and involves approximately two-thirds of its workforce.<sup>2</sup>

#### Process

7.2 The in-service or sustainment phase begins on the Service Release of the materiel system by the Capability Manager.<sup>3</sup>

7.3 The material sustainment to the ADF is provided by the DMO through the delivery of products and services to Capability Managers under the Material Support Agreements (MSA). Each MSA is renegotiated between the DMO and respective Capability Manager on an annual basis, within a ten-year context.

MSAs have two components:

1. Agreement Principles and Management Information—which set the condition for the operation of the agreement between the DMO and Capability Manager; and
2. Service Fee and Product Schedules—comprising nine sections including product description, health assessment, sustainment functions, performance, performance constraints; and product-specific roles and responsibilities.<sup>4</sup>

#### Structure

##### *Defence Materiel Organisation*

7.4 The areas that Mortimer identified for improvement include that of assuring sustainment funding, strengthening the MSA, and streamlining logistic support

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1 Defence Materiel Organisation, *DMO Acquisition and Sustainment Manual*, 2007, p. 48.

2 David Mortimer, *Going to the next level: the report of the Defence Procurement and Sustainment Review*, September 2008, p. 46.

3 Defence Materiel Organisation, *DMO Acquisition and Sustainment Manual*, 2007, p. 85.

4 Defence Materiel Organisation, *DMO Acquisition and Sustainment Manual*, 2007, pp. 83–84.

arrangements.<sup>5</sup> In response to these recommendations, the DMO has taken steps to remediate and improve management of existing capabilities by strengthening the performance indicators in the MSAs. Furthermore, as part of the Strategic Reform Program's Smart Sustainment Reform Stream, Defence through the DMO is partnering industry in the application of improved maintenance and inventory management techniques that will deliver the same or improved levels of capability at a lower cost.<sup>6</sup>

7.5 In response to Mortimer's recommendation to establish an independent Sustainment Efficiency Office, Defence noted that the Sustainment Reinvestment Office was established to integrate and oversee delivery of the Smart Sustainment Program. According to evidence from Defence, the office 'supported delivery of the program by DMO Divisions and Defence through the development of tools, training and guidance material and through facilitation and information sharing'.<sup>7</sup> The committee notes, however, that there is no information available on the role or responsibilities of this body in the *DMO Acquisition and Sustainment Manual*.

7.6 In relation to strengthening the sustainment business model which is due for completion at the end of 2011, the DMO is liaising with the Capability Managers to ensure that the model is appropriate. Mrs Shireane McKinnie, General Manager, Systems in the DMO explained the sustainment planning strategies currently under development:

The intention is that, for each of the major fleets that we manage, they will take a long-term view of that fleet and work through how we are going to support it in the longer term. They look at all of the upgrades we see coming through the DCP or other areas that are planned and establish, if you like, an integrated master schedule that looks at all of the things that we know we will be doing on those platforms to plan them out. Also, we are in a position to work with the capability managers to identify when they may need to release those platforms and to try to optimise the amount of time we take them offline in order to do the upgrades. That piece of work to establish the guidance under which our SPOs will operate to move to a more strategic, well-planned basis for operating fleets is underway at the moment. As a part of that, 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.<sup>8</sup>

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5 David Mortimer, *Going to the next level: the report of the Defence Procurement and Sustainment Review*, September 2008, p. 47.

6 Department of Defence, *Submission 21*, p. 15.

7 Department of Defence, Additional information, received 4 October 2011.

8 Shireane McKinnie, Defence Materiel Organisation, *Committee Hansard*, 7 October 2011, p. 49.

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## ***Capability Managers***

7.7 When negotiating the MSA with the DMO, Capability Managers are responsible for establishing a level of support that will 'allow them to meet their obligations to the CDF/Secretary for the required capabilities and preparedness levels laid down in their preparedness directives and organisational performance agreements'.<sup>9</sup> The Capability Manager is responsible for ensuring that the individual FIC that make up the capability system are operated, supported and modified as required to deliver the capability.<sup>10</sup>

## **People**

### ***Defence Materiel Organisation***

7.8 Embedding technical and engineering personnel in the DMO and the Services into the maintenance organisations of contractors engaged in sustainment activities is a critically important developmental tool for Defence. The real challenge according to Mrs McKinnie in relation to embedding, however, is to provide a degree of certainty that the personnel to be provided by the military will fill those positions. She noted that the DMO has negotiated arrangements with contractors whereby military people will be incorporated into the contractor's workforce with provisions in the event that those military personnel cannot be provided.<sup>11</sup> However, the DMO's CEO, Mr Warren King noted that steps are being taken to address this challenge as part of an integrated plan to encourage engineering skills. He drew on the experience of the Air Warfare Destroyer (AWD) alliance as an example of where a significant number of positions are resourced from the military and/or public service.<sup>12</sup>

## ***Capability Managers***

7.9 Many of the responsibilities in relation to sustainment that previously rested with the Service Chiefs now reside with the DMO. At the same time, much of the skill set has moved over to the DMO from the Services including the technical and engineering skills required to sustain a capability. Acting Chief of Navy, Rear Admiral Jones explained of Navy:

We have some engineering experience within our regulatory domain in terms of mobile architecture and other engineering advisors, both civilian and uniform, particularly in our regulatory domain. The majority of the skill sets that you are talking about rest with the DMO in the sustainment of our

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9 Defence Materiel Organisation, *DMO Acquisition and Sustainment Manual*, 2007, p. 84.

10 Department of Defence, *Submission 21*, p. 30.

11 Shireane McKinnie, Defence Materiel Organisation, *Committee Hansard*, 7 October 2011, p. 48.

12 Warren King, Defence Materiel Organisation, *Committee Hansard*, 7 October 2011, p. 48.

capabilities and in commercial industry that supports our capabilities, particularly in the sustainment cell.<sup>13</sup>

### *Centralisation of functions and responsibilities across Defence*

7.10 One of the issues before the committee in relation to sustainment is whether responsibilities that now fall under the DMO's purview should remain so or whether those responsible for sustainment within the DMO should be accountable to the relevant Service (thereby remaining response to the Service needs) as well as the CEO DMO.<sup>14</sup> The issue raises questions about the growing role of the DMO, whether it has moved beyond that originally envisaged and of the consequences. It also goes to the heart of the question of centralisation of particular functions and the movement of technical skills across Defence.

7.11 The Auditor-General held that as part of efforts to improve performance, there has been a level of centralisation of particular functions with some of the responsibilities previously held with the Services being shifted across to the DMO. The Auditor-General recognised the advantages of 'putting in the one organisation a critical mass of people with the right skills to deliver on project acquisition and sustainment'. He then acknowledged, however, the challenges. They include the need for greater and more complex organisational linkages across Defence; clarity about roles and responsibilities; and the need for consistent adherence to policies and procedures to manage risks and deliver and sustain capability.<sup>15</sup> The suggestion is that the Defence reform agenda and efforts to drive efficiency have had unintended consequences including a decline in engineering and technical skills in the Services, namely Navy. Such a decline has, in turn, limited the ability of the Service Chiefs to make informed decisions and rigorously challenge the capability process going forward.<sup>16</sup>

7.12 The committee appreciates, however, that the hollowing out of engineering and technical skill has not taken place to the same extent in the Air Force. Indeed, according to the Chief of Air Force, Air Marshal Geoffery Brown, Air Force 'tends to breed a set of specialists, whether it is the engineers, the logisticians or intel specialists'.<sup>17</sup>

7.13 Another consequence of the reform agenda is that of the increasing transfer of key functions in terms of capability design, system development and logistics support

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13 Rear Admiral T Jones, Royal Australian Navy, *Committee Hansard*, 5 October 2011, p. 37.

14 Mark Thomson, personal capacity, *Committee Hansard*, 12 August 2011, p. 18.

15 Auditor General, *Committee Hansard*, 11 August 2011, pp. 24–25.

16 Paul Rizzo, *Plan to Reform Support Ship Repair and Management Practices*, July 2011, p.7.

17 Air Marshal Geoffery Brown, Royal Australian Air Force, *Committee Hansard*, 5 October 2011, p. 32.

from the ADF to other Defence groups and now into the private sector.<sup>18</sup> These matters were most recently considered in the Rizzo Report.

### *Rizzo Report*

7.14 Whilst sustainment was not a central focus of the previous Defence reviews, the *Plan to Reform Support Ship Repair and Management Practices* (or Rizzo Report) by Paul Rizzo brought sustainment issues to the fore. Rizzo recognised that the recent early decommissioning of *HMAS Manoora*, extended unavailability of *HMAS Kanimbla* and temporary unavailability of *HMAS Tobruk* were the result of the failure to allocate adequate resources to address materiel and personnel shortfalls since the ships were brought into service 20 years ago:

The inadequate maintenance and sustainment practices have many causal factors. They include poor whole-of-life asset management, organisational complexity and blurred accountabilities, inadequate risk management, poor compliance and assurance, a 'hollowed-out' Navy engineering function, resource shortages in the System Program Office in DMO, and a culture that places the short-term operational mission above the need for technical integrity. In addition, Navy and DMO need to improve coordination and integrate their interdependent activities more effectively. Whilst the overall outcome is a poor reflection on Defence and DMO, actions by individuals were taken, in the main, to meet the operational demands of the day with inadequate resources and tools.<sup>19</sup>

7.15 Rizzo was unable to find evidence to demonstrate that 'planning before the acquisition phase of major projects is based on a detailed cost-benefit analysis of continued sustainment versus replacement'.<sup>20</sup> In this regard, he strongly endorsed the Mortimer recommendation that decisions to purchase new equipment or maintain existing equipment be based on the through-life cost of each option regardless of whether funding is for the acquisition or sustainment budgets. The Rizzo Report made 24 recommendations to improve operational availability and ensure the ongoing technical integrity of Navy ships of which the following seven are strategic:

- formalise asset and sustainment methodologies;
- take whole-of-life decisions;
- establish closer working arrangements between Defence and DMO;
- establish an integrated risk management system;
- rebuild Navy engineering capability;
- reinstate the cultural importance of technical integrity; and

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18 Australian National Audit Office, *Submission 22*, p. 2.

19 Paul Rizzo, *Plan to Reform Support Ship Repair and Management Practices*, July 2011, p. 7.

20 Paul Rizzo, *Plan to Reform Support Ship Repair and Management Practices*, July 2011, p. 35.

- confirm Defence Capability Plan (Maritime) Resourcing.<sup>21</sup>

7.16 Rizzo found that during the planning and acquisition phases, there was a tendency to focus on delivery of a new capability above all else and neglect of sustainment as a priority. He argued that this led to 'inadequate logistic support products and increased sustainment requirements, often to the detriment of whole-of-life capability and cost'. Rizzo noted that this risk was supposed to be addressed through joining the acquisition and sustainment functions into a single organisation, the DMO. However, he concluded that the continued focus on acquisition and 'insufficient attention to through-life costs has reduced the impact of this sensible initiative'.<sup>22</sup>

7.17 The committee acknowledges the findings and recommendations of the Rizzo Review and appreciates the importance of interweaving and prioritising whole-of-life and sustainment considerations throughout the capability development process. Interesting, the concerns cited by Rizzo in the sustainment phase replicate many of those identified in the early phases of the capability lifecycle—organisational complexity and blurred accountabilities, inadequate risk management, poor compliance, shortfall in skills and resources and inadequate coordination and integration.<sup>23</sup>

7.18 Furthermore, the committee notes that the outsourcing that has occurred as part of cost saving measures imposed during the 1990s, has contributed to the current lack of engineering skills available within Defence.

7.19 When asked about implementing the recommendations of the Rizzo Review, Rear Admiral Trevor Jones commented that:

We are fully seized of the outcomes of the Rizzo report and our need to improve our technical skills base, particularly our engineering strength. That is a focus of the current Chief of Navy, and we continue to work to implement the Rizzo reviews. We are looking very carefully at how we have our resources allocated within Navy at the moment. We are also looking to see where we might be able to get supplementation to improve our engineering base.<sup>24</sup>

7.20 The committee is, however, yet to see that any concrete steps have been taken to improve the technical skill base of Navy.

7.21 The committee recognises that the effectiveness with which the Services, the DMO and industry plan for and sustain capability is a reflection of both the

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21 Paul Rizzo, *Plan to Reform Support Ship Repair and Management Practices*, July 2011, pp. 7–8.

22 Paul Rizzo, *Plan to Reform Support Ship Repair and Management Practices*, July 2011, p. 8.

23 Paul Rizzo, *Plan to Reform Support Ship Repair and Management Practices*, July 2011, p. 7.

24 Rear Admiral T Jones, Royal Australian Navy, *Committee Hansard*, 5 October 2011, p. 46.

interdependencies between Defence agencies and industry as well as the individual accountabilities of each Defence agency. As a key issue which brings to the fore considerations including skills and accountabilities, therefore, sustainment is an area that the committee intends to focus on. Furthermore, whilst recognising the hollowing out of engineering skills in Navy, the committee acknowledges that Air Force has been able to retain, to a greater extent, its engineering and technical expertise and focus. By utilising Air Force as the basis for further discussion on technical skills, the committee intends to consider the experience of Navy and Army in this regard. The committee also noted that Coles is yet to complete his sustainment review of the Collins Class submarines.

7.22 The question of how acquisition and sustainment are managed in relation to each other and of how they should be managed has also been raised to the committee. The question of whether sustainment should be handed back to the Service Chiefs requires careful examination given that sustainment, as a major activity, has the potential to divert ADF resources away from core operational duties. Moreover, with approximately 55 per cent of the DMO budget this year allocated to sustainment, the issue requires careful consideration. Within this context, the committee will first establish the level of accountability within the DMO for sustainment functions.

### *Outstanding questions*

7.23 Despite two days of hearings with Defence stakeholders including many of the Capability Managers and CEO of the DMO, the committee remains uncertain about the division of responsibilities between the Capability Managers and the DMO in relation to sustainment. The committee would like to establish therefore:

- what responsibilities and technical and engineering skills have been transferred from the Services to the DMO, when, how and why;
- the impact of this trend on the ability of Service Chiefs to maintain capability;
- the current technical input into decision making in the Services;
- how Air Force has been able to retain an engineering and technical skill base;
- the organisational linkages established to compensate for the shift in responsibility from the Services to the DMO;
- the level of accountability within the DMO for sustainment functions;
- the impact of these trends on the ability of Service Chiefs as Capability Managers responsible for the overall capability to lead and manage the capability development process;
- how acquisition and sustainment functions are managed in relation to each other;
- the extent to which whole-of-life and sustainment considerations are brought to the centre and prioritised during the needs, requirements and acquisition phases;

- when and how industry is engaged in establishing whole-of-life costs and consulted on sustainment matters;
- the extent to which sustainment experts in industry are involved in the design phase of a developmental project;
- which Defence agency decides on which military or civilian personnel will be embedded in maintenance organisations responsible for sustainment activities and the length and terms of their placement;
- why plans to embed military personnel working for the DMO and the Services in a maintenance organisation fall through and of the consequences in terms of skill development for Defence; and
- initiatives that have been identified to address this problem.

### **Sustainment of Australia's defence industry**

7.24 Whilst the costs of, and responsibility for, capability sustainment are fundamental considerations, another key element is that of local capacity to maintain the capability. Air Marshal Harvey explained this consideration:

If I understand it as well, the through-life support is an essential consideration throughout the whole process. As I said before, you gradually refined that. But the expectation is that at least a significant amount of the maintenance sustainment will be done in country, so you just have to make sure that you have got those arrangements set up early in the process.<sup>25</sup>

7.25 Sustainment is an area where the interrelationship between national security and viability of the domestic defence industry comes to the fore. It is particularly apparent in the MOTS debate as industry stakeholders argue that to meet the government's priorities for future capabilities whilst remaining viable and relevant in the marketplace, domestic industry requires a mix of new and sustainment projects.<sup>26</sup>

7.26 The need to consider the interconnection between strategy and ADF capability sustainment throughout the life-cycle process is advocated by industry in light of findings which suggest that approximately 70 per cent of industry engagement in the Defence sector is in sustainment rather than procurement work.<sup>27</sup> As Mr Innes Willox of the Australian Industry Group Defence Council explained, the question for industry is: 'How do we sustain ourselves to sustain?'<sup>28</sup> Mr Priestnall of the Australian Industry and Defence Network argued the case that:

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25 Air Marshal J Harvey, Department of Defence, *Committee Hansard*, 5 October 2007, p. 20.

26 Ben White, Australian Business Defence Industry Unit, *Committee Hansard*, 11 August 2011, p. 2.

27 Innes Willox, Australian Industry Group Defence Council, *Committee Hansard*, 11 August 2011, p. 14.

28 Innes Willox, Australian Industry Group Defence Council, *Committee Hansard*, 11 August 2011, p. 14.



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The sustainment of ADF capability, an area where many SMEs operate, is the greatest cost to the government in acquiring and maintaining capability, yet this draws relatively minor focus and analysis within all ongoing reviews.<sup>29</sup>

7.27 Pappas identified a number of strategic reasons as to why Australia should maintain a local Defence industry including national sovereignty, the ability to develop valuable knowledge, guaranteed supply, and the ability to maintain and upgrade in Australia. Pappas recommended therefore that the 'cost of local sourcing in comparison to other options must be determined prior to government approval, and presented to Government with the option set'. Furthermore, Pappas recommended that local sourcing should be considered 'when it is a strategic priority or where it is competitive with other options, and if local sourcing is chosen outside this criteria, that the rationale be clearly articulated'.<sup>30</sup>

7.28 Whilst acknowledging that Defence has to ensure that there is an industry base to support sustainment, Mr Warren King, CEO of the DMO argued that ways had to be found to take advantage of the global support network whilst also interrelating it with adequate skills and support in Australia.<sup>31</sup> Further, strategic considerations for Defence in relation to sustainment include whether in-country support for a capability is more important than a guaranteed supply chain.<sup>32</sup> Drawing on the example of the Wedgetail, Air Marshal Binskin, acting CDF, noted that whilst the project is developmental, 'through-life support and maintainability was a key driver up front in the design of that'.<sup>33</sup>

### ***Outstanding questions***

7.29 The committee appreciates that the debate regarding the current and future viability of Australia's defence industry is complex and interwoven with strategic decisions regarding capability requirements and development, locally available skills and best use of the global supply chain. The questions that remain for the committee include:

- how and when industry capacity and necessary support to maintain a capability are taken into consideration;
- what weight is given at each stage to local industry capacity to maintain a new capability;

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29 Graham Priestnall, Australian Industry and Defence Network Inc, *Committee Hansard*, 11 August 2011, p. 3.

30 George Pappas, *2008 Audit of the Defence Budget*, Department of Defence, 3 April 2009, p. 233.

31 Warren King, Defence Materiel Organisation, *Committee Hansard*, 7 October 2011, pp. 28–29.

32 Air Marshal J Harvey, Department of Defence, *Committee Hansard*, 5 October 2011, p. 19.

33 Air Marshal M Binskin, Department of Defence, *Committee Hansard*, 5 October 2011, p. 20.

- how considerations regarding industry sustainment feed into the decision-making process; and
- how industry is able to grow when it is currently sustained by 70 per cent in-service rather than procurement activities.