

Capability development and major projects

- 5.1 The Committee considered the following capability development and major project matters:
- Reputational risk;
 - Outcomes based and performance based contracting;
 - The Pacific Maritime Security Program;
 - The Future Frigate program;
 - The Joint Strike Fighter program; and
 - A range of other matters.

Reputational risk

- 5.2 The Committee expressed concern about a possibly excessive preoccupation with 'reputational risk' within Defence, particularly in Defence Materiel Organisation, now Capability Acquisition and Sustainment Group (CASG). The Committee was also concerned that defending against a risk to reputation has the potential to impair transparency.
- 5.3 The Secretary of Defence agreed with the Committee's views. He responded:

I actually agree with you ... I think if you devote your energies to getting things right, however you might define that, reputations look after themselves. ... If we get something wrong, that damages our reputation, and we should be prepared to wear that. If we get things right, that will go away.¹

1 Mr Richardson, Defence, *Committee Hansard*, Canberra, 5 June 2015, p. 34.

5.4 The Vice Chief of the Defence Force gave the following view:

I absolutely agree with where you are coming from on it, but there is also an important educative piece for our people at the lower levels about the consequences of their actions. If you put it in terms of overall reputation, that helps frame that for them. ... If you work it that way, you actually turn this into quite a positive thing. So there is more than one dimension to talking about reputation risk, in my view.²

5.5 On the issue of reputational risk and transparency, VCDF stated that '[i]f you can frame the understanding of the consequences, you can use it to drive transparency'.³

Outcomes based and performance based contracting

5.6 The Committee sought from Defence the lessons learnt from the contractual arrangement for the Armidale-class patrol boat.

5.7 Defence described the beginning of this contractual arrangement as a private-public partnership (PPP) through a private finance initiative (PFI). This turned into a 'combined acquisition sustainment contract for availability' during phase two of the project. In this contract Austal was the subcontractor for acquisition, while DMS was the contractor for sustainment. Austal continued to have a role in sustainment as a subcontractor because of its role as the Original Equipment Manufacturer (OEM).⁴

5.8 Defence characterised this as 'one of the very early versions of our performance-based contracting. It was a pure contract for availability'.⁵

5.9 Defence stated that there were significant problems with this arrangement as availability targets seemed to produce behaviour where minimal money was put into sustainment, to the detriment of good sustainment systems.⁶

5.10 Defence further stated:

2 Vice Admiral Ray Griggs, Vice Chief of the Defence Force, Department of Defence, *Committee Hansard*, Canberra, 5 June 2015, p. 34.

3 Vice Admiral Griggs, Defence, *Committee Hansard*, Canberra, 5 June 2015, p. 34.

4 Mr Harry Dunstall, Acting Chief Executive Officer, Defence Materiel Organisation, *Committee Hansard*, Canberra, 5 June 2015, p. 39.

5 Mr Dunstall, DMO, *Committee Hansard*, Canberra, 5 June 2015, p. 39.

6 Mr Dunstall, DMO, *Committee Hansard*, Canberra, 5 June 2015, p. 39.

Because we started with a PPP style contract and we ended up with KPIs that were very simple and only outcome oriented, on the surface you would say that was a good thing, but what it did not do was provide any kind of lead indicators around failing systems or the lack of putting those systems in place.⁷

Defence observed that even though there was a risk transfer in the contract, the Commonwealth and the Navy ultimately carry the risk of the boats not being available.⁸

- 5.11 In answering a question from the Committee on the length of through-life support contracts, Defence stated that it has moved much of its sustainment to outcome or performance based contracts, with a five year length as 'the sweet spot'.⁹ This aims to give industry assurance of the work and Defence assurance of the capability. Defence manages complacency arising from long term contracts through annual or biannual performance reviews. If the company is not meeting KPIs and not rectifying this through performance and cost improvements, Defence can see that ahead of time and prepare its strategy to rebid the sustainment contract. Conversely, if a company is innovating in the way of productivity improvements and cost reductions, they would have their five year contract extended.¹⁰
- 5.12 When a platform is new, Defence does not have sufficient data to put out a Request for Tender (RFT) for a good performance-based contract. Instead, Defence typically does an interim support contract. This allows the Department to obtain sufficient data and operational use with which it can then design a good performance management framework.¹¹

Pacific Maritime Security Program

- 5.13 The Pacific Patrol Boat (PPB) Program began in the 1980s and is a key element of Australia's defence engagement in the Pacific region. It provides financial, technical, logistics, maintenance, training and other support to 22 patrol boats gifted to 12 Pacific island countries (including Fiji). The boats are the sovereign assets of the Pacific nations and are used principally for maritime surveillance and law enforcement tasks.

7 Mr Thorne, DMO, *Committee Hansard*, Canberra, 5 June 2015, p. 39.

8 Mr Thorne, DMO, *Committee Hansard*, Canberra, 5 June 2015, p. 39.

9 Mr Thorne, DMO, *Committee Hansard*, Canberra, 5 June 2015, p. 41.

10 Mr Thorne, DMO, *Committee Hansard*, Canberra, 5 June 2015, p. 41.

11 Mr Dunstall, DMO, *Committee Hansard*, Canberra, 5 June 2015, p. 42.

Underpinning Defence's support is '26 Navy maritime surveillance and technical advisers located across the Pacific (two of whom are Royal New Zealand Navy personnel)'. A new training contract was established in June 2013 'for the provision of training services in support of the program'.¹²

- 5.14 On 17 June 2014, the Minister for Foreign Affairs and the Minister for Defence announced a new \$2 billion Pacific Patrol Boat Program. They announced replacement patrol boats would be offered to all current participating states with the addition of a new member, Timor-Leste.¹³
- 5.15 On 5 March 2015, the Government announced the Request for Tender (RFT) for the replacement Pacific Patrol Boats, under the new Pacific Maritime Security Program, Project SEA3036 Phase 1. Up to 21 steel-hulled, all-purpose patrol vessels will be built; worth \$594 million with through life sustainment and personnel costs estimated at \$1.38 billion over 30 years. The result of the tender and further decisions about the project are expected towards the end of 2015.¹⁴
- 5.16 Defence reported that there has been:
- Significant interest in this program. This is quite clearly a capability that could be delivered through a number of shipyards around Australia, and there has been interest, as far as we are aware, from almost every state and territory in Australia.¹⁵
- 5.17 The Committee asked how the new program plans to address the shortcomings in the detect-and-queue and the command-and-control parts of the original PPB Program.
- 5.18 In response, Defence described the new Pacific Maritime Security Program and how it addresses the shortcomings of the original PPB Program:
- It has three elements. One is the boats. The second element is a level of airborne surveillance and queuing. And the command and control is to initially bring it all back through the Forum Fisheries Agency in Honiara. That addresses the issues you have raised, which are a concern to us as well. You want to get maximum use

12 *Defence Annual Report 2012-13: Supplementary Online Content*, Ch 3.

13 Minister for Foreign Affairs and Minister for Defence, 'Maritime security strengthened through Pacific Patrol Boat Program', *Media Release*, 17 June 2014, <<http://www.minister.defence.gov.au/2014/06/17/minister-for-foreign-affairs-minister-for-defence-maritime-security-strengthened-through-pacific-patrol-boat-program/>> viewed 27 July 2015.

14 Minister for Defence, 'Tender announced for Pacific Patrol Boat Replacement Project', *Media Release*, 5 March 2015, <<http://www.minister.defence.gov.au/2015/03/05/tender-announced-for-pacific-patrol-boat-replacement-project/>> viewed 27 July 2015.

15 Mr Dunstall, DMO, *Committee Hansard*, Canberra, 5 June 2015, p. 39.

out of the boats, maximum effectiveness, and that is what we see, in a program sense.¹⁶

- 5.19 Defence stated that although the Pacific Maritime Security Program is funded by Defence, it wants to work with other agencies on the program.¹⁷

Future Frigate program – SEA 5000

- 5.20 The 2009 White Paper identified the need to acquire a fleet of eight new Future Frigates to replace the current ANZAC Class. The 2012 Defence Capability Guide stated:

They will be larger than the ANZAC Class and be designed and equipped with a strong emphasis on submarine detection and response options and capable of independent and task group operations. They will be equipped with an integrated sonar suite that includes a long-range active towed-array sonar, a maritime-based land-attack cruise missile capability, and be able to embark a combination of naval combat helicopters and maritime Unmanned Aerial Vehicles (UAV).¹⁸

- 5.21 The Committee expressed concern that the operational requirements for the Future Frigates may have been reduced to the detriment of capability.

- 5.22 Defence responded by saying that the operational requirements have not necessarily been scaled back, rather they have evolved and changed as the project has progressed, stating the 'original set of requirements was established and considered early on in the piece out of the 2009 White Paper ... we are looking at it in a contemporary sense'.¹⁹

- 5.23 Defence stated that the development of the Future Frigate program was being influenced by a number of considerations:

... the future of SEA 5000 is in some ways influenced by where we are with the Air Warfare Destroyer project itself. There is an enterprise-level naval shipbuilding plan being developed by the White Paper and Force Structure Review team as well, and that will go back to government in the middle of this year. In addition to that, directly relevant to the SEA 5000 program, we have what we are referring to as an operational analysis and then an analysis

16 Air Chief Marshal Binskin, Defence, *Committee Hansard*, Canberra, 5 June 2015, p. 40.

17 Air Chief Marshal Binskin, Defence, *Committee Hansard*, Canberra, 5 June 2015, p. 40.

18 *Defence Capability Guide 2012*, p. 43.

19 Vice Admiral Barrett, Defence, *Committee Hansard*, Canberra, 5 June 2015, p. 37.

of alternatives, which is being done by DSTO and by the RAND Corporation.²⁰

Joint Strike Fighter program

5.24 Defence reported on the new air combat capability:

This project will deliver 72 conventional take-off and landing F-35 Joint Strike Fighter (JSF) aircraft and associated support and training systems. Three operational squadrons and one training squadron are planned to enter operational service between 2020 and 2023 to replace the ageing F/A-18A/B Hornet aircraft. In April 2014, in addition to the previously agreed 14 aircraft, the Government agreed to the acquisition of an additional 58 JSFs and associated support systems and infrastructure.²¹

5.25 Australia's first two JSFs were delivered to Luke Air Force Base, Arizona in December 2014.²² Australia's first JSF pilot took his first flight in an F-35A at Eglin Air Force Base, Florida in March 2015.²³

5.26 Defence estimated the average unit procurement cost for Australia's approved 72 F-35A aircraft to be US \$90 million.²⁴

5.27 The Committee enquired as to the progress of weapons integration, questioning which weapons had been cleared for use with the JSF and which still needed to be cleared.

5.28 Defence stated that:

The allocation of specific weapons to software blocks is classified and cannot be released. Block 2B Software has been released to the US Marine Corp to support their planned Initial Operational Capability (IOC) in late 2015. This provides a limited air to air and air to ground capability. Block 3I is planned for release next year to support the US Air Force's IOC in late 2016 and will include Block 2B air to air and air to ground capabilities. The full war fighting

20 Mr Thorne, DMO, *Committee Hansard*, Canberra, 5 June 2015, p. 37.

21 *Defence Annual Report 2013-14*, p. 95.

22 Department of Defence, 'Australian F-35A pilot and Australian Joint Strike Fighter paired of first time', 19 May 2015 < <http://www.defence.gov.au/dmo/NewsMedia/News/AustralianF-35A-pilot-and-Australian-Joint-Strike-Fighter-paired-for-first-time>> viewed 5 November 2015.

23 Department of Defence, 'Australia's First F-35A Pilot Takes Flight', *Media Release*, 20 March 2015 < <http://news.defence.gov.au/2015/03/20/australias-first-f-35a-pilot-takes-flight/>> viewed 5 November 2015.

24 Department of Defence, *Question on Notice No. 14*, 5 June 2015.

capability, known as Block 3F, is planned for release in December 2017 and will incorporate additional weapon capabilities, including the 25mm Gun.²⁵

- 5.29 The Committee asked whether Independent Verification and Validation (IV&V) has been used in Verification Simulation (VSim) for the aircraft.
- 5.30 Defence reported that 'VSim is currently undergoing qualification and is expected to be available to support final qualification of Block 3F software. Defence is unaware of any other validated simulators that will be utilised to support the test and evaluation of the Block 3F software.'²⁶
- 5.31 The Committee questioned the removal of the PAO²⁷ shuttle valve from the aircraft, noting that the 2014 Director Operational Testing & Evaluation (DOT&E) report stated that it caused a relatively significant increase in vulnerability.
- 5.32 Defence noted that the removal of the PAO valve has been raised in previous DOT&E reports. Defence provided the following from the US F-35 Program Office's response to the 2013 DOT&E report:
- An extensive cost/benefit analysis showed that the addition of a PAO shutoff valve increases F-35 survivability by less than 1% while adding additional development, production reliability and operating costs.²⁸
- Defence stated that it 'concur[s] with this analysis and the decision to remove the PAO shutoff valve.' Defence further noted that:
- The concerns raised in the 2014 DOT&E report are specific to the US Marine Corps' operational use of Mission Data Loads as a consequence of delays in delivery of laboratory equipment to the US Reprogramming Laboratory. Defence informed the Committee that it is closely monitoring the reprogramming issues but expects them to be resolved prior to the Initial Operating Capability declaration in 2020.²⁹
- 5.33 The Committee raised concerns about the protracted software development for the aircraft. Defence offered the following response:
- It is a very complex aircraft. It is the most complex aircraft that has ever been built. To specify something and design it and to think

25 Department of Defence, *Question on Notice No. 11*, 5 June 2015.

26 Department of Defence, *Question on Notice No. 12*, 5 June 2015.

27 Polyalphaolefin [JSF coolant and fuel/raulic systems]

28 Department of Defence, *Question on Notice No. 13*, 5 June 2015.

29 Department of Defence, *Question on Notice No. 13*, 5 June 2015.

that it is going to work exactly the way that you specified it, I think, is an unrealistic expectation. It will take some time ...³⁰

- 5.34 Defence compared the Joint Strike Fighter program to the development of the KC-30A tanker and E-7A Wedgetail. Defence stated:

We finally have the final software loaded on Wedgetail. It actually exceeds the original specifications that we had for the aeroplane. The KC30, which we had a lot of problems with - probe and drogue - is now recognised as the best probe and drogue tanker in theatre at the moment. ... In many respects in aeroplane development programs there will always be a series of issues. As they mature you end up with a fine product, and I do not believe that the JSF will be any different to Wedgetail or KC30.³¹

- 5.35 Defence stated that it is confident that Block 3F software, the full warfighting capability, will be ready in time for IOC in late 2020.³²

- 5.36 The Committee questioned the maintainability and reliability of the JSF, referring again to the DOT&E report which indicates these are below audit requirements.

- 5.37 Defence again gave the example of the development of the KC-30A tanker, stating:

... on the initial phases of the KC30 we did not have a good maintainability record. There were two parts - immaturity in some parts of the aeroplane ... and immaturity in the maintenance organisation ...

Defence contrasted this with the performance of KC30 in Operation Okra in which it flew for nine months or 2,200 flight hours before its first breakage. Defence agreed that 'like all these aircraft, as they mature, especially modern aircraft, they become far more reliable as the system works its way through'.³³

- 5.38 The Committee enquired about the removal of test points, expressing concern that this may create a risk to Australian certification.

- 5.39 Defence reported that:

The office of Director Operational Testing Evaluation recommended reductions in the Block 2B flight test program to enable resources to be applied to the Block 3F program. In line

30 Air Marshal Geoff Brown, Chief of Air Force, Department of Defence, *Committee Hansard*, Canberra, 5 June 2015, p. 44.

31 Air Marshal Brown, Defence, *Committee Hansard*, Canberra, 5 June 2015, p. 44.

32 Mr Dunstall, DMO, *Committee Hansard*, Canberra, 5 June 2015, p. 45.

33 Air Marshal Brown, Defence, *Committee Hansard*, Canberra, 5 June 2015, p. 45.

with standard test and evaluation practice, this has rationalised some test points where duplication was evident.

Defence further stated that testing and certification conducted by the United States Air Force are subject to review by Defence.³⁴

5.40 The Committee also questioned Defence's approach to due diligence on the JSF program; enquiring as to whether Defence has implemented a form of regular independent review of progress and risk to schedule and capability.

5.41 Defence gave the following response:

Through our Gate Review process we do this program every year. We do an annual update to government every year in relation to this program. Some of the other recommendations coming out of our Gate Review are the need to do things like another SCRAM review - that is, a schedule, cost, risk and assessment methodology review - to give ourselves confidence about the schedule and not just rely on information coming out from the US system. ... There are a number of mechanisms that we have underway to ensure that we keep a handle on where we are at with the program.³⁵

5.42 Acting Chief Executive Officer, DMO (now CASG) concluded the discussion of the JSF program with the following comment:

... at the CEO roundtable I was the most pessimistic of all the country CEOs. There was a healthy sense of optimism amongst the CEOs about the progress of the program. ... I think there are still software challenges in terms of heading the 3I and 3F blocks. I think we are on a much better path than we were, but I think there are still risks. In relation to the major developmental software intensive program I have concerns around our ability to hit full functionality by the schedule, but work is being done on that and we are getting some confidence around that. In relation to the engine reliability issue, they have done the root cause analysis, they have identified the problem, they are doing the retrofits now. I think the engine reliability will continue to improve and trend in the right direction. I had some cautious optimism about where we are with the program, and certainly challenges remain. We are using, I guess, all of the assessment tools and methodologies that we have to make sure that we are aware of where the program is at and that the right remediations are being applied.³⁶

34 Department of Defence, *Question on Notice No. 15*, 5 June 2015.

35 Mr Dunstall, DMO, *Committee Hansard*, Canberra, 5 June 2015, p. 46.

36 Mr Dunstall, DMO, *Committee Hansard*, Canberra, 5 June 2015, p. 46.

Other issues

Armidale-class Patrol Boats

- 5.43 Defence stated that HMAS Bundaberg of the Armidale-class was lost due to a fire in August 2014, reducing the size of the patrol boat fleet from 14 to 13. The boat was undergoing maintenance with a contractor, DMS, at the time of the fire and was not under normal operating conditions.³⁷ Defence has made a formal claim under the indemnity in the contract with DMS for the loss of the ship.³⁸
- 5.44 Defence stated that it has supplemented the patrol boat fleet with the Minehunter Coastal vessel in order to meet the requirements of Operation Sovereign Borders. Defence further stated that with ongoing maintenance issues, the requirements of Operation Resolute, and international engagement commitments, the patrol boat fleet is averaging 6.1 boats available a day, meeting 80 to 85 per cent of the availability requirements for the Armidale-class.³⁹

C-RAM contract

- 5.45 The Committee questioned the contractual process for the sustainment and long term support for the C-RAM (Counter Rocket, Artillery, and Mortar) system. The Committee was concerned that there had been a cost to industry through the bidding process even though there was a limited capacity for Australian industry to provide the through-life support.
- 5.46 Defence stated that:
- The C-RAM system was supported on operations through a combination of the US Foreign Military Sales system and commercial contracts with SAAB AB (Sweden). An analysis was conducted on the optimum tendering approach for the long-term support of the C-RAM system and an Open Tender was selected, with industry able to tender for either the whole system or any combination of the five sub-systems. The primary basis of the Open Tender approach was to determine if the Commonwealth could contract with a single provider to support the entire system, which would reduce management overheads over the life of the capability and ensure technology upgrades would remain synchronised. This approach was also adopted to provide all potential providers with an opportunity to offer a solution and

37 Vice Admiral Barrett, Defence, *Committee Hansard*, Canberra, 5 June 2015, p. 38.

38 Mr Dunstall, DMO, *Committee Hansard*, Canberra, 5 June 2015, pp. 38 -39.

39 Vice Admiral Barrett, Defence, *Committee Hansard*, Canberra, 5 June 2015, p. 38.

introduce competitive tension in the tender process to maximise the outcomes for the Commonwealth. SAAB Australia was the only respondent and submitted a bid for the support of three of the five sub-systems. Contract negotiations with SAAB Australia are ongoing. The remaining sub-systems will be supported through the Foreign Military Sales system.⁴⁰

KC-30A hail damage

- 5.47 The annual report states that KC-30A only met 80.8 per cent of its targeted 2013-14 flying hours, in part due to hail damage sustained to two aircraft in December 2013.⁴¹
- 5.48 Defence reported that damage was sustained around the flaps and engine cowl to the carbon fibre, which required replacement and repair of the flaps and engine cowl. The aircraft were parked at RAAF Base Amberley at the time, which is their home base.⁴²
- 5.49 Defence stated that the total cost of repair to the two aircraft was approximately \$8.6 million while the estimated cost of a carport style shelter for the aircraft is at least \$3.3 million per shelter. Defence informed the Committee that due to the cost and frequency of hail storms at RAAF Base Amberley, it has opted to adopt civil airline practice to park aircraft with flaps extended.⁴³

F/A-18F Super Hornet spare parts

- 5.50 The Committee was interested in the availability of spare parts for F/A-18F Super Hornets and the effect it was having on aircraft availability.
- 5.51 Defence responded that 'the availability of the Super Hornets has been quite good. ... From an operational output, there has been no issue with sparing the Super Hornet, and the availability is quite good at the moment'.⁴⁴
- 5.52 Defence acknowledged that it had issues with the availability of spare parts early in the Super Hornet program, stating that there were a high number of unique parts at the beginning of the program and that this number has reduced as the Australian aircraft fleet has become more common with that of the US. This has enabled Defence to use wholesale and resale pools in the US for spares. Defence further stated that its issues

40 Department of Defence, *Question on Notice No. 7*, 5 June 2015.

41 *Defence Annual Report 2013-14*, pp. 39 and 100.

42 Air Marshal Brown, Defence, *Committee Hansard*, Canberra, 5 June 2015, p. 42.

43 Department of Defence, *Question on Notice No. 9*, 5 June 2015.

44 Air Marshal Brown, Defence, *Committee Hansard*, Canberra 5 June 2015, pp. 42-43.

with failure of undercarriage parts were unusual due to their unique nature which created a long lead time for spares.⁴⁵

5.53 Defence reported that:

The majority of spare parts associated with the Super Hornet acquisition have been received; however, there are a number of long lead time items forecast for delivery by late 2016. The lead time (3-4 years) reflects the need for the US Navy to contract with industry, manufacture, test and deliver the required orders on Australia's behalf. The items are across a range of systems, including repairable items and break down spares, and are being managed to minimise the impact on fleet availability.⁴⁶

Committee comment

5.54 The information on the Joint Strike Fighter program in the Defence Annual Report and ANAO Major Projects Report is superficial compared to what is reported publically and to the Congress in the United States. In particular, the US Government Accountability Office and DOT&E report to the US Armed Services Committees are far superior to what is reported to the Australian Parliament. Information regarding the Joint Strike Fighter program, such as the allocation of specific weapons to software blocks, is available on various US websites.⁴⁷ Defence must be more transparent in their reporting and not hide behind claims of national security classification when the information is readily provided by other countries, in particular the US. As Australia is one of the eight international partner countries in the Joint Strike Fighter program, the Committee emphatically believes that the reporting on the program available to Australian Parliament be on par with that available to the US Congress.

5.55 The Committee encourages outcome or performance based whole-of-life contracts with a five year review cycle. As an example of this approach, the Committee notes the UK Submarine Enterprise Performance Programme which has provided a through-life contracting model. Under the model, the Successor class submarine framework contracts cover the period from late-2011 until 2016 with 'rolling waves' of work packages⁴⁸,

45 Mr Thorne, DMO, *Committee Hansard*, Canberra 5 June 2015, p. 43.

46 Department of Defence, *Question on Notice No. 10*, 5 June 2015.

47 For example see <http://www.dtic.mil/ndia/2012annual_psr/WERTH.pdf>

48 National Audit Office (UK), 'Ministry of Defence: Major Projects Report 2014 and the Equipment Plan 2014 to 2024', 13 January 2015, p. 223 <<https://www.nao.org.uk/wp->

and the Astute class submarine foundation contract commits the contractor to a share of efficiency savings through performance improvement over an eight year period.⁴⁹ The Committee believes that a whole-of-life contracting model with a five year review cycle or opt-out point if the contractor is not performing has the potential to deliver long term value for money.

- 5.56 The Committee notes the tendering approach for the C-RAM system, demonstrating the process of driving cost to industry and costs of acquisition compared to making an informed decision to proceed down a path of a single provider. The Committee trusts that implementation of the First Principles Review recommendation of moving to a 'smart buyer' model will change this approach.⁵⁰
- 5.57 The Committee will monitor the new Pacific Maritime Security Program as it is implemented and progresses. In particular, the Committee will watch the result of the tender for the new patrol boats. This program is an important opportunity for Australian industry and the Committee expects Defence to maximise domestic industry involvement, whatever the result of the tender. However, the Committee notes that efficacy of the system must involve an integrated approach regarding detect-and-cue and the command-and-control parts.
- 5.58 The Committee notes the difference in cost between the damage sustained by the two KC-30A aircraft in a single hail storm at \$8.6 million and building permanent aircraft shelters at \$3.3 million each. If cost estimation and risk modelling demonstrates that the probability and cost of hail damage is high enough, then Defence should invest in mitigation measures such as building permanent aircraft shelters at RAAF Base Amberley.

content/uploads/2015/01/Major-projects-report-2014-appendices-and-project-summary-sheets.pdf> viewed 22 October 2015. See also
<<http://researchbriefings.files.parliament.uk/documents/SN06526/SN06526.pdf>>

49 National Audit Office (UK), 'Ministry of Defence: Major Projects Report 2014 and the Equipment Plan 2014 to 2024', 13 January 2015, p. 21 <<https://www.nao.org.uk/wp-content/uploads/2015/01/Major-projects-report-2014-appendices-and-project-summary-sheets.pdf>> viewed 22 October 2015.

50 David Peever, 'First Principles Review: Creating One Defence', April 2015, pp. 9, 33.

Recommendations

Recommendation 7

The Committee recommends the reporting to Parliament on the Joint Strike Fighter program be more comprehensive and equivalent to that made available to the US Congress.